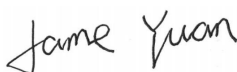




RF MEASUREMENT REPORT

FCC ID: DD4AD2K54
Applicant: Shure Incorporated
Product: Wireless Handheld Transmitter
Model No.: AD2 K54
Brand Name: , **SHURE**[®]
FCC Classification: Licensed LPAS Device (TLD)
FCC Rule Part(s): Part 74 Subpart H (Section 74.861)
Result: Complies
Received Date: 2024-07-23
Test Date: 2024-07-30 ~ 2025-01-03

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
2412RSU056-U4	V01	Initial Report	2025-04-10	Valid

Note: This report is based on original report (2407RSU046-U4) to update the standard version and differential tests were evaluated.

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1.1. Applicant

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

Shure Incorporated

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

☒	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: ☐R-20025 ☐G-20034 ☐C-20020 ☐T-20020 ☐R-20141 ☐G-20134 ☐C-20103 ☐T-20104
☐	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
☐	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	Wireless Handheld Transmitter
Model No.	AD2 K54
Serial No.	Conducted Measurement: 2DF17732234 Radiated Measurement: 2DF17732208
Frequency Range	606 ~ 608 MHz & 653 ~ 657 MHz
Power Type	2 * AA alkaline batteries or Rechargeable Li-battery
Operating Temperature	-10 ~ 45°C

Note: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.

1.5. Radio Specification under Test

Frequency Range	606 ~ 608 MHz & 653 ~ 657 MHz
Declared Power Level	STD: 2mW & 10mW & 35mW HD: 2mW
Type of Modulation	8PSK
Channel Spacing	25kHz
Antenna Type	Helical
Antenna Gain	-1.00 dBi

Note: Power level and transmit frequency can be selected using the front panel controls.

1.6. Working Frequencies

Bottom Channel (MHz)	Middle Channel (MHz)	Top Channel (MHz)
606 ~ 608 MHz Frequency Band		
606.000	N/A	607.875
653 ~ 657 MHz Frequency Band		
653.125	N/A	657.000

2. Test Configuration

2.1. Test Mode

Mode 1: Transmit at K54 Band by STD Mode (35/10mW)
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 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
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
Attenuator	MVE	MVE2213	MRTSUE11074	1 year	2025-06-05	WZ-SR5
Attenuator	MVE	MVE2213	MRTSUE11075	1 year	2025-06-05	WZ-TR3
Attenuator	MVE	MVE2213	MRTSUE11076	1 year	2025-06-05	WZ-TR3
Signal Analyzer	Keysight	N9010B	MRTSUE06558	1 year	2025-05-20	WZ-TR3
Temperature Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2025-09-02	WZ-TR3
Temperature Chamber	BAOYT	BYH-150CL	MRTSUE06051	1 year	2024-09-27	WZ-TR3
Thermohygrometer	testo	608-H1	MRTSUE11268	1 year	2025-12-10	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
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2024-08-09	WZ-AC1
Preamplifier	Agilent	83017A	MRTSUE06076	1 year	2025-11-08	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	2025-10-13	WZ-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2024-10-23	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE11039	1 year	2025-10-16	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 $k = 2$.

AC Conducted Emission Measurement	
The maximum measurement uncertainty is evaluated as:	
9kHz~150kHz: 3.02dB	
150kHz~30MHz: 2.56dB	
Radiated Emission Measurement	
The maximum measurement uncertainty is evaluated as:	
Coaxial:	9kHz~30MHz: 2.35dB
Coplanar:	9kHz~30MHz: 2.37dB
Horizontal:	30MHz~200MHz: 3.46dB
	200MHz~1GHz: 3.78dB
	1GHz~40GHz: 4.97dB
Vertical:	30MHz~200MHz: 4.07dB
	200MHz~1GHz: 5.28dB
	1GHz~40GHz: 4.78dB
Spurious Emissions, Conducted	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$):	
2.5dB	
Output Power	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$):	
1.3dB	
Power Spectrum Density	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$):	
2.5dB	
Occupied Bandwidth	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$):	
2.6%	

5. Test Result

5.1. Summary

FCC Part Section(s)	Test Description	Test Condition	Test Result
74.861(e)(1)	RF Output Power	Conducted	Pass
74.861(e)(4)	Frequency Stability		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
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	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

- (i) 54-72, 76-88, and 174-216 MHz bands: 50 mW EIRP
- (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

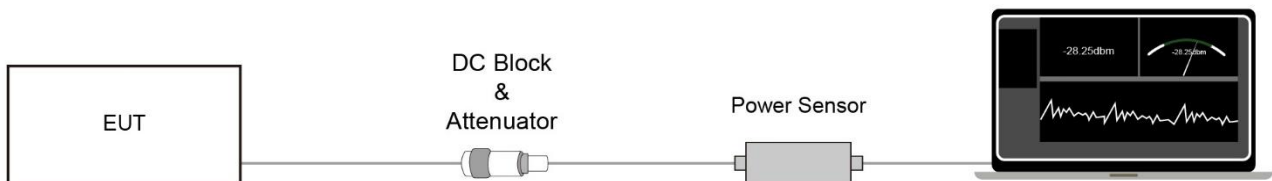
5.2.3. Test Setting

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:

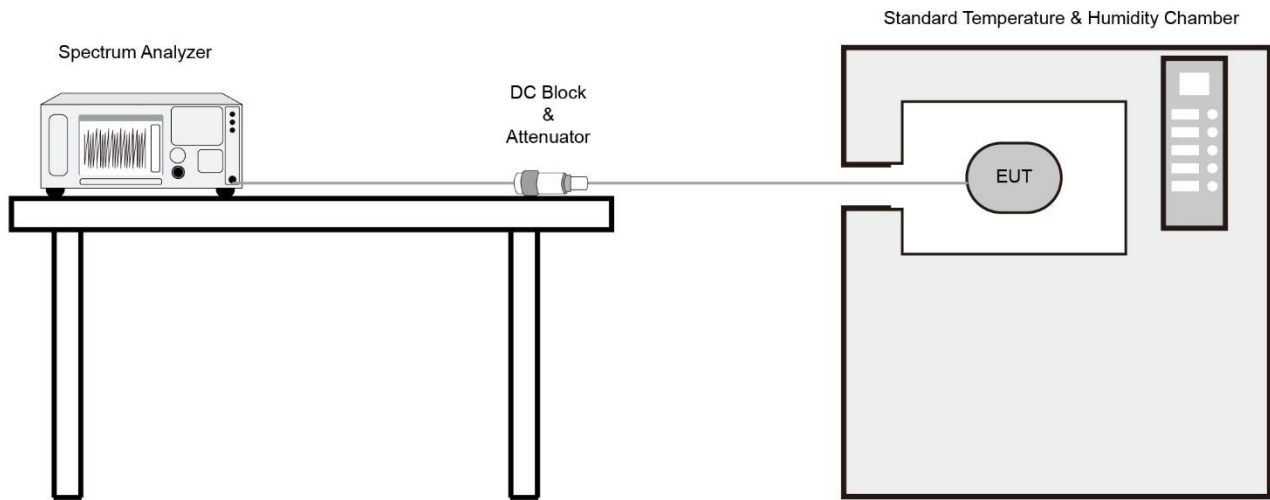
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain 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.

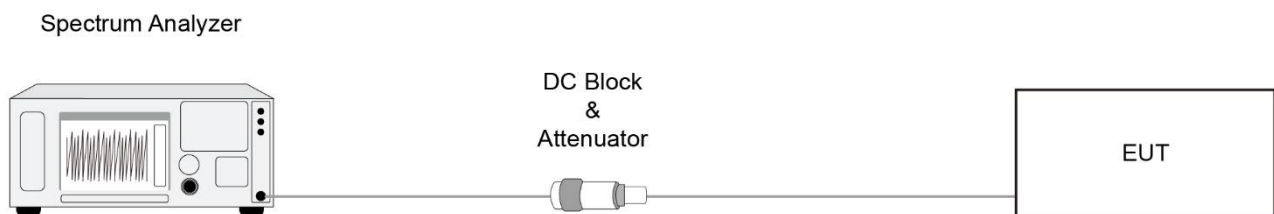
5.4.2. Test Procedure

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 $\geq 3 \times$ 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 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.

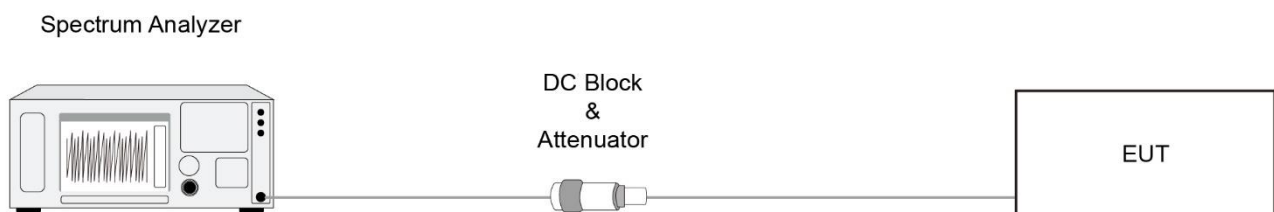
5.5.2. Test Procedure

ANSI C63.26 - Section 5.7

5.5.3. Test Setting

- 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.

5.5.4. Test Setup



5.5.5. Test Result

Refer to Appendix A.4.

5.6. Emission Mask Measurement

5.6.1. Test Limit

(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 emission mask 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).

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

5.6.2. Test Procedure

EN 300 422-1 V2.2.1 clause 5.4.3.2.

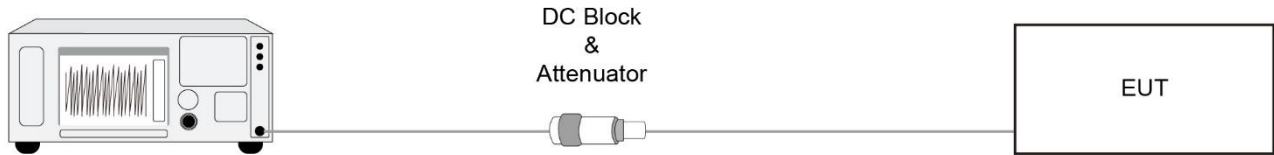
5.6.3. Test Setting

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

Spectrum Analyzer



5.6.5. Test Result

Refer to Appendix A.5.

5.7. Radiated Spurious Emissions Measurement

5.7.1. Test Limit

Spurious emission limits. Emissions outside of the emission masks 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
$1\text{GHz} < f \leq F_{\text{upper}}$	-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	1GHz
100 MHz - 300 MHz	9 kHz	10th harmonic of the operating frequency
300 MHz - 600 MHz	30MHz	3GHz
600 MHz - 3 GHz	30MHz	5th harmonic of the operating frequency

5.7.2. Test Procedure

ETSI EN 300 422-1 V2.2.1 clause 5.4.4

5.7.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
30 ~ 1000 MHz	100 kHz
1000 ~ 7000 MHz	1 MHz

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

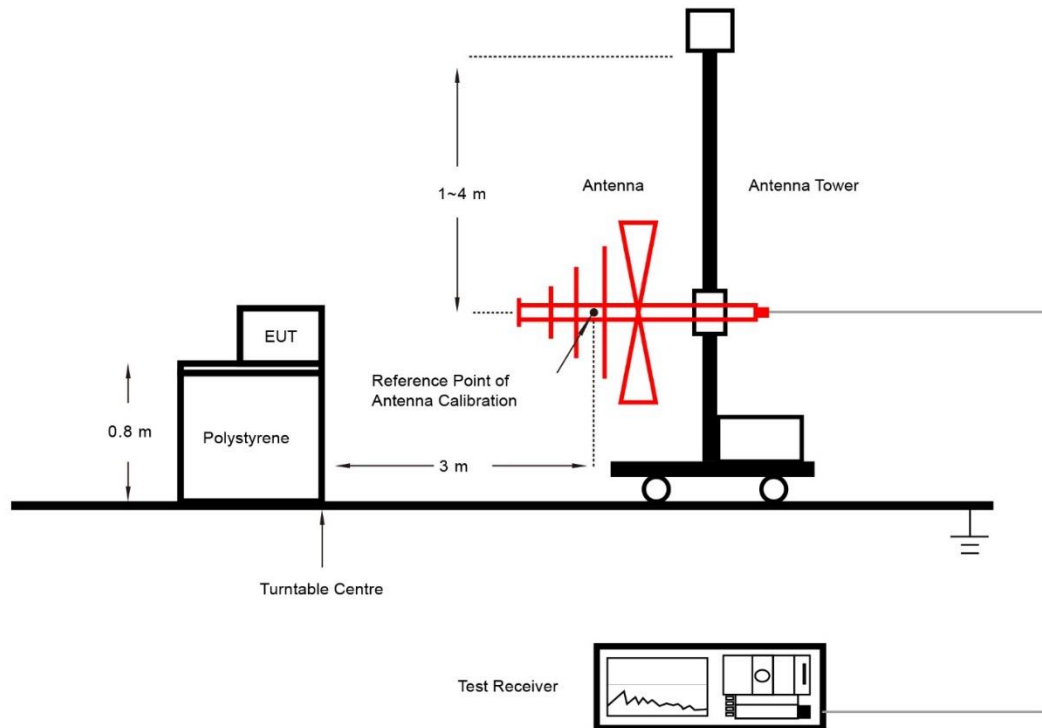
Compliance with the emission limits shall be demonstrated using an RMS Average detector.

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

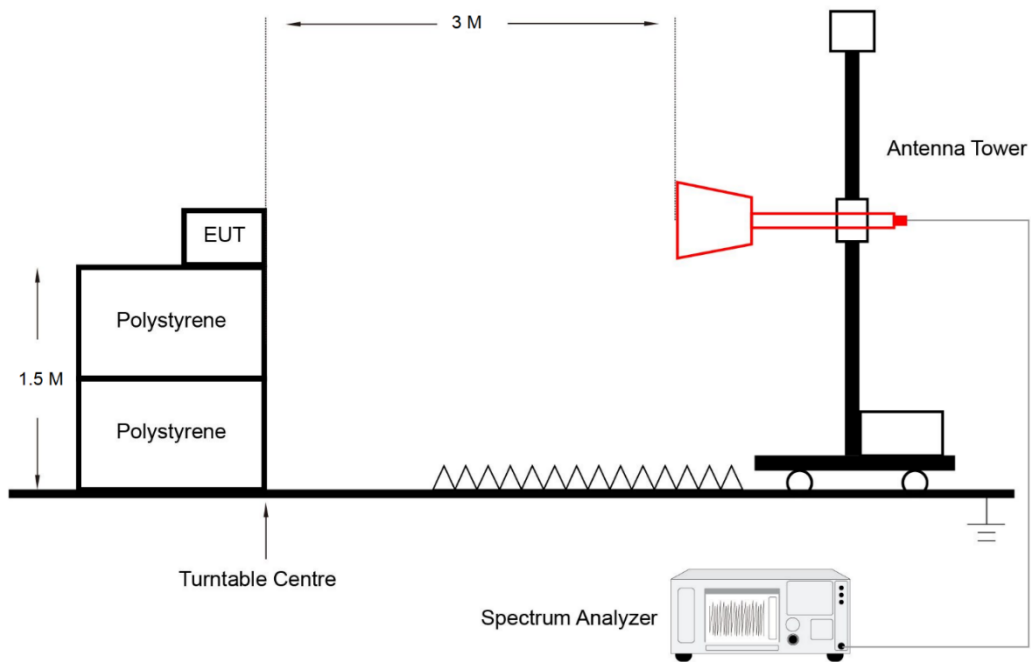
At each frequency at which a component is detected, the sample shall be rotated to obtain maximum response and the effective radiated power of that component determined by a substitution measurement.

5.7.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.7.5. Test Result

Refer to Appendix A.6.

5.8. AC Conducted Emissions Measurement

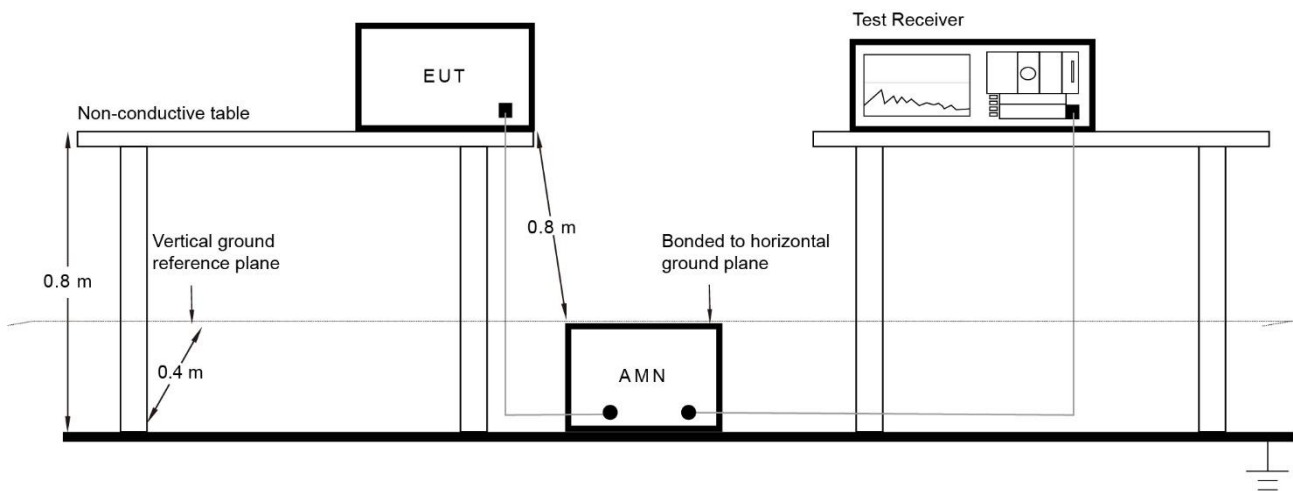
5.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dB μ V)	Average (dB μ V)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

5.8.2. Test Setup



5.8.3. Test Result

Refer to Appendix A.7.

Appendix A – Test Result

A.1 RF Output Power Test Result

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

Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Test Result
35/10mW Power Level			
606.000	15.32	≤ 23.98	Pass
607.875	15.21	≤ 23.98	Pass
2mW Power Level			
606.000	3.67	≤ 23.98	Pass
607.875	3.64	≤ 23.98	Pass

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

Frequency (MHz)	Conducted Output Power (dBm)	EIRP (dBm)	Limit (dBm)	Test Result
10mW Power Level				
653.125	10.36	9.36	≤ 13.01	Pass
657.000	10.19	9.19	≤ 13.01	Pass
2mW Power Level				
653.125	3.31	2.31	≤ 13.01	Pass
657.000	3.24	2.24	≤ 13.01	Pass

Note 1: Limit = $10 \cdot \log(20\text{mW}) = 13.01$ dBm.

Note 2: EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain

A.2 Frequency Stability Test Result

Test Site	WZ-TR3	Test Engineer	Lynn Yang
Test Date	2024-08-15	Test Frequency	606MHz

Voltage (%)	Power (DC)	Temp (°C)	Frequency Tolerance (%)			
			0 minutes	2 minutes	5 minutes	10 minutes
100	3.6	- 20	0.00003	0.00003	0.00003	0.00003
		-10	0.00000	0.00000	0.00001	0.00001
		0	0.00000	0.00000	0.00000	0.00000
		+ 10	0.00000	0.00000	0.00000	0.00000
		+ 20	0.00001	0.00001	0.00000	0.00000
		+ 30	0.00003	0.00002	0.00002	0.00001
		+ 40	0.00003	0.00003	0.00003	0.00003
		+ 50	0.00002	0.00002	0.00002	0.00002
115	4.14	+ 20	0.00001	0.00001	0.00001	0.00001
85	3.06	+ 20	0.00001	0.00001	0.00001	0.00001
Limit	0.005%					
Result	Pass					

Note: Frequency Tolerance (ppm) = {[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)} *10².

A.3 99% Occupied Bandwidth Test Result

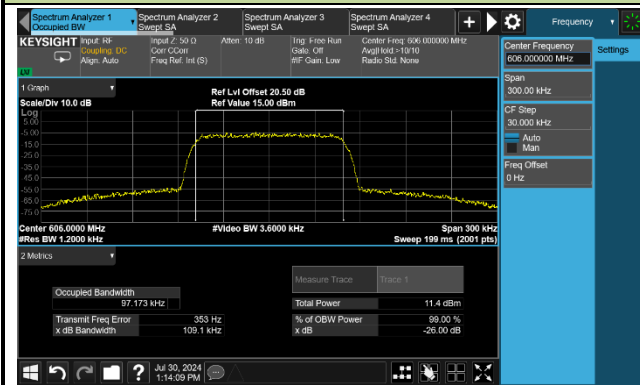
Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2024-07-30 ~ 2024-08-02		

Mode	Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)	Result
STD (35/10mW)	606.000	181.010	< 200	Pass
	607.875	181.000	< 200	Pass
	653.125	180.670	< 200	Pass
	657.000	181.590	< 200	Pass
HD (2mW)	606.000	97.173	< 200	Pass
	607.875	97.334	< 200	Pass
	653.125	97.509	< 200	Pass
	657.000	97.323	< 200	Pass

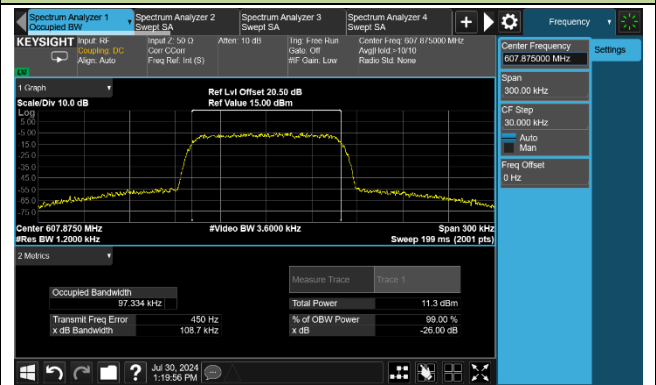


99% Occupied Bandwidth - 2mW

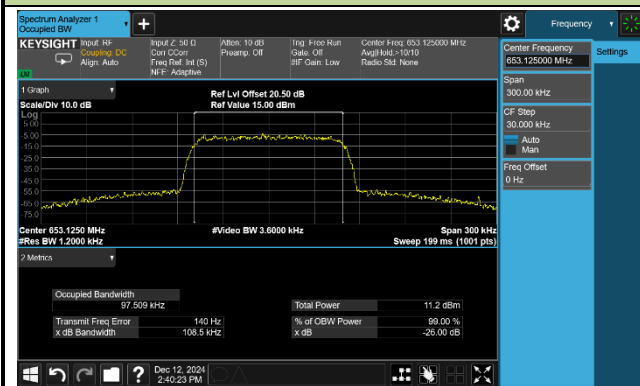
606.000 MHz



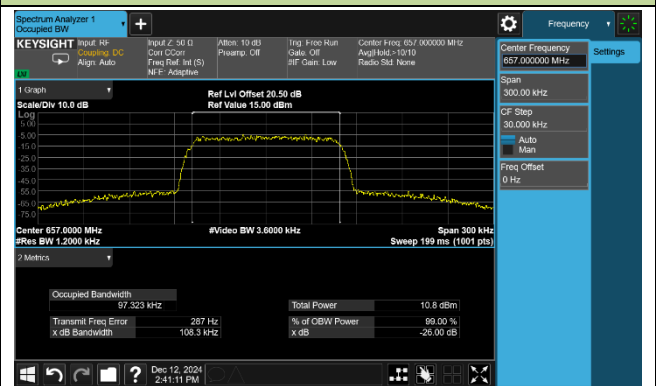
607.875 MHz



653.125 MHz

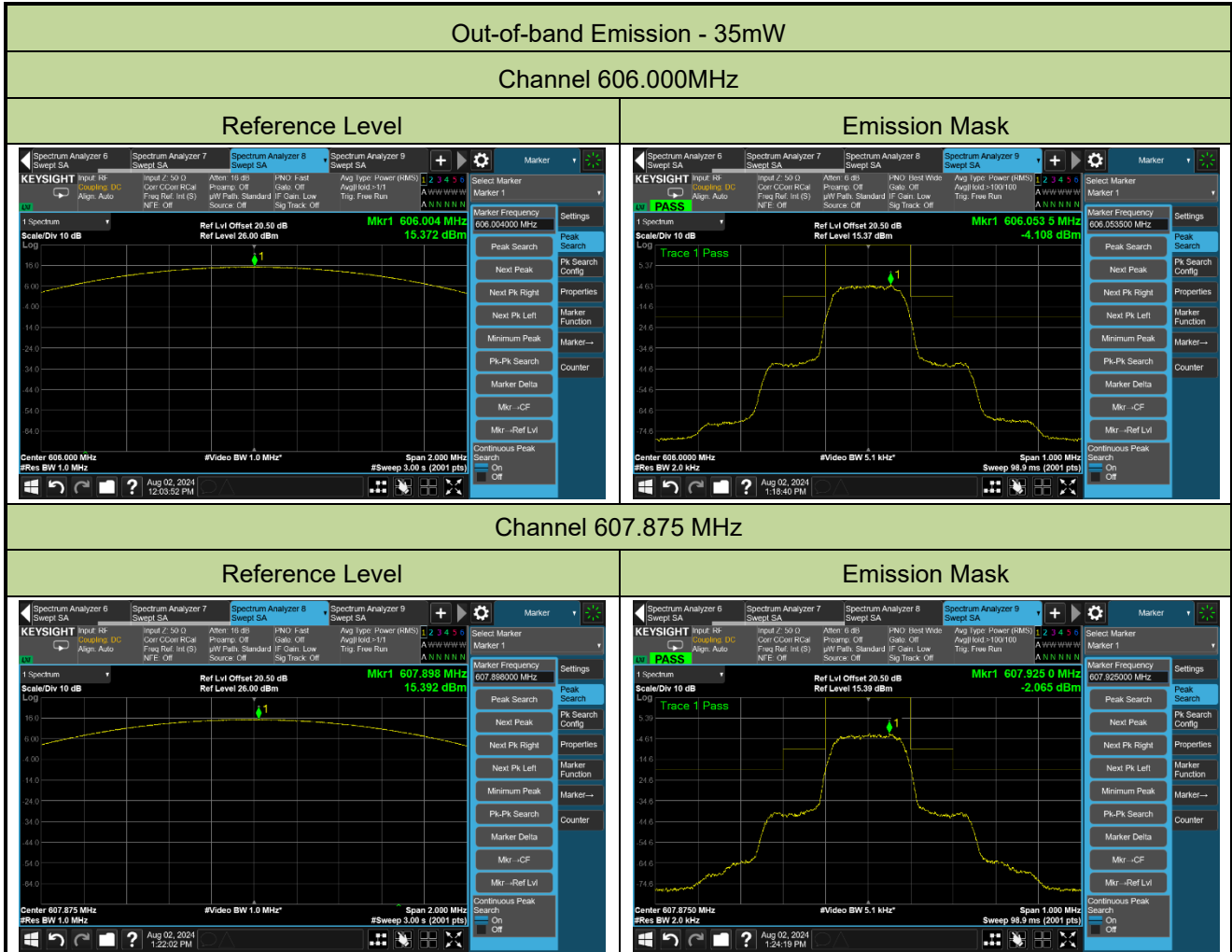


657.000 MHz



A.4 Out-of-band Emission Test Result

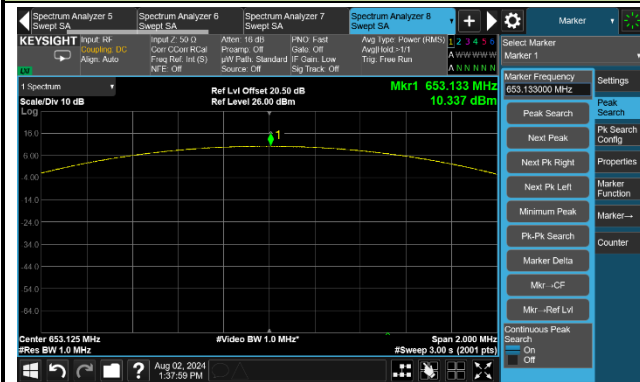
Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2024-08-02	Test Mode	Mode 1



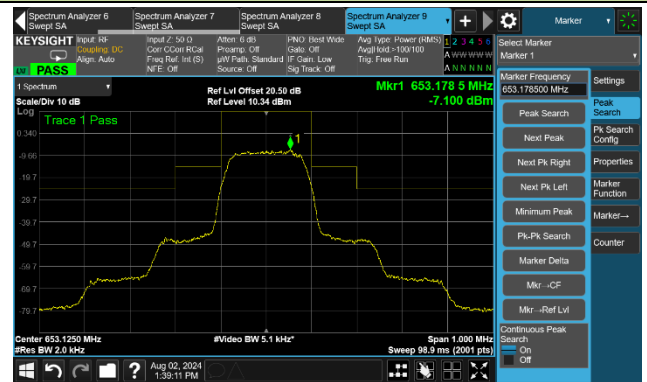
Out-of-band Emission - 10mW

Channel 653.125 MHz

Reference Level

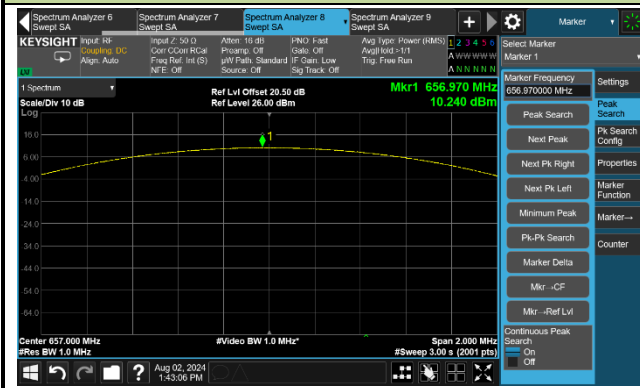


Emission Mask

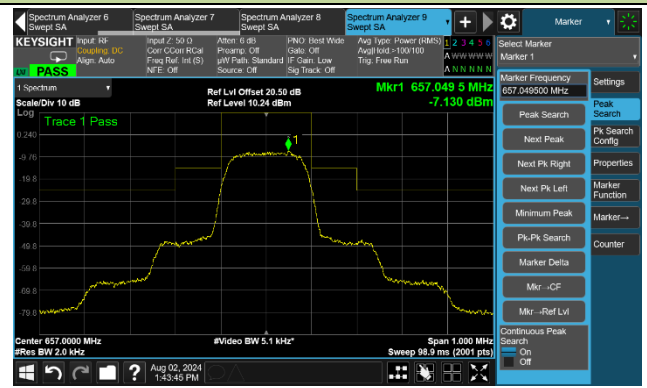


Channel 657.000 MHz

Reference Level



Emission Mask

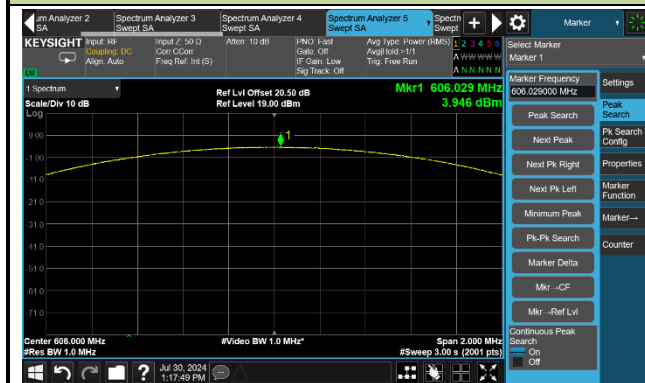


Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2024-07-30, 2025-01-03	Test Mode	Mode 2

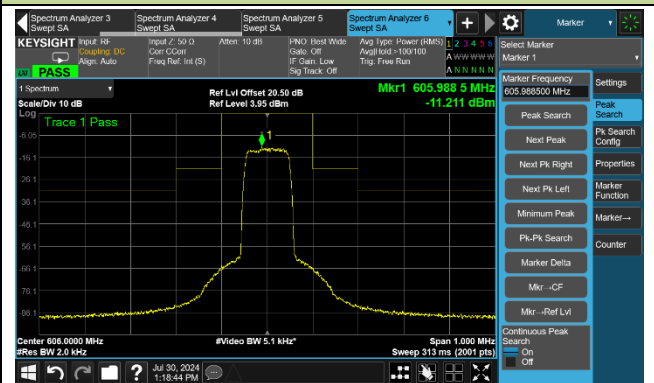
Out-of-band Emission - 2mW

Channel 606.000MHz

Reference Level



Emission Mask

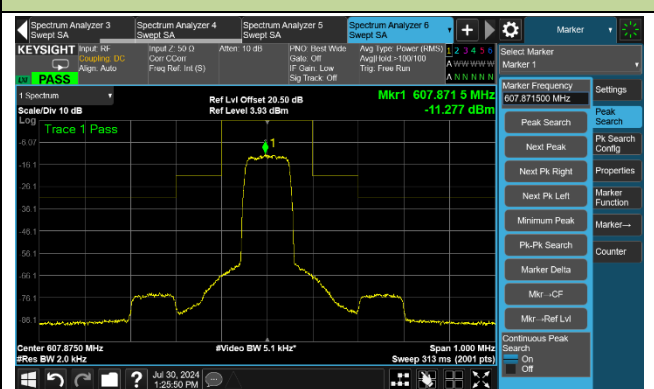


Channel 607.875 MHz

Reference Level



Emission Mask



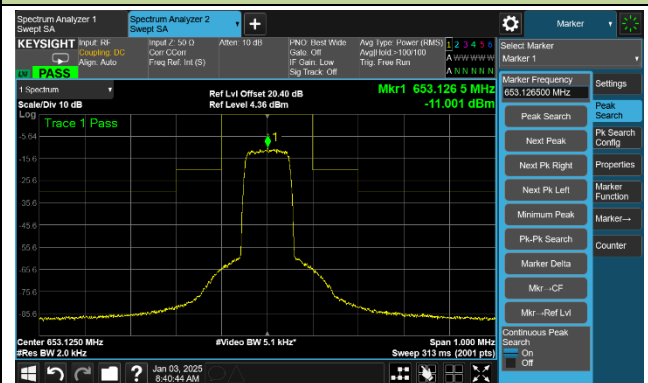
Out-of-band Emission -2mW

Channel 653.125 MHz

Reference Level

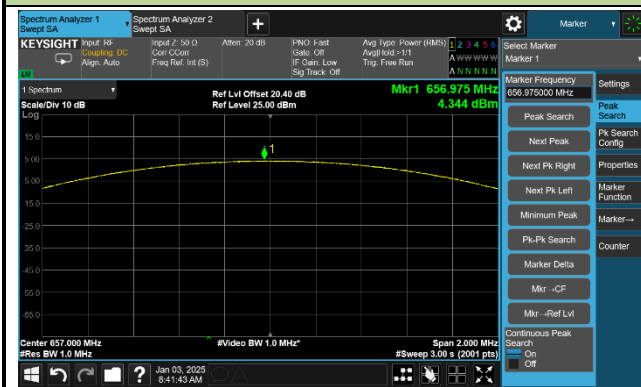


Emission Mask

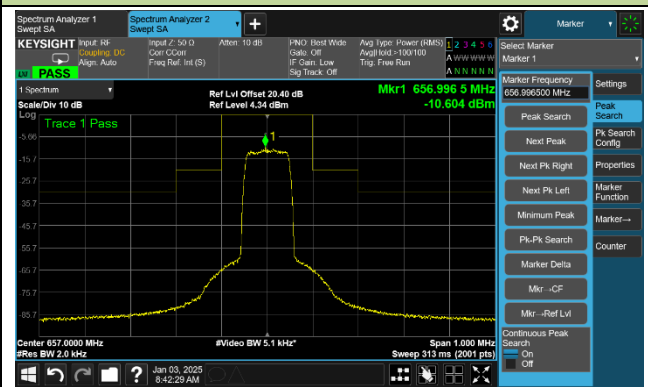


Channel 657.000 MHz

Reference Level



Emission Mask



A.5 Emission Mask Test Result

Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2024-12-27	Test Mode	Mode 1

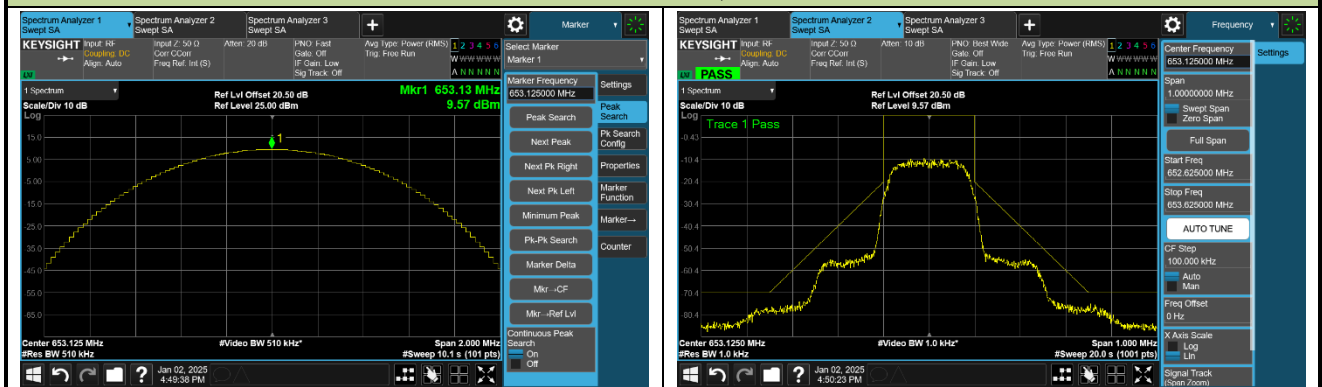
Emission Mask - 35mW, 606.000MHz



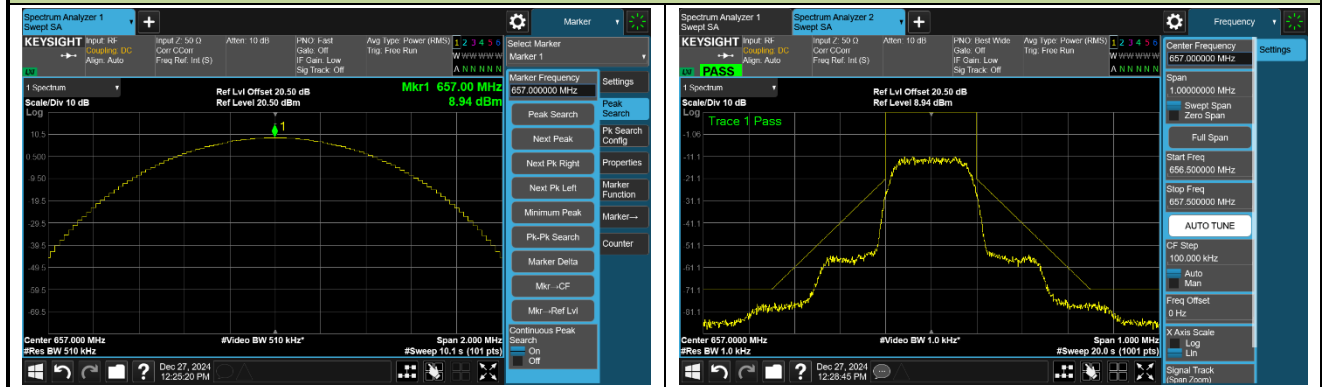
Emission Mask - 35mW, 607.875MHz



Emission Mask - 10mW, 653.125MHz

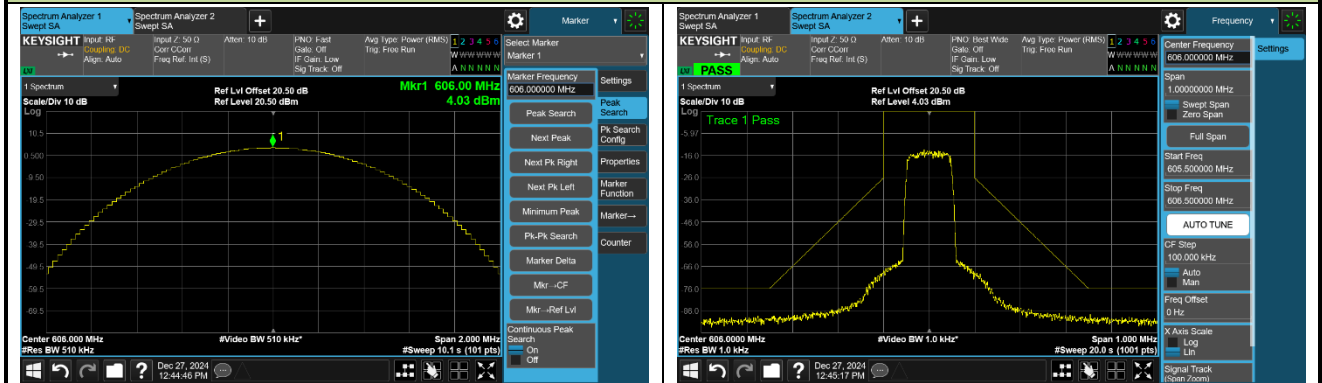


Emission Mask - 10mW, 657.000MHz

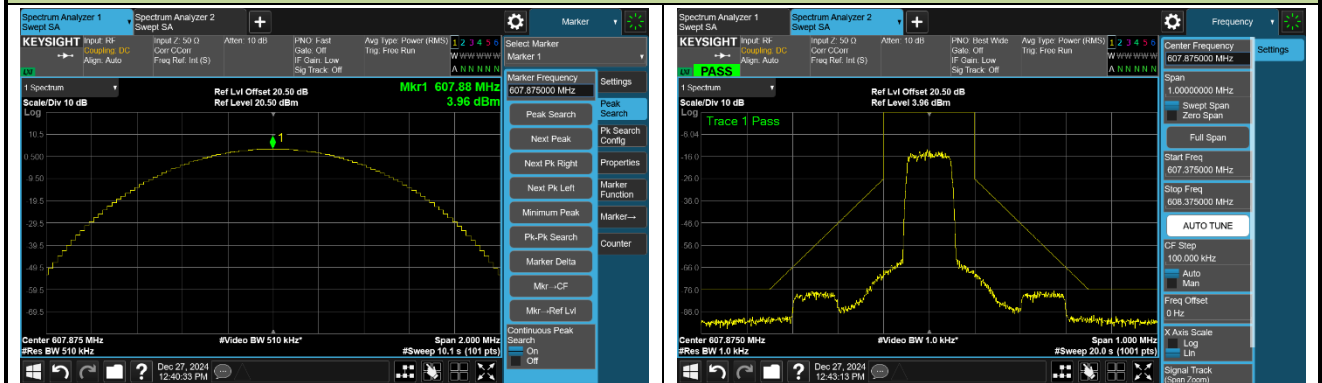


Test Site	WZ-SR5	Test Engineer	Lynn Yang
Test Date	2024-12-27	Test Mode	Mode 2

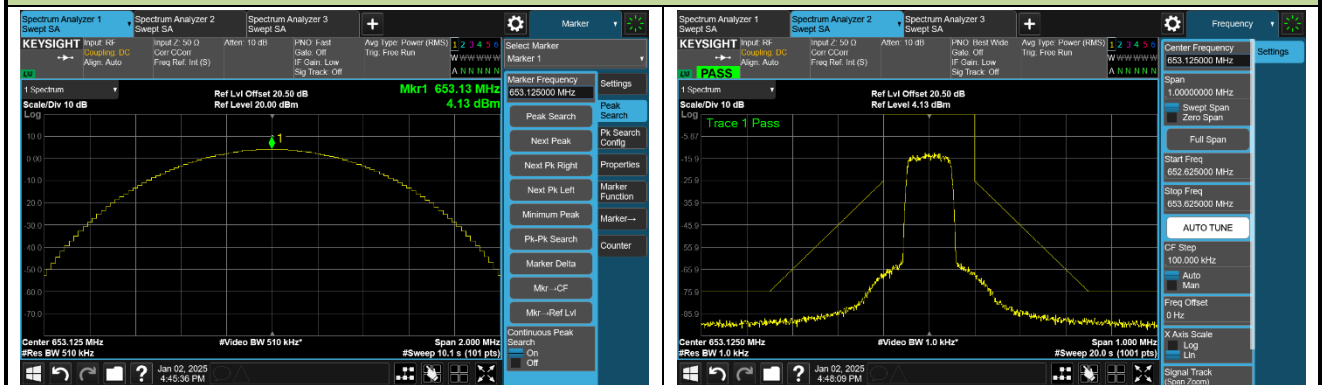
Emission Mask - 2mW, 606.000MHz



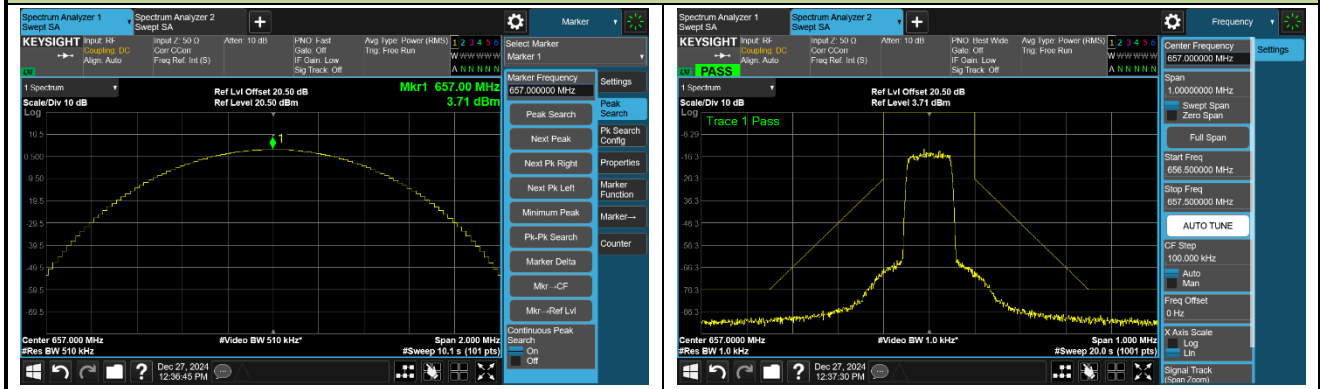
Emission Mask - 2mW, 607.875MHz



Emission Mask - 2mW, 653.125MHz



Emission Mask - 2mW, 657.000MHz



A.6 Radiated Spurious Emissions Test Result

Test Site	WZ-AC1	Test Engineer	Lucas Wang
Test Date	2024-08-02 ~ 2024-08-05		

Test Channel (MHz)	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
606.000	485.997	-93.3	31.9	-61.4	-54.0	-7.4	Peak	Horizontal
	710.067	-95.1	37.1	-58.0	-54.0	-4.0	Peak	Horizontal
	598.711	-100.3	34.0	-66.3	-54.0	-12.3	Peak	Vertical
	747.606	-100.5	36.6	-63.9	-54.0	-9.9	Peak	Vertical
	1817.800	-43.0	4.6	-38.4	-30.0	-8.4	Peak	Horizontal
	3029.800	-65.9	10.3	-55.6	-30.0	-25.6	Average	Horizontal
	1818.400	-46.2	5.2	-41.0	-30.0	-11.0	Peak	Vertical
	4242.400	-66.1	15.2	-50.9	-30.0	-20.9	Average	Vertical
607.875	487.840	-92.4	32.3	-60.1	-54.0	-6.1	Peak	Horizontal
	569.514	-93.6	33.2	-60.4	-54.0	-6.4	Peak	Horizontal
	563.306	-97.5	32.6	-64.9	-54.0	-10.9	Peak	Vertical
	833.839	-101.5	37.8	-63.7	-54.0	-9.7	Peak	Vertical
	3039.400	-53.4	10.1	-43.3	-30.0	-13.3	Peak	Horizontal
	4255.600	-58.7	14.3	-44.4	-30.0	-14.4	Peak	Horizontal
	3038.800	-56.8	10.5	-46.3	-30.0	-16.3	Peak	Vertical
	4255.600	-54.4	15.0	-39.4	-30.0	-9.4	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 (MHz)	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
653.125	585.810	-98.9	33.6	-65.3	-54.0	-11.3	Peak	Horizontal
	840.823	-101.9	37.7	-64.2	-54.0	-10.2	Peak	Horizontal
	535.952	-101.9	31.7	-70.2	-54.0	-16.2	Peak	Vertical
	827.825	-101.3	37.5	-63.8	-54.0	-9.8	Peak	Vertical
	1842.400	-50.4	4.9	-45.5	-30.0	-15.5	Peak	Horizontal
	4298.800	-62.8	13.5	-49.3	-30.0	-19.3	Peak	Horizontal
	1843.000	-56.3	5.5	-50.8	-30.0	-20.8	Peak	Vertical
	4299.400	-63.1	14.9	-48.2	-30.0	-18.2	Peak	Vertical
657.000	576.401	-101.0	33.6	-67.4	-54.0	-13.4	Peak	Horizontal
	709.776	-101.3	37.1	-64.2	-54.0	-10.2	Peak	Horizontal
	578.535	-101.3	33.2	-68.1	-54.0	-14.1	Peak	Vertical
	722.095	-100.9	36.6	-64.3	-54.0	-10.3	Peak	Vertical
	1847.800	-51.8	5.0	-46.8	-30.0	-16.8	Peak	Horizontal
	4310.800	-65.3	14.4	-50.9	-30.0	-20.9	Peak	Horizontal
	1847.800	-55.9	5.6	-50.3	-30.0	-20.3	Peak	Vertical
	3695.200	-62.1	13.8	-48.3	-30.0	-18.3	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.

A.7 AC Conducted Emissions Test Result

The EUT is powered by battery, so this item is not applicable.

Appendix B – Test Setup Photograph

Refer to “2412RSU056-UT” file.

Appendix C – EUT Photograph

Refer to “2412RSU056-UE” file.