

RF MEASUREMENT REPORT

FCC ID: DD4SLXD3EG57

Applicant: Shure Incorporated

Product: Plug-on Wireless Transmitter

Regulatory Model SLXD3+

Number (RMN):

Product Number: SLXD3+ G57

Trade Mark:



FCC Classification: Licensed LPAS Device (TLD)

FCC Rule Part(s): Part 74 Subpart H (Section 74.861)

Result: Complies

Received Date: 2025-06-03 ~ 2025-06-04

Test Date: 2025-06-15 ~ 2025-07-11

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 |
|------------------|---------|---|------------|---------|
| R25S1001068-U202 | V01 | Initial Report | 2025-07-08 | Invalid |
| R25S1001068-U202 | V02 | Add Information | 2025-07-11 | Invalid |
| R25S1001068-U202 | V03 | Update the unit of Frequency Tolerance | 2025-07-25 | Valid |
| | | | | |

CONTENTS

| Description | Page |
|--|-----------|
| 1. General Information | 5 |
| 1.1. Applicant | 5 |
| 1.2. Manufacturer..... | 5 |
| 1.3. Testing Facility | 5 |
| 1.4. Product Information..... | 6 |
| 1.5. Radio Specification under Test | 6 |
| 1.6. Working Frequencies | 6 |
| 1.7. Antenna Details..... | 6 |
| 2. Test Configuration | 7 |
| 2.1. Test Mode | 7 |
| 2.2. Test Software..... | 7 |
| 2.3. Applied Standards..... | 7 |
| 2.4. Test Environment Condition..... | 7 |
| 3. Measuring Instrument | 8 |
| 4. Decision Rules and Measurement Uncertainty | 9 |
| 4.1. Decision Rules | 9 |
| 4.2. Measurement Uncertainty..... | 9 |
| 5. Test Result | 10 |
| 5.1. Summary..... | 10 |
| 5.2. RF Output Power Measurement..... | 11 |
| 5.2.1. Test Limit..... | 11 |
| 5.2.2. Test Procedure..... | 11 |
| 5.2.3. Test Setting | 11 |
| 5.2.4. Test Setup | 11 |
| 5.2.5. Test Result | 11 |
| 5.3. Frequency Tolerance Measurement..... | 12 |
| 5.3.1. Test Limit..... | 12 |
| 5.3.2. Test Procedure..... | 12 |
| 5.3.3. Test Setting | 12 |
| 5.3.4. Test Setup | 13 |
| 5.3.5. Test Result | 13 |
| 5.4. 99% Occupied Bandwidth Measurement..... | 14 |
| 5.4.1. Test Limit..... | 14 |
| 5.4.2. Test Procedure..... | 14 |
| 5.4.3. Test Setting | 14 |

| | |
|--|-----------|
| 5.4.4. Test Setup | 14 |
| 5.4.5. Test Result | 14 |
| 5.5. Modulation Measurement | 15 |
| 5.5.1. Test Limit | 15 |
| 5.5.2. Test Procedure | 15 |
| 5.5.3. Test Setting | 15 |
| 5.5.4. Test Setup | 15 |
| 5.5.5. Test Result | 15 |
| 5.6. Out of Band Emission Measurement | 16 |
| 5.6.1. Test Limit | 16 |
| 5.6.2. Test Procedure | 16 |
| 5.6.3. Test Setting | 16 |
| 5.6.4. Test Setup | 17 |
| 5.6.5. Test Result | 17 |
| 5.7. Emission Mask Measurement | 18 |
| 5.7.1. Test Limit | 18 |
| 5.7.2. Test Procedure | 20 |
| 5.7.3. Test Setting | 20 |
| 5.7.4. Test Setup | 20 |
| 5.7.5. Test Result | 20 |
| 5.8. Radiated Spurious Emissions Measurement | 21 |
| 5.8.1. Test Limit | 21 |
| 5.8.2. Test Procedure | 22 |
| 5.8.3. Test Setting | 22 |
| 5.8.4. Test Setup | 23 |
| 5.8.5. Test Result | 24 |
| Appendix A – Test Result..... | 25 |
| A.1 RF Output Power Test Result | 25 |
| A.2 Frequency Tolerance Test Result | 26 |
| A.3 99% Occupied Bandwidth Test Result | 27 |
| A.4 Out of Band Emission Test Result | 28 |
| A.5 Emission Mask Test Result | 29 |
| A.6 Radiated Spurious Emissions Test Result | 31 |
| Appendix B – Test Setup Photograph | 32 |
| Appendix C – EUT Photograph | 33 |

1. General Information

1.1. Applicant

Shure Incorporated

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

1.2. Manufacturer

Shure Incorporated

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

1.3. Testing Facility

| | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Test Site – MRT Suzhou Laboratory |
| | Laboratory Location (Suzhou - Wuzhong) |
| | D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China |
| | Laboratory Location (Suzhou - SIP) |
| | 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China |
| | Laboratory Location (Suzhou - Wujiang) |
| | Building 1, No.1 Xingdong Road, Wujiang, Suzhou, Jiangsu, People's Republic of China |
| | Laboratory Accreditations |
| | 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"/> | Test Site – MRT Shenzhen Laboratory |
| | Laboratory Location (Shenzhen) |
| | 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China |
| | Laboratory Accreditations |
| | A2LA: 3628.02 CNAS: L10551 |
| | FCC: CN1284 ISED: CN0105 |
| <input type="checkbox"/> | Test Site – MRT Taiwan Laboratory |
| | Laboratory Location (Taiwan) |
| | No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) |
| | Laboratory Accreditations |
| | TAF: 3261 |
| | FCC: 291082, TW3261 ISED: TW3261 |

1.4. Product Information

| | |
|--|---|
| Product Name | Plug-on Wireless Transmitter |
| Regulatory Model Number (RMN) | SLXD3+ |
| Product Number | SLXD3+ G57 |
| EUT Identification No. | 20250604Sample#11 (Conducted) 20250603Sample#04 (Radiated) |
| Bluetooth Specification | BLE Only |
| Microphone Specification | Wireless Microphone, UHF band, 470.125MHz ~ 551.850MHz & 552.150MHz ~ 607.875MHz |
| Antenna Specification | Refer to clause 1.7 |
| Operating Temp. | -18 ~ 50 °C |
| Power Type | By 2pcs * AA: 3Vdc or Rechargeable Li-ion Battery Pack |
| Accessory | |
| Li-ion Battery | Model: SB903 Output: 3.6V=1200mAh, 4.32Wh |
| Note: The information of the EUT (Equipment Under Test) was provided by the manufacturer. The accuracy, completeness, and validity of the information are solely the responsibility of the manufacturer. | |

1.5. Radio Specification under Test

| | |
|-----------------------------|---|
| Frequency Range | 470.125MHz ~ 551.850MHz & 552.150MHz ~ 607.875MHz |
| Declared Power Level | 1mW & 10mW & 30mW |
| Declared Occupied Bandwidth | 200kHz |
| Type of Modulation | 4-GFSK |
| Channel Spacing | 25kHz |

1.6. Working Frequencies

| Bottom Channel (MHz) | Middle Channel (MHz) | Top Channel (MHz) |
|----------------------|----------------------|-------------------|
| 470.125 | 539.000 | 607.875 |

1.7. Antenna Details

| Antenna Type | Frequency Band (MHz) | Manufacturer | Peak Gain (dBi) |
|--------------|---------------------------------------|--------------|-----------------|
| Dipole | 470.125 ~ 551.850 & 552.150 ~ 607.875 | Shure | 1.90 |

2. Test Configuration

2.1. Test Mode

Mode 1: Transmit at G57 Band (30mW)

Note: The EUT supports three power levels (1mW, 10mW, and 30mW), with 30mW being the highest.

Therefore, 30mW was selected as the worst-case mode for all tests. For the other two power levels, output power and out of band emission were verified.

2.2. Test Software

The test utility software used during testing was “Tera Term” and the version was 4.103.

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 D01v03
- ANSI C63.26-2015
- ETSI EN 300 422 - 1 V 2.2.1

2.4. Test Environment Condition

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

3. Measuring Instrument

| Instrument Name | Manufacturer | Model No. | Asset No. | Cali. Interval | Cal. Due Date | Test Site |
|---------------------|--------------|------------|-------------|----------------|---------------|-----------|
| Thermohygrometer | testo | 608-H1 | MRTSUE06402 | 1 year | 2026-04-24 | WZ-SR5 |
| Shielding Room | HUAMING | WZ-SR5 | MRTSUE06442 | N/A | N/A | WZ-SR5 |
| Signal Analyzer | Keysight | N9010B | MRTSUE06558 | 1 year | 2026-05-17 | WZ-SR5 |
| USB Power Sensor | Keysight | U2021XA | MRTSUE06447 | 1 year | 2025-06-18 | WZ-SR5 |
| | | | | | 2026-06-17 | |
| Attenuator | MVE | MVE2213 | MRTSUE11089 | 1 year | 2026-06-02 | WZ-SR5 |
| Cable | UCwave | UCE500 | 2411001 | Note | Note | WZ-SR5 |
| Temperature Chamber | BAOYT | BYH-150CL | MRTSUE06051 | 1 year | 2025-09-02 | WZ-TR3 |
| Thermohygrometer | testo | 608-H1 | MRTSUE11268 | 1 year | 2025-12-10 | WZ-TR3 |
| TRILOG Antenna | Schwarzbeck | VULB 9162 | MRTSUE06022 | 1 year | 2026-03-22 | WZ-AC2 |
| Horn Antenna | Schwarzbeck | BBHA 9120D | MRTSUE06171 | 1 year | 2025-09-23 | WZ-AC2 |
| Preamplifier | Schwarzbeck | BBV 9718 | MRTSUE06176 | 1 year | 2026-03-18 | WZ-AC2 |
| Anechoic Chamber | RIKEN | WZ-AC2 | MRTSUE06213 | 1 year | 2026-04-17 | WZ-AC2 |
| Thermohygrometer | testo | 608-H1 | MRTSUE11263 | 1 year | 2025-10-16 | WZ-AC2 |
| Signal Analyzer | Keysight | N9010B | MRTSUE06607 | 1 year | 2025-10-13 | WZ-AC2 |

Note: The loss of the RF cable will be measured before testing.

| Software | Version | Function |
|---------------------|-------------|------------------------|
| e3 | 230711 | RE & CE |
| Agilent Power Panel | V R03.09.00 | Power |
| Controller_MF 7802 | 1.02 | RE Antenna & Turntable |

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 $k = 2$.

| AC Conducted Emission Measurement |
|--|
| <p>The maximum measurement uncertainty is evaluated as:</p> <p>9kHz~150kHz: 3.58dB</p> <p>150kHz~30MHz: 3.20dB</p> |
| Radiated Emission Measurement |
| <p>The maximum measurement uncertainty is evaluated as:</p> <p>Coaxial: 9kHz~30MHz: 2.35dB</p> <p>Coplanar: 9kHz~30MHz: 2.37dB</p> <p>Horizontal: 30MHz~200MHz: 3.47dB</p> <p>200MHz~1GHz: 4.17dB</p> <p>1GHz~40GHz: 4.97dB</p> <p>Vertical: 30MHz~200MHz: 4.07dB</p> <p>200MHz~1GHz: 5.28dB</p> <p>1GHz~40GHz: 4.84dB</p> |
| Spurious Emissions, Conducted |
| <p>Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$):</p> <p>2.5dB</p> |
| Output Power |
| <p>Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$):</p> <p>1.5dB</p> |
| Occupied Bandwidth |
| <p>Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_{c(y)}$):</p> <p>3.2%</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)(3) | Modulation | | N/A |
| 74.861(e)(4) | Frequency Tolerance | | Pass |
| 74.861(e)(5) | 99% Occupied Bandwidth | | Pass |
| 74.861(e)(6) | Out of Band Emission | | Pass |
| 74.861(e)(7)(ii) | Emission Mask | | Pass |
| 74.861(e)(7)(iv) | Radiated Spurious Emission | Radiated | Pass |

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

(ii) 470-608 MHz band: 250 mW conducted power.

(iii) 653-657 MHz band: 20 mW EIRP

5.2.2. Test Procedure

ANSI C63.26-2015 - Section 5.2.4.2

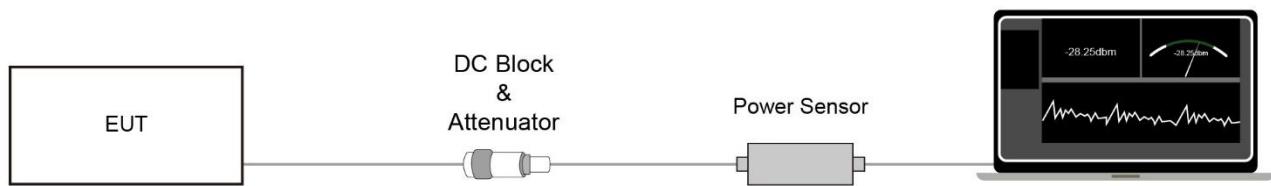
5.2.3. Test Setting

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:

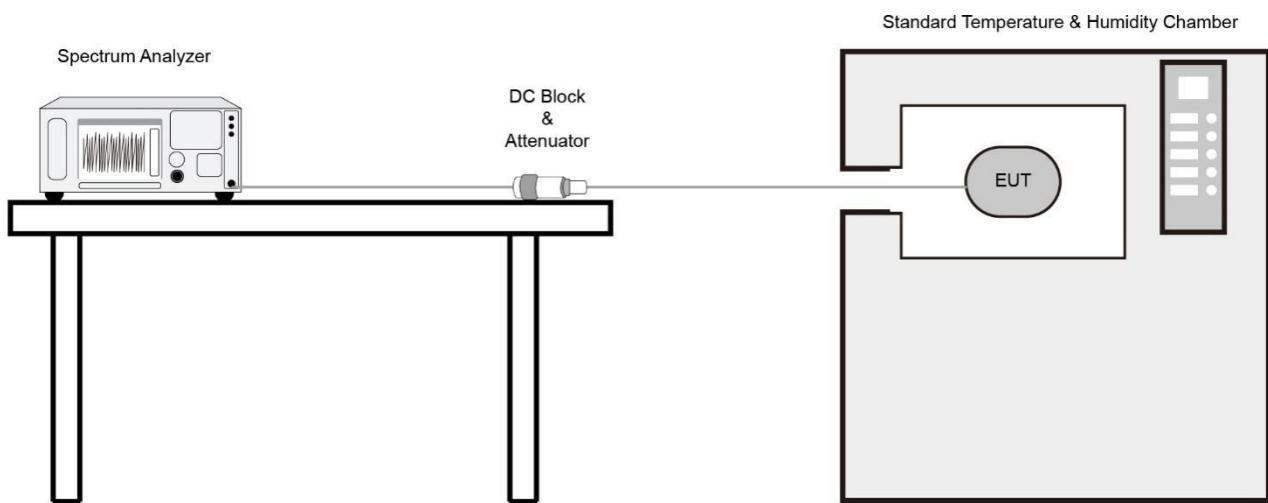
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain 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 kilohertz, except that a wireless multichannel audio system must have an operating bandwidth not exceeding 6 megahertz in the TV bands or 4 megahertz in the 653–657 MHz band.

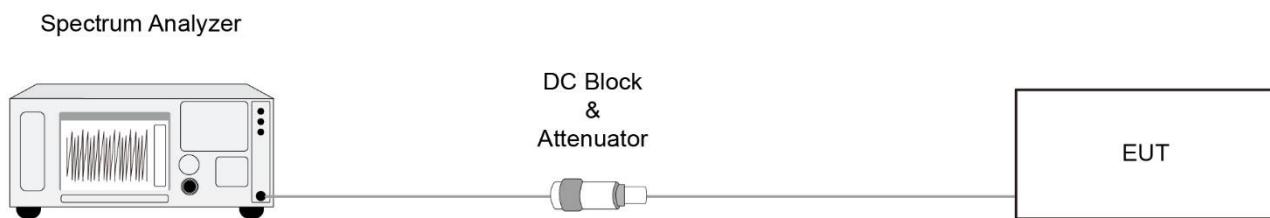
5.4.2. Test Procedure

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 x 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. Modulation Measurement

5.5.1. Test Limit

A maximum deviation of ± 75 kHz is permitted when frequency modulation is employed.

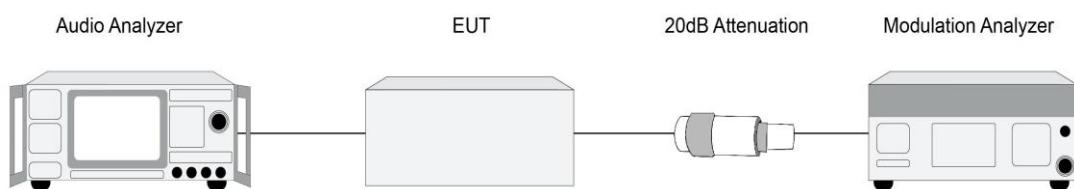
5.5.2. Test Procedure

ANSI C63.26-2013 - Section 5.3.2

5.5.3. Test Setting

1. Connect the equipment following the below figure
2. Apply a 1000 Hz modulating signal to the transmitter from the audio frequency generator, and adjust the level to obtain 60% of full rated system deviation. This is the 0 dB reference level.
3. Increase the level from the audio generator by 20 dB in 5 dB increments recording the deviation as measured from the test receiver in each step. Verify that the audio level used to make the OBW measurement is included in the sweep.
4. Repeat for step 3) at 300 Hz, 2500 Hz and 3000 Hz at a minimum using the 0 dB reference level obtained in step 2).
5. Set the test receiver to measure peak negative deviation and repeat step 2) through step 4).
6. The values recorded in step 4) and step 5) are the modulation limiting

5.5.4. Test Setup



5.5.5. Test Result

This applies only to FM modulation.

5.6. Out of Band Emission Measurement

5.6.1. 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.

5.6.2. Test Procedure

ANSI C63.26 - Section 5.7

5.6.3. Test Setting

- a) The EUT was connected to a spectrum analyzer.
- b) The EUT was modulated with typical digital modulation.
- c) Set span to $2 \times$ to $3 \times$ the OBW

Set RBW \geq OBW;

Set VBW $\geq 3 \times$ RBW;

sweep time set to Auto,

Detector = power averaging (rms)

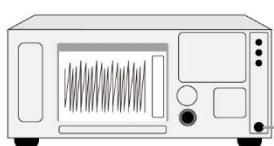
Use the peak marker function to determine the maximum amplitude level

- 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 $5 \times$ the OBW;

RBW set to 1% of the OBW, VBW set to $3 \times$ RBW, sweep time to Auto.

5.6.4. Test Setup

Spectrum Analyzer



DC Block
&
Attenuator



5.6.5. Test Result

Refer to Appendix A.4.

5.7. Emission Mask Measurement

5.7.1. Test Limit

(i) Analog systems. Emissions within the band from $2.5 \times B$ below to $2.5 \times B$ above the carrier frequency, where B is the channel bandwidth, shall comply with the Out of Band Emission in Figure 1 of section 4.2.4.2.2 of ETSI EN 300 422-1 V2.2.1 (2021-11) (incorporated by reference, see § 74.35).

(ii) Digital systems. Emissions within the band from $2.5 \times B$ below to $2.5 \times B$ above the carrier frequency, where B is the channel bandwidth, shall comply with the Out of Band Emission in Figure 2 of section 4.2.4.2.2 of ETSI EN 300 422-1 V2.2.1 (2021-11) (incorporated by reference, see § 74.35).

(iii) Wireless Multichannel Audio Systems. Emissions within the band from $2.5 \times B$ below to $2.5 \times B$ above the carrier frequency, where B is the channel bandwidth, shall comply with the Out of Band Emission in Figure 3 of section 4.2.4.2.2 of ETSI EN 300 422-1 V2.2.1 (2021-11), (incorporated by reference, see § 74.35).

The mean Power Density, measured with 1 kHz measurement bandwidth and RMS detector, of the transmitter unwanted emissions shall not exceed the limits of the masks provided in figure 1 for equipment employing analogue modulation and figure 2 for equipment employing digital modulation, but excluding WMAS. B is the Declared Channel Bandwidth

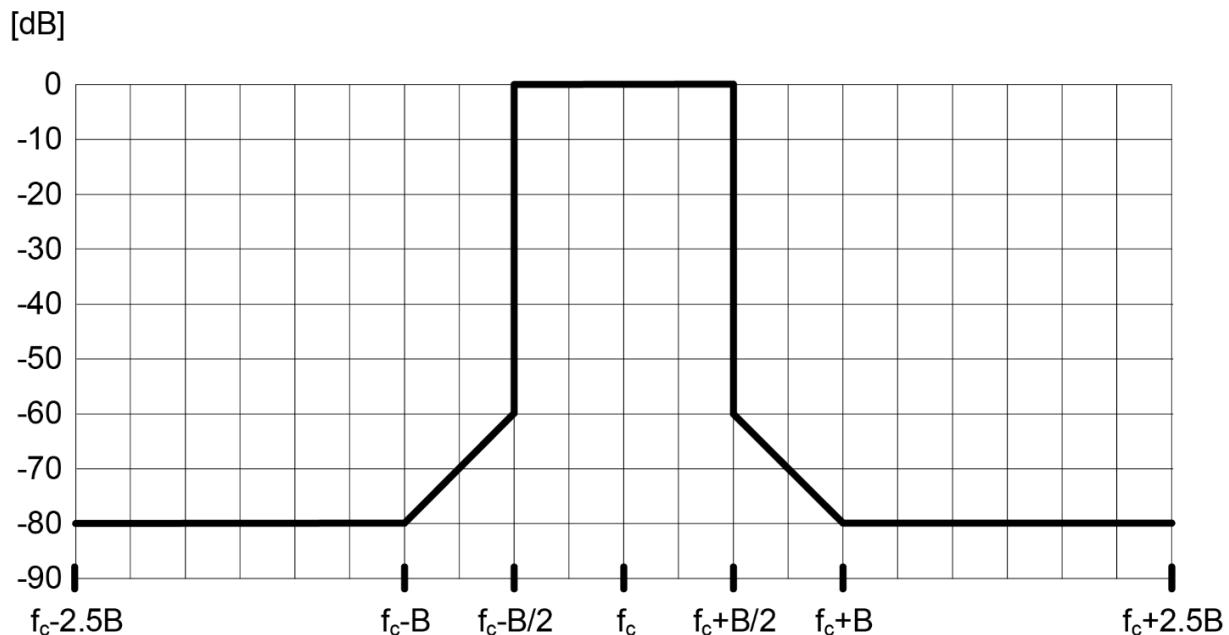


Figure 1: Transmit spectral power mask for equipment employing analogue modulation, RBW = 1 kHz

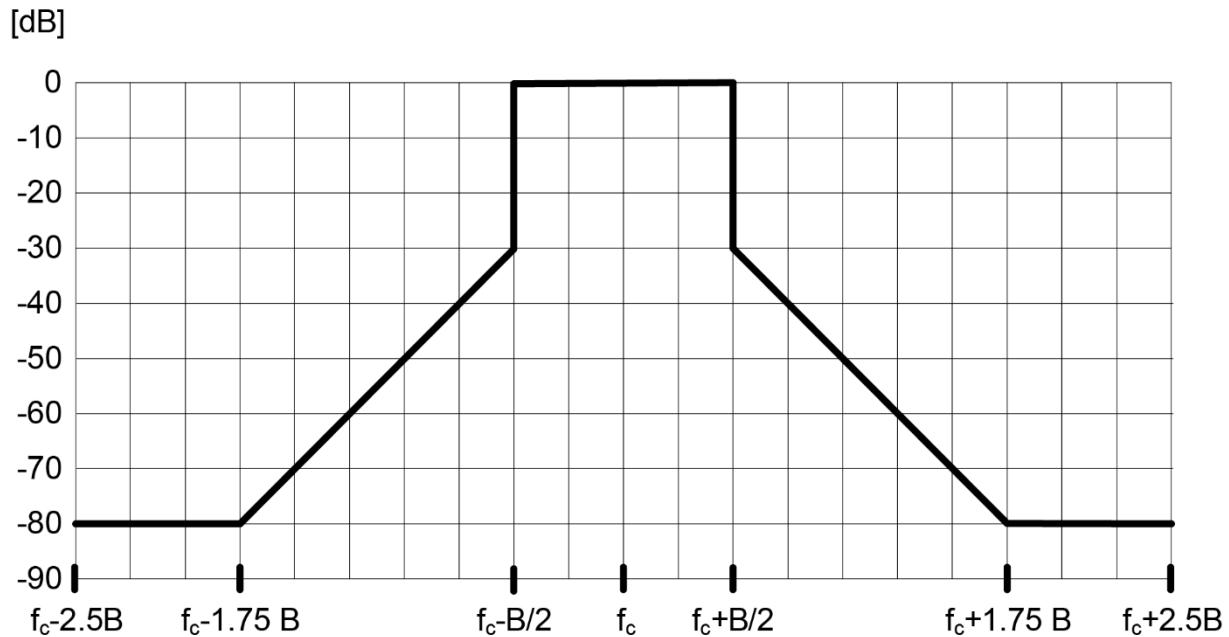


Figure 2: Transmit spectral power mask for equipment employing digital modulation, except WMAS, RBW = 1 kHz

The limits in figure 3 are applicable for WMAS, where B is the Declared Channel Bandwidth.

The mean Power Density, measured with 100 kHz measurement bandwidth and PEAK detector, of the transmitter unwanted emissions shall not exceed the limits of the mask provided in figure 3.



Figure 3: Transmit spectral power mask for WMAS, RBW = 100 kHz

The limits in figure 3 are provided with RBW = 100 kHz. The relevant measurements can also be performed with other RBW for certain ranges of B, accounting that the relevant limit given under RBW = 100 kHz needs to be converted appropriately by adding $c = 10 \times \log_{10}(\text{RBW}/100 \text{ kHz})$ for correction.

Correction Factor for different B and applicable RBW

| B | RBW, VBW | c = correction factor |
|-------------------|----------|-----------------------|
| B < 2 MHz | 10 kHz | -10dB |
| 2 MHz ≤ B < 5 MHz | 25 kHz | -7dB |
| 5 Hz ≤ B ≤ 20 MHz | 100 kHz | 0dB |

5.7.2. Test Procedure

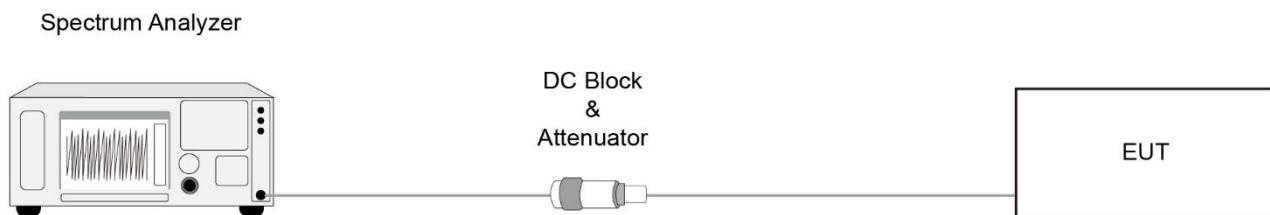
EN 300 422-1 V2.2.1 clause 5.4.3.2.

5.7.3. 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 frequency.

5.7.4. Test Setup



5.7.5. Test Result

Refer to Appendix A.5.

5.8. Radiated Spurious Emissions Measurement

5.8.1. Test Limit

Spurious emission limits. Emissions outside of the Out of Band Emissions listed in paragraphs (e)(7)(i) through (e)(7)(iii) shall comply with the limits specified in section 4.2.4.1.2 of ETSI EN 300 422-1 V2.2.1 (2021-11) (incorporated by reference, see § 74.35).

The level of transmitter unwanted emissions in the spurious domain shall not exceed the limits given in table Transmitter unwanted emission limits

| Frequency Range | Maximum power | RBW |
|---|---------------|--|
| 9kHz – 150kHz | -36dBm | 1kHz |
| 150kHz – 30MHz | -36dBm | 10kHz |
| 30MHz – 1GHz | -36dBm | $F_c + 2.5B \leq f \leq F_c + 4B$: 1kHz $F_c + 4B < f \leq F_c + 10B$: 10kHz $f > F_c + 10B$: 100kHz $f < F_c - 10B$: 100kHz $F_c - 10B \leq f < F_c - 4B$: 10kHz $F_c - 4B \leq f \leq F_c - 2.5B$: 1kHz |
| Except: | | |
| 47MHz to 74MHz 87.5MHz to 118MHz | -54dBm | 100kHz |
| 174MHz to 230MHz 470MHz to 862MHz | -54dBm | $F_c + 2.5B \leq f \leq F_c + 4B$: 1kHz $F_c + 4B < f \leq F_c + 10B$: 10kHz $f > F_c + 10B$: 100kHz $f < F_c - 10B$: 100kHz $F_c - 10B \leq f < F_c - 4B$: 10kHz $F_c - 4B \leq f \leq F_c - 2.5B$: 1kHz |
| 1GHz < f ≤ F _{upper} | -30dBm | $F_c + 2.5B \leq f \leq F_c + 10B$: 30kHz $F_c + 10B < f \leq F_c + 12B$: 300kHz $f > F_c + 12B$: 1MHz $f < F_c - 12B$: 1MHz $F_c - 12B \leq f < F_c - 10B$: 300kHz $F_c - 10B \leq f \leq F_c - 2.5B$: 30kHz |
| With B being the Declared Channel Bandwidth. F _{upper} is defined in table 5. | | |

Table 5: Frequency range for measurement of unwanted emissions

| Applicable fundamental frequency range | Frequency range for measurements | |
|--|----------------------------------|--|
| | Lower frequency | Upper frequency |
| 9 kHz - 100 MHz | 9 kHz | 1 GHz |
| 100 MHz - 300 MHz | 9 kHz | 10th harmonic of the operating frequency |
| 300 MHz - 600 MHz | 30 MHz | 3 GHz |
| 600 MHz - 3 GHz | 30 MHz | 5th harmonic of the operating frequency |

5.8.2. Test Procedure

ETSI EN 300 422-1 V2.2.1 clause 5.4.4

5.8.3. Test Setting

Emissions shall be investigated up to the 10th harmonic of the fundamental.

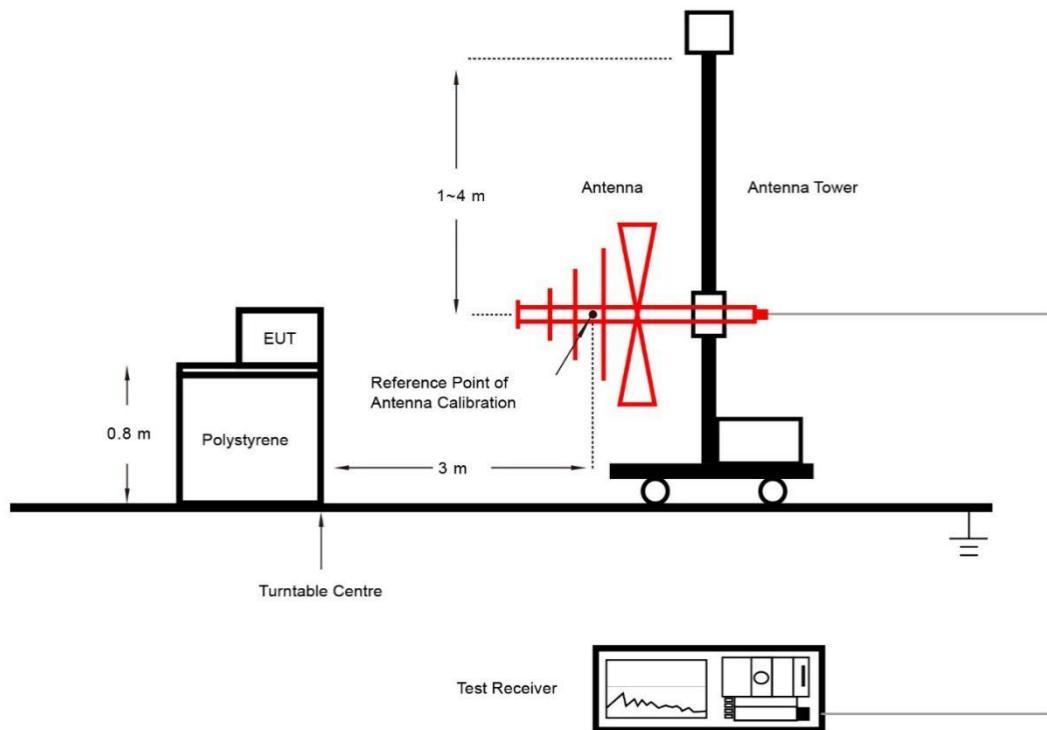
Compliance with the emission limits shall be demonstrated using an RMS Average detector.

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

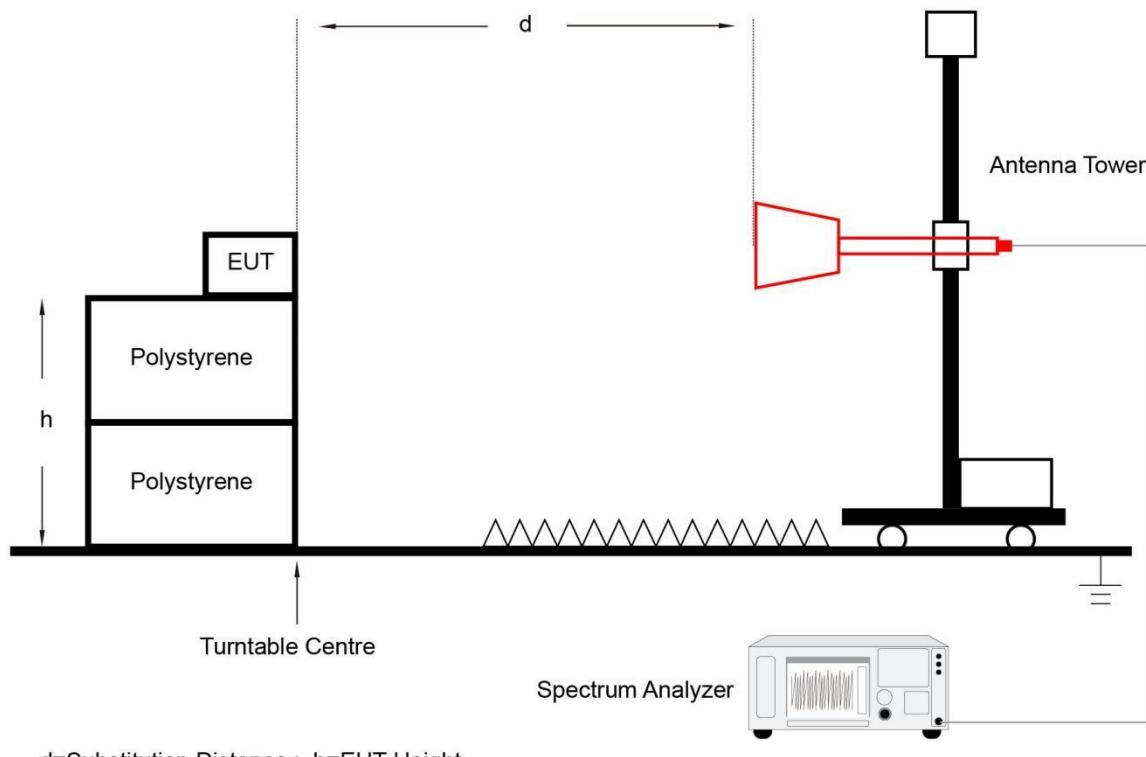
At each frequency at which a component is detected, the sample shall be rotated to obtain maximum response and the effective radiated power of that component determined by a substitution measurement.

5.8.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



d =Substitution Distance ; h =EUT Height

5.8.5. 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 | 2025-06-15 ~ 2025-07-11 | | |

| Frequency (MHz) | Conducted Output Power (dBm) | Limit (dBm) | Test Result |
|--------------------|---------------------------------|----------------|-------------|
| 30mW Power Level | | | |
| 470.125 | 15.64 | ≤ 23.98 | Pass |
| 493.000 | 15.17 | ≤ 23.98 | Pass |
| 516.000 | 14.84 | ≤ 23.98 | Pass |
| 539.000 | 15.00 | ≤ 23.98 | Pass |
| 562.000 | 15.24 | ≤ 23.98 | Pass |
| 585.000 | 15.15 | ≤ 23.98 | Pass |
| 607.875 | 15.72 | ≤ 23.98 | Pass |
| 10mW Power Level | | | |
| 470.125 | 11.08 | ≤ 23.98 | Pass |
| 539.000 | 11.01 | ≤ 23.98 | Pass |
| 607.875 | 11.04 | ≤ 23.98 | Pass |
| 1mW Power Level | | | |
| 470.125 | 0.98 | ≤ 23.98 | Pass |
| 539.000 | 0.41 | ≤ 23.98 | Pass |
| 607.875 | 0.76 | ≤ 23.98 | Pass |

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

A.2 Frequency Tolerance Test Result

| | | | |
|-----------|------------|---------------|------------|
| Test Site | WZ-TR3 | Test Engineer | Lynn Yang |
| Test Date | 2025-06-20 | Test Mode | 470.125MHz |

| Voltage (%) | Power (DC) | Temp (°C) | Frequency Tolerance (ppm) | | | |
|----------------|---------------|--------------|---------------------------|-----------|-----------|------------|
| | | | 0 minutes | 2 minutes | 5 minutes | 10 minutes |
| 100 | 3.6 | - 20 | -0.91 | -0.85 | -0.84 | -0.83 |
| | | -10 | -0.85 | -0.85 | -0.84 | -0.83 |
| | | 0 | -0.66 | -0.69 | -0.69 | -0.68 |
| | | + 10 | -0.49 | -0.49 | -0.49 | -0.49 |
| | | + 20 | -0.37 | -0.37 | -0.36 | -0.34 |
| | | + 30 | -0.32 | -0.31 | -0.31 | -0.30 |
| | | + 40 | -0.19 | -0.20 | -0.20 | -0.19 |
| | | + 50 | -0.01 | -0.03 | -0.04 | -0.05 |
| 115 | 4.14 | + 20 | -0.37 | -0.37 | -0.35 | -0.34 |
| 85 | 3.06 | + 20 | -0.38 | -0.36 | -0.35 | -0.34 |
| Limit | 50ppm | | | | | |
| Result | Pass | | | | | |

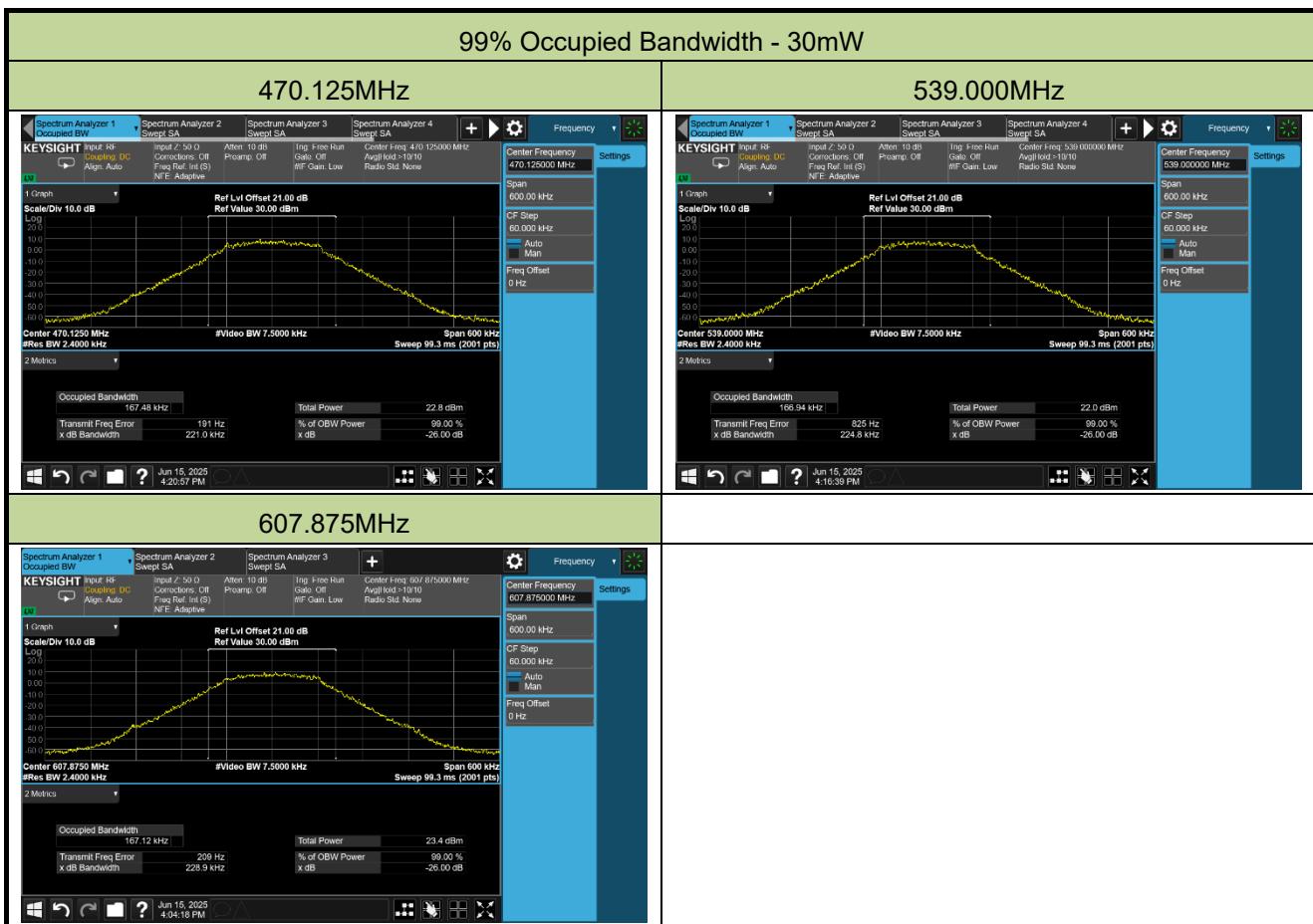
Note 1: Frequency Tolerance (ppm) = {[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)} * 10⁶.

Note 2: 0.005% is equivalent to 50ppm.

A.3 99% Occupied Bandwidth Test Result

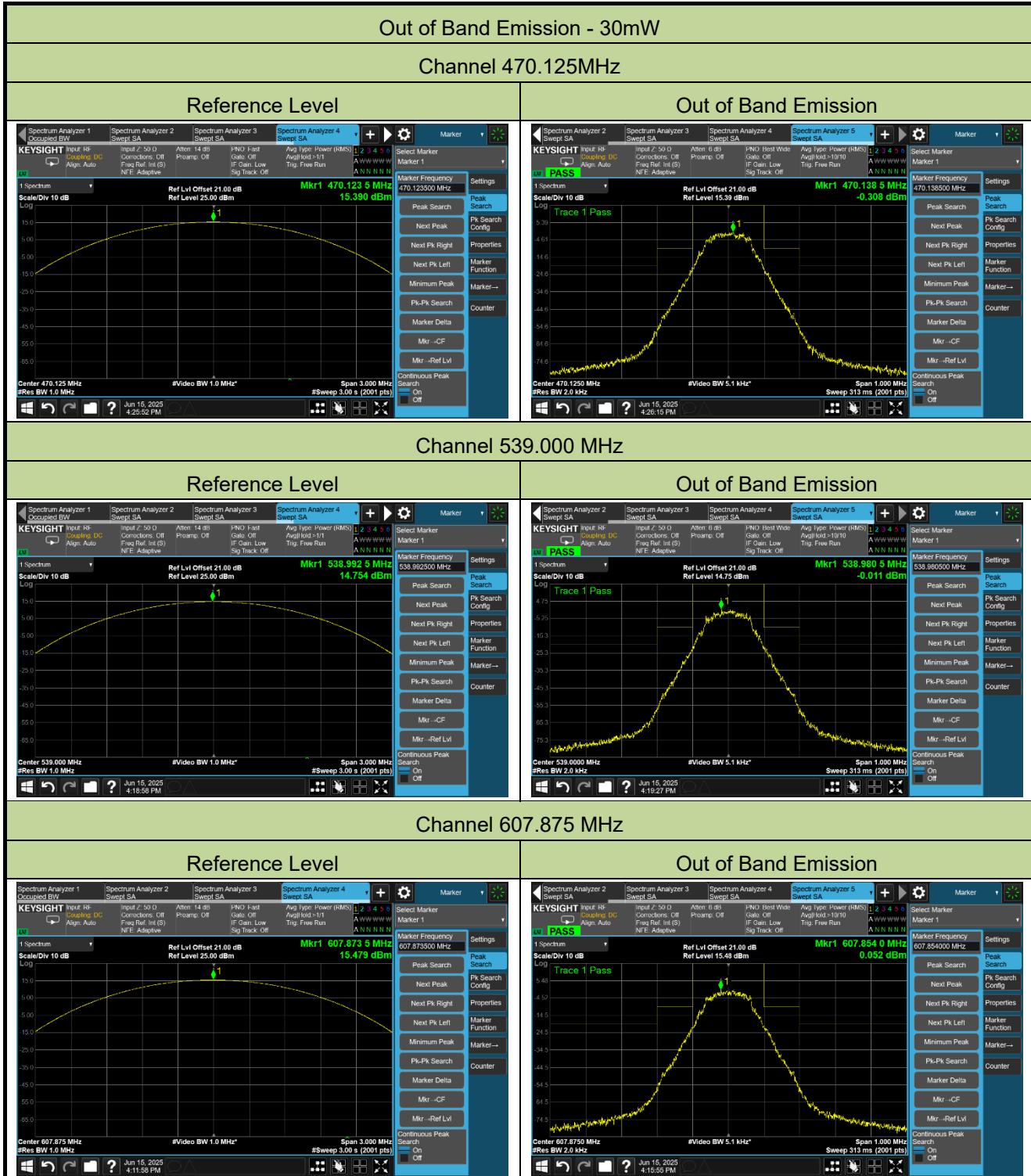
| | | | |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR5 | Test Engineer | Lynn Yang |
| Test Date | 2025-06-15 | | |

| Frequency (MHz) | 99% Bandwidth (kHz) | Limit (kHz) | Result |
|--------------------|------------------------|----------------|--------|
| 470.125 | 167.48 | < 200 | Pass |
| 539.000 | 166.94 | < 200 | Pass |
| 607.875 | 167.12 | < 200 | Pass |



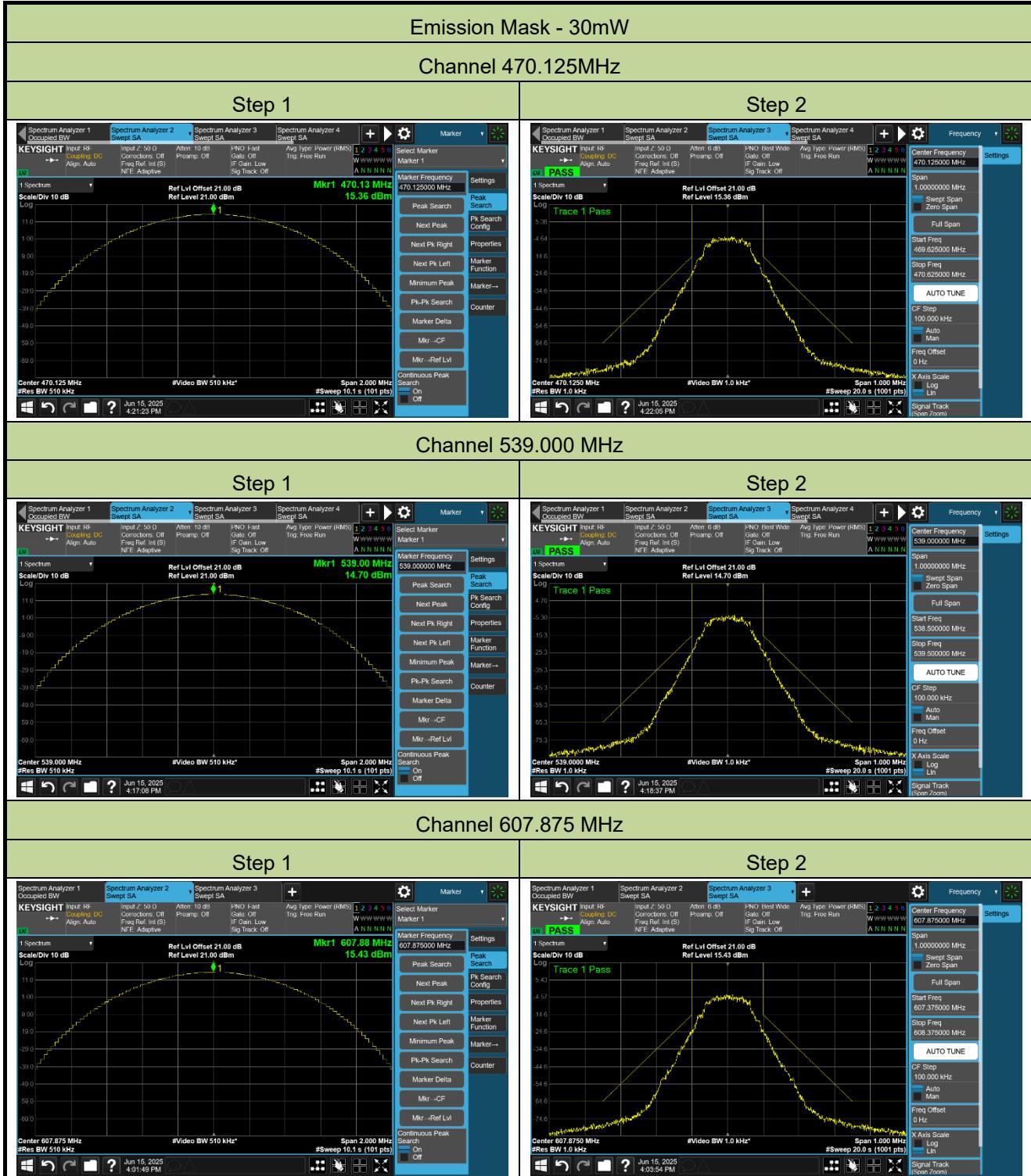
A.4 Out of Band Emission Test Result

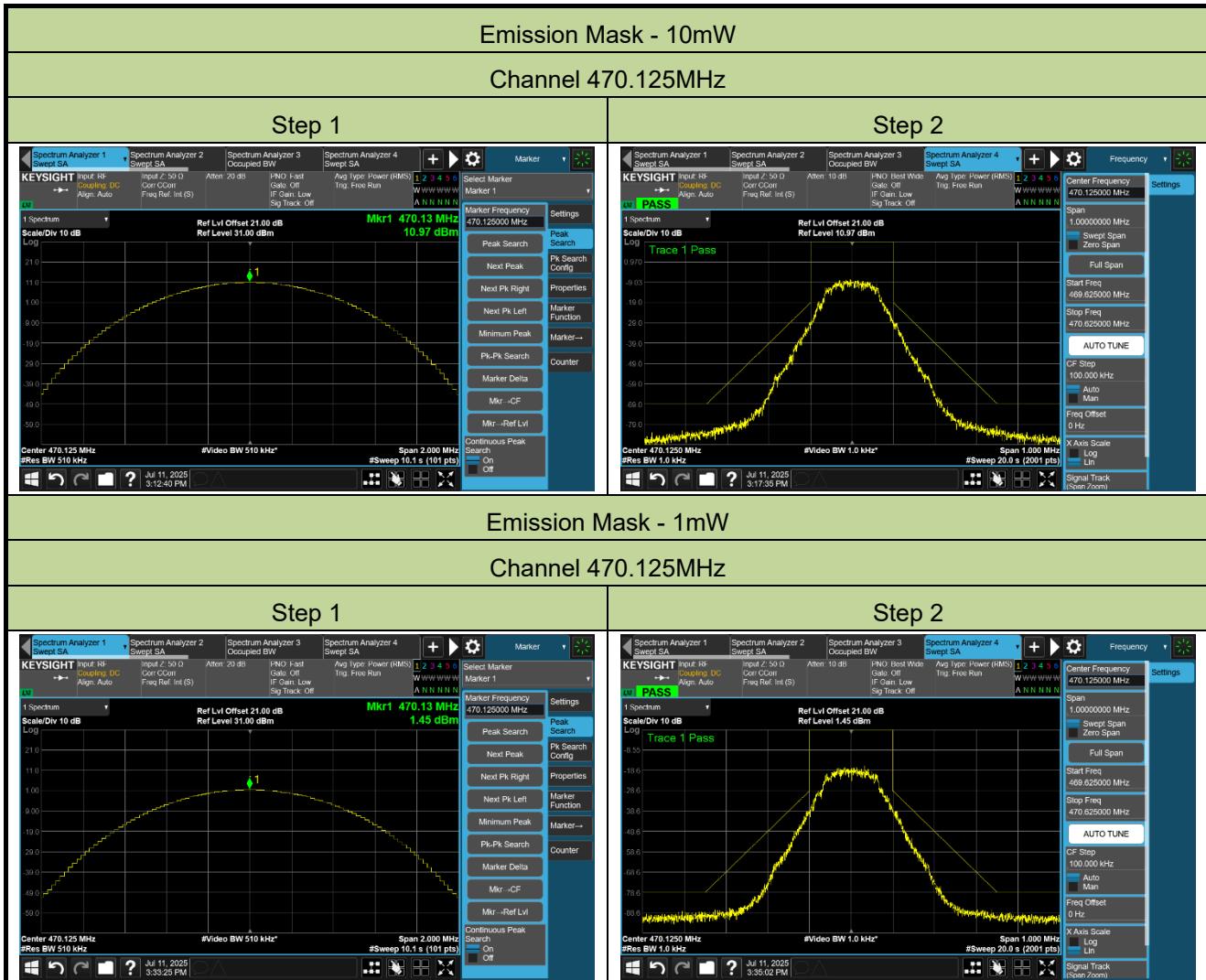
| | | | |
|-----------|------------|---------------|-----------|
| Test Site | WZ-SR5 | Test Engineer | Lynn Yang |
| Test Date | 2025-06-15 | | |



A.5 Emission Mask Test Result

| | | | |
|-----------|-------------------------|---------------|-----------|
| Test Site | WZ-SR5 | Test Engineer | Lynn Yang |
| Test Date | 2025-06-15 ~ 2025-07-11 | | |





A.6 Radiated Spurious Emissions Test Result

| | | | |
|-----------|------------|---------------|------------|
| Test Site | WZ-AC2 | Test Engineer | Lucas Wang |
| Test Date | 2025-06-20 | | |

| Test Channel (MHz) | Frequency (MHz) | Reading Level (dBm) | Substitution Factor (dB) | Measure Level (dBm) | Limit (dBm) | Margin (dB) | Detector | Polarization |
|--------------------|-----------------|---------------------|--------------------------|---------------------|-------------|-------------|----------|--------------|
| 470.125 | 49.98 | -104.21 | 29.04 | -75.17 | -54.00 | -21.17 | Peak | Horizontal |
| | 804.74 | -102.92 | 35.45 | -67.47 | -54.00 | -13.47 | Peak | Horizontal |
| | 940.35 | -95.06 | 36.95 | -58.11 | -36.00 | -22.11 | Peak | Horizontal |
| | 97.71 | -104.82 | 31.92 | -72.90 | -54.00 | -18.90 | Peak | Vertical |
| | 788.64 | -102.35 | 36.69 | -65.66 | -54.00 | -11.66 | Peak | Vertical |
| | 940.15 | -100.52 | 38.40 | -62.12 | -36.00 | -26.12 | Peak | Vertical |
| | 1410.40 | -60.71 | 7.86 | -52.85 | -30.00 | -22.85 | Peak | Horizontal |
| | 6961.60 | -72.87 | 21.13 | -51.74 | -30.00 | -21.74 | Peak | Horizontal |
| | 1438.00 | -67.58 | 7.86 | -59.72 | -30.00 | -29.72 | Peak | Vertical |
| | 6823.60 | -72.56 | 19.59 | -52.97 | -30.00 | -22.97 | Peak | Vertical |
| 539.000 | 677.96 | -103.33 | 34.05 | -69.28 | -54.00 | -15.28 | Peak | Horizontal |
| | 801.73 | -102.79 | 35.48 | -67.31 | -54.00 | -13.31 | Peak | Horizontal |
| | 726.56 | -103.75 | 36.54 | -67.21 | -54.00 | -13.21 | Peak | Vertical |
| | 825.40 | -103.55 | 37.38 | -66.17 | -54.00 | -12.17 | Peak | Vertical |
| | 1078.60 | -46.16 | 6.48 | -39.68 | -30.00 | -9.68 | Peak | Horizontal |
| | 6872.80 | -72.48 | 19.69 | -52.79 | -30.00 | -22.79 | Peak | Horizontal |
| | 1078.00 | -61.96 | 6.57 | -55.39 | -30.00 | -25.39 | Peak | Vertical |
| | 6578.20 | -71.47 | 18.95 | -52.52 | -30.00 | -22.52 | Peak | Vertical |
| 607.875 | 49.98 | -105.06 | 29.04 | -76.02 | -54.00 | -22.02 | Peak | Horizontal |
| | 842.67 | -103.28 | 35.85 | -67.43 | -54.00 | -13.43 | Peak | Horizontal |
| | 714.72 | -101.53 | 36.50 | -65.03 | -54.00 | -11.03 | Peak | Vertical |
| | 851.20 | -102.69 | 37.49 | -65.20 | -54.00 | -11.20 | Peak | Vertical |
| | 1216.00 | -48.18 | 5.82 | -42.36 | -30.00 | -12.36 | Peak | Horizontal |
| | 1823.80 | -60.93 | 7.62 | -53.31 | -30.00 | -23.31 | Peak | Horizontal |
| | 1216.00 | -64.01 | 5.18 | -58.83 | -30.00 | -28.83 | Peak | Vertical |
| | 1823.80 | -67.01 | 6.85 | -60.16 | -30.00 | -30.16 | 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 “R25S1001068-UT” file.

Appendix C – EUT Photograph

Refer to “R25S1001068-UE” file.

The End