



RF MEASUREMENT REPORT

FCC ID: TV7-TGLR92
Applicant: Mikrotiks SIA
Product: TG-LR92
Model No.: TG-LR92
Brand Name: MikroTik
FCC Classification: Digital Transmission System (DTS)
FCC Rule Part(s): Part 15 Subpart C (Section 15.247)
Result: Complies
Received Date: 2025-12-12
Test Date: 2025-12-16 ~ 2025-12-25

Reviewed By:

Vincent Yu

Vincent Yu

Approved By:

Robin Wu

Robin Wu



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. Testing was performed in accordance with the applicable measurement procedures. The test results reported herein apply only to the specific 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
R25S1019054-U202	V01	Initial Report	2026-01-28	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
2. Test Configuration	7
2.1. Test Mode	7
2.2. Test System Connection Diagram	7
2.3. Test Software	7
2.4. Applied Standards	8
2.5. Test Environment Condition	8
3. Antenna Requirements	9
4. Measuring Instrument	10
5. Decision Rules and Measurement Uncertainty	11
5.1. Decision Rules	11
5.2. Measurement Uncertainty	11
6. Test Result	12
6.1. Summary	12
6.2. 6 dB Bandwidth Measurement	13
6.2.1. Test Limit	13
6.2.2. Test Procedure	13
6.2.3. Test Setting	13
6.2.4. Test Setup	13
6.2.5. Test Result	13
6.3. Output Power Measurement	14
6.3.1. Test Limit	14
6.3.2. Test Procedure	14
6.3.3. Test Setting	14
6.3.4. Test Setup	14
6.3.5. Test Result	14
6.4. Power Spectral Density Measurement	15
6.4.1. Test Limit	15
6.4.2. Test Procedure	15

6.4.3.	Test Setting	15
6.4.4.	Test Setup	15
6.4.5.	Test Result	15
6.5.	Conducted Band Edge and Out-of-Band Emissions Measurement	16
6.5.1.	Test Limit	16
6.5.2.	Test Procedure	16
6.5.3.	Test Setting	16
6.5.4.	Test Setup	16
6.5.5.	Test Result	17
6.6.	Radiated Spurious Emissions Measurement.....	18
6.6.1.	Test Limit	18
6.6.2.	Test Procedure	18
6.6.3.	Test Setting	18
6.6.4.	Test Setup	20
6.6.5.	Test Result	21
6.7.	Radiated Restricted Band Edge Measurement	22
6.7.1.	Test Limit	22
6.7.2.	Test Procedure	23
6.7.3.	Test Setting	23
6.7.4.	Test Setup	24
6.7.5.	Test Result	24
6.8.	AC Conducted Emissions Measurement	25
6.8.1.	Test Limit	25
6.8.2.	Test Setup	25
6.8.3.	Test Result	25
Appendix A - Test Result.....		26
A.1	Duty Cycle Test Result	26
A.2	6 dB Bandwidth Test Result	27
A.3	Output Power Test Result	28
A.4	Power Spectral Density Test Result	29
A.5	Conducted Band Edge and Out-of-Band Emissions Test Result	30
A.6	Radiated Spurious Emissions Test Result	33
A.7	Radiated Restricted Band Edge Test Result	36
Appendix B - Test Setup Photograph		44
Appendix C - EUT Photograph		45

1. General Information

1.1. Applicant

Mikrotikls SIA

Ūnijas iela 2, Rīga, LV-1039, LATVIA

1.2. Manufacturer

Mikrotikls SIA

Ūnijas iela 2, Rīga, LV-1039, LATVIA

1.3. Testing Facility

☒	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
	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	TG-LR92
Model No.	TG-LR92
Brand Name	MikroTik
EUT Identification No.	251212S#04 (Radiated) 251212S#06 (Conducted)
LoRa Specification	902 MHz ~ 928 MHz 2400 MHz ~ 2483.5 MHz
Power Type	By Battery
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	2400 ~ 2483.5 MHz
Type of Modulation	GFSK
Channel number	4
Antenna Type	Internal Antenna
Antenna Gain	2 dBi

1.6. Working Frequencies

Channel	Frequency	Channel	Frequency	Channel	Frequency
CH _L	2403 MHz	CH _M	2425 MHz	CH _H	2450 MHz
CH _{H+1}	2479 MHz	--	--	--	--

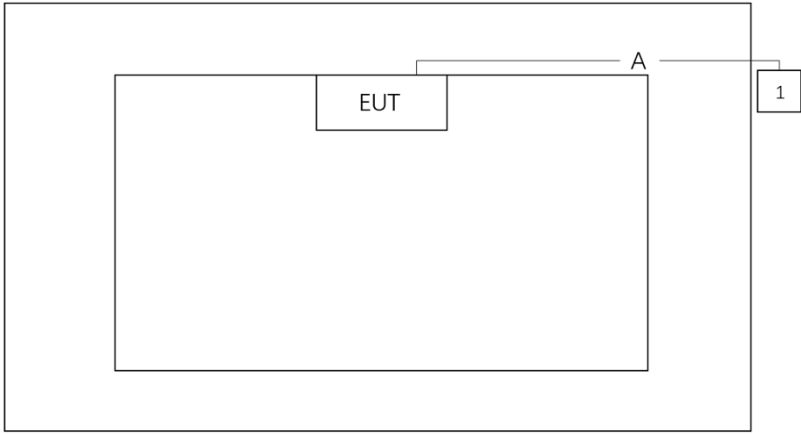
2. Test Configuration

2.1. Test Mode

Mode 1: Transmit at 2403 MHz
Mode 2: Transmit at 2425 MHz
Mode 3: Transmit at 2450 MHz
Mode 4: Transmit at 2479 MHz

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10-2020 was used to reference the appropriate EUT setup for radiated emissions testing.

Connection Diagram – Radiated Emissions Testing			
			
No.	Cable Type	Cable Type	Cable Type
A	USB Cable	Shielding	>10.0 m
No.	Product	Manufacturer	Model No.
1	Notebook	DELL	Latitude 5491

2.3. Test Software

The test utility software used during testing was “IPOP” and commands were provided by the manufacturer.

2.4. Applied Standards

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

- FCC Part 15.247
- KDB 558074 D01 v05r02
- ANSI C63.10-2020
- ANSI C63.10-2020/Cor1-2023
- ANSI C63.10a-2024

2.5. Test Environment Condition

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

3. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antenna of the device is **permanently attached**.
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

4. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2026-07-19	WZ-AC1
Preamplifier	Agilent	83017A	MRTSUE06076	1 year	2026-11-06	WZ-AC1
Anechoic Chamber	TDK	WZ-AC1	MRTSUE06212	1 year	2026-04-17	WZ-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2026-09-28	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE11039	1 year	2026-10-08	WZ-AC1
TRILOG Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2026-03-22	WZ-AC2
EMI Test Receiver	Agilent	N9038A	MRTSUE06125	1 year	2026-04-26	WZ-AC2
Anechoic Chamber	RIKEN	WZ-AC2	MRTSUE06213	1 year	2026-04-17	WZ-AC2
Thermohygrometer	testo	608-H1	MRTSUE11263	1 year	2026-10-08	WZ-AC2
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2026-11-02	WZ-AC2
Preamplifier	EMCI	EMC184045SE	MRTSUE06640	1 year	2026-01-09	WZ-AC2
Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2026-09-28	WZ-AC2
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2026-01-04	WZ-AC2
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06171	1 year	2026-09-12	WZ-AC2
Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2026-03-18	WZ-AC2
Thermohygrometer	testo	608-H1	MRTSUE06402	1 year	2026-04-24	WZ-SR5
Shielding Room	HUAMING	WZ-SR5	MRTSUE06442	N/A	N/A	WZ-SR5
USB Power Sensor	Keysight	U2021XA	MRTSUE06447	1 year	2026-06-17	WZ-SR5
Signal Analyzer	Keysight	N9010B	MRTSUE06457	1 year	2026-04-26	WZ-SR5
Attenuator	MVE	MVE2213	MRTSUE11075	1 year	2026-06-02	WZ-SR5
Attenuator	MVE	MVE2213	MRTSUE11082	1 year	2026-06-02	WZ-SR5

Software	Version	Function
e3	230711	RE & CE
BenchVue Power Meter	2018.1	Power
Controller_MF 7802	2.03 C	RE Antenna & Turntable
Controller_MF 7802	1.02	RE Antenna & Turntable

5. Decision Rules and Measurement Uncertainty

5.1. 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.)

5.2. 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:	
9 kHz ~ 150 kHz:	3.59 dB
150 kHz ~ 30 MHz:	3.20 dB
Radiated Emission Measurement	
The maximum measurement uncertainty is evaluated as:	
Coaxial:	9 kHz ~ 30 MHz: 2.56 dB
Coplanar:	9 kHz ~ 30 MHz: 2.55 dB
Horizontal:	30 MHz ~ 200 MHz: 3.48 dB
	200 MHz ~ 1 GHz: 4.17 dB
	1 GHz ~ 40 GHz: 5.01 dB
Vertical:	30 MHz ~ 200 MHz: 4.09 dB
	200 MHz ~ 1 GHz: 5.30 dB
	1 GHz ~ 40 GHz: 4.85 dB
Spurious Emissions, Conducted	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2 U_c(y)$): 2.9 dB	
Output Power	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2 U_c(y)$): 1.4 dB	
Power Spectrum Density	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2 U_c(y)$): 2.9 dB	
Occupied Bandwidth	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2 U_c(y)$): 2.6%	

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.247(a)(2)	6 dB Bandwidth	Conducted	Pass
15.247(b)(3)	Output Power		Pass
15.247(e)	Power Spectral Density		Pass
15.247(d)	Band Edge / Out-of-Band Emissions		Pass
15.205 15.209	General Field Strength (Restricted Bands and Radiated Emissions)	Radiated	Pass
15.207	AC Conducted Emissions 150 kHz - 30 MHz	Line Conducted	N/A

Notes:

1. The analyzer plots shown in this section were captured using a correction table to account for cable and attenuator losses in the system connecting the EUT to the analyzer across relevant frequencies.
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.
3. "N/A" means that this item is not applicable, and the detail information refer to relevant section.

6.2. 6 dB Bandwidth Measurement

6.2.1. Test Limit

The minimum 6 dB bandwidth shall be at least 500 kHz.

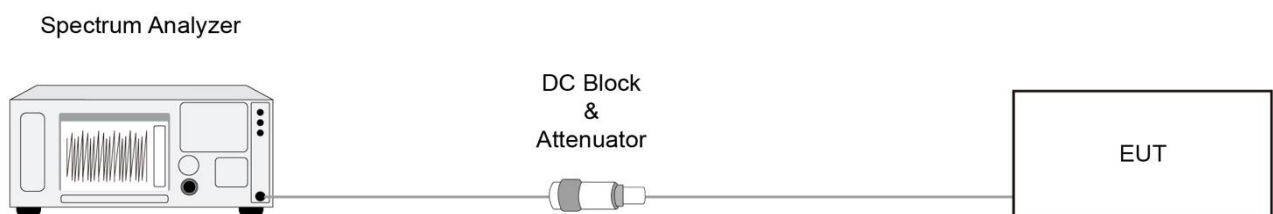
6.2.2. Test Procedure

ANSI C63.10-2020 - Section 11.8

6.2.3. Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 6 dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 6$. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1% to 5% of the OBW, but not less than 100 kHz
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = Max hold
6. Sweep = Auto couple
7. Allow the trace to stabilize

6.2.4. Test Setup



6.2.5. Test Result

Refer to Appendix A.2.

6.3. Output Power Measurement

6.3.1. Test Limit

The maximum output power shall be less 1 Watt (30 dBm).

The conducted output power limit specified in paragraph FCC Part 15.247(b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs FCC Part 15.247(b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

6.3.2. Test Procedure

ANSI C63.10-2020 - Section 11.9.1.2

ANSI C63.10-2020 - Section 11.9.2.3.2

6.3.3. Test Setting

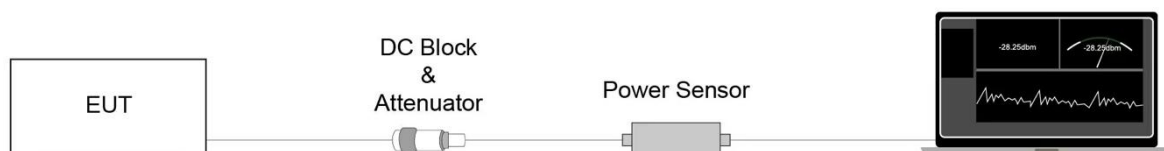
Method PKPM1 (Peak Power Measurement of Signals with DTS BW $\leq$ 50 MHz)

Peak 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. The pulse sensor employs a VBW = 50 MHz so this method was only used for signals whose DTS bandwidth was less than or equal to 50 MHz.

Average Power Measurement

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. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

6.3.4. Test Setup



6.3.5. Test Result

Refer to Appendix A.3.

6.4. Power Spectral Density Measurement

6.4.1. Test Limit

The maximum permissible power spectral density is 8 dBm in any 3 kHz band.

The same method of determining the conducted output power shall be used to determine the power spectral density.

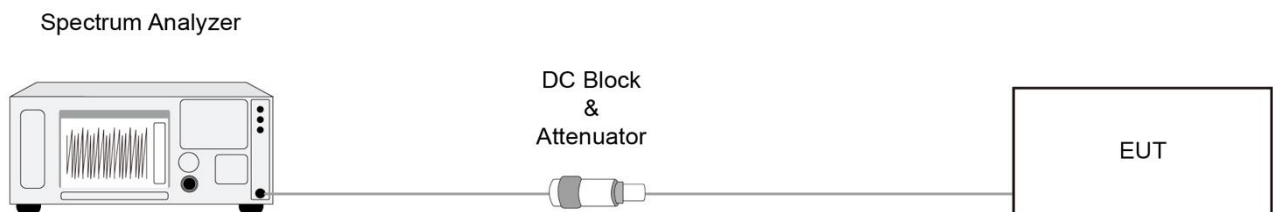
6.4.2. Test Procedure

ANSI C63.10-2020 Section 11.10.2

6.4.3. Test Setting

1. Analyzer was set to the center frequency of the DTS channel under investigation
2. Span = 1.5 times the DTS channel bandwidth
3. RBW = 3 kHz
4. VBW = 10 kHz
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Trace was allowed to stabilize

6.4.4. Test Setup



6.4.5. Test Result

Refer to Appendix A.4.

6.5. Conducted Band Edge and Out-of-Band Emissions Measurement

6.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 20 dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

6.5.2. Test Procedure

ANSI C63.10-2020 - Section 11.11

6.5.3. Test Setting

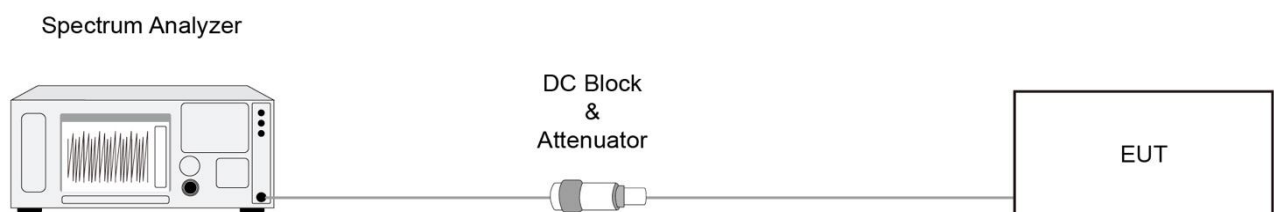
Reference level measurement

1. Set instrument center frequency to DTS channel center frequency
2. Span ≥ 1.5 times the DTS bandwidth
3. RBW = 100 kHz
4. VBW $\geq 3 \times$ RBW
5. Detector = Peak
6. Sweep time = Auto couple
7. Trace mode = Max hold
8. Allow trace to fully stabilize

Emission level measurement

1. Set the center frequency and span to encompass frequency range to be measured
2. RBW = 100 kHz
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = Max hold
6. Sweep time = Auto couple
7. The trace was allowed to stabilize

6.5.4. Test Setup



6.5.5. Test Result

Refer to Appendix A.5.

6.6. Radiated Spurious Emissions Measurement

6.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [μV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.6.2. Test Procedure

ANSI C63.10-2020 - Section 11.11 & 11.12

ANSI C63.10-2020 - Section 6.3 (General Requirements)

ANSI C63.10-2020 - Section 6.4 (Standard test method below 30 MHz)

ANSI C63.10-2020 - Section 6.5 (Standard test method above 30 MHz to 1 GHz)

ANSI C63.10-2020 - Section 6.6 (Standard test method above 1 GHz)

6.6.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Quasi-Peak Measurements below 1 GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1 MHz
3. RBW = as specified in Table 1
4. $VBW \geq 3 \times RBW$
5. Detector = CISPR quasi-peak
6. Sweep time = Auto couple
7. Trace was allowed to stabilize

Peak Measurements above 1 GHz

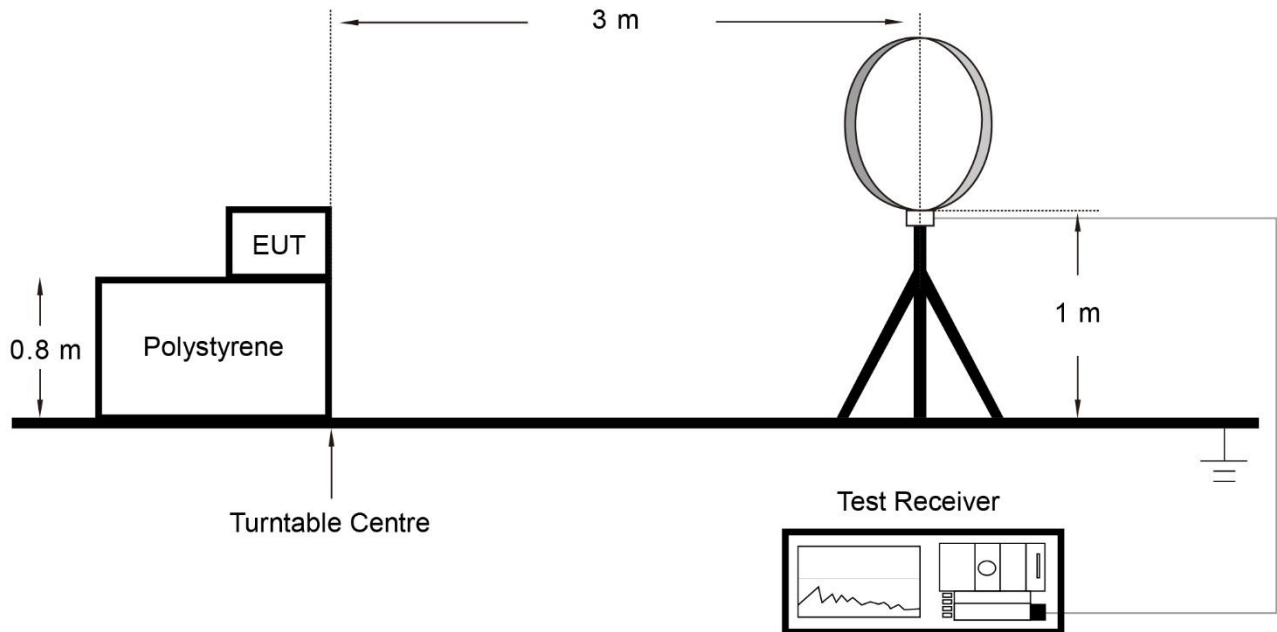
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. $VBW \geq 3 \times RBW$
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

Average Measurements above 1 GHz (Method VB)

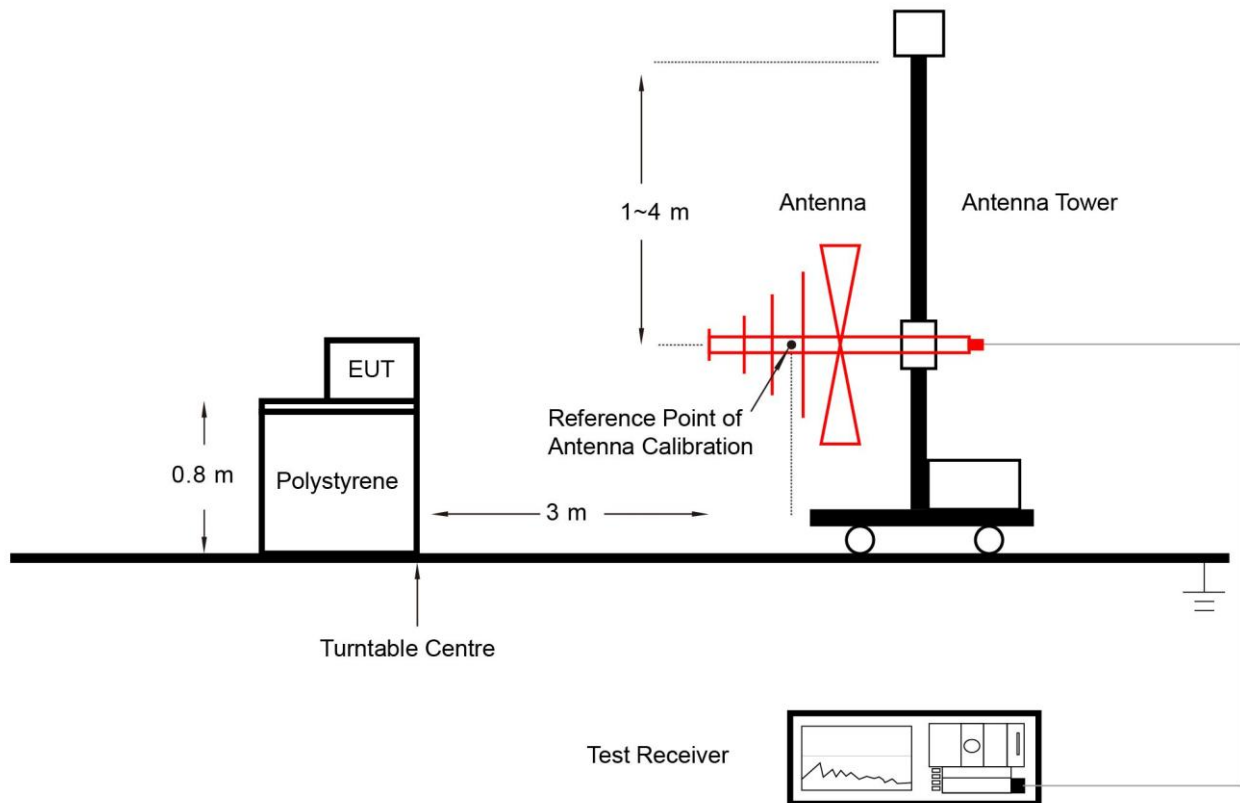
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW; if the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz
If the EUT duty cycle is $< 98\%$, set $VBW \geq 1/T$. T is the minimum transmission duration.
4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
5. Detector = Peak
6. Sweep time = Auto
7. Trace mode = Max hold
8. Trace was allowed to stabilize

6.6.4. Test Setup

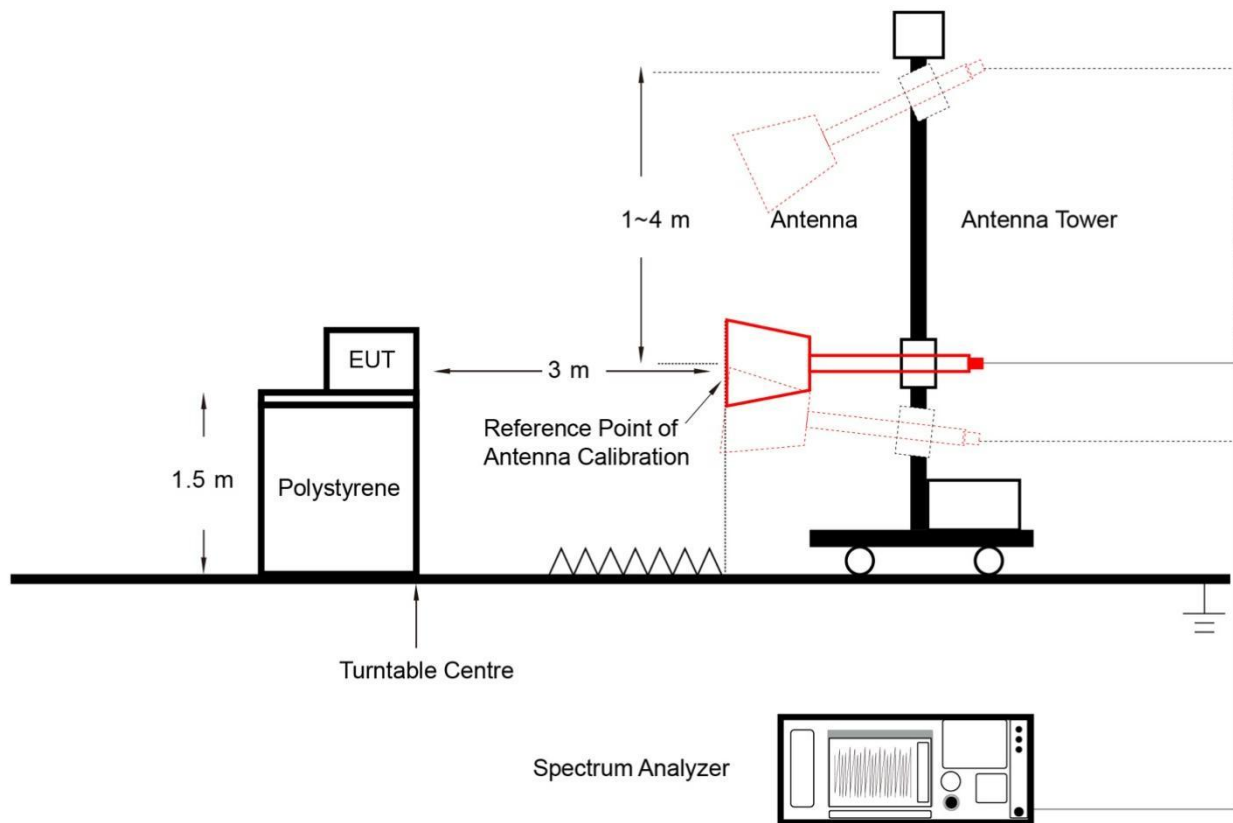
Below 30 MHz Test Setup:



Below 1 GHz Test Setup:



Above 1 GHz Test Setup:



6.6.5. Test Result

Refer to Appendix A.6.

6.7. Radiated Restricted Band Edge Measurement

6.7.1. Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [$\mu\text{V/m}$]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.7.2. Test Procedure

ANSI C63.10-2020 - Section 6.3 & 6.6 & 11.12

6.7.3. Test Setting

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

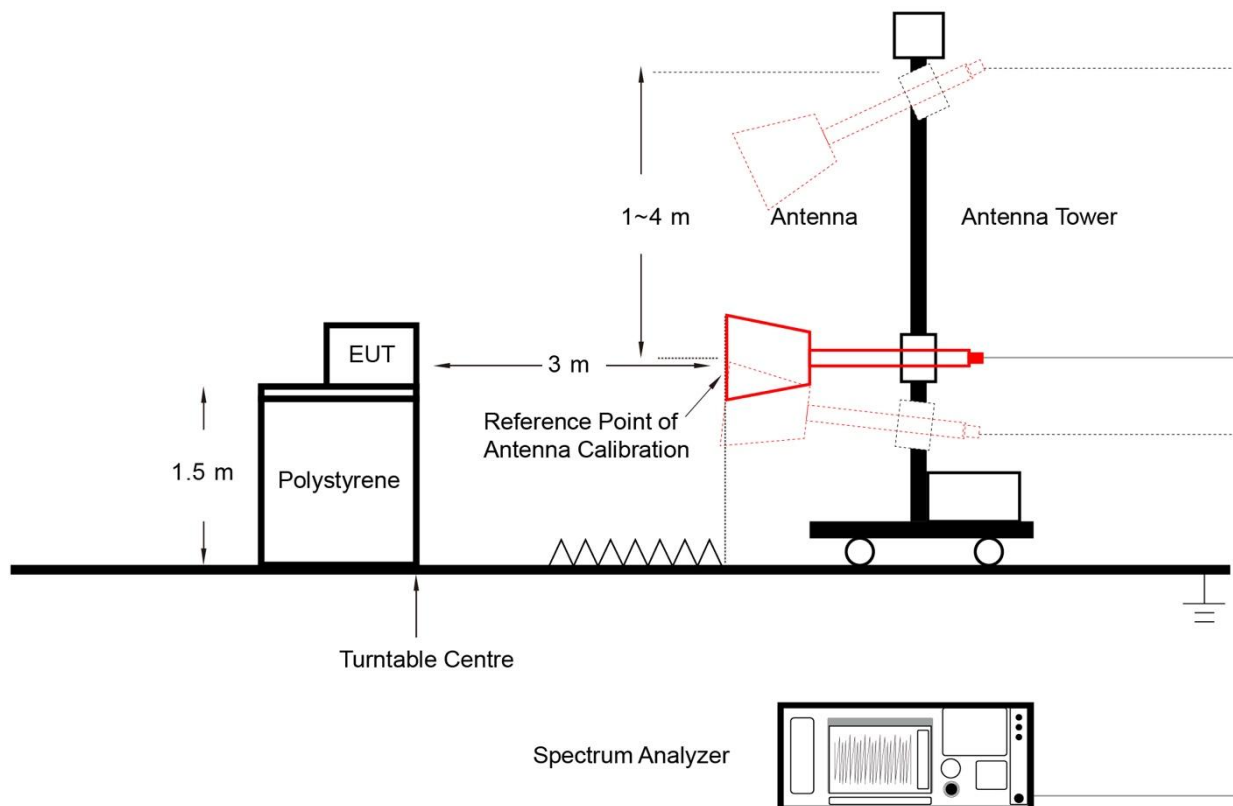
Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.

If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.

4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
5. Detector = Peak
6. Sweep time = Auto
7. Trace mode = Max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

6.7.4. Test Setup



6.7.5. Test Result

Refer to Appendix A.7.

6.8. AC Conducted Emissions Measurement

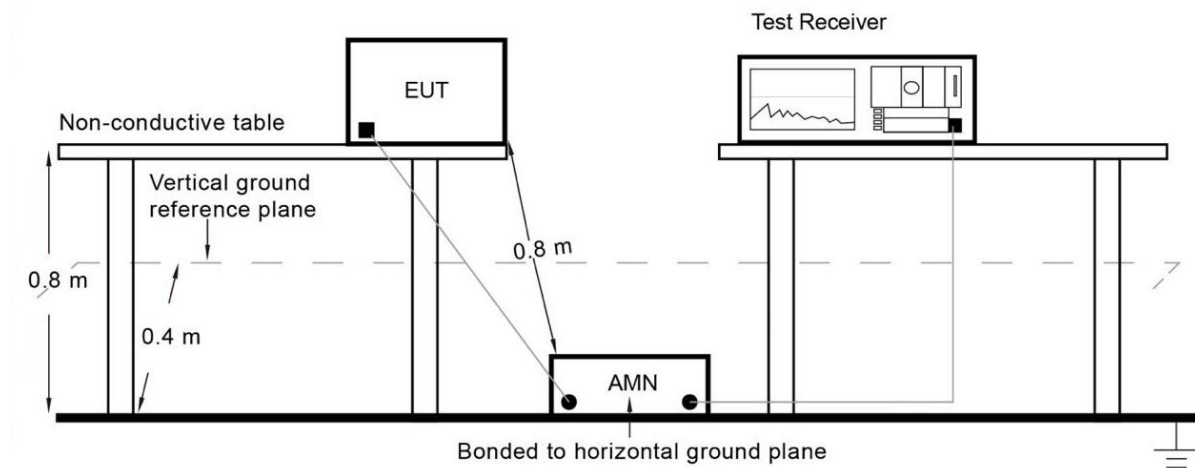
6.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dB μ V)	AV (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 0.15 MHz to 0.5 MHz.

6.8.2. Test Setup



6.8.3. Test Result

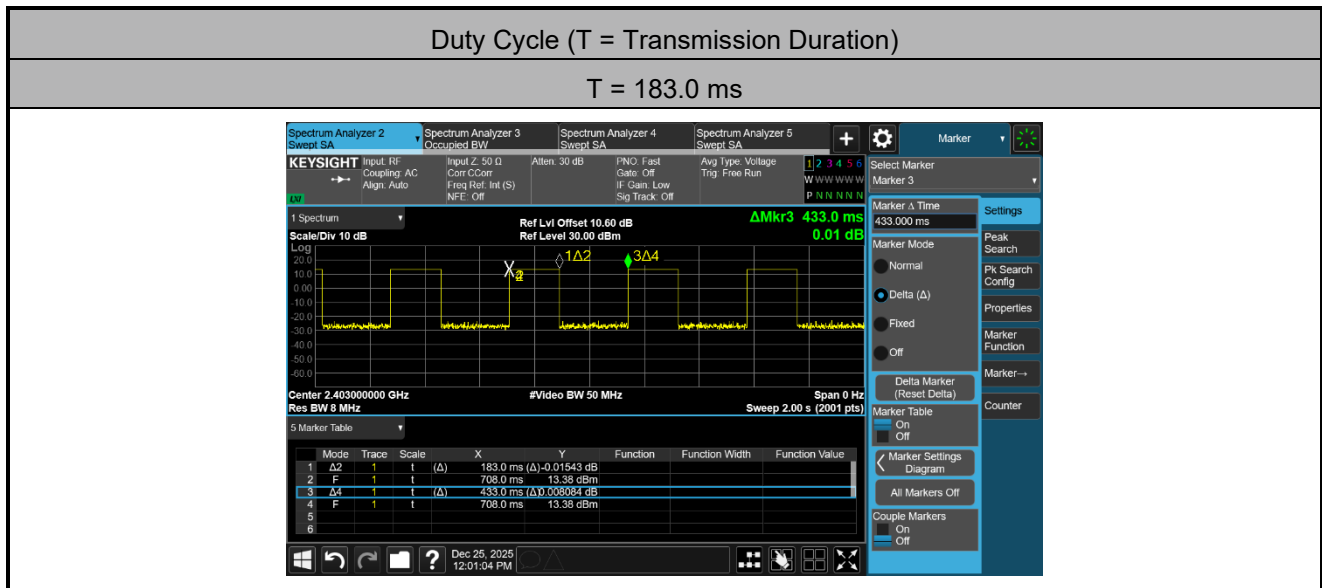
The EUT is powered by battery, so the item is not applicable.

Appendix A - Test Result

A.1 Duty Cycle Test Result

Test Site	WZ-SR5	Test Engineer	Jeff Yang
Test Date	2025-12-25		

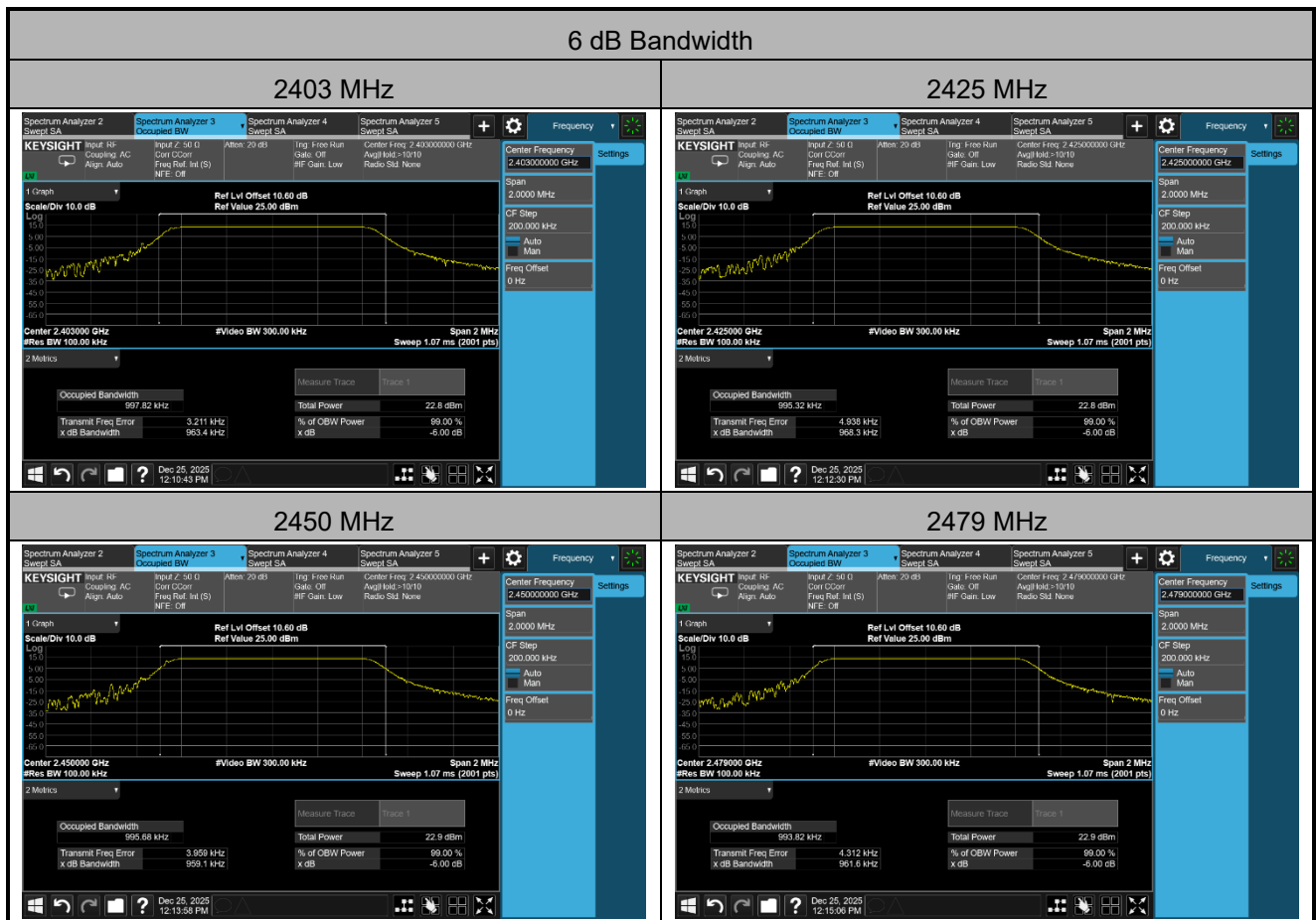
Duty Cycle
42.26%



A.2 6 dB Bandwidth Test Result

Test Site	WZ-SR5	Test Engineer	Jeff Yang
Test Date	2025-12-25		

Channel	Frequency (MHz)	6 dB Bandwidth (kHz)	Limit (MHz)
CH _L	2403	963.4	≥ 0.5
CH _M	2425	968.3	≥ 0.5
CH _H	2450	959.1	≥ 0.5
CH _{H+1}	2479	961.6	≥ 0.5



A.3 Output Power Test Result

Test Site	WZ-SR5	Test Engineer	Jeff Yang
Test Date	2025-12-25		

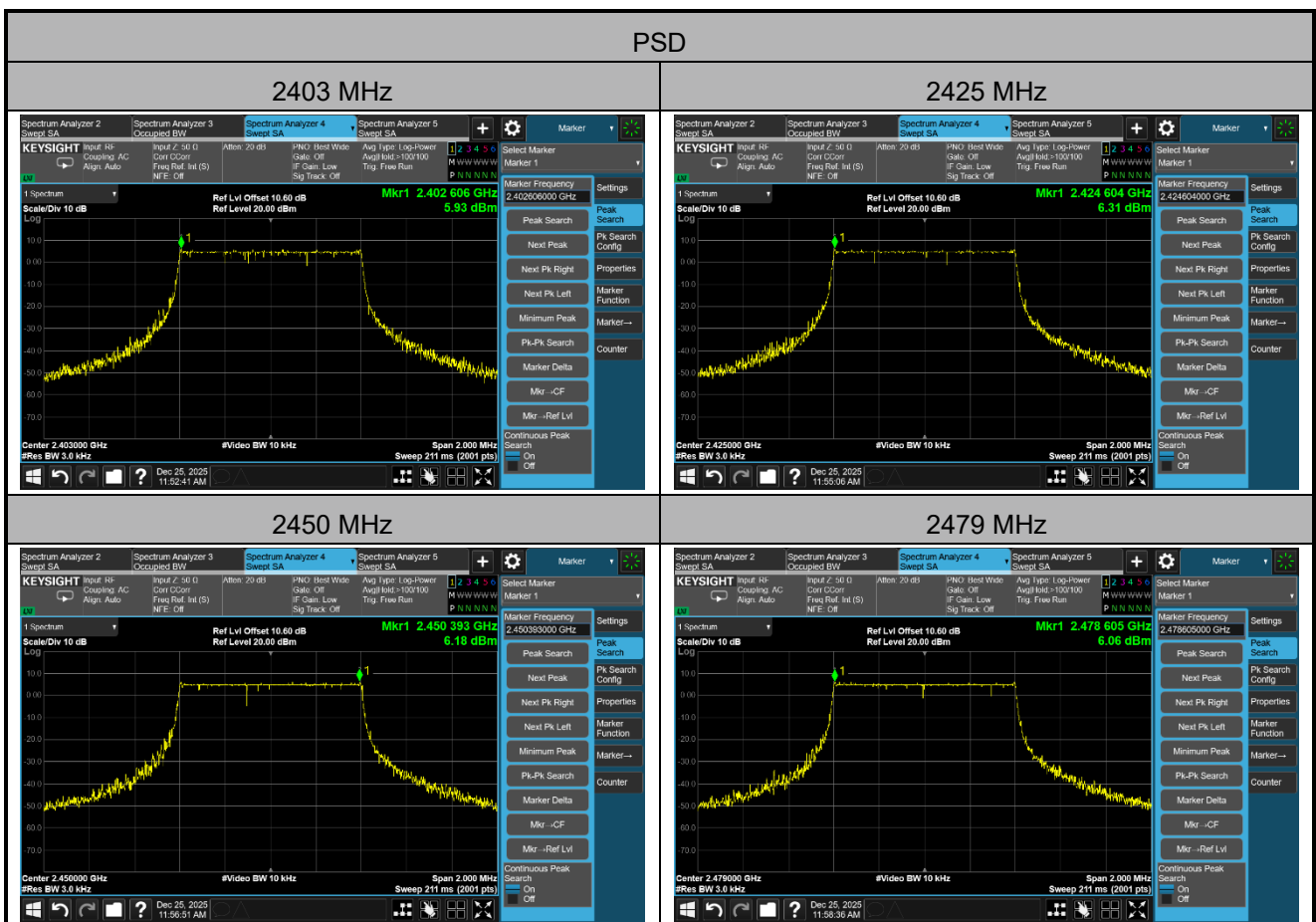
Channel	Freq. (MHz)	Peak Power (dBm)	Average Power (dBm)	Limit (dBm)
CH _L	2403	13.16	12.38	≤ 30.00
CH _M	2425	13.14	12.35	≤ 30.00
CH _H	2450	13.12	12.34	≤ 30.00
CH _{H+1}	2479	13.20	12.41	≤ 30.00

Note: The Average Power is only used for MPE calculation.

A.4 Power Spectral Density Test Result

Test Site	WZ-SR5	Test Engineer	Jeff Yang
Test Date	2025-12-25		

Channel	Freq. (MHz)	PKPSD (dBm / 3 kHz)	Limit (dBm / 3 kHz)
CH _L	2403	5.93	≤ 8.00
CH _M	2425	6.31	≤ 8.00
CH _H	2450	6.18	≤ 8.00
CH _{H+1}	2479	6.06	≤ 8.00



A.5 Conducted Band Edge and Out-of-Band Emissions Test Result

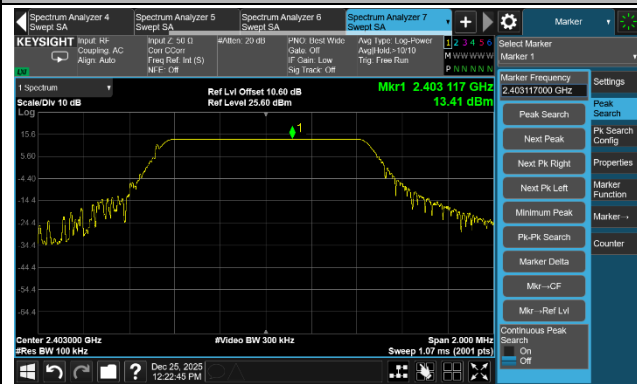
Test Site	WZ-SR5	Test Engineer	Jeff Yang
Test Date	2025-12-25		

Channel	Frequency (MHz)	Limit
CH _L	2403	20 dBc
CH _M	2425	20 dBc
CH _H	2450	20 dBc
CH _{H+1}	2479	20 dBc

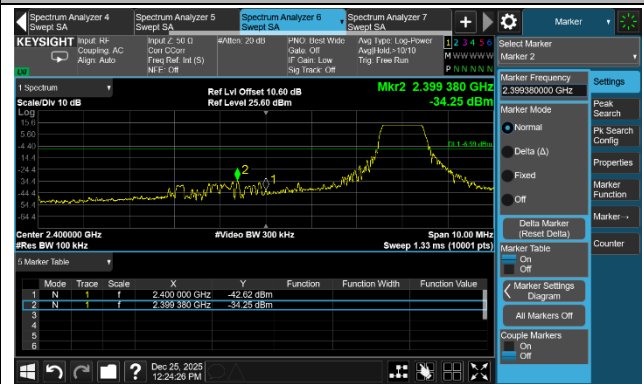
Out-of-Band Emissions

2403 MHz

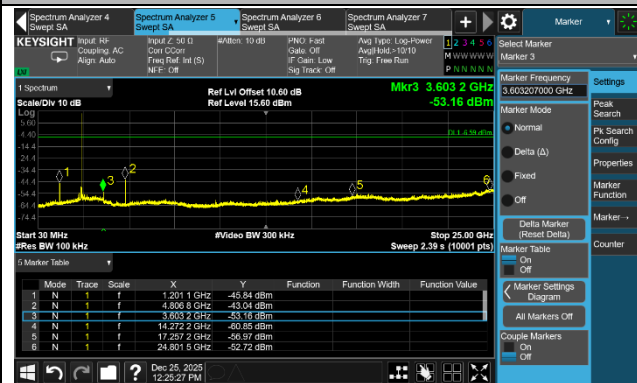
Reference Level



Low Band Edge



Spurious Emission

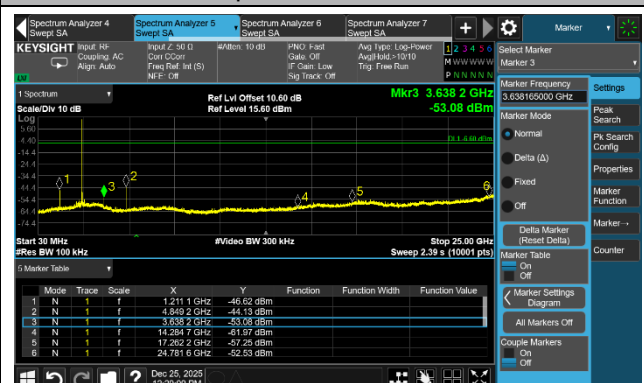


2425 MHz

Reference Level



Spurious Emission



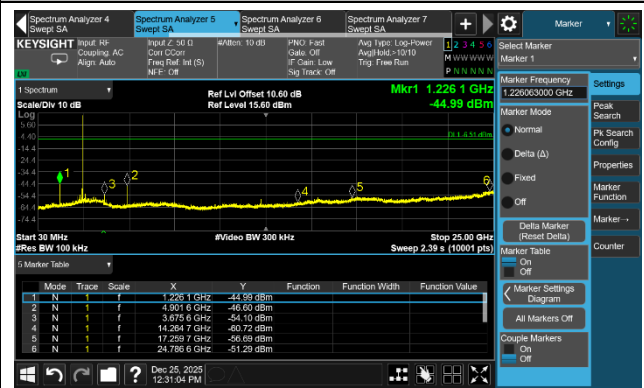
Out-of-Band Emissions

2450 MHz

Reference Level



Spurious Emission



2479 MHz

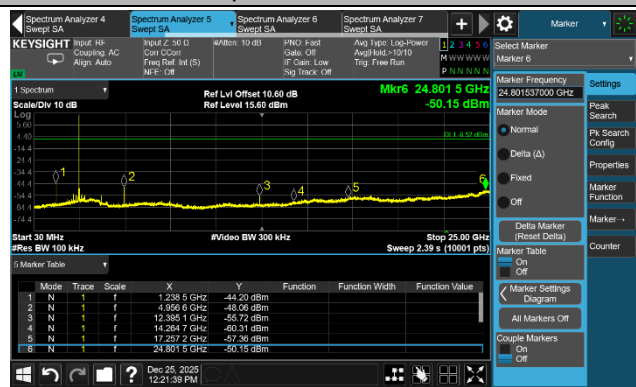
Reference Level



High Band Edge



Spurious Emission



A.6 Radiated Spurious Emissions Test Result

Test Site	WZ-AC1	Test Engineer	Ajin Fan
Test Date	2025-12-16		
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20 dB below limit line within 1-18 GHz, there is not show in the report.		

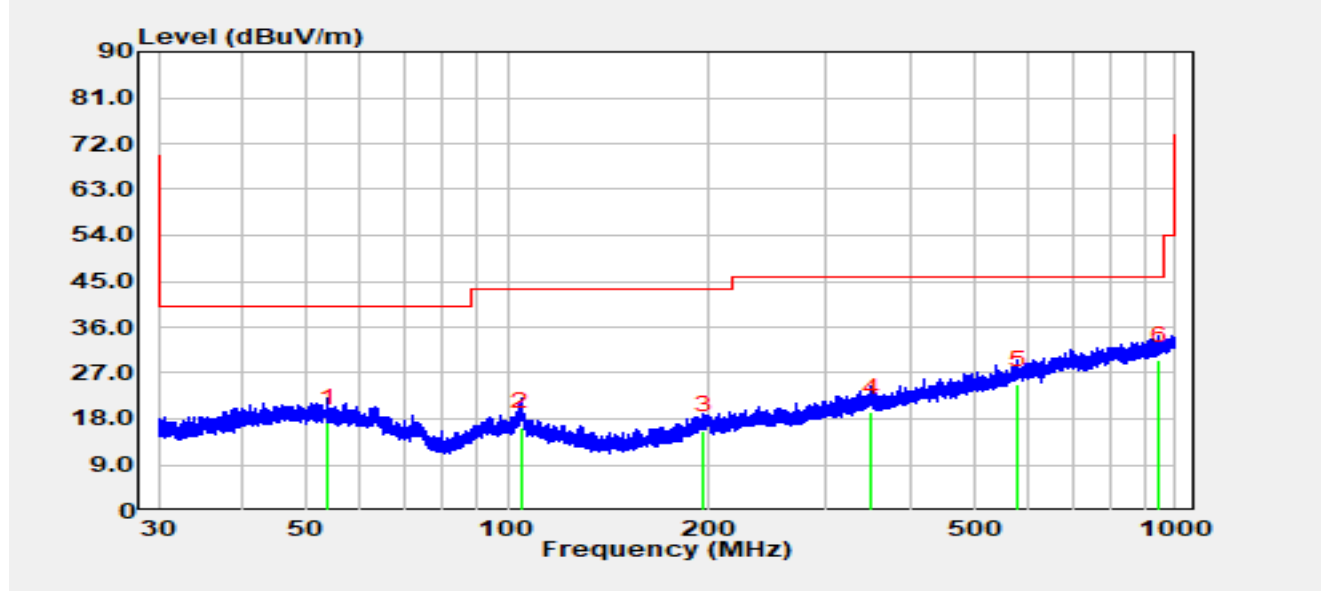
Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
CH _L	11710.00	37.11	13.47	50.58	74.00	-23.42	Peak	Horizontal
	15412.60	36.08	13.47	49.55	74.00	-24.45	Peak	Horizontal
	17993.20	22.36	24.10	46.46	54.00	-7.54	Average	Horizontal
	17993.20	34.82	24.10	58.92	74.00	-15.08	Peak	Horizontal
	11295.20	36.51	14.26	50.77	74.00	-23.23	Peak	Vertical
	16051.80	36.01	13.21	49.22	74.00	-24.78	Peak	Vertical
	17974.50	22.94	23.71	46.65	54.00	-7.35	Average	Vertical
	17974.50	35.55	23.71	59.26	74.00	-14.74	Peak	Vertical
CH _H	10985.80	35.91	14.91	50.82	74.00	-23.18	Peak	Horizontal
	15506.10	35.91	13.50	49.41	74.00	-24.59	Peak	Horizontal
	18000.00	22.45	24.16	46.61	54.00	-7.39	Average	Horizontal
	18000.00	34.54	24.16	58.70	74.00	-15.30	Peak	Horizontal
	11026.60	35.20	14.72	49.92	74.00	-24.08	Peak	Vertical
	15429.60	35.81	13.50	49.31	74.00	-24.69	Peak	Vertical
	17996.60	22.14	24.13	46.27	54.00	-7.73	Average	Vertical
	17996.60	36.20	24.13	60.33	74.00	-13.67	Peak	Vertical
CH _{H+1}	11296.90	27.32	14.26	41.58	54.00	-12.42	Average	Horizontal
	11296.90	37.43	14.26	51.69	74.00	-22.31	Peak	Horizontal
	15397.30	35.54	13.68	49.22	74.00	-24.78	Peak	Horizontal
	17923.50	22.36	22.97	45.33	54.00	-8.67	Average	Horizontal
	17923.50	35.60	22.97	58.57	74.00	-15.43	Peak	Horizontal
	10688.30	35.61	14.86	50.47	74.00	-23.53	Peak	Vertical
	15937.90	37.12	13.20	50.32	74.00	-23.68	Peak	Vertical
	17993.20	22.64	24.10	46.74	54.00	-7.26	Average	Vertical
	17993.20	35.29	24.10	59.39	74.00	-14.61	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Result of Radiated Emission below 1 GHz:

Site	WZ-AC2	Test Date	2025-12-19
Temperature	25.1 °C	Humidity	35.8%
Limit	FCC_Part 15.209_RSE (3m)	Test Engineer	Jerry Lu
Test Voltage	DC 3 V	Polarity	Horizontal
Test Mode	Transmit at 2403 MHz		

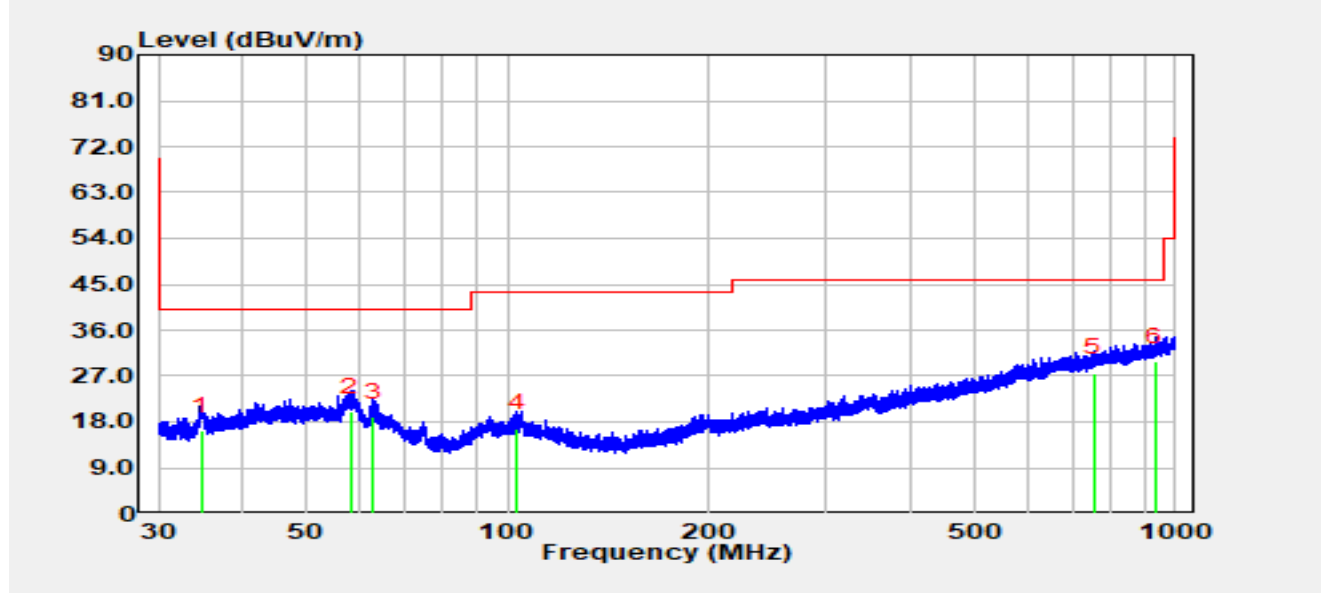


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		53.90	-3.08	20.29	17.21	-22.79	40.00	QP
2		104.76	-2.39	18.76	16.37	-27.13	43.50	QP
3		196.58	-3.27	18.95	15.68	-27.82	43.50	QP
4		351.09	-3.62	22.91	19.29	-26.71	46.00	QP
5		581.52	-2.39	27.11	24.72	-21.28	46.00	QP
6	*	945.77	-2.15	31.65	29.50	-16.50	46.00	QP

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
4. The amplitude of radiated emissions (frequency range from 9 kHz to 30 MHz and 18 GHz to 25 GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Site	WZ-AC2	Test Date	2025-12-19
Temperature	25.1 °C	Humidity	35.8%
Limit	FCC_Part 15.209_RSE (3m)	Test Engineer	Jerry Lu
Test Voltage	DC 3 V	Polarity	Vertical
Test Mode	Transmit at 2403 MHz		



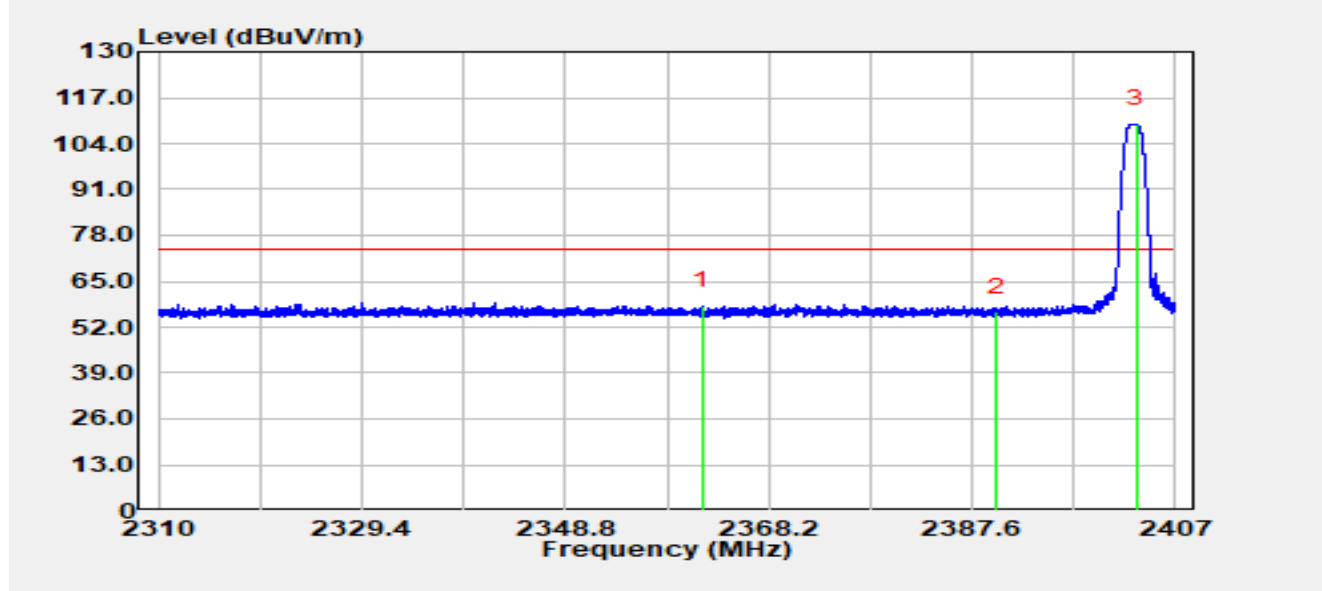
No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		34.78	-1.32	17.54	16.22	-23.78	40.00	QP
2		58.12	0.21	19.75	19.96	-20.04	40.00	QP
3		62.94	0.13	18.76	18.89	-21.11	40.00	QP
4		103.51	-2.17	18.83	16.66	-26.84	43.50	QP
5		756.45	-2.15	29.75	27.60	-18.40	46.00	QP
6	*	934.24	-1.70	31.46	29.76	-16.24	46.00	QP

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).
4. The amplitude of radiated emissions (frequency range from 9 kHz to 30 MHz and 18 GHz to 25 GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

A.7 Radiated Restricted Band Edge Test Result

Site	WZ-AC2	Test Date	2025-12-25
Temperature	24.4 °C	Humidity	46.3%
Limit	FCC_2.4G_RE (3m)-PK	Test Engineer	Dick Shen
Test Voltage	DC 3 V	Polarity	Horizontal
Test Mode	Transmit at 2403 MHz		

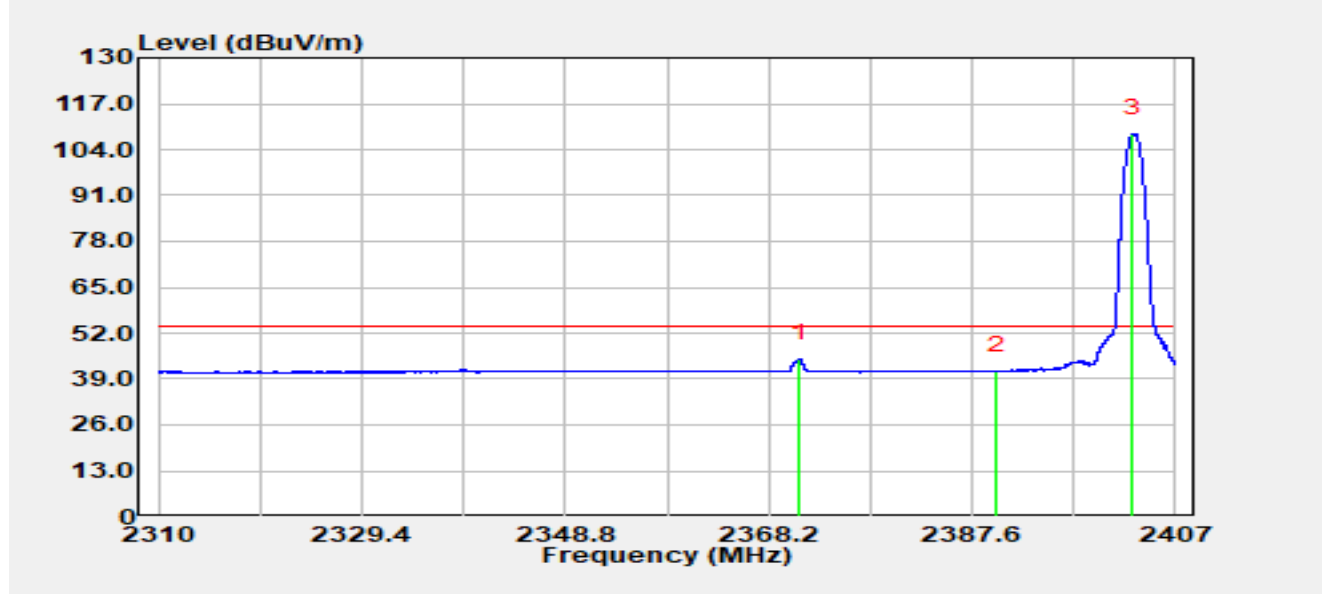


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1	*	2361.85	24.64	33.33	57.97	-16.03	74.00	Peak
2		2390.00	23.21	33.18	56.38	-17.62	74.00	Peak
3		2403.31	76.28	33.13	109.41	N/A	N/A	Peak

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).

Site	WZ-AC2	Test Date	2025-12-25
Temperature	24.4 °C	Humidity	46.3%
Limit	FCC_2.4G_RE (3m)-AV	Test Engineer	Dick Shen
Test Voltage	DC 3 V	Polarity	Horizontal
Test Mode	Transmit at 2403 MHz		

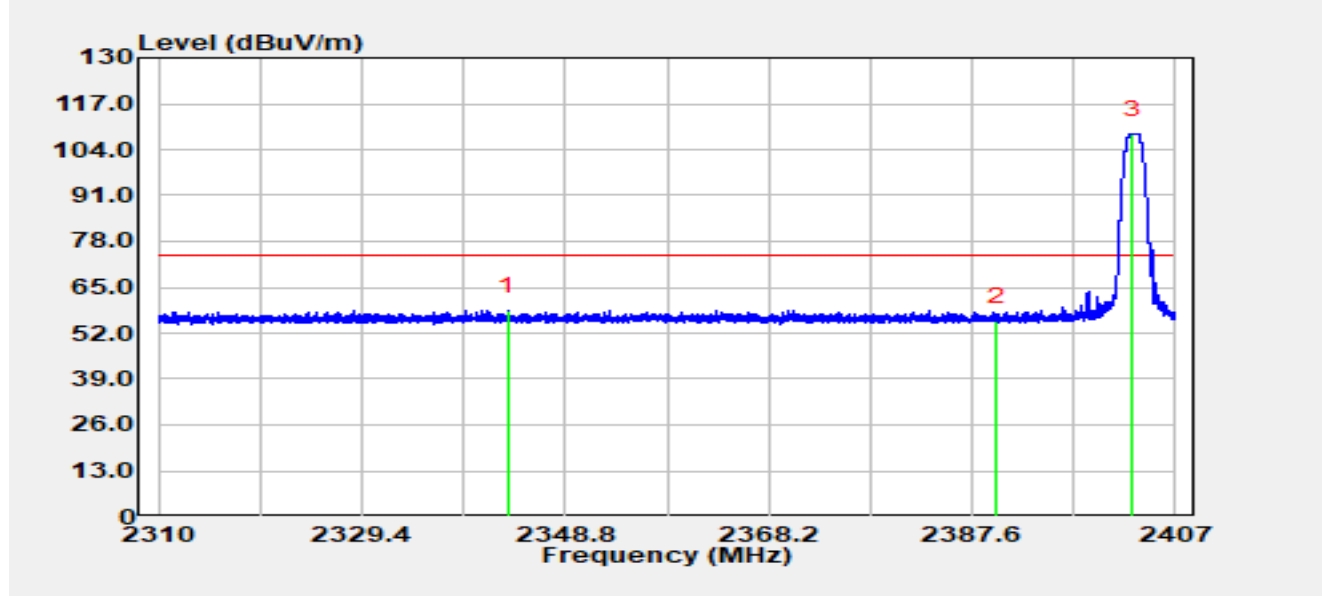


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1	*	2371.14	11.57	33.28	44.84	-9.16	54.00	Average
2		2390.00	8.10	33.18	41.28	-12.72	54.00	Average
3		2402.97	75.41	33.13	108.54	N/A	N/A	Average

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).

Site	WZ-AC2	Test Date	2025-12-25
Temperature	24.4 °C	Humidity	46.3%
Limit	FCC_2.4G_RE (3m)-PK	Test Engineer	Dick Shen
Test Voltage	DC 3 V	Polarity	Vertical
Test Mode	Transmit at 2403 MHz		

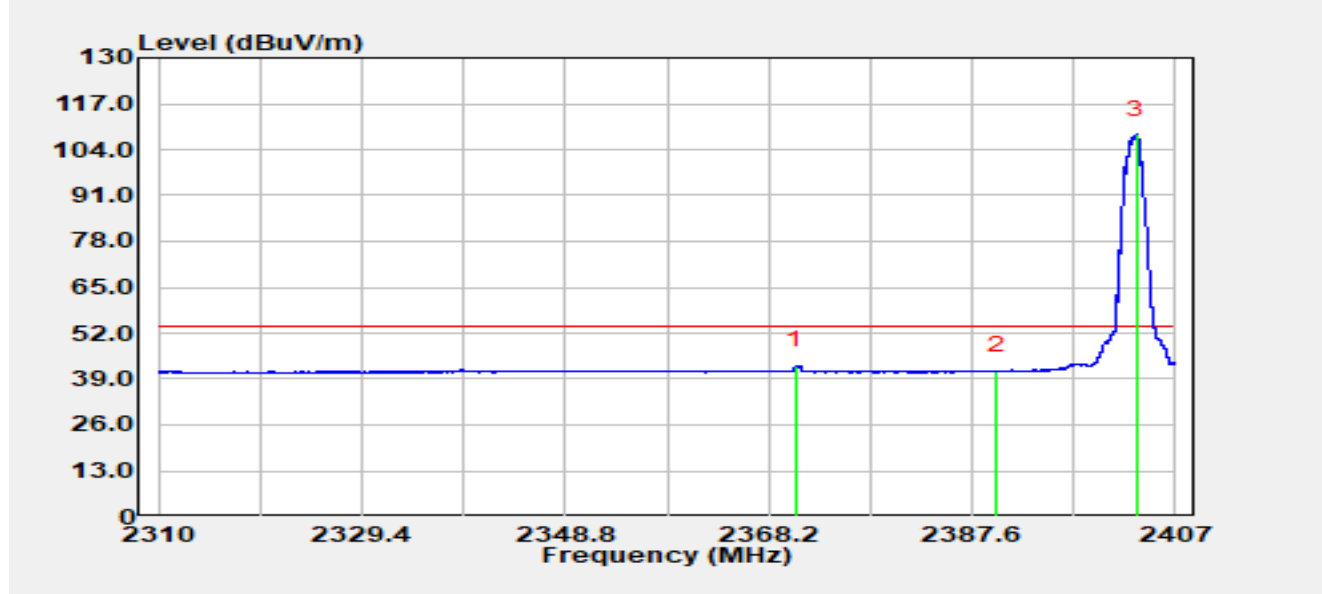


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1	*	2343.36	24.85	33.40	58.25	-15.75	74.00	Peak
2		2390.00	22.24	33.18	55.42	-18.58	74.00	Peak
3		2402.86	75.25	33.13	108.38	N/A	N/A	Peak

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).

Site	WZ-AC2	Test Date	2025-12-25
Temperature	24.4 °C	Humidity	46.3%
Limit	FCC_2.4G_RE (3m)-AV	Test Engineer	Dick Shen
Test Voltage	DC 3 V	Polarity	Vertical
Test Mode	Transmit at 2403 MHz		

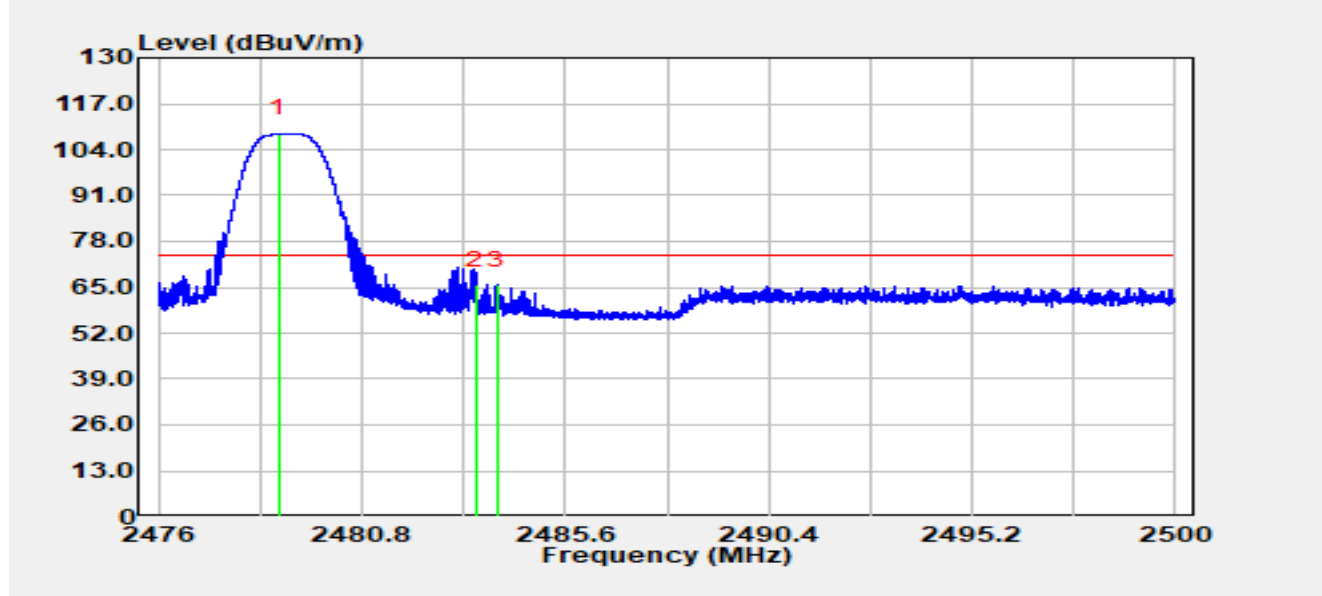


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1	*	2370.77	9.46	33.28	42.74	-11.26	54.00	Average
2		2390.00	8.22	33.18	41.40	-12.60	54.00	Average
3		2403.30	75.26	33.13	108.38	N/A	N/A	Average

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).

Site	WZ-AC2	Test Date	2025-12-25
Temperature	24.4 °C	Humidity	46.3%
Limit	FCC_2.4G_RE (3m)-PK	Test Engineer	Dick Shen
Test Voltage	DC 3 V	Polarity	Horizontal
Test Mode	Transmit at 2479 MHz		

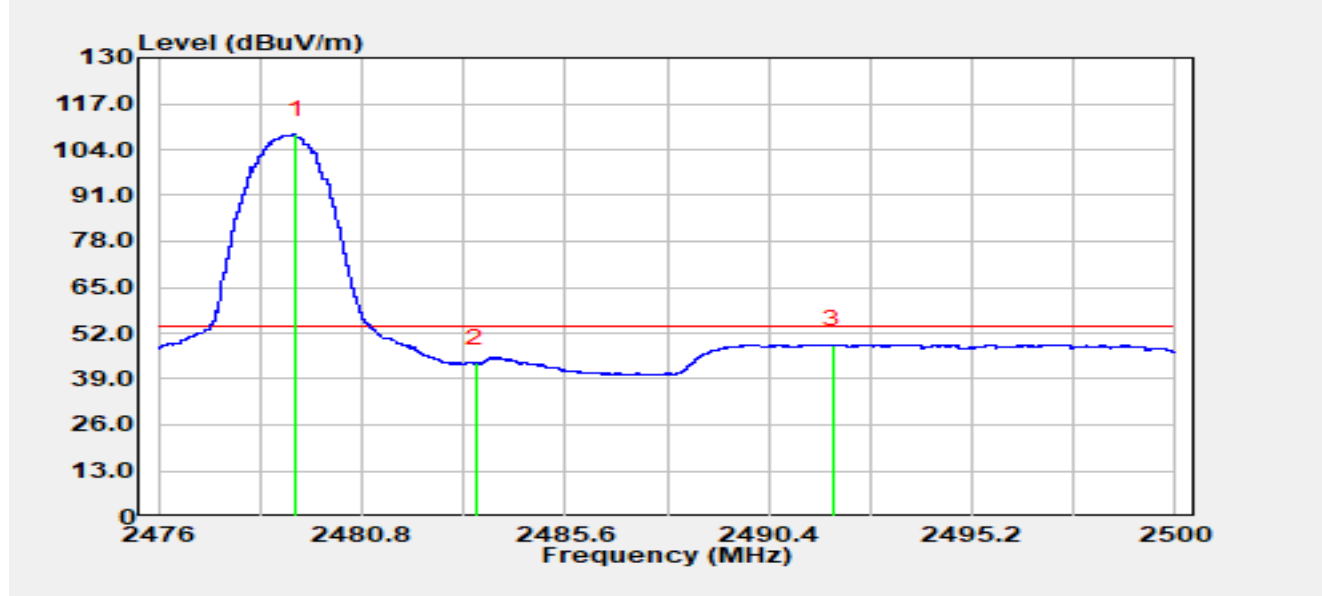


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		2478.83	75.53	32.91	108.44	N/A	N/A	Peak
2		2483.50	32.62	32.90	65.52	-8.48	74.00	Peak
3	*	2483.98	32.81	32.90	65.71	-8.29	74.00	Peak

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).

Site	WZ-AC2	Test Date	2025-12-25
Temperature	24.4 °C	Humidity	46.3%
Limit	FCC_2.4G_RE (3m)-AV	Test Engineer	Dick Shen
Test Voltage	DC 3 V	Polarity	Horizontal
Test Mode	Transmit at 2479 MHz		

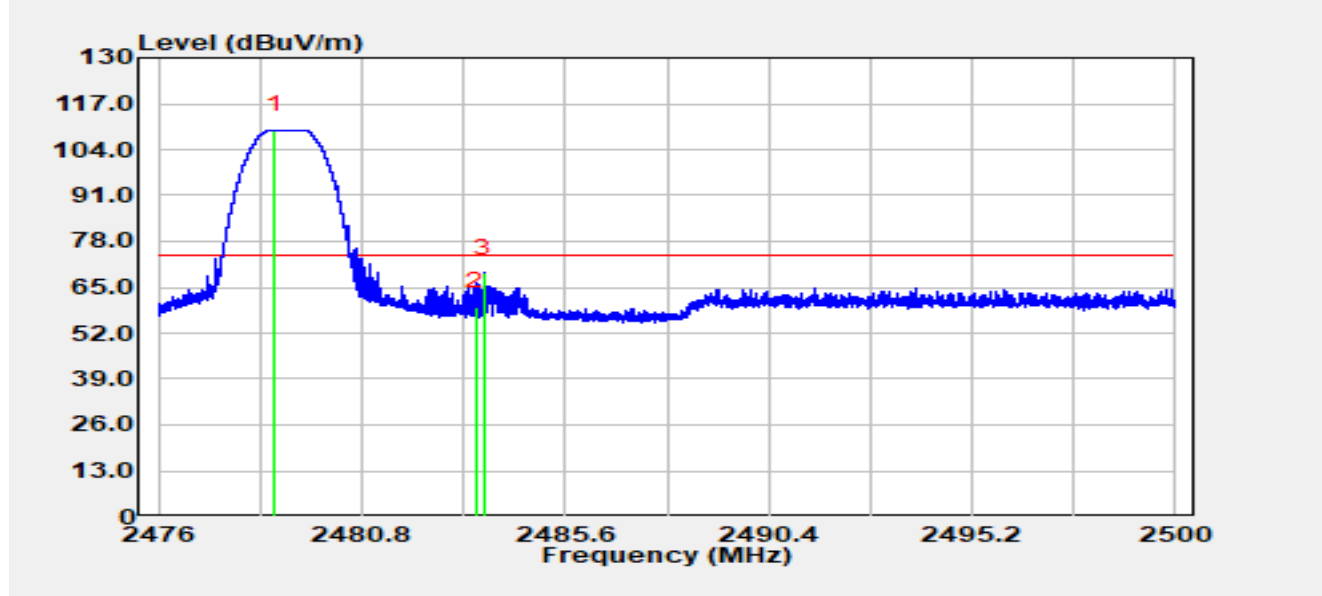


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		2479.24	75.37	32.91	108.27	N/A	N/A	Average
2		2483.50	10.55	32.90	43.46	-10.54	54.00	Average
3	*	2491.91	15.79	32.90	48.69	-5.31	54.00	Average

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).

Site	WZ-AC2	Test Date	2025-12-25
Temperature	24.4 °C	Humidity	46.3%
Limit	FCC_2.4G_RE (3m)-PK	Test Engineer	Dick Shen
Test Voltage	DC 3 V	Polarity	Vertical
Test Mode	Transmit at 2479 MHz		

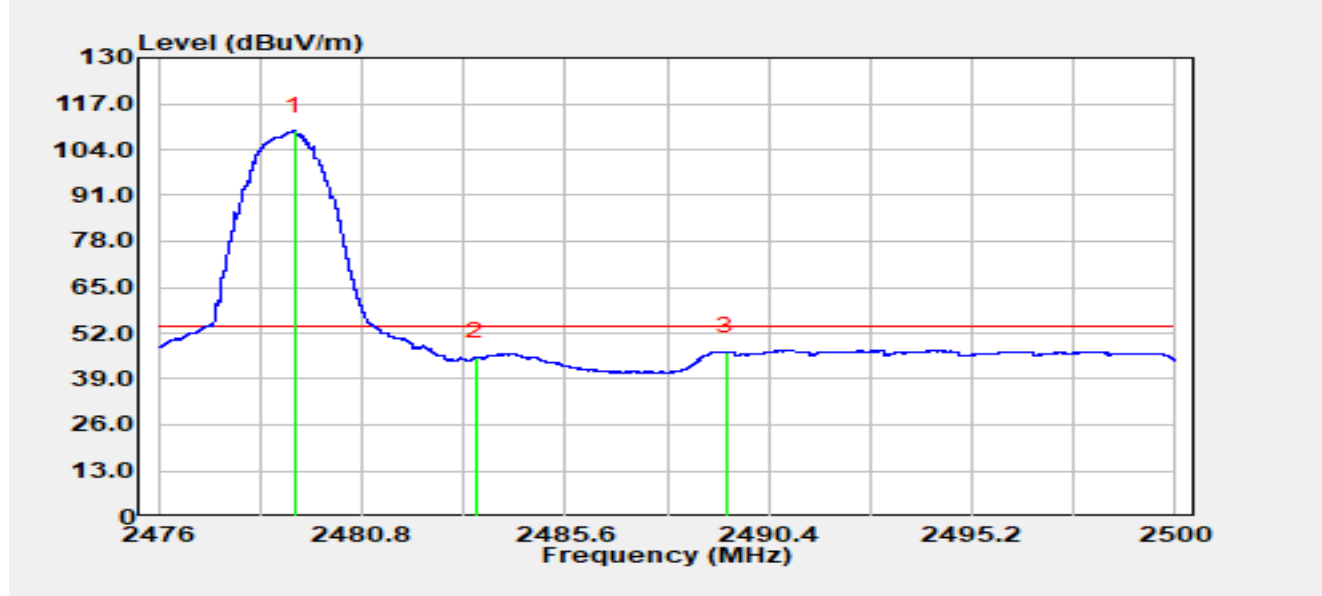


No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		2478.74	76.58	32.91	109.49	N/A	N/A	Peak
2		2483.50	26.69	32.90	59.59	-14.41	74.00	Peak
3	*	2483.68	36.07	32.90	68.97	-5.03	74.00	Peak

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).

Site	WZ-AC2	Test Date	2025-12-25
Temperature	24.4 °C	Humidity	46.3%
Limit	FCC_2.4G_RE (3m)-AV	Test Engineer	Dick Shen
Test Voltage	DC 3 V	Polarity	Vertical
Test Mode	Transmit at 2479 MHz		



No	Mark	Frequency (MHz)	Reading (dBμV)	C.F (dB/m)	Measurement (dBμV/m)	Margin (dB)	Limit (dBμV/m)	Detector
1		2479.20	76.26	32.91	109.16	N/A	N/A	Average
2		2483.50	12.29	32.90	45.19	-8.81	54.00	Average
3	*	2489.39	13.90	32.90	46.80	-7.20	54.00	Average

Notes:

1. "*" indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBμV/m) = Reading (dBμV) + C.F (dB/m).

Appendix B - Test Setup Photograph

Refer to "R25S1019054-UT" file.

Appendix C - EUT Photograph

Refer to "R25S1019054-UE" file.

_____ The End _____