# RF MEASUREMENT REPORT

| | |
|---|---|
| **FCC ID:** | 2A6DTET001 |
| **Applicant:** | EVOTE INTERNATIONAL LIMITED |
| **Product:** | Aviation Radio |
| **Model No.:** | KG-S74A |
| **Serial Model No.:** | KG-S74A Plus, KG-S74AX, KG-S94A, KG-S94A Plus, KG-S94AX, KG-114A, KG-114A Plus, KG-114AX |
| **Brand Name:** | WOUXUN |
| **FCC Classification:** | Licensed Non-Broadcast Station Transmitter Held to Face |
| **FCC Rule Part(s):** | FCC Part 87 Subpart D |
| **Received Date:** | 2022-09-01 |
| **Test Date:** | 2022-11-14 ~ 2023-01-06 |

**Reviewed By:** Jame Yuan

**Approved By:** Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.26. Test results reported herein relate only to the item(s) tested.

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 |
|---|---|---|---|---|
| 2209RSU003-U2 | V01 | Initial Report | 2023-02-06 | Invalid |
| 2209RSU003-U2 | V02 | Update frequency rang and test equipment information | 2023-02-08 | Valid |
| | | | | |

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# 1. General Information

## 1.1. Applicant

EVOTE INTERNATIONAL LIMITED

FLAT/RM A 12/F ZJ 300 300 LOCKHART ROAD WAN CHAI HONGKONG

## 1.2. Manufacturer

Quanzhou Wouxun Electronics Co., Ltd.

#38 Yuantai 1st Road, Jiangnan High Technology Industry Park, Quanzhou, Fujian 362000, China

## 1.3. Testing Facility

| | |
|---|---|
| ☒ | **Test Site – MRT Suzhou Laboratory** |
| | **Laboratory Location (Suzhou - Wuzhong)**<br>D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China<br>**Laboratory Location (Suzhou - SIP)**<br>4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China |
| | **Laboratory Accreditations** |
| | A2LA: 3628.01 CNAS: L10551<br>FCC: CN1166 ISED: CN0001<br>VCCI: ☐R-20025 ☐G-20034 ☐C-20020 ☐T-20020<br>☐R-20141 ☐G-20134 ☐C-20103 ☐T-20104 |
| ☐ | **Test Site – MRT Shenzhen Laboratory** |
| | **Laboratory Location (Shenzhen)**<br>1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China |
| | **Laboratory Accreditations** |
| | A2LA: 3628.02 CNAS: L10551<br>FCC: CN1284 ISED: CN0105 |
| ☐ | **Test Site – MRT Taiwan Laboratory** |
| | **Laboratory Location (Taiwan)**<br>No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) |
| | **Laboratory Accreditations** |
| | TAF: L3261-190725<br>FCC: 291082, TW3261 ISED: TW3261 |

### 1.4. Product Information

| | |
|---|---|
| Product Name | Aviation Radio |
| Model No. | KG-S74A |
| Serial Model No. | KG-S74A Plus, KG-S74AX, KG-S94A, KG-S94A Plus, KG-S94AX, KG-114A, KG-114A Plus, KG-114AX |
| Serial No. | C09AR0004 |
| Frequency Range | 118.000MHz ~ 135.995MHz |
| Working Voltage | 7.4VDC |
| Type of Modulation | AM |
| Channel Spacing | 8.33kHz & 25kHz |
| Antenna Type | Dipole |
| Antenna Gain | 2.0 dBi |
| Accessories | |
| Adapter | Model: DSX-120050L-US<br>INPUT: 100-240VAC 50-60Hz 0.3A<br>OUTPUT: 12VDC 0.5A |
| Battery | 7.4VDC 2000mAh (14.8Wh) |

Notes:

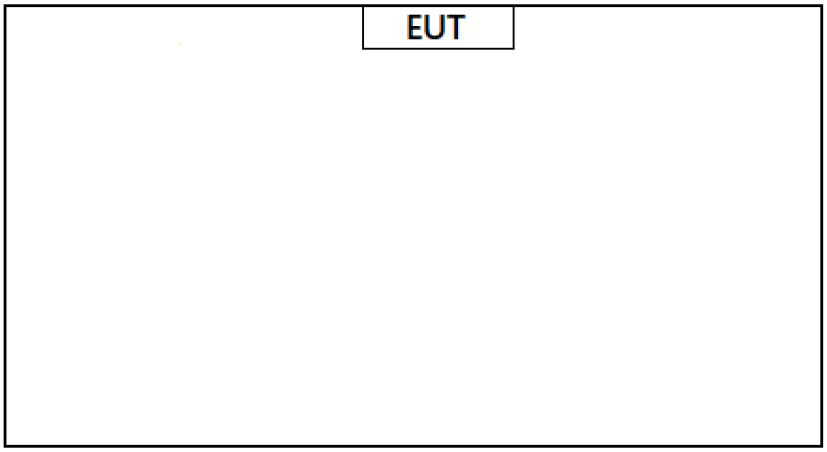
1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.
2. KG-S74A is selected for all testing, specified by the manufacturer.
3. The difference between the above models is with different model names and plastic enclosure, the above models are with the same diagram and mainboard.

# 2. Test Configuration

## 2.1. Test Mode

| |
|---|
| Mode 1: Transmit at channel 118.025MHz with 8.33kHz channel spacing |
| Mode 2: Transmit at channel 127.025MHz with 8.33kHz channel spacing |
| Mode 3: Transmit at channel 135.975MHz with 8.33kHz channel spacing |
| Mode 4: Transmit at channel 118.025MHz with 25kHz channel spacing |
| Mode 5: Transmit at channel 127.025MHz with 25kHz channel spacing |
| Mode 6: Transmit at channel 135.975MHz with 25kHz channel spacing |

## 2.2. Test System Connection Diagram

| Connection Diagram – Radiated Unwanted Emission Testing |
|---|
|   |

### 2.3. Applied Standards

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

FCC Part 87 Subpart A and Subpart D

FCC Part 2

ANSI C63.26 - 2015

### 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 |
|---|---|---|---|---|---|---|
| TRILOG Antenna | Schwarzbeck | VULB 9162 | MRTSUE06022 | 1 year | 2023-05-20 | WZ-AC2 |
| EMI Test Receiver | Agilent | N9038A | MRTSUE06125 | 1 year | 2023-06-04 | WZ-AC2 |
| Thermohygrometer | Mingle | ETH529 | MRTSUE06170 | 1 year | 2023-11-27 | WZ-AC2 |
| | | | | 1 year | 2022-11-28 | WZ-AC2 |
| Horn Antenna | Schwarzbeck | BBHA 9120D | MRTSUE06171 | 1 year | 2023-10-13 | WZ-AC2 |
| Preamplifier | Schwarzbeck | BBV 9718 | MRTSUE06176 | 1 year | 2023-05-08 | WZ-AC2 |
| Anechoic Chamber | RIKEN | WZ-AC2 | MRTSUE06213 | 1 year | 2023-04-21 | WZ-AC2 |
| Thermohygrometer | testo | 608-H1 | MRTSUE11038 | 1 year | 2023-11-01 | WZ-AC2 |
| Loop Antenna | Schwarzbeck | FMZB 1519 | MRTSUE06025 | 1 year | 2023-09-29 | WZ-AC2 |
| Thermohygrometer | testo | 608-H1 | MRTSUE06401 | 1 year | 2023-06-06 | WZ-TR3 |
| Temperature Chamber | BAOYT | BYH-150CL | MRTSUE06051 | 1 year | 2023-10-08 | WZ-TR3 |
| Thermohygrometer | testo | 608-H1 | MRTSUE06402 | 1 year | 2023-06-06 | WZ-SR5 |
| Shielding Room | HUAMING | WZ-SR5 | MRTSUE06442 | N/A | N/A | WZ-SR5/WZ-TR3 |
| Signal Analyzer | Keysight | N9010B | MRTSUE06457 | 1 year | 2023-06-04 | WZ-SR5 |
| Audio Analyzer | R&S | UPV | MRTSUE06357 | 1 year | 2023-04-28 | WZ-SR5 |
| Modulation Analyzer | HP | HP8901A | MRTSUE06098 | 1 year | 2023-08-23 | WZ-SR5 |

| Software | Version | Function |
|---|---|---|
| EMI Software | V3 | EMI Test Software |
| Controller_MF 7802 | 1.02 | RE Antenna & Turntable |

# 4. 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.

| Radiated Spurious Emissions |
|---|
| Measurement Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):<br>Horizontal: 9kHz ~ 300MHz: 5.04dB<br>300MHz ~ 1GHz: 4.95dB<br>1GHz ~ 40GHz: 6.40dB<br>Vertical: 9kHz ~ 300MHz: 5.24dB<br>300MHz ~ 1GHz: 6.03dB<br>1GHz ~ 40GHz: 6.40dB |
| Conducted Spurious Emissions |
| Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):<br>0.78dB |
| Output Power |
| Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):<br>1.13dB |
| Occupied Bandwidth |
| Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):<br>0.28% |
| Frequency Stability |
| Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)):<br>76.2Hz |

# 5. Test Result

## 5.1. Test Summary

| FCC Part Section(s) | Test Description | Test Condition | Verdict |
|---|---|---|---|
| §87.131, §2.1046 | RF Output Power | Conducted | Pass |
| §87.133, §2.1055 | Frequency Stability | | Pass |
| §87.141(a), §2.1047 | Modulation Characteristics (Audio Frequency Response) | | Pass |
| §87.141, §2.1047 | Modulation Characteristics (Modulation Limiting) | | Pass |
| §87.135, §2.1049 | Occupied Bandwidth | | Pass |
| §87.139, §2.1051 | Conducted Spurious Emission at Antenna Terminals | | Pass |
| §87.139, §2.1053 | Radiated Unwanted Emission | Radiated | Pass |

**Remark:**

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. For radiated emission tests, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

## 5.2. RF Output Power Measurement

### 5.2.1. Test Limit

The following table lists authorized emissions and maximum power. Power must be determined by direct measurement.

| Class of station | Frequency band/frequency | Authorized emission(s) | Maximum power[1] |
|---|---|---|---|
| Aeronautical advisory | VHF | A3E | 10 watts[2] |
| Aeronautical multicom | VHF | A3E | 10 watts |
| Aeronautical search and rescue | VHF | A3E | 10 watts |
| Flight test land | VHF | A3E | 200 watts |
| Aviation support | VHF | A3E | 50 watts |
| Airport control tower | VHF | A3E | 50 watts |
| Aeronautical utility mobile | VHF | A3E | 10 watts |
| Aircraft (Communication) | VHF | A3E | 55 watts |

Note1: The power is measured at the transmitter output terminals and the type of power is determined according to the emission designator as follows:

(i) Mean power (pY) for amplitude modulated emissions and transmitting both sidebands using unmodulated full carrier.

(ii) Peak envelope power (pX) for all emission designators other than those referred to in paragraph (i) of this note.

Note2: Power is limited to 0.5 watt, but may not exceed 2 watts when station is used in an automatic unattended mode.

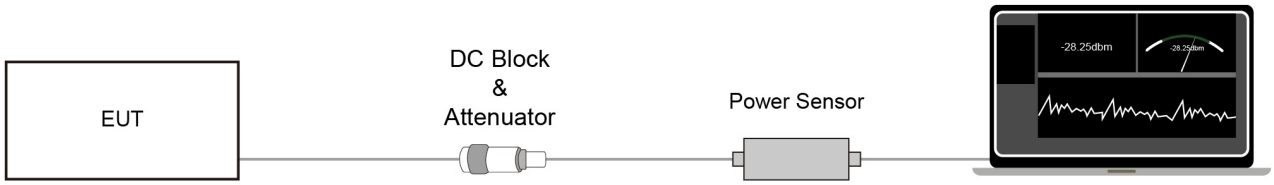
### 5.2.2. Test Procedure

ANSI C63.26-2015 - Section 5.2.3.2

### 5.2.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.

### 5.2.4. Test Setup




### 5.2.5. Test Result

Refer to Appendix A.

## 5.3. Frequency Stability Measurement

### 5.3.1. Test Limit

The carrier frequency of each station must be maintained within the tolerance in the following table:

| Frequency band (lower limit exclusive, upper limit inclusive), and categories of stations | Tolerance (ppm) |
|---|---|
| (5) Band – 108 to 137MHz:<br>Aircraft and other mobile stations in the Aviation Services | 30 |

### 5.3.2. Test Procedure

ANSI C63.26-2015 - Section 5.6

### 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 High. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the Low temperature reached.

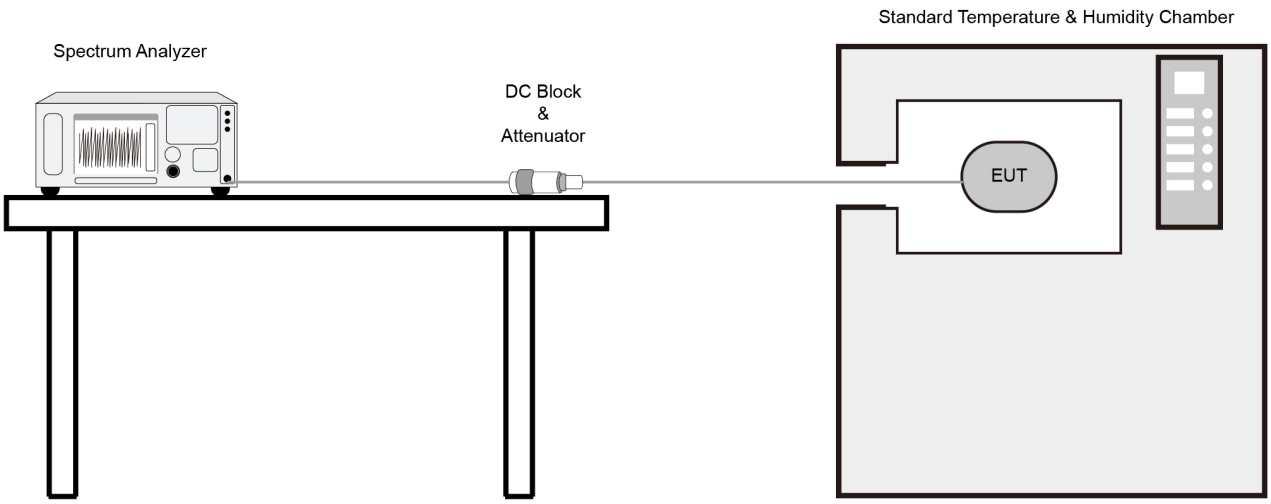
**Frequency Stability Under Voltage Variations:**

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 (±15%) and endpoint, record the maximum frequency change.

For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.

### 5.3.4. Test Setup




### 5.3.5. Test Result

Refer to Appendix A.

## 5.4. Modulation Characteristics Measurement

### 5.4.1. Test Limit

(a) When A3E emission is used, the modulation percentage must not exceed 100 percent. This requirement does not apply to emergency locator transmitters or survival craft transmitters.

(c) If any licensed radiotelephone transmitter causes harmful interference to any authorized radio service because of excessive modulation, the Commission will require the use of the transmitter to be discontinued until it is rendered capable of automatically preventing modulation in excess of 100 percent.

### 5.4.2. Test Procedure

ANSI C63.26-2015 - Section 5.3.3.1 & Section 5.3.2

### 5.4.3. Test Setting

**Audio Frequency Response**

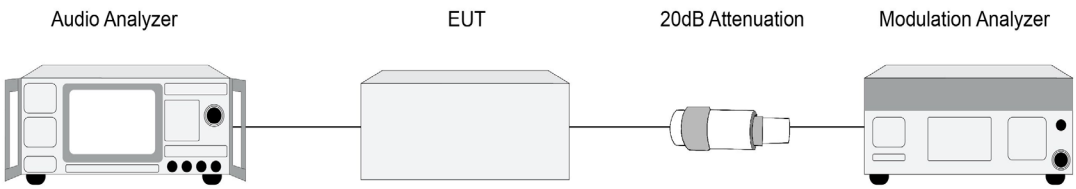
1. Connect the equipment following the below figure
2. Apply a 1000 Hz tone and adjust the audio frequency generator to produce 20% of the rated system deviation.
3. Set the test receiver to measure rms deviation and record the deviation reading
4. Record the audio frequency input reading as $V_{REF}$
5. Set the audio frequency generator to the desired test frequency between 100 Hz and 5000Hz and record the input levels necessary to maintain a constant 20% modulation.
6. Record the audio frequency input reading as $V_{FREQ}$
7. Calculate the audio frequency response at the present frequency as follows in Equation

   audio frequency response = $20*LOG(V_{FREQ}/V_{REF})$

**Modulation Limiting Response**

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.

### 5.4.4. Test Setup




### 5.4.5. Test Result

Refer to Appendix A.

## 5.5. Occupied Bandwidth Measurement

### 5.5.1. Test Limit

(a) Occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5 percent of the total mean power of a given emission.

(b) The authorized bandwidth is the maximum occupied bandwidth authorized to be used by a station.

(c) The necessary bandwidth for a given class of emission is the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions

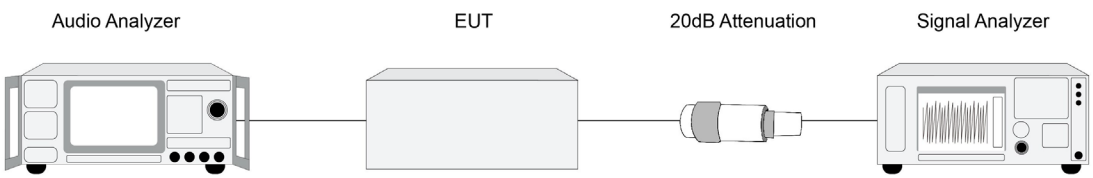
### 5.5.2. Test Procedure

ANSI C63.26-2015 - Section 5.4

### 5.5.3. Test Setting

1. Span shall be set wide enough to capture all modulation products including the emission skirts
2. Set RBW = 1% to 5% the OBW
3. VBW ≥ 3 × RBW
4. Detector = Peak
5. Trace mode = Max hold
6. Sweep = Auto couple
7. Allow the trace was allowed to stabilize
8. Use the instrument's 99% OBW function to measure

### 5.5.4. Test Setup



#### 5.5.5. Test Result

Refer to Appendix A.

## 5.6. Conducted Spurious Emission and Emissions Mask Measurement

### 5.6.1. Test Limit

(a) Except for ELTs and when using single sideband (R3E, H3E, J3E), or frequency modulation (F9) or digital modulation (F9Y) for telemetry or telecommand in the 1435-1525 MHz, 2345-2395 MHz, or 5091-5150 MHz band or digital modulation (G7D) for differential GPS, the mean power of any emissions must be attenuated below the mean power of the transmitter (pY) as follows:

(1) When the frequency is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth the attenuation must be at least 25 dB;

(2) When the frequency is removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth the attenuation must be at least 35 dB.

(3) When the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth the attenuation for aircraft station transmitters must be at least 40 dB; and the attenuation for aeronautical station transmitters must be at least 43 + 10 log10 pY dB

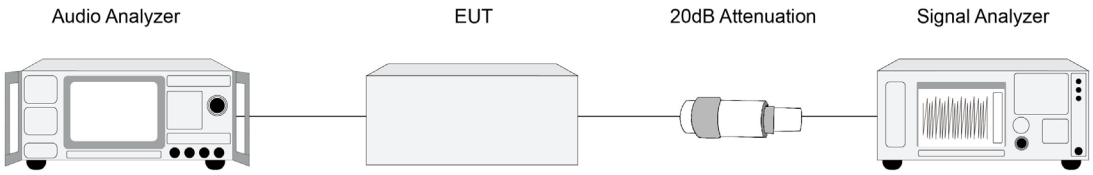
### 5.6.2. Test Procedure

ANSI C63.26-2015 - Section 5.7

### 5.6.3. Test Setting

1. Connect the EUT antenna output port to the spectrum analyzer via an appropriate RF cable.
2. Analyzer was set to the center frequency of the EUT channel under investigation
3. Span ≥ 1.5 times the OBW
4. Set the RBW as required by applicable regulations.
5. VBW to a value ≥ 3 × RBW
6. Detector = Peak
7. Sweep time = auto couple
8. Trace mode = max hold
9. Trace was allowed to stabilize

### 5.6.4. Test Setup




### 5.6.5. Test Result

Refer to Appendix A.

## 5.7. Radiated Unwanted Emissions Measurement

### 5.7.1. Test Limit

(a)(3) When the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth the attenuation for aircraft station transmitters must be at least 40 dB; and the attenuation for aeronautical station transmitters must be at least 43 + 10 log10 pY Db

E (dBμV/m) = EIRP (dBm) - 20 log D + 104.8; where D is the measurement distance in meters. The emission limit equal to 82.3dBμV/m.

### 5.7.2. Test Procedure

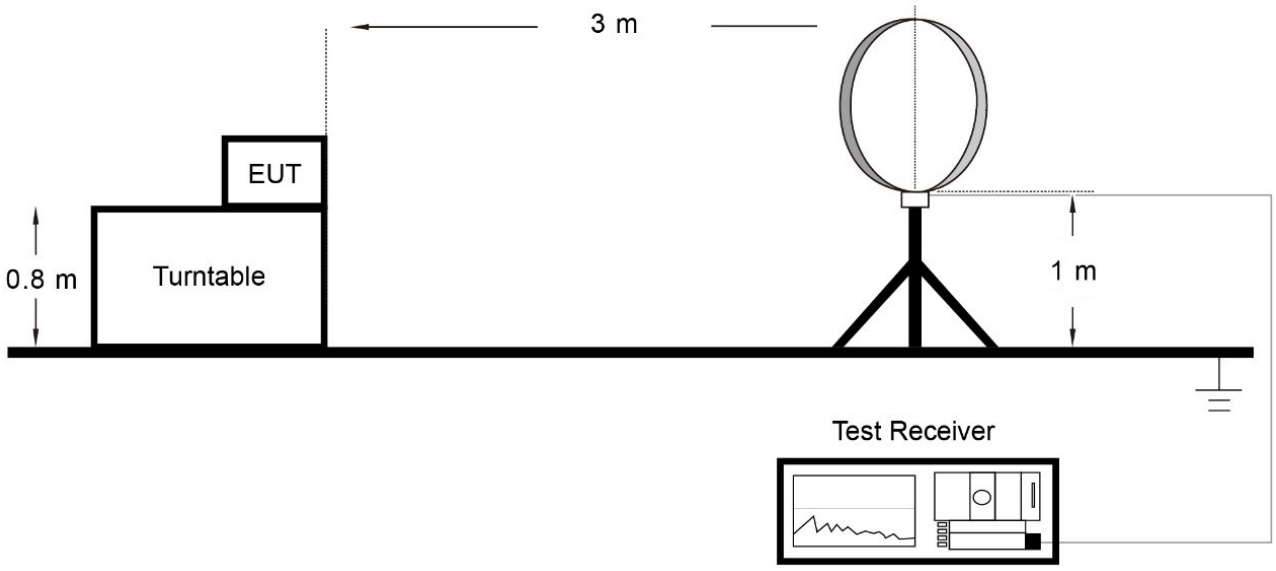
ANSI C63.26-2015 - Section 5.7

### 5.7.3. Test Setting

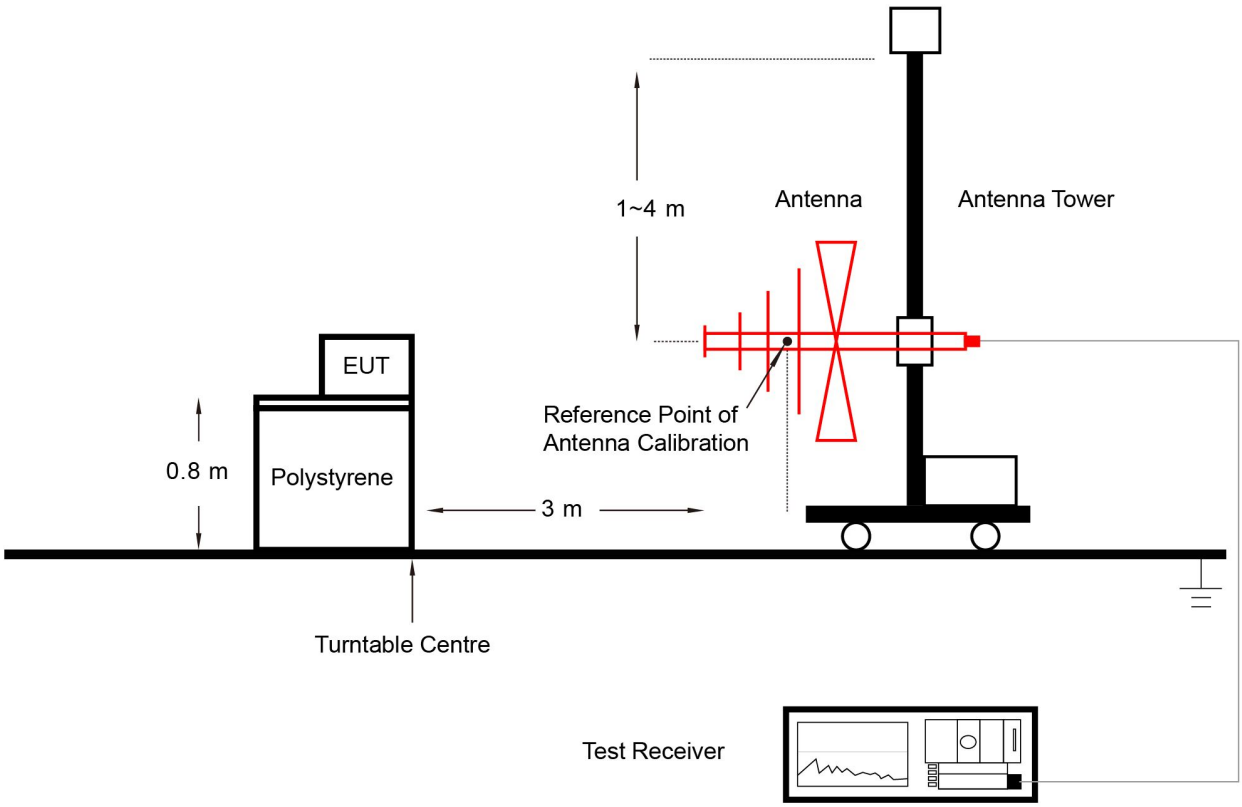
1. RBW = 1MHz
2. VBW ≥ 3*RBW
3. Sweep time ≥ 10 × (number of points in sweep) × (transmission symbol period)
4. Detector = Peak
5. Trace mode = max hold
6. The trace was allowed to stabilize

### 5.7.4. Test Setup

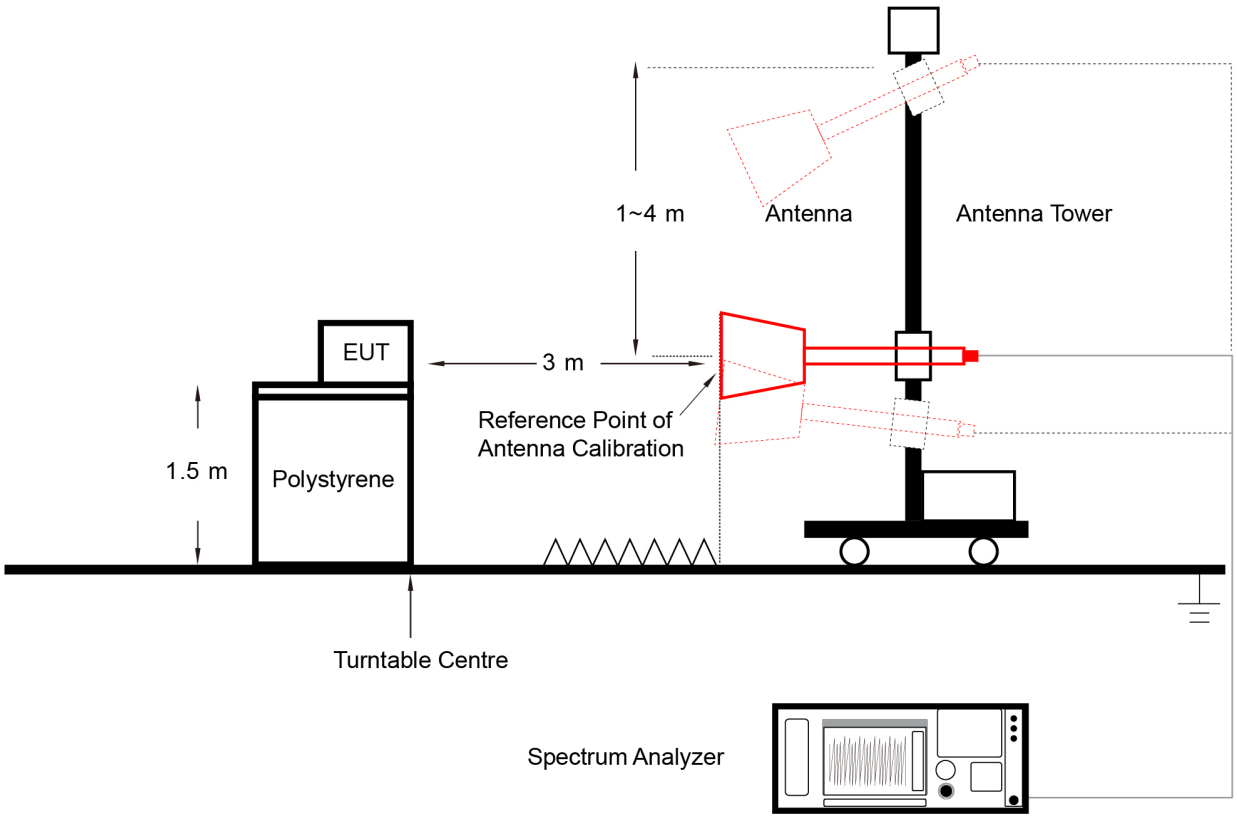
Below 30MHz Test Setup:




Below 1GHz Test Setup:



Above 1GHz Test Setup:




### 5.7.5. Test Result

Refer to Appendix A.

## Appendix A- Test Result

### A.1 RF Output Power Test Result

| | | | |
|---|---|---|---|
| Test Site | WZ-SR5 | Test Engineer | Liz Yuan |
| Test Date | 2023-01-03 | | |

| Frequency (MHz) | Channel Spacing (kHz) | Output Power (dBm) | Output Power (W) | Result |
|---|---|---|---|---|
| 118.025 | 8.33 | 33.48 | 2.23 | Pass |
| 127.025 | 8.33 | 33.76 | 2.38 | Pass |
| 135.975 | 8.33 | 34.17 | 2.61 | Pass |
| 118.025 | 25 | 33.47 | 2.22 | Pass |
| 127.025 | 25 | 33.75 | 2.37 | Pass |
| 135.975 | 25 | 34.13 | 2.59 | Pass |

Note: Measured Output Power(W) = 10^(Measured Output Power (dBm) /10) /1000

### A.2 Rrequency Stability Test Result

| Test Site | WZ-TR3 | Test Engineer | Liz Yuan |
|---|---|---|---|
| Test Date | 2023-01-05 | | |

| Voltage (V) | Temp (°C) | Frequency Tolerance (ppm) | |
|---|---|---|---|
| | | Reference Frequency: 127.025MHz | Limit |
| 7.4 | -30 | -4.06 | -30 ~ +30 |
| | -20 | 0.17 | -30 ~ +30 |
| | -10 | 0.16 | -30 ~ +30 |
| | 0 | 0.15 | -30 ~ +30 |
| | + 10 | 0.15 | -30 ~ +30 |
| | + 20 | 0.13 | -30 ~ +30 |
| | + 30 | 0.13 | -30 ~ +30 |
| | + 40 | 0.11 | -30 ~ +30 |
| | + 50 | 0.10 | -30 ~ +30 |
| 6.1 Note1 | 20 | 0.10 | -30 ~ +30 |

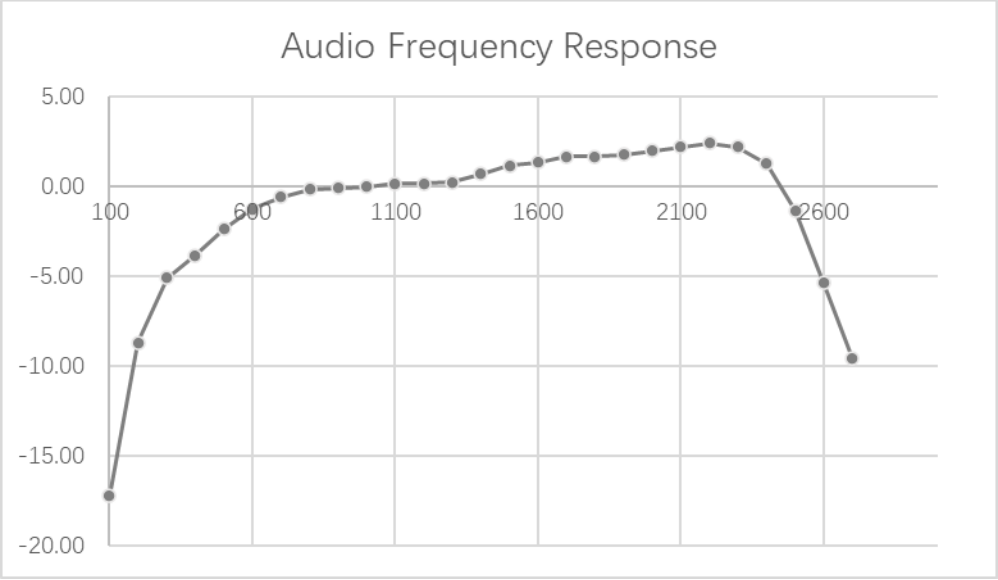
Note1: Battery endpoint voltage is declared and specified by the manufacturer.

### A.3 Modulation Characteristics Test Result

| | | | |
|---|---|---|---|
| Test Site | WZ-SR5 | Test Engineer | Liz Yuan |
| Test Date | 2023-01-06 | Test Item | Audio Frequency Response |
| Test Mode | 8.33kHz channel spacing | | |

| Frequency (Hz) | AM level (with 20% modulation percentage) (mV) | Audio Frequency Response (dB) |
|---|---|---|
| 100 | 75.0 | -17.24 |
| 200 | 28.0 | -8.69 |
| 300 | 18.5 | -5.09 |
| 400 | 16.0 | -3.83 |
| 500 | 13.5 | -2.35 |
| 600 | 11.9 | -1.25 |
| 700 | 11.0 | -0.57 |
| 800 | 10.5 | -0.17 |
| 900 | 10.4 | -0.08 |
| 1000 | 10.3 | 0.00 |
| 1100 | 10.1 | 0.17 |
| 1200 | 10.1 | 0.17 |
| 1300 | 10.0 | 0.26 |
| 1400 | 9.5 | 0.70 |
| 1500 | 9.0 | 1.17 |
| 1600 | 8.8 | 1.37 |
| 1700 | 8.5 | 1.67 |
| 1800 | 8.5 | 1.67 |
| 1900 | 8.4 | 1.77 |
| 2000 | 8.2 | 1.98 |
| 2100 | 8.0 | 2.19 |
| 2200 | 7.8 | 2.41 |
| 2300 | 8.0 | 2.19 |
| 2400 | 8.9 | 1.27 |
| 2500 | 12.0 | -1.33 |
| 2600 | 19.0 | -5.32 |
| 2700 | 31.0 | -9.57 |

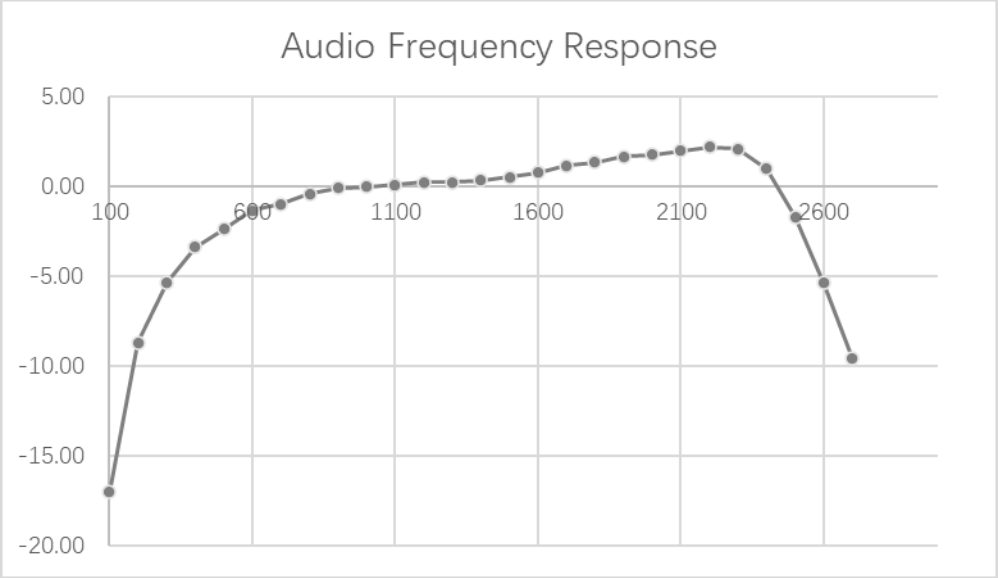
Note: 20% modulation could not be achieved above 2700Hz


Audio Frequency Response
5.00
0.00
-5.00
-10.00
-15.00
-20.00
100
600
1100
1600
2100
2600

| Test Site | WZ-SR5 | Test Engineer | Liz Yuan |
|---|---|---|---|
| Test Date | 2023-01-06 | Test Item | Audio Frequency Response |
| Test Mode | 25kHz channel spacing | | |

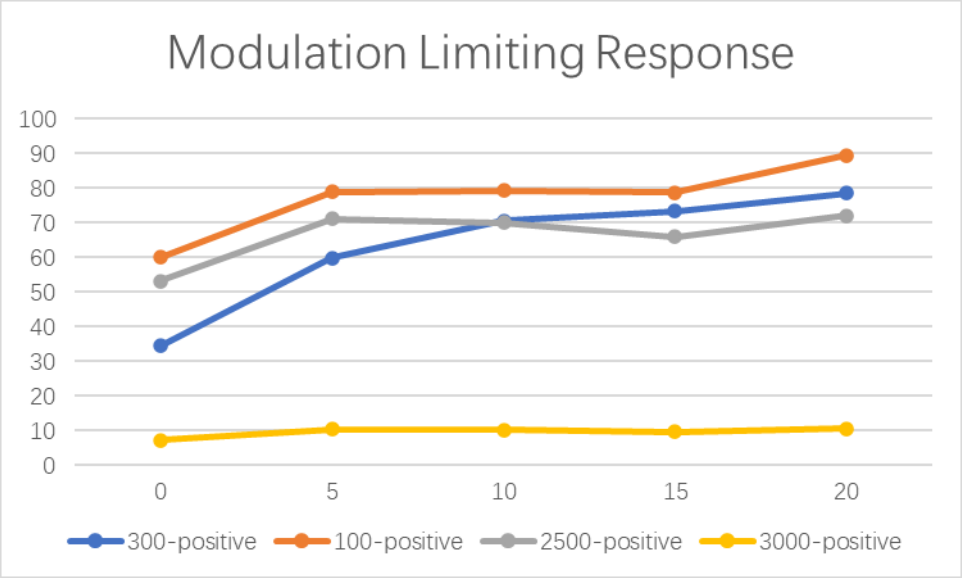
| Frequency (Hz) | AM level (with 20% modulation percentage) (mV) | Audio Frequency Response (dB) |
|---|---|---|
| 100 | 100 | -17.01 |
| 200 | 200 | -8.69 |
| 300 | 300 | -5.32 |
| 400 | 400 | -3.38 |
| 500 | 500 | -2.35 |
| 600 | 600 | -1.33 |
| 700 | 700 | -0.96 |
| 800 | 800 | -0.41 |
| 900 | 900 | -0.08 |
| 1000 | 1000 | 0.00 |
| 1100 | 1100 | 0.08 |
| 1200 | 1200 | 0.26 |
| 1300 | 1300 | 0.26 |
| 1400 | 1400 | 0.34 |
| 1500 | 1500 | 0.52 |
| 1600 | 1600 | 0.79 |
| 1700 | 1700 | 1.17 |
| 1800 | 1800 | 1.37 |
| 1900 | 1900 | 1.67 |
| 2000 | 2000 | 1.77 |
| 2100 | 2100 | 1.98 |
| 2200 | 2200 | 2.19 |
| 2300 | 2300 | 2.09 |
| 2400 | 2400 | 0.98 |
| 2500 | 2500 | -1.68 |
| 2600 | 2600 | -5.32 |
| 2700 | 2700 | -9.57 |

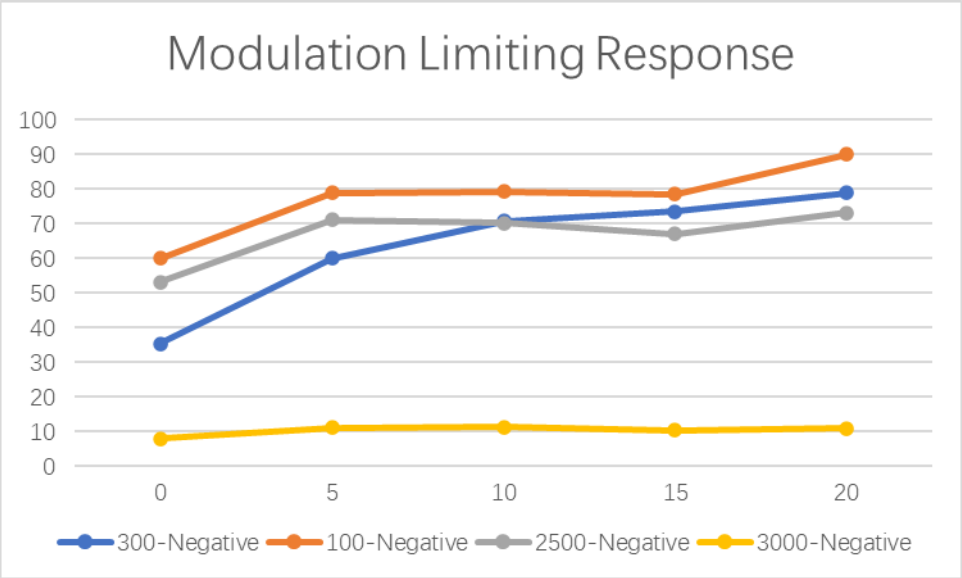
Note: 20% modulation could not be achieved above 2700Hz


Audio Frequency Response
5.00
0.00
-5.00
-10.00
-15.00
-20.00
100
600
1100
1600
2100
2600

| Test Site | WZ-SR5 | Test Engineer | Liz Yuan |
|---|---|---|---|
| Test Date | 2023-01-06 | Test Item | Modulation Limiting Response |
| Test Mode | 8.33kHz channel spacing | | |

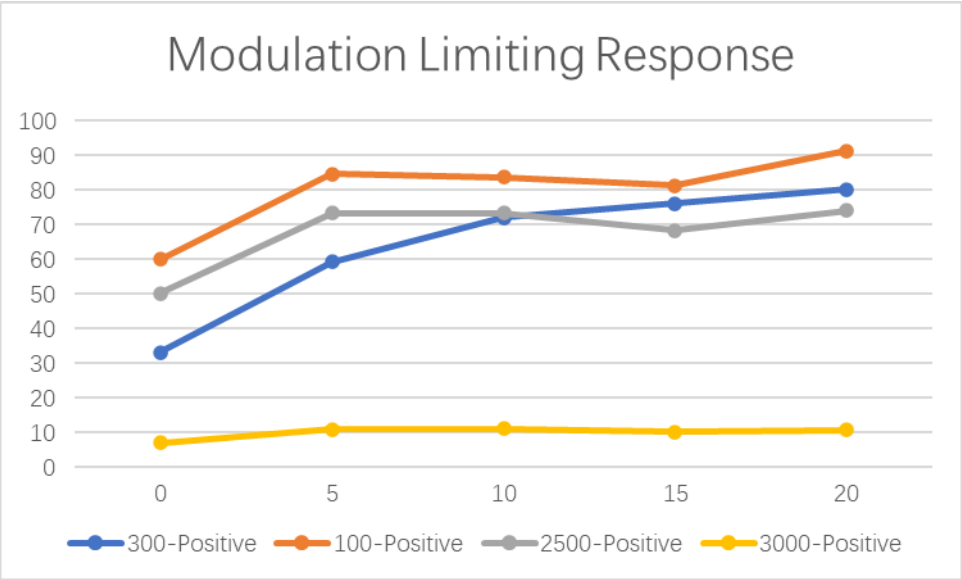
| Frequency (Hz) | Increase level relative to reference (dB) | Positive Modulation percentage | Negative Modulation percentage |
|---|---|---|---|
| 300 | 0 | 34.50 | 35.51 |
| | 5 | 59.90 | 60.12 |
| | 10 | 70.60 | 70.89 |
| | 15 | 73.50 | 73.55 |
| | 20 | 78.60 | 79.01 |
| 1000 | 0 | 60.00 | 60.05 |
| | 5 | 78.90 | 78.99 |
| | 10 | 79.40 | 79.35 |
| | 15 | 78.70 | 78.65 |
| | 20 | 89.50 | 90.01 |
| 2500 | 0 | 53.30 | 53.24 |
| | 5 | 71.10 | 71.16 |
| | 10 | 70.10 | 70.22 |
| | 15 | 66.00 | 67.03 |
| | 20 | 72.20 | 73.15 |
| 3000 | 0 | 7.32 | 8.01 |
| | 5 | 10.40 | 11.23 |
| | 10 | 10.28 | 11.43 |
| | 15 | 9.78 | 10.54 |
| | 20 | 10.58 | 11.03 |

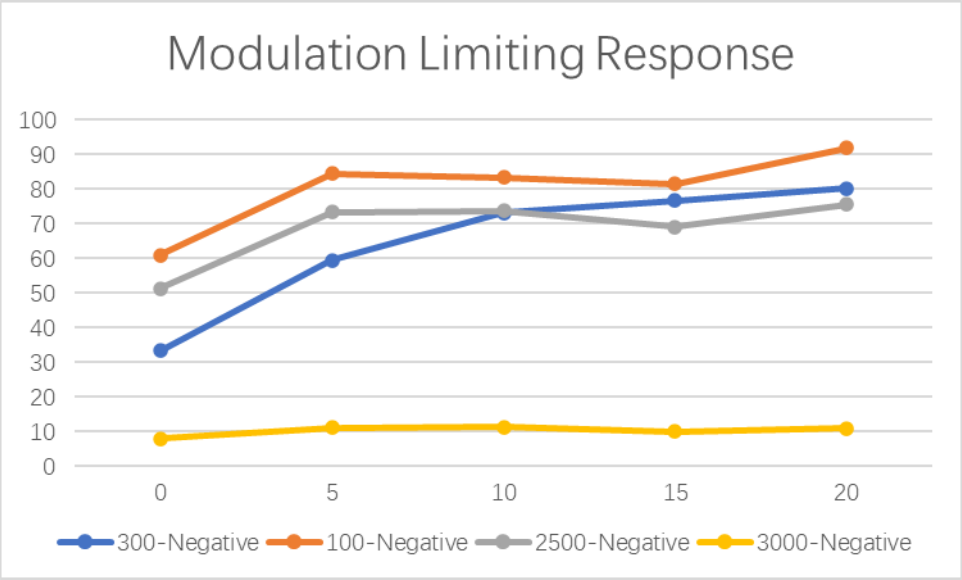

Modulation Limiting Response
100
90
80
70
60
50
40
30
20
10
0
0
5
10
15
20
300-positive
100-positive
2500-positive
3000-positive


Modulation Limiting Response
100
90
80
70
60
50
40
30
20
10
0
0
5
10
15
20
300-Negative
100-Negative
2500-Negative
3000-Negative

| Test Site | WZ-SR5 | Test Engineer | Liz Yuan |
|---|---|---|---|
| Test Date | 2023-01-06 | Test Item | Modulation Limiting Response |
| Test Mode | 25kHz channel spacing | | |

| Frequency (Hz) | Increase level relative to reference (dB) | Positive Modulation percentage | Negative Modulation percentage |
|---|---|---|---|
| 300 | 0 | 33.20 | 33.45 |
| | 5 | 59.40 | 59.49 |
| | 10 | 72.10 | 73.15 |
| | 15 | 76.20 | 76.79 |
| | 20 | 80.30 | 80.21 |
| 1000 | 0 | 60.00 | 61.04 |
| | 5 | 84.70 | 84.54 |
| | 10 | 83.80 | 83.37 |
| | 15 | 81.30 | 81.55 |
| | 20 | 91.40 | 91.90 |
| 2500 | 0 | 50.30 | 51.32 |
| | 5 | 73.50 | 73.38 |
| | 10 | 73.40 | 73.79 |
| | 15 | 68.50 | 69.14 |
| | 20 | 74.10 | 75.62 |
| 3000 | 0 | 7.08 | 8.04 |
| | 5 | 11.05 | 11.15 |
| | 10 | 11.14 | 11.43 |
| | 15 | 10.20 | 10.17 |
| | 20 | 10.86 | 10.96 |


Modulation Limiting Response
100
90
80
70
60
50
40
30
20
10
0
0
5
10
15
20
300-Positive
100-Positive
2500-Positive
3000-Positive


Modulation Limiting Response
100
90
80
70
60
50
40
30
20
10
0
0
5
10
15
20
300-Negative
100-Negative
2500-Negative
3000-Negative

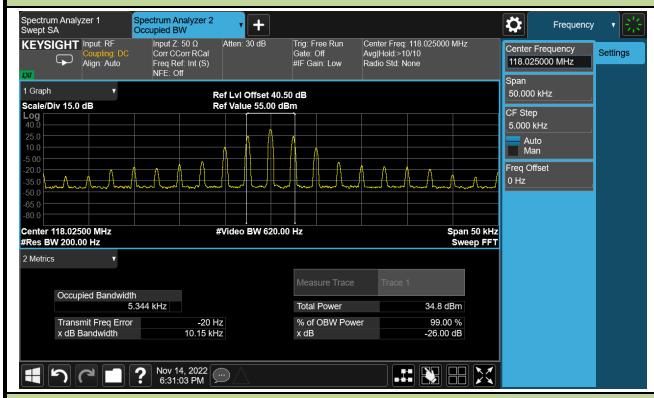
### A.4 Occupied Bandwidth Test Result

| | | | |
|---|---|---|---|
| Test Site | WZ-SR5 | Test Engineer | Liz Yuan |
| Test Date | 2022-11-14 ~ 2023-01-04 | | |

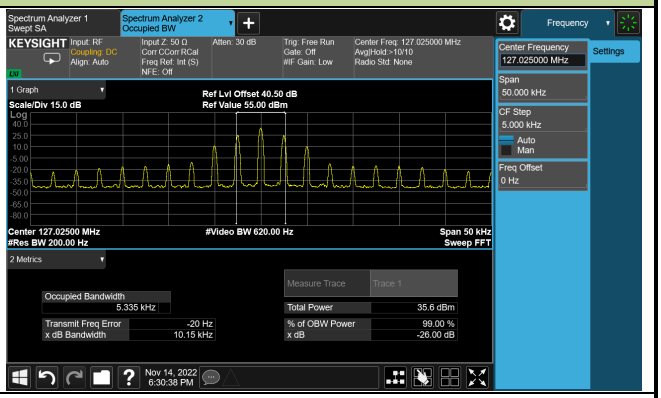
| Frequency (MHz) | Channel Spacing (kHz) | 99% Bandwidth (kHz) | Limit (kHz) | Result |
|---|---|---|---|---|
| 118.025 | 8.33 | 5.344 | ≤ 8.33 | Pass |
| 127.025 | | 5.335 | ≤ 8.33 | Pass |
| 135.975 | | 5.322 | ≤ 8.33 | Pass |
| 118.025 | 25 | 5.344 | ≤ 25 | Pass |
| 127.025 | | 5.339 | ≤ 25 | Pass |
| 135.975 | | 5.319 | ≤ 25 | Pass |

## Occupied Bandwidth – 8.33kHz channel spacing

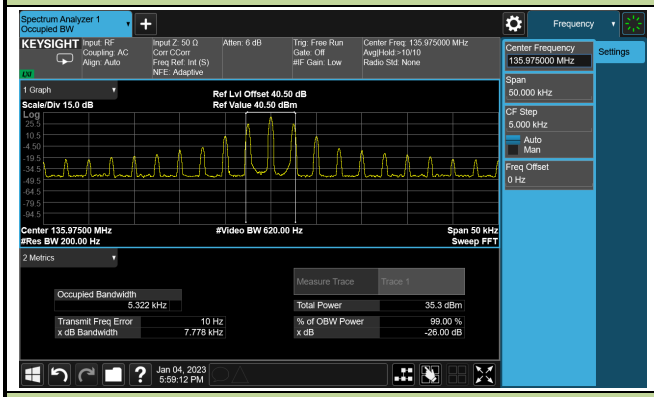
### 118.025MHz




### 127.025MHz

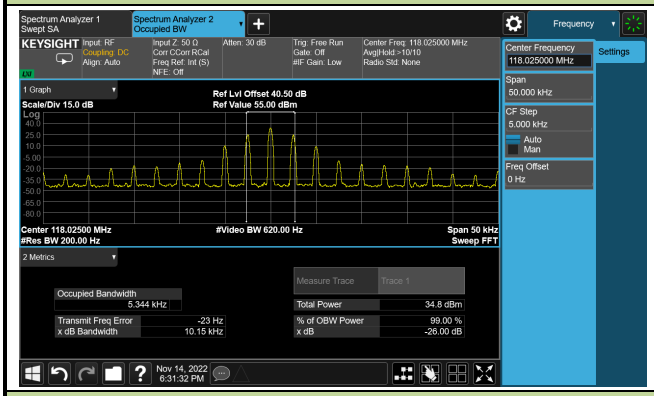



### 135.975MHz

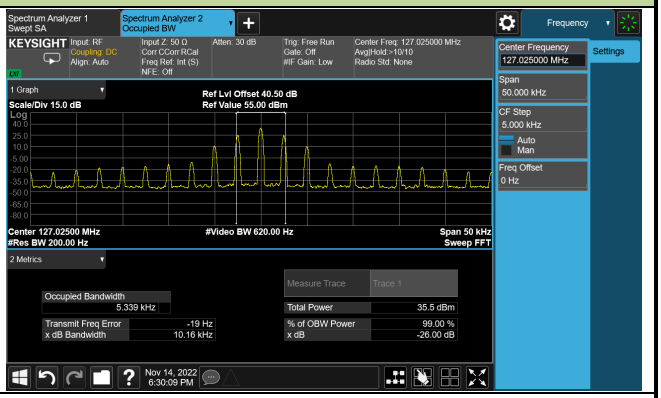



## Occupied Bandwidth – 8.33kHz channel spacing

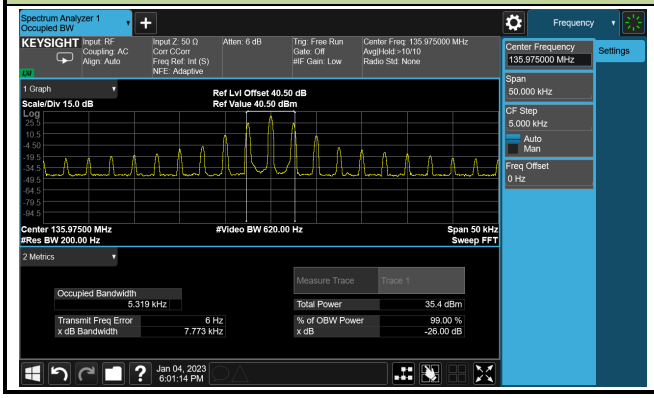
### 118.025MHz




### 127.025MHz




### 135.975MHz



## A.5 Conducted Spurious Emission at Antenna Terminals Test Result

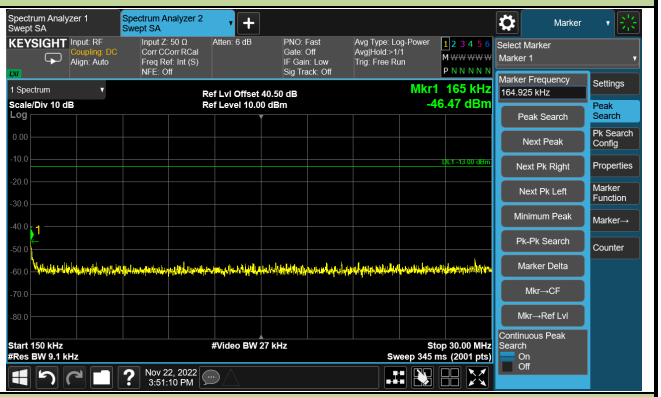
| | | | |
|---|---|---|---|
| Test Site | WZ-SR5 | Test Engineer | Liz Yuan |
| Test Date | 2022-11-22 ~ 2023-01-05 | Test Mode | Out-of-Band Emission |

Conducted Spurious Emission – 8.33kHz channel spacing

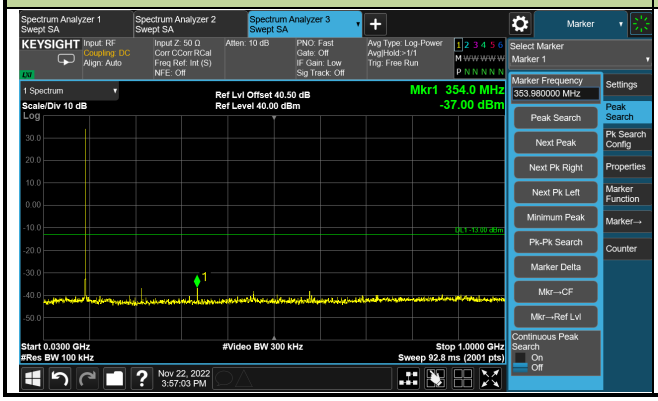
118.025MHz

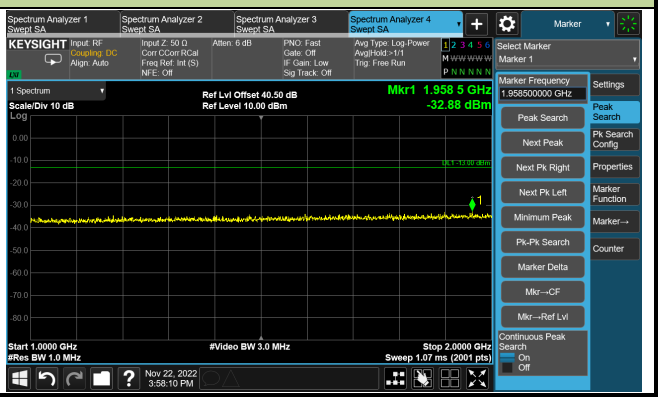
0.009~0.15MHz

0.15~30MHz




30~1000MHz




1000~2000MHz