TEST REPORT

Applicant Name:	EWAY CAR TECHNOLOGY LIMITED
Address:	FLAT/RM 1405B, 14/F, THE BELGIAN BANK BUILDING NOS.721-725, NATHAN ROAD MONGKOK KL, Hong Kong
Report Number:	2501R49602E-RF-00
FCC ID:	2BG4R-EWB512

Test Standard (s)

FCC PART 15.247

Sample Description

Product Type:	Wireless Safety Camera
Model No.:	EW-B512
Multiple Model(s) No.:	N/A
Trade Mark:	N/A
Date Received:	2025/03/21
Issue Date:	2025/07/23

Test Result:	Pass▲

▲ In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Allen Bai
RF Engineer

Approved By:

Michelle Zeng
RF Supervisor

Note: The information marked # is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

This report may contain data that are not covered by the NVLAP accreditation and are marked with an asterisk "▼".

TABLE OF CONTENTS

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2501R49602E-RF-00	Original Report	2025/07/23

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Wireless Safety Camera
Tested Model	EW-B512
Multiple Model(s)	N/A
Frequency Range	2410-2473MHz
Maximum conducted peak output power	17.83 dBm
Modulation Technique	GFSK
Antenna Specification#	2dBi (provided by the applicant)
Voltage Range	DC 3.7V from battery or DC 5V from USB port
Sample serial number	306J-4 for RF Conducted Test 306J-3 for Radiated Emissions (Assigned by BACL, Shenzhen)
Sample/EUT Status	Good condition
Adapter Information	N/A

Objective

This test report is in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commission rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		109.2kHz(k=2, 95% level of confidence)
RF Frequency		56.6Hz(k=2, 95% level of confidence)
RF output power, conducted		0.86dB(k=2, 95% level of confidence)
Unwanted Emission, conducted		1.60dB(k=2, 95% level of confidence)
AC Power Lines Conducted Emissions	9 kHz~150 KHz	3.63dB(k=2, 95% level of confidence)
	150 kHz ~30MHz	3.66dB(k=2, 95% level of confidence)
Radiated Emissions	0.009MHz~30MHz	3.60dB(k=2, 95% level of confidence)
	30MHz~200MHz (Horizontal)	5.32dB(k=2, 95% level of confidence)
	30MHz~200MHz (Vertical)	5.43dB(k=2, 95% level of confidence)
	200MHz~1000MHz (Horizontal)	5.77dB(k=2, 95% level of confidence)
	200MHz~1000MHz (Vertical)	5.73dB(k=2, 95% level of confidence)
	1GHz - 6GHz	5.34dB(k=2, 95% level of confidence)
	6GHz - 18GHz	5.40dB(k=2, 95% level of confidence)
	18GHz - 40GHz	5.64dB(k=2, 95% level of confidence)
Temperature		±1℃
Humidity		±1%
Supply voltages		±0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 715558, the FCC Designation No. : CN5045.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in an engineering mode.

Channel list

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	**2410.0**	11	2445.0
2	2413.5	12	2448.5
3	2417.0	13	2452.0
4	2420.5	14	2455.5
5	2424.0	15	2459.0
6	2427.5	16	2462.5
7	2431.0	17	2466.0
8	2434.5	18	2469.5
9	2438.0	19	**2473.0**
10	**2441.5**	/	/

Channel 1, 10, 19 was tested.

EUT Exercise Software

"SecureCRTPortable.exe"[#] exercise software was used and the power level is Default[#]. The software and power level was provided by the applicant.

Special Accessories

No special accessory.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

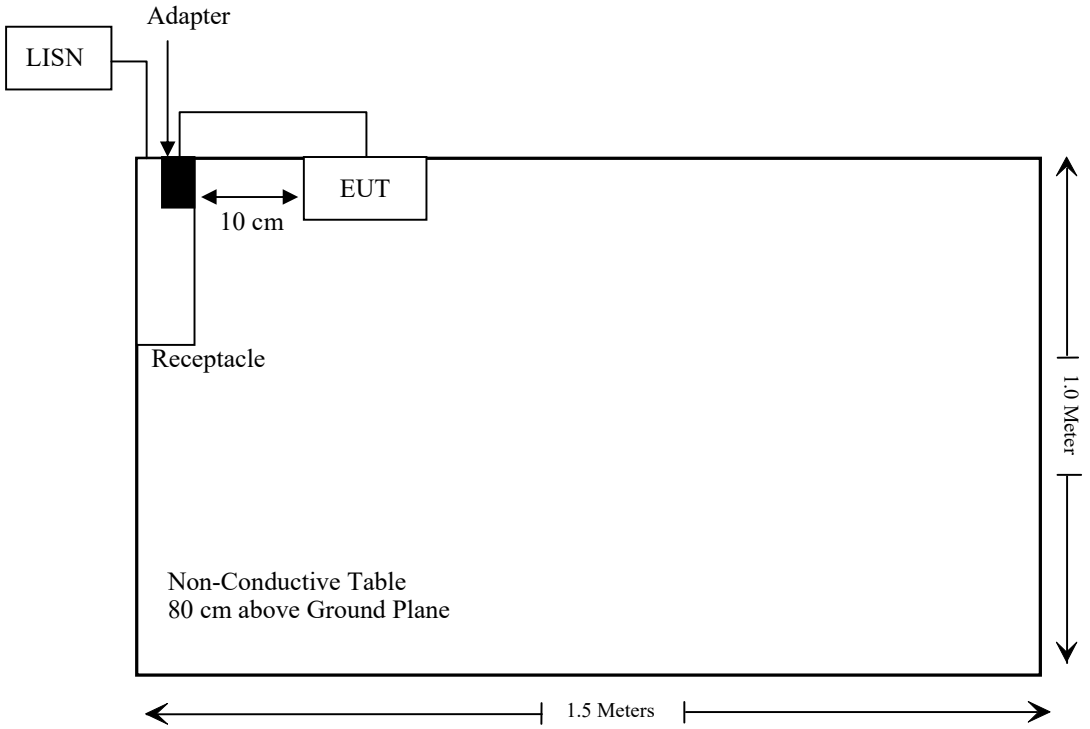
Manufacturer	Description	Model	Serial Number
instek	DC Power Supply	GPS-3030DD	EM832096
OUPU	Receptacle	PDU-OP1606K	6971041358020
yezz	Adapter	CLIV3	Unknown

External I/O Cable

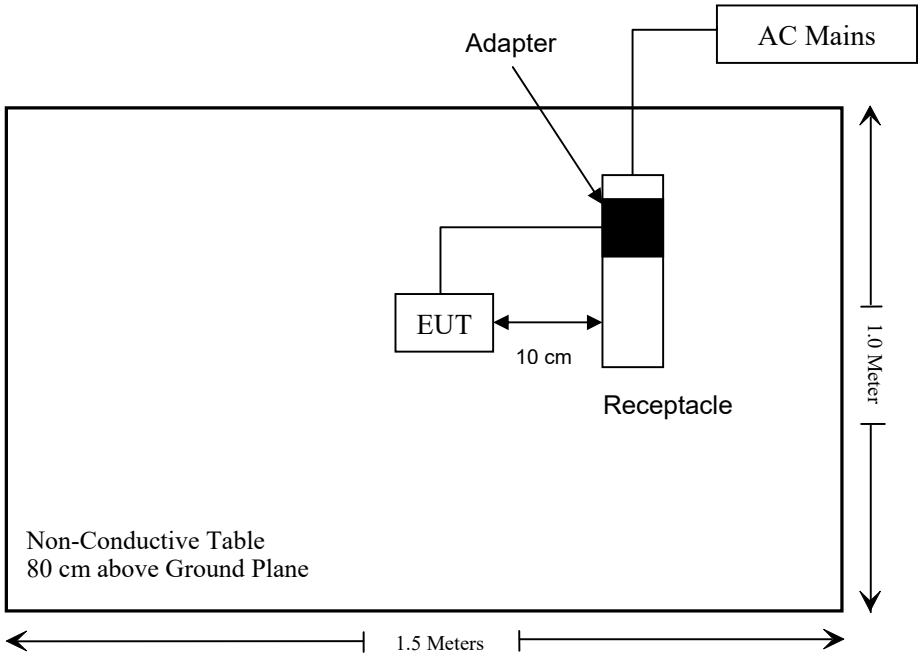
Cable Description	Length (m)	From/Port	To
Unshielded Detachable DC cable	2.0	EUT	DC Power Supply
Unshielded Un-detachable AC cable	1.2	Receptacle	LISN/AC Mains
Unshielded Detachable Type-C cable	1.0	Adapter	EUT

Block Diagram of Test Setup

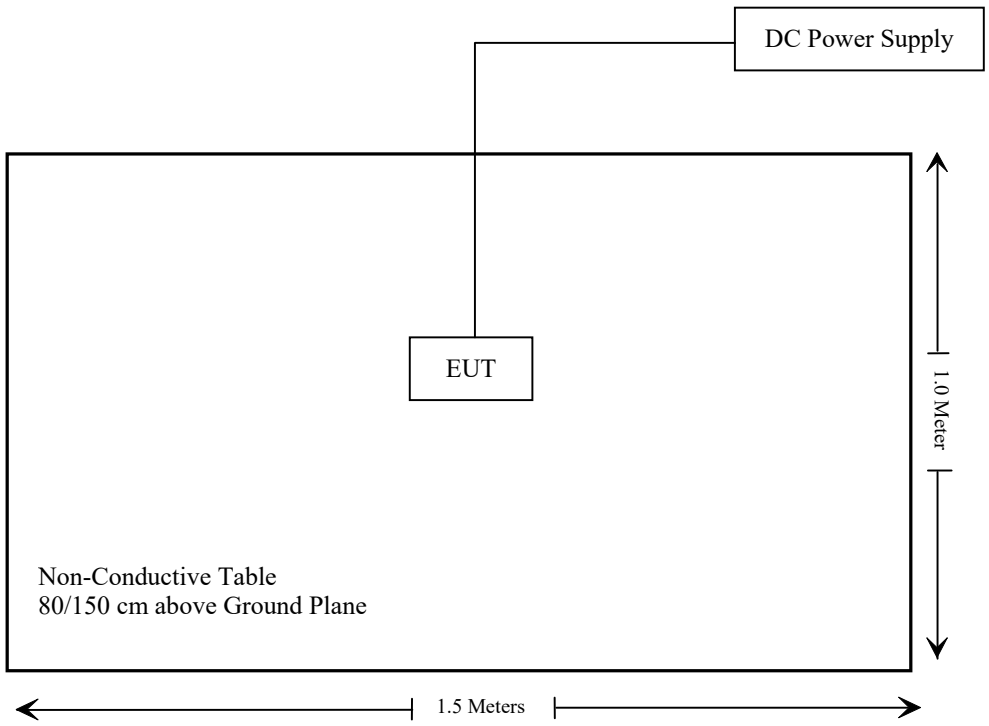
For Conducted Emissions (Charging &Transimitting):



For Radiated Emissions below 1GHz **(**Charging &Transimitting**)**:



For Radiated Emissions (Transimitting):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§2.1091	MPE-Based Exemption	Compliant
§15.203	Antenna Requirement	Compliant
§15.207(a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209 & §15.247(d)	Radiated Emissions	Compliant
§15.247(a)(1)	20dBEmission Bandwidth&99% Occupied Bandwidth	Compliant
§15.247(a)(1)	Channel Separation Test	Compliant
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliant
§15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliant
§15.247(b)(1)	Peak Output Power Measurement	Compliant
§15.247(d)	Band edges	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2024/12/04	2025/12/03
Rohde & Schwarz	LISN	ENV216	101613	2024/12/04	2025/12/03
Rohde & Schwarz	Transient Limiter	ESH3Z2	DE25985	2025/04/29	2026/04/28
Unknown	CE Cable	Unknown	UF A210B-1-0720-504504	2025/04/29	2026/04/28
Audix	EMI Test software	E3	191218(V9)	NCR	NCR
Radiated Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR3	102455	2024/12/04	2025/12/03
Sonoma instrument	Pre-amplifier	310 N	186238	2025/04/29	2026/04/28
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2023/07/20	2026/07/19
Unknown	Cable	Chamber A Cable 1	N/A	2025/04/29	2026/04/28
Unknown	Cable	XH500C	J-10M-A	2025/04/29	2026/04/28
BACL	Active Loop Antenna	1313-1A	4031911	2024/05/14	2027/05/13
Unknown	Cable	2Y194	0735	2024/12/04	2025/12/03
Unknown	Cable	PNG214	1354	2024/12/04	2025/12/03
Rohde & Schwarz	Spectrum Analyzer	FSV40	101605	2025/03/26	2026/03/25
A.H.System	Preamplifier	PAM-0118P	489	2024/11/15	2025/11/14
Schwarzbeck	Horn Antenna	BBHA9120D (1201)	1143	2023/07/26	2026/07/25
Unknown	RF Cable	KMSE	735	2024/12/06	2025/12/05
Unknown	RF Cable	UFA147	219661	2024/12/06	2025/12/05
Unknown	RF Cable	XH750A-N	J-10M	2024/12/06	2025/12/05
JD	Filter Switch Unit	DT7220FSU	DS79906	2024/09/09	2025/09/08
Rohde & Schwarz	Spectrum Analyzer	FSV40	101605	2025/03/26	2026/03/25
A.H.System	Pre-amplifier	PAM-1840VH	190	2025/04/29	2026/04/28
Electro-Mechanics Co	Horn Antenna	3116	9510-2270	2023/09/18	2026/09/17
UTIFLEX	RF Cable	NO. 13	232308-001	2024/12/18	2025/12/17
Audix	EMI Test software	E3	191218(V9)	NCR	NCR

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSV40-N	102259	2024/12/04	2025/12/03
Rohde & Schwarz	Spectrum Analyzer	FSU26	200120	2024/12/04	2025/12/03
Unknown	10dB Attenuator	Unknown	F-03-EM190	2024/06/27	2025/06/26
Unknown	10dB Attenuator	Unknown	F-03-EM190	2025/06/26	2026/06/25

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC 1.1307 (B) & §2.1091- MPE-BASED EXEMPTION

Applicable Standard

According to subpart 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

According to KDB 447498 D04 v01 Interim General RF Exposure Guidance

MPE-Based Exemption:

General frequency and separation-distance dependent MPE-based effective radiated power (ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	1,920 R^2.
1.34-30	3,450 R^2/f^2.
30-300	3.83 R^2.
300-1,500	0.0128 R^2f.
1,500-100,000	19.2R^2.

Ris the minimum separation distance in meters
f = frequency in MHz

Result

Frequency (MHz)	Tune up conducted power#	Antenna Gain#		ERP		Evaluation Distance (m)	ERP Limit (W)
	(dBm)	(dBi)	(dBd)	(dBm)	(W)		
2410-2473	18.0	2	-0.15	17.85	0.061	0.2	0.768

Note: The tune up conducted power# and antenna gain# were declared by the applicant.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliant

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to FCC § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall 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 manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

Antenna Connector Construction

The EUT has an internal antenna arrangement which was permanently attached and the antenna gain[#] is 2dBi, fulfill the requirement of this section. Please refer to the EUT photos.

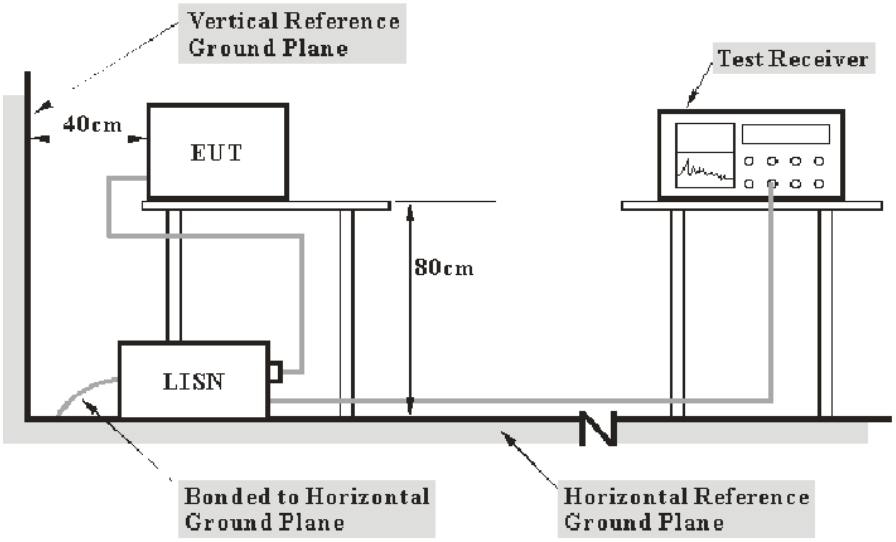
Result: Compliant

FCC §15.207 (a) - AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The measurement procedure of EUT setup is according with ANSI C63.10-2020. The related limit was specified in FCC Part 15.207.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Factor & Over Limit Calculation

The factor is calculated by adding LISN VDF (Voltage Division Factor) and Cable Loss. The basic equation is as follows:

Factor = LISN VDF + Cable Loss

The "**Over limit**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over limit of -7 dB means the emission is 7 dB below the limit. The equation for calculation is as follows:

Over Limit = Level – Limit
Level = Read Level + Factor

Note: The term "cable loss" refers to the combination of a cable and a 10dB transient limiter (attenuator).

Test Data

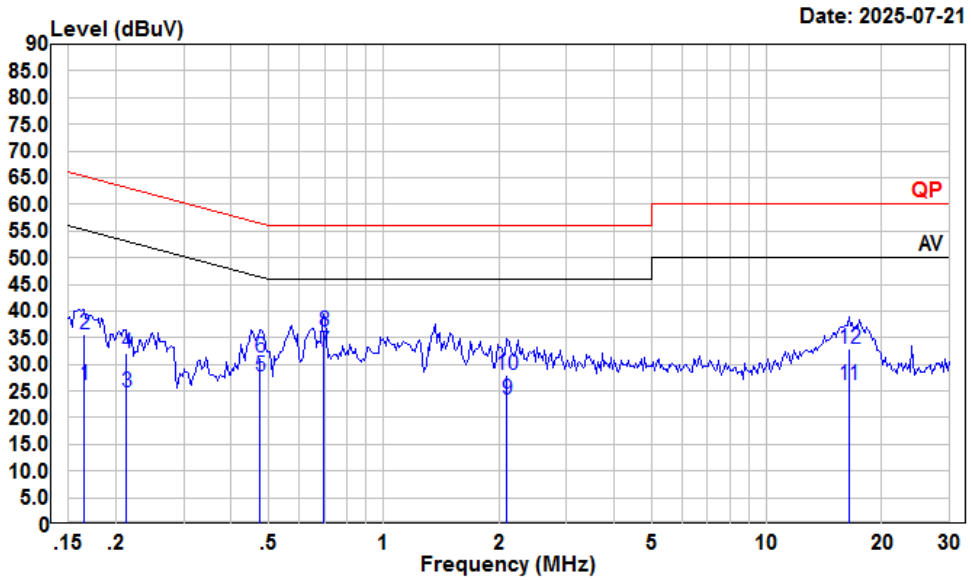
Environmental Conditions

Temperature:	25.1 ℃
Relative Humidity:	66 %
ATM Pressure:	99.3 kPa

The testing was performed by Macy Shi on 2025-07-21.

EUT operation mode: Transmitting (*Maximum output power mode, low channel)*

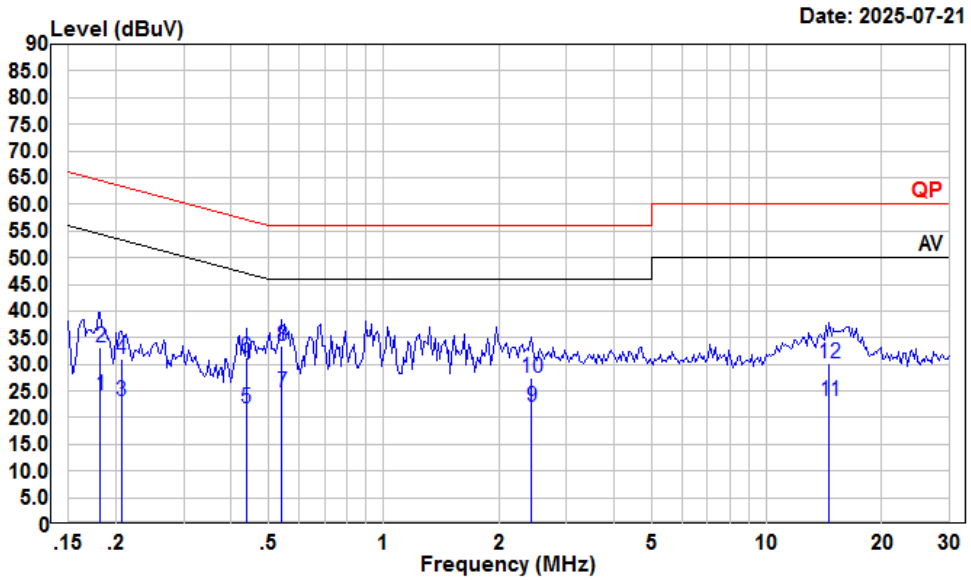
AC 120V/60 Hz, Line



Condition: Line
Project : 2501R49602E-RF
tester : Macy.shi Note:Charging&Transimitting
Setting : RBW:9kHz

	Freq	Read Level	LISN Level	Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.165	5.48	26.16	10.50	10.18	55.21	-29.05	Average
2	0.165	14.83	35.51	10.50	10.18	65.21	-29.70	QP
3	0.213	3.86	24.74	10.69	10.19	53.10	-28.36	Average
4	0.213	11.28	32.16	10.69	10.19	63.10	-30.94	QP
5	0.476	7.10	27.80	10.51	10.19	46.41	-18.61	Average
6	0.476	10.54	31.24	10.51	10.19	56.41	-25.17	QP
7	0.697	11.11	32.24	10.90	10.23	46.00	-13.76	Average
8	0.697	15.12	36.25	10.90	10.23	56.00	-19.75	QP
9	2.099	2.20	23.52	11.09	10.23	46.00	-22.48	Average
10	2.099	6.74	28.06	11.09	10.23	56.00	-27.94	QP
11	16.398	5.36	26.14	10.52	10.26	50.00	-23.86	Average
12	16.398	12.02	32.80	10.52	10.26	60.00	-27.20	QP

AC 120V/60 Hz, Neutral



Condition: Neutral
Project : 2501R49602E-RF
tester : Macy.shi Note:Charging&Transimitting
Setting : RBW:9kHz

	Freq	Read Level	Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.182	3.43	24.29	10.67	10.19	54.42	-30.13	Average
2	0.182	12.28	33.14	10.67	10.19	64.42	-31.28	QP
3	0.206	2.23	23.21	10.79	10.19	53.36	-30.15	Average
4	0.206	10.00	30.98	10.79	10.19	63.36	-32.38	QP
5	0.437	1.06	21.81	10.54	10.21	47.11	-25.30	Average
6	0.437	10.66	31.41	10.54	10.21	57.11	-25.70	QP
7	0.541	4.09	24.81	10.52	10.20	46.00	-21.19	Average
8	0.541	12.87	33.59	10.52	10.20	56.00	-22.41	QP
9	2.435	0.90	21.94	10.79	10.25	46.00	-24.06	Average
10	2.435	6.37	27.41	10.79	10.25	56.00	-28.59	QP
11	14.594	2.52	23.10	10.31	10.27	50.00	-26.90	Average
12	14.594	9.64	30.22	10.31	10.27	60.00	-29.78	QP

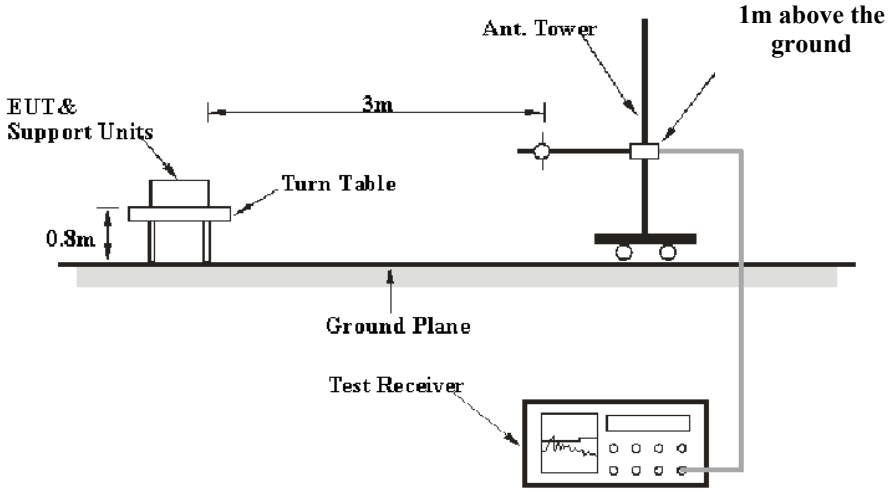
FCC §15.205, §15.209&§15.247(d) – RADIATED EMISSIONS

Applicable Standard

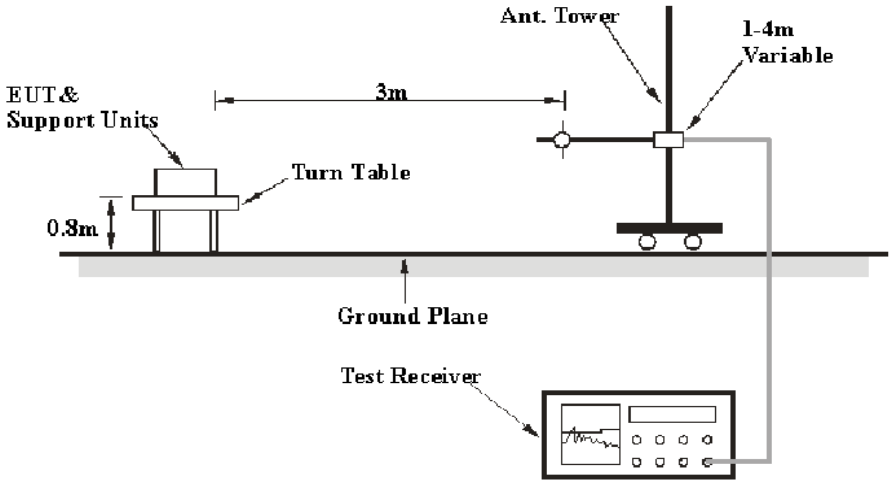
FCC §15.205; §15.209; §15.247(d)

EUT Setup

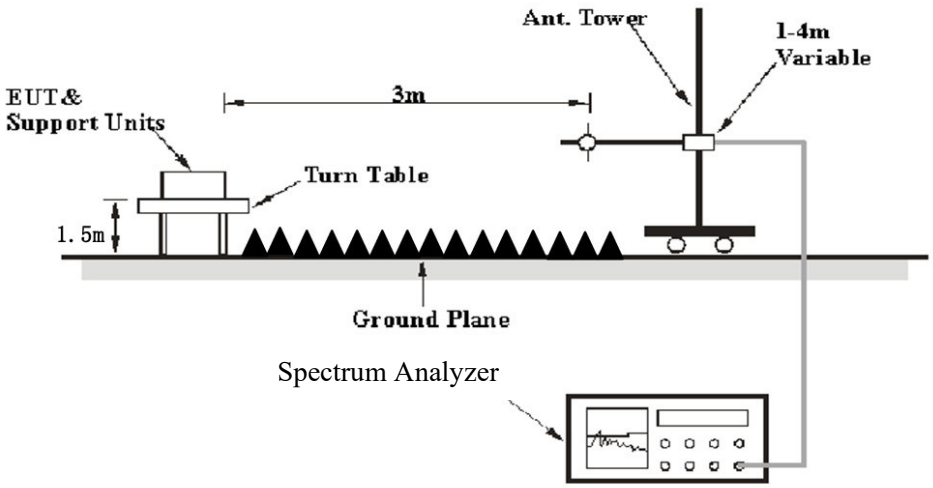
9 kHz-30MHz:



30MHz-1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3meters, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC 15.209 and FCC 15.247 limits.

EMI Test Receiver & Spectrum Analyzer Setup

The EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement	Detector
9 kHz – 150 kHz	/	/	200 Hz	QP	QP
	300 Hz	1 kHz	/	PK	Peak
150 kHz – 30 MHz	/	/	9 kHz	QP	QP
	10 kHz	30 kHz	/	PK	Peak
30 MHz – 1000 MHz	/	/	120 kHz	QP	QP
	100 kHz	300 kHz	/	PK	Peak
Above 1 GHz	Harmonics				
	1MHz	3 MHz	/	PK	Peak
	Average Emission Level=Peak Emission Level+20*log(Duty cycle)				
	Band Edge & Other Emissions				
	1MHz	3 MHz	/	PK	Peak
	1MHz	≥10 Hz	/	Average	Peak

For Duty cycle measurement:

Use the duty cycle factor correction factor method per 15.35(c).
Duty cycle=On time/100milliseconds, On time=N1*L1+N2*L2+…Nn-1*Ln-1+Nn*Ln,
Where N1 is number of type 1 pulses, L1 is length of type 1 pulse, etc.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All final data was recorded in Quasi-peak detection mode except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz, average detection modes for frequency bands 9–90 kHz and 110–490 kHz, peak and average detection modes for frequencies above 1 GHz.

For 9 kHz-30MHz, the report shall list the six emissions with the smallest margin relative to the limit, for each of the three antenna orientations (parallel, perpendicular, and ground-parallel) unless the margin is greater than 20 dB.

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

All emissions under the average limit and under the noise floor have not recorded in the report.

Factor & Over Limit/Margin Calculation

The Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain. The basic equation is as follows:

Factor = Antenna Factor + Cable Loss - Amplifier Gain

The "**Over Limit or Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit/margin of -7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin/Over Limit = Corrected Amplitude/Level-Limit
Corrected Amplitude/Level = Reading + Factor

Test Data

Environmental Conditions

Temperature:	21.4~24.7 ℃
Relative Humidity:	47~59 %
ATM Pressure:	100.3~101 kPa

The testing was performed by Anson Su from 2025-05-21 to 2025-07-22 for below 1GHz and Visen Wu from 2025-05-20 to 2025-06-26 for above 1GHz.

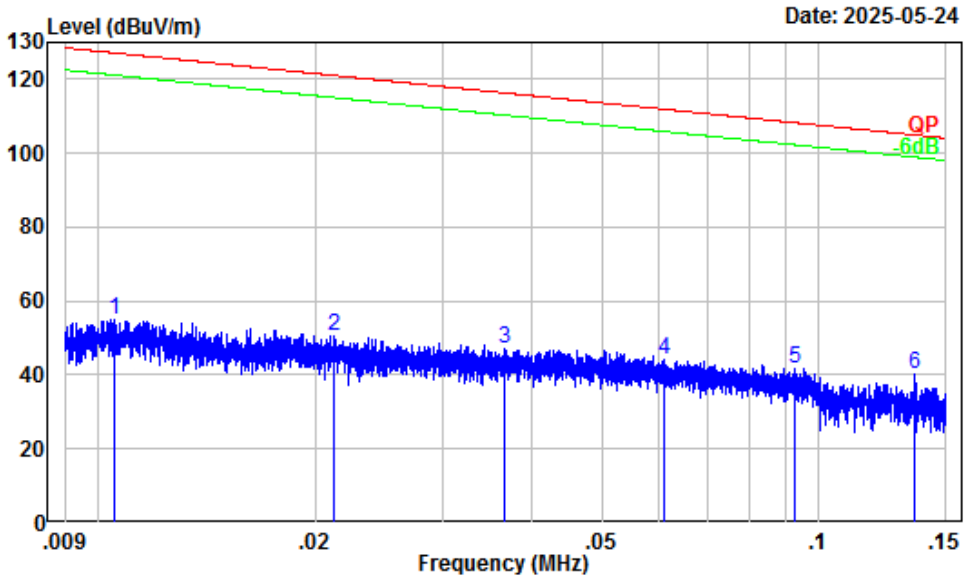
EUT operation mode: Transmitting

Note: Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded.

Transmitting only:

9 kHz-30MHz: (Maximum output power mode, low channel)

Parallel (worst case)

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Site                    : Chamber A
Condition               : 3m
Project Number          : 2501R49602E-RF
Test Mode               : Transmitting
Detector: Peak RBW/VBW: 0.3/1kHz
Tester                  : Anson Su
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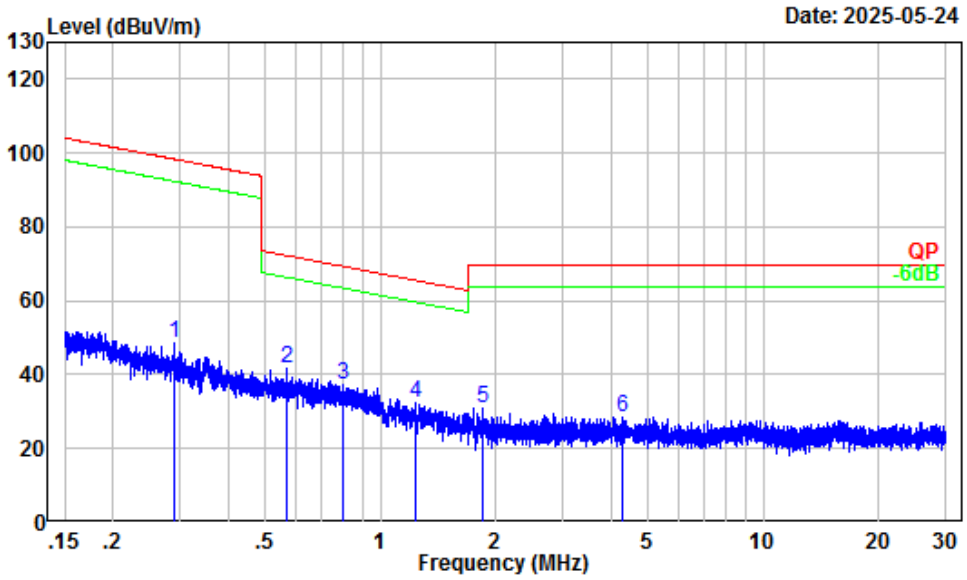
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.011	32.20	22.88	55.08	127.15	-72.07	Peak
2	0.021	30.17	20.55	50.72	121.07	-70.35	Peak
3	0.037	27.80	19.35	47.15	116.31	-69.16	Peak
4	0.061	25.29	18.90	44.19	111.88	-67.69	Peak
5	0.093	22.51	19.06	41.57	108.26	-66.69	Peak
6	0.136	19.90	20.33	40.23	104.96	-64.73	Peak

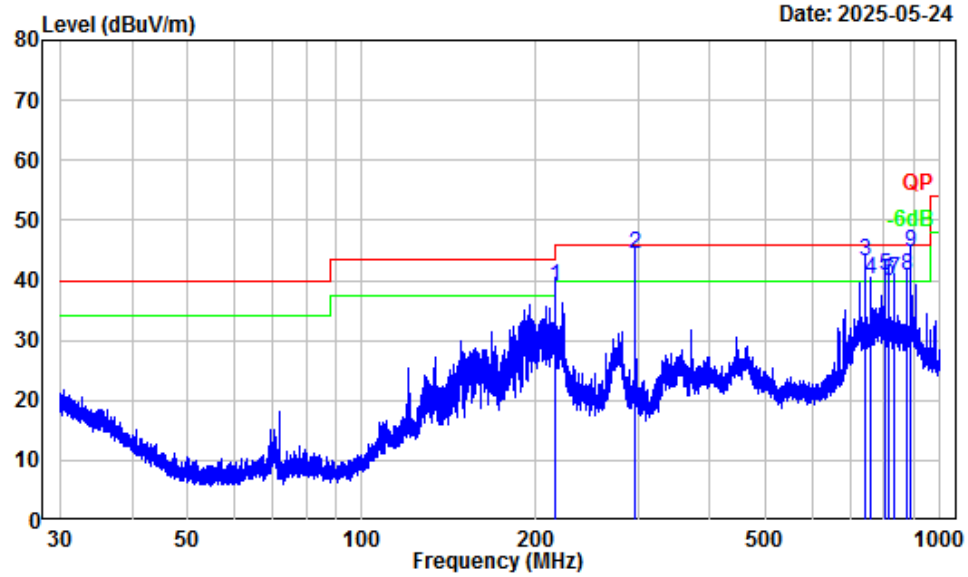


Site : Chamber A
Condition : 3m
Project Number : 2501R49602E-RF
Test Mode : Transmitting
Detector: Peak RBW/VBW: 10/30kHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.289	10.87	37.69	48.56	98.40	-49.84	Peak
2	0.571	5.53	36.00	41.53	72.45	-30.92	Peak
3	0.802	2.69	34.42	37.11	69.43	-32.32	Peak
4	1.234	0.54	31.84	32.38	65.61	-33.23	Peak
5	1.851	-1.18	32.13	30.95	69.54	-38.59	Peak
6	4.306	-2.73	31.39	28.66	69.54	-40.88	Peak

30MHz-1GHz: (*Maximum output power mode, low channel)*

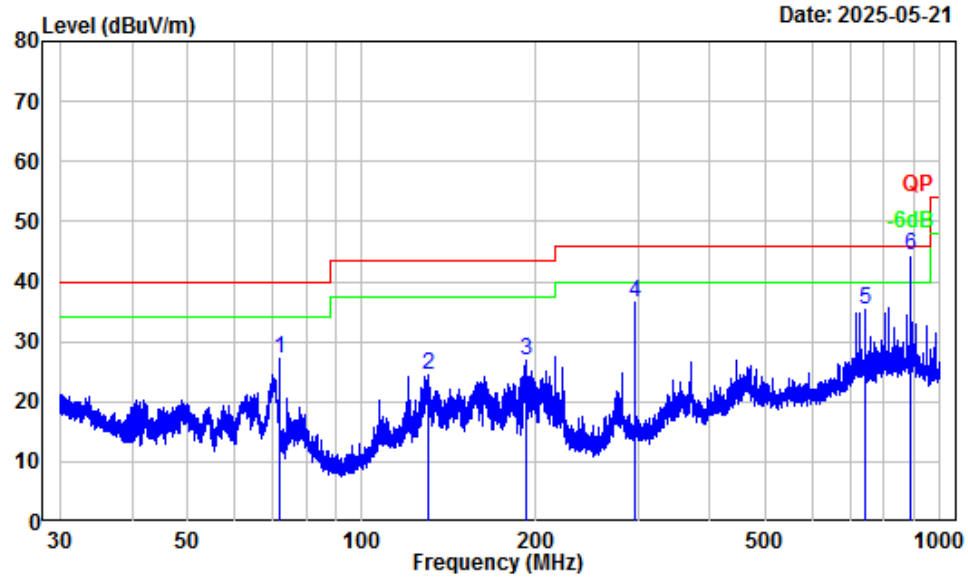
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number : 2501R49602E-RF
Test Mode : Transmitting
Detector: Peak RBW/VBW: 100/300kHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	216.02	-14.20	53.09	38.89	46.00	-7.11	QP
2	296.96	-11.21	55.70	44.49	46.00	-1.51	QP
3	742.58	-2.94	46.20	43.26	46.00	-2.74	QP
4	757.38	-2.73	43.00	40.27	46.00	-5.73	QP
5	802.14	-2.13	42.99	40.86	46.00	-5.14	QP
6	817.04	-2.04	42.01	39.97	46.00	-6.03	QP
7	831.49	-1.90	42.20	40.30	46.00	-5.70	QP
8	876.40	-1.52	42.30	40.78	46.00	-5.22	QP
9	891.12	-1.39	46.00	44.61	46.00	-1.39	QP

Vertical



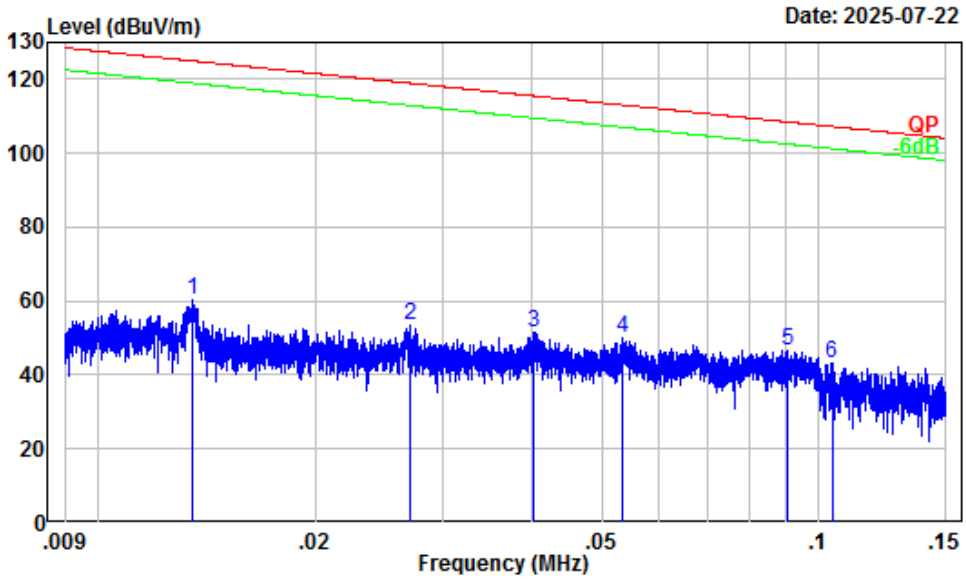
Site : Chamber A
Condition : 3m Vertical
Project Number : 2501R49602E-RF
Test Mode : Transmitting
Detector: Peak RBW/VBW: 100/300kHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	71.99	-17.85	44.89	27.04	40.00	-12.96	Peak
2	130.49	-11.26	35.76	24.50	43.50	-19.00	Peak
3	192.93	-13.96	40.89	26.93	43.50	-16.57	Peak
4	296.96	-11.21	47.78	36.57	46.00	-9.43	Peak
5	742.58	-2.94	38.30	35.36	46.00	-10.64	Peak
6	891.12	-1.39	45.80	44.41	46.00	-1.59	QP

Charging&Transimitting

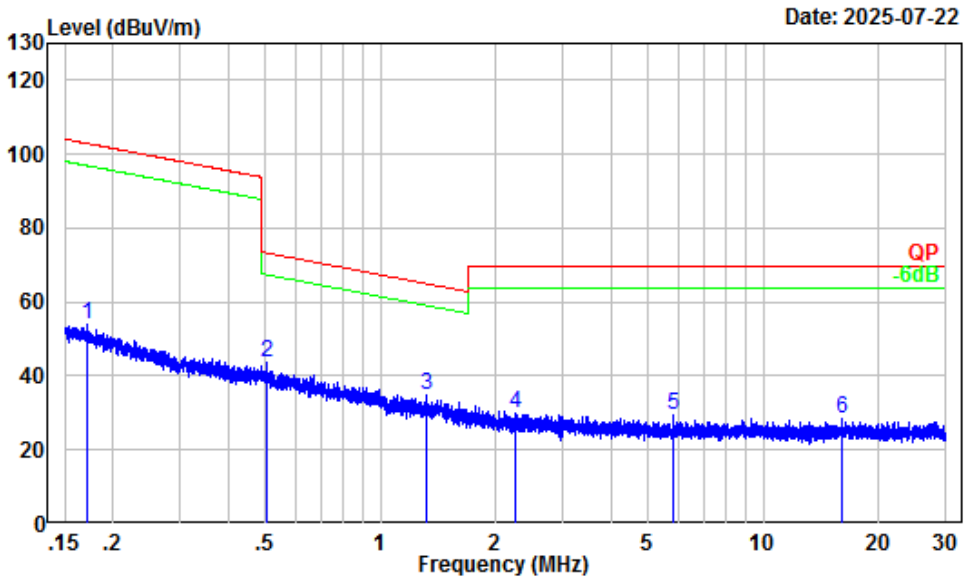
9 kHz-30MHz: (Maximum output power mode, low channel)

Parallel (worst case)




```
Site                    : Chamber A
Condition               : 3m
Project Number          : 2501R49602E-RF
Test Mode               : Charging & Transimitting
Detector: Peak RBW/VBW: 0.3/1kHz
Tester                  : Anson Su
```

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.014	31.63	28.66	60.29	124.99	-64.70	Peak
2	0.027	29.05	24.18	53.23	118.95	-65.72	Peak
3	0.040	27.44	24.23	51.67	115.54	-63.87	Peak
4	0.054	26.05	24.13	50.18	113.04	-62.86	Peak
5	0.090	22.67	24.11	46.78	108.48	-61.70	Peak
6	0.104	21.75	21.40	43.15	107.24	-64.09	Peak

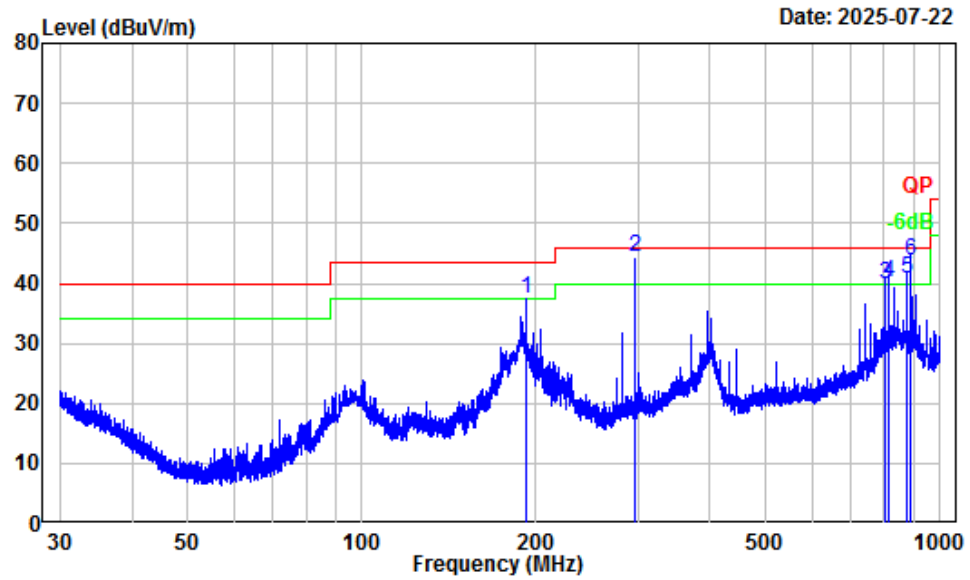


Site : Chamber A
Condition : 3m
Project Number : 2501R49602E-RF
Test Mode : Charging & Transimitting
Detector: Peak RBW/VBW: 10/30kHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.172	17.76	35.97	53.73	102.90	-49.17	Peak
2	0.503	6.36	37.47	43.83	73.56	-29.73	Peak
3	1.317	0.31	34.49	34.80	65.03	-30.23	Peak
4	2.247	-1.74	31.82	30.08	69.54	-39.46	Peak
5	5.805	-2.88	32.12	29.24	69.54	-40.30	Peak
6	16.002	-2.30	30.55	28.25	69.54	-41.29	Peak

30MHz-1GHz: (*Maximum output power mode, low channel)*

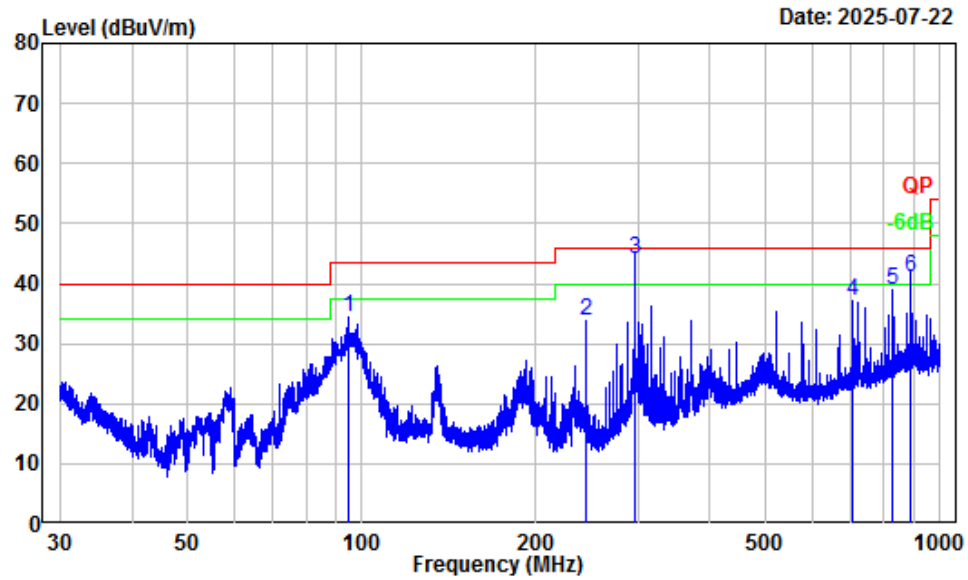
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number : 2501R49602E-RF
Test Mode : Charging & Transimitting
Detector: Peak RBW/VBW: 100/300kHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	192.00	-14.01	51.42	37.41	43.50	-6.09	Peak
2	297.09	-11.21	55.60	44.39	46.00	-1.61	QP
3	802.14	-2.13	42.09	39.96	46.00	-6.04	QP
4	816.68	-2.04	42.21	40.17	46.00	-5.83	QP
5	876.40	-1.52	42.30	40.78	46.00	-5.22	QP
6	891.12	-1.39	45.10	43.71	46.00	-2.29	QP

Vertical



Site : Chamber A
Condition : 3m Vertical
Project Number : 2501R49602E-RF
Test Mode : Charging & Transimitting
Detector: Peak RBW/VBW: 100/300kHz
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	94.97	-17.34	51.68	34.34	43.50	-9.16	Peak
2	243.91	-13.24	46.98	33.74	46.00	-12.26	Peak
3	296.96	-11.21	55.40	44.19	46.00	-1.81	QP
4	706.39	-3.42	40.59	37.17	46.00	-8.83	Peak
5	824.96	-1.93	40.80	38.87	46.00	-7.13	Peak
6	891.12	-1.39	42.50	41.11	46.00	-4.89	QP

Above 1GHz:

Frequency (MHz)	Reading (dBμV)	PK/AV	Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low Channel (2410MHz)							
4820.00	62.62	PK	H	-7.76	54.86	74	-19.14
4820.00	59.98	PK	V	-7.76	52.22	74	-21.78
Middle Channel (2441.5MHz)							
4883.00	63.47	PK	H	-7.58	55.89	74	-18.11
4883.00	61.19	PK	V	-7.58	53.61	74	-20.39
High Channel (2473MHz)							
4946.00	63.61	PK	H	-7.62	55.99	74	-18.01
4946.00	62.63	PK	V	-7.62	55.01	74	-18.99

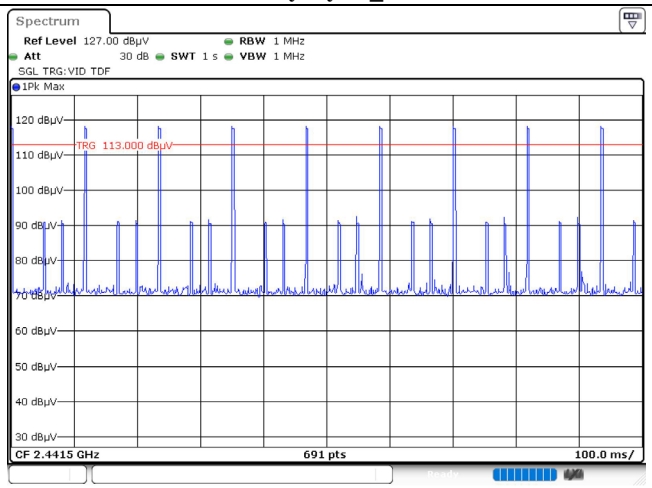
Note:
Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
Corrected Amplitude/Level = Corrected Factor + Reading
Margin = Corrected Amplitude/Level - Limit
Other emissions which were more than 20dB below limit or on noise floor level was not recorded.

Field Strength of Average							
Frequency (MHz)	Peak Measurement @3m (dBμV/m)	Polar (H/V)	Duty Cycle Correction Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247		
					Limit (dBμV/m)	Margin (dB)	Comment
Low Channel (2410MHz)							
4820.00	54.86	H	-29.93	24.93	54	-29.07	Harmonic
4820.00	52.22	V	-29.93	22.29	54	-31.71	Harmonic
Middle Channel (2441.5MHz)							
4883.00	55.89	H	-29.93	25.96	54	-28.04	Harmonic
4883.00	53.61	V	-29.93	23.68	54	-30.32	Harmonic
High Channel (2473MHz)							
4946.00	55.99	H	-29.93	26.06	54	-27.94	Harmonic
4946.00	55.01	V	-29.93	25.08	54	-28.92	Harmonic

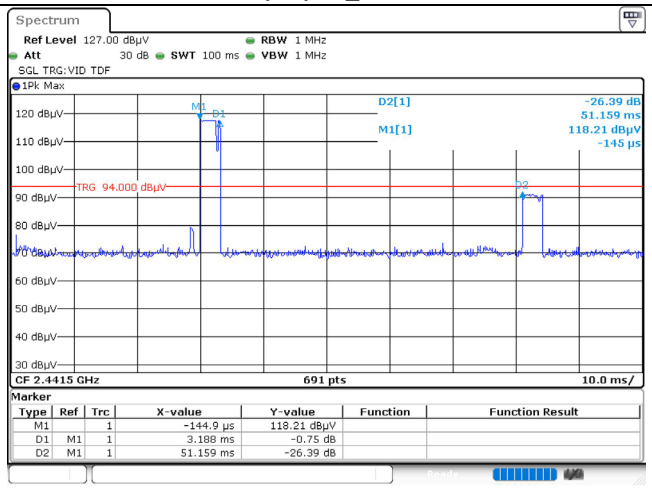
Note: Average level= Peak level+ Duty Cycle Corrected Factor
Margin = Average level - Limit

Duty cycle = Ton/100ms = 3.188*1/100=0.03188
Duty Cycle Corrected Factor = 20lg (Duty cycle) = 20lg0.003188 = -29.93

Duty Cycle_1s

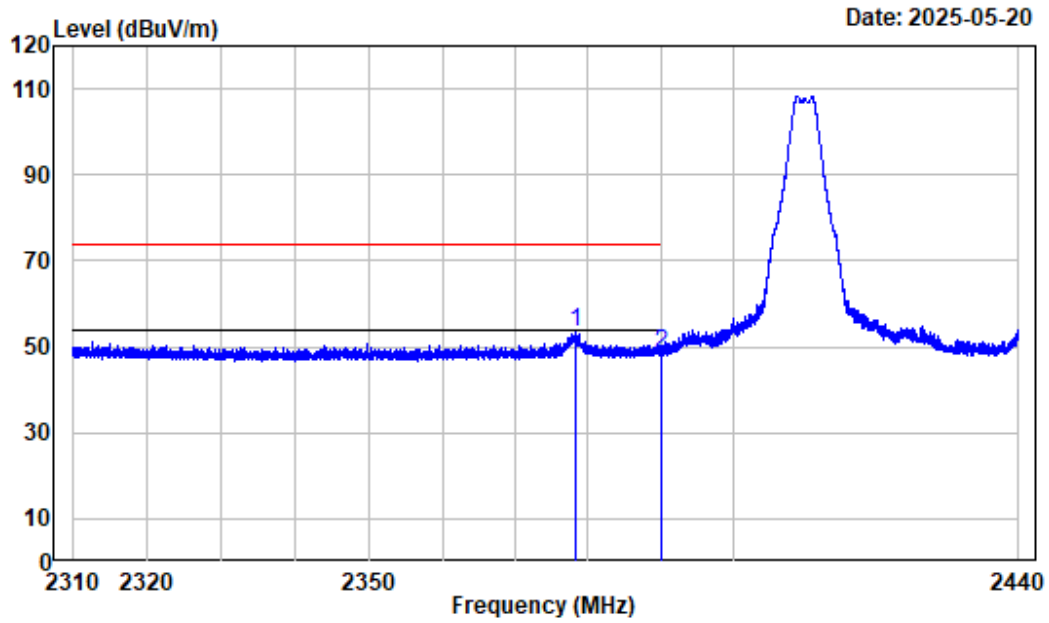


Duty Cycle_100ms



Test plots for Band Edge Measurements (Radiated):

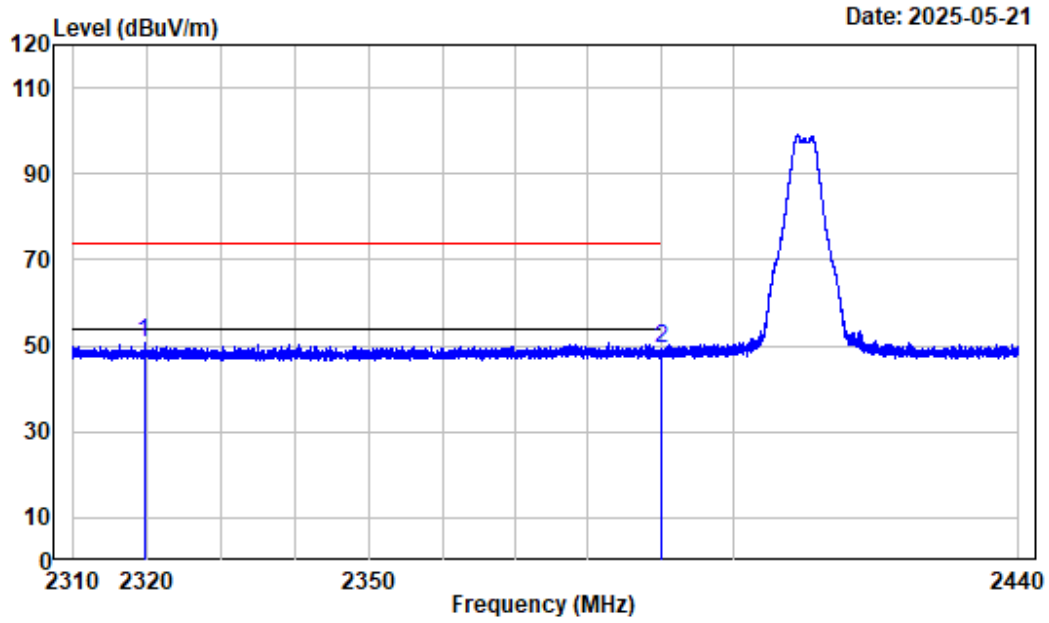
Test Channel:	2410MHz	Ant. Polar. :	Horizontal



Condition : Horizontal
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 2.4G_SRD_2410

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2378.275	-10.96	64.17	53.21	74.00	-20.79	Peak
2	2390.000	-10.98	59.52	48.54	74.00	-25.46	Peak

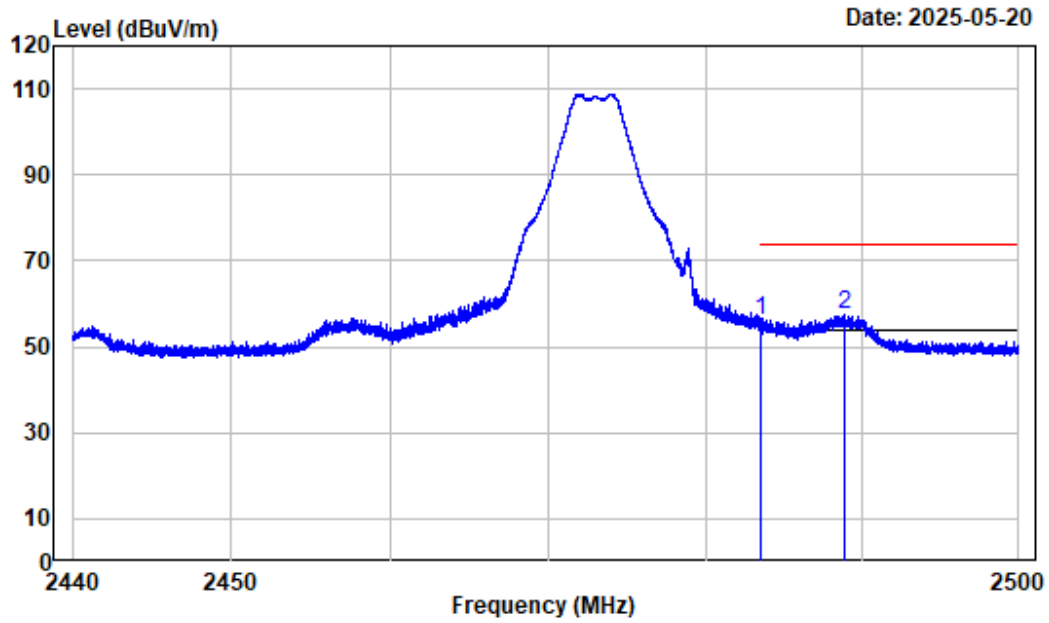
Test Channel:	2410MHz	Ant. Polar. :	Vertical



Condition : Vertical
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 2.4G_SRD_2410

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2319.605	-10.81	61.44	50.63	74.00	-23.37	Peak
2	2390.000	-10.98	60.14	49.16	74.00	-24.84	Peak

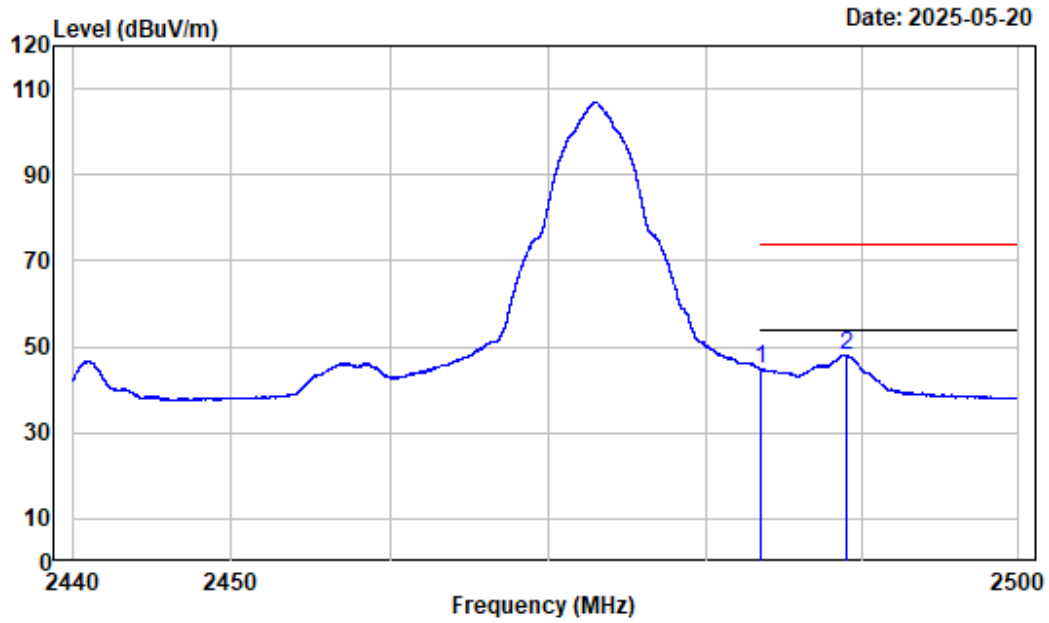
Test Channel:	2473MHz	Ant. Polar. :	Horizontal-Peak



Condition : Horizontal
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 2.4G_SRD_2473

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-10.97	67.28	56.31	74.00	-17.69	Peak
2	2488.809	-10.98	68.55	57.57	74.00	-16.43	Peak

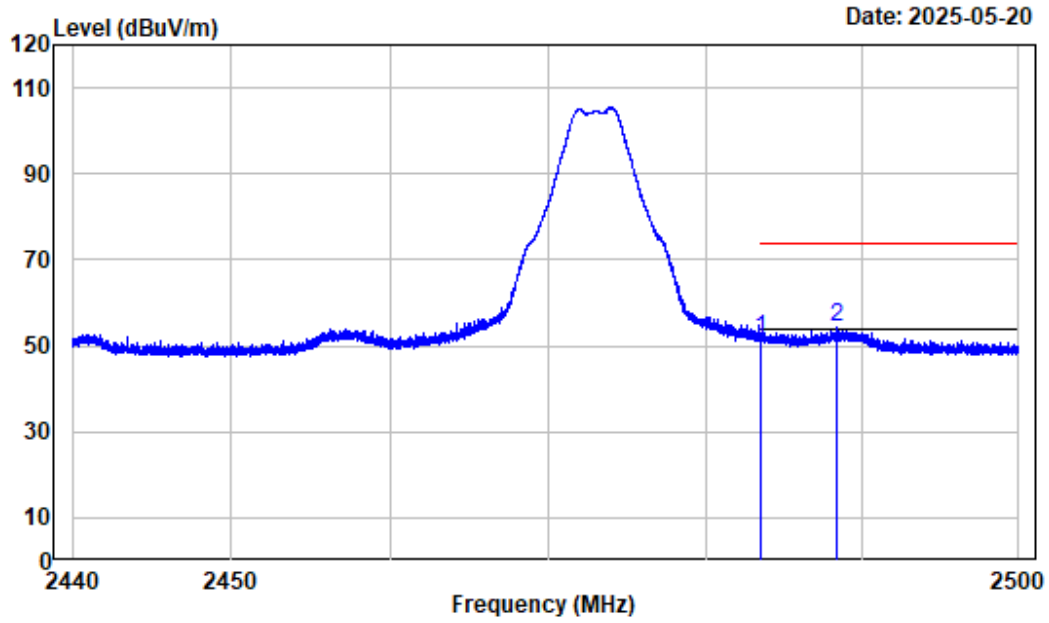
Test Channel:	2473MHz	Ant. Polar. :	Horizontal-Average



Condition : Horizontal
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Average reading: RBW:1MHz VBW:1kHz Detector:Peak
Note : 2.4G_SRD_2473

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-10.97	55.78	44.81	54.00	-9.19	Average
2	2488.936	-10.98	59.11	48.13	54.00	-5.87	Average

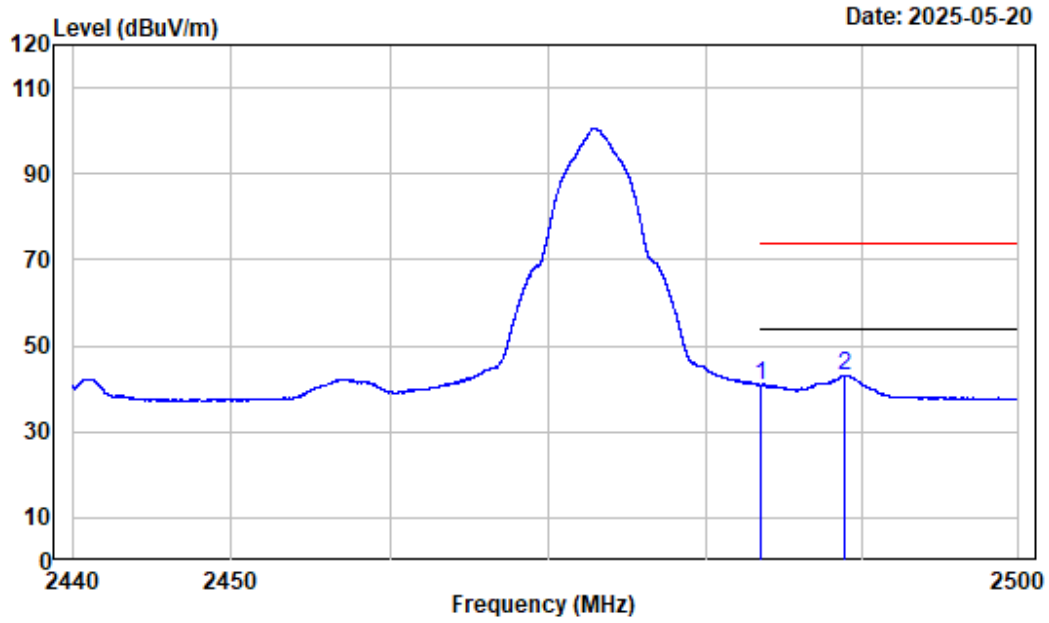
Test Channel:	2473MHz	Ant. Polar. :	Vertical-Peak



Condition : Vertical
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 2.4G_SRD_2473

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-10.97	62.74	51.77	74.00	-22.23	Peak
2	2488.396	-10.98	65.12	54.14	74.00	-19.86	Peak

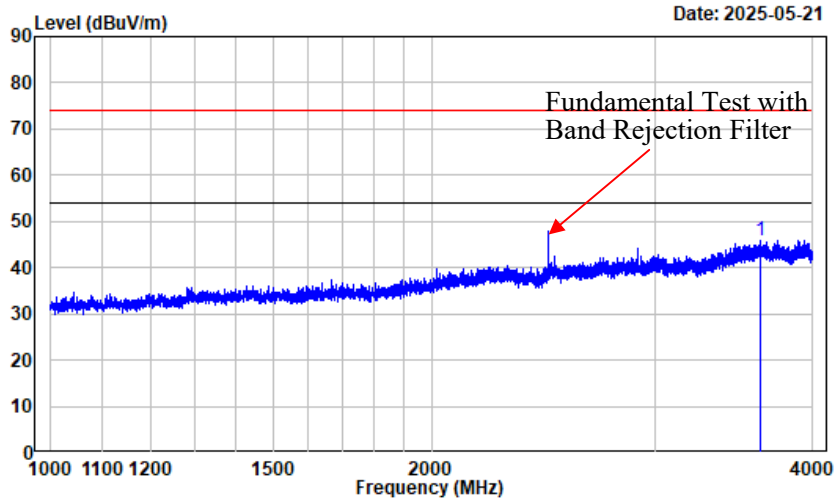
Test Channel:	2473MHz	Ant. Polar. :	Vertical-Average



Condition : Vertical
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Average reading: RBW:1MHz VBW:1kHz Detector:Peak
Note : 2.4G_SRD_2473

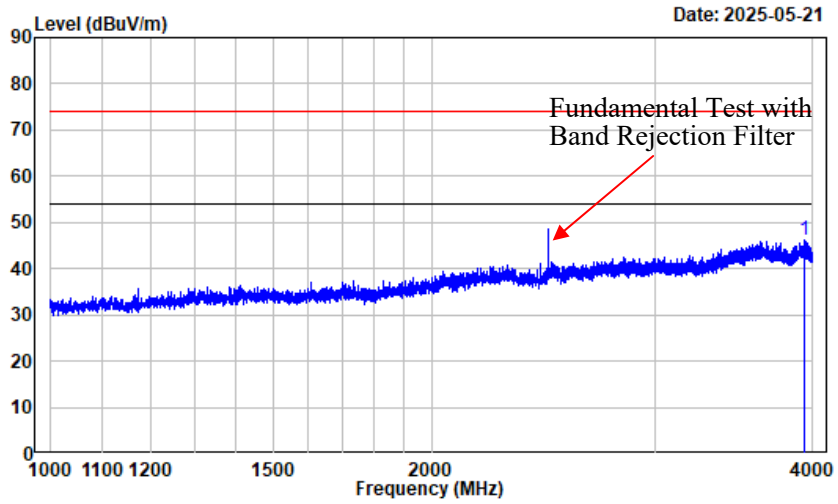
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-10.97	51.89	40.92	54.00	-13.08	Average
2	2488.884	-10.98	54.16	43.18	54.00	-10.82	Average

Listed with the worst harmonic margin test plot:

Horizontal	
1-4GHz	 Condition : Horizontal Project No. : 2501R49602E-RF Tester : Visen Wu Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak Note : 2.4G_SRD_2473 Freq / Factor / Read Level / Limit Level / Limit Line / Over Limit / Remark MHz / dB/m / dBuV / dBuV/m / dBuV/m / dB 1 3636.205 -9.88 55.83 45.95 74.00 -28.05 Peak

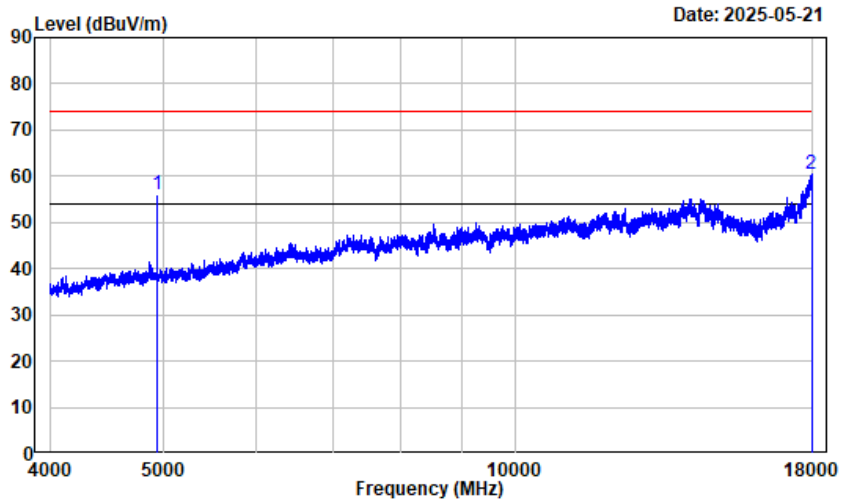
Vertical

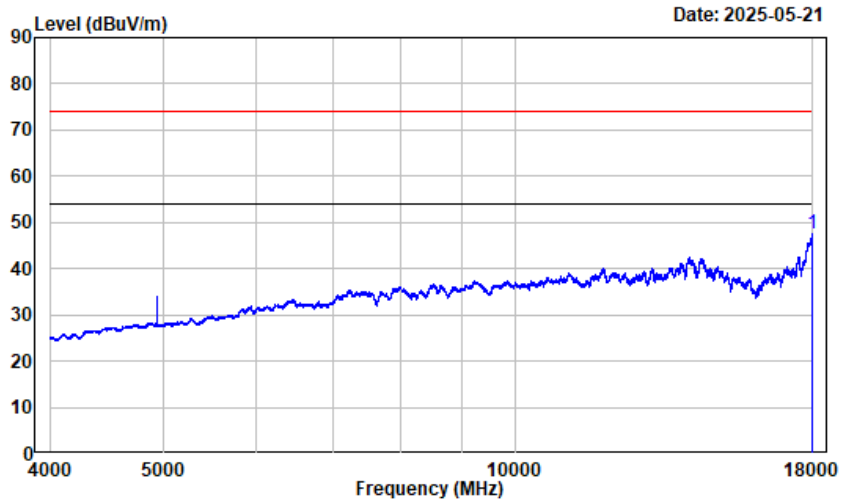
1-4GHz



Condition : Vertical
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 2.4G_SRD_2473

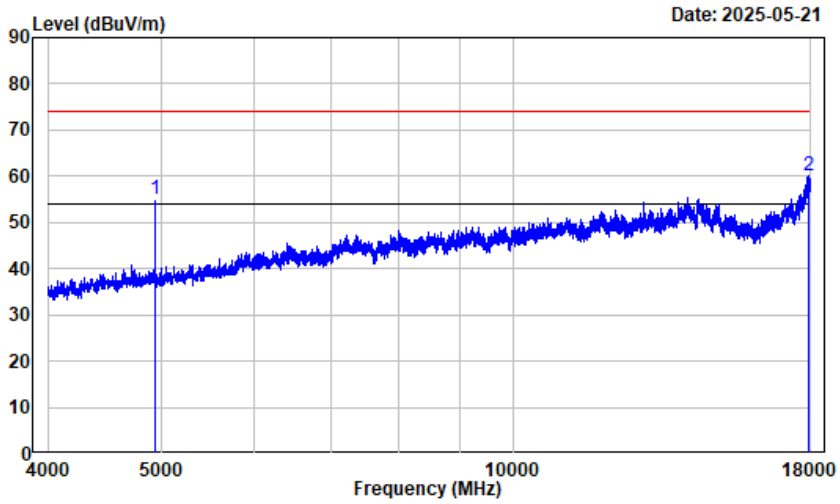
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3938.492	-9.45	55.50	46.05	74.00	-27.95	Peak

Horizontal-Peak	
4-18GHz	 Condition : Horizontal Project No. : 2501R49602E-RF Tester : Visen Wu Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak Note : 2.4G_SRD_2473 Freq / Factor / Read Level / Limit Level / Limit Line / Over Limit / Remark MHz / dB/m / dBuV / dBuV/m / dBuV/m / dB 1 4946.000 -7.62 63.61 55.99 74.00 -18.01 Peak 2 17957.990 13.00 47.33 60.33 74.00 -13.67 Peak

Horizontal-Average	
4-18GHz	 Condition : Horizontal Project No. : 2501R49602E-RF Tester : Visen Wu Spectrum setting: Average reading: RBW:1MHz VBW:1kHz Detector:Peak Note : 2.4G_SRD_2473 Freq / Factor / Read Level / Limit Level / Limit Line / Over Limit / Remark MHz / dB/m / dBuV / dBuV/m / dBuV/m / dB 1 17982.500 13.11 34.46 47.57 54.00 -6.43 Average

Vertical-Peak

4-18GHz

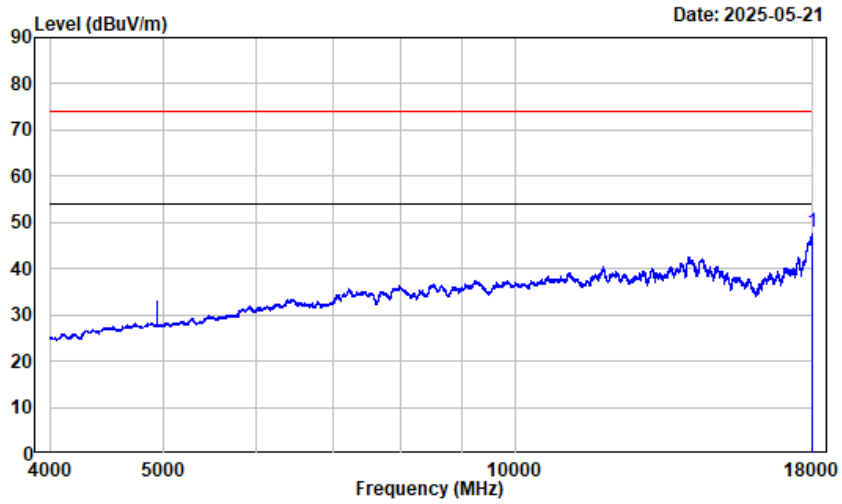


Condition : Vertical
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 2.4G_SRD_2473

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4946.000	-7.62	62.63	55.01	74.00	-18.99	Peak
2	17936.990	12.89	47.06	59.95	74.00	-14.05	Peak

Vertical-Average

4-18GHz

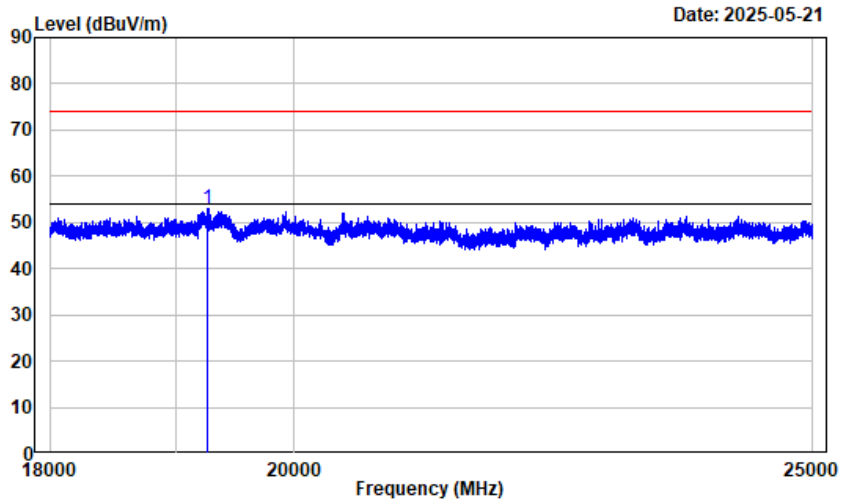


Condition : Vertical
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Average reading: RBW:1MHz VBW:1kHz Detector:Peak
Note : 2.4G_SRD_2473

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	18000.000	13.20	34.55	47.75	54.00	-6.25	Average

Horizontal

18-25GHz

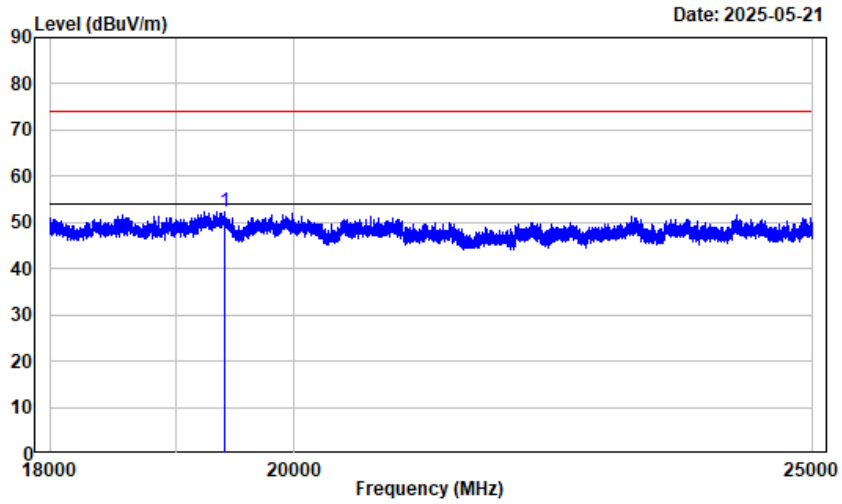


Condition : Horizontal
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 2.4G_SRD_2473

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	19269.780	15.41	37.69	53.10	74.00	-20.90	peak

Vertical

18-25GHz



Condition : Vertical
Project No. : 2501R49602E-RF
Tester : Visen Wu
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 2.4G_SRD_2473

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	19406.300	15.45	36.97	52.42	74.00	-21.58	peak

FCC §15.247(a) (1) - CHANNEL SEPARATION TEST

Applicable Standard

Frequency hopping systems shall have hoping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Test Procedure

Test Method: ANSI C63.10-2020 Clause 7.8.2

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

a) Span: Wide enough to capture the peaks of two adjacent channels.

b) RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.

c) Video (or average) bandwidth (VBW) ≥ RBW.

d) Sweep: No faster than coupled (auto) time.

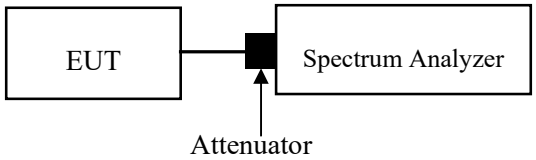
e) Detector function: Peak.

f) Trace: Max-hold.

g) Allow the trace to stabilize.

Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Compliance of an EUT with the appropriate regulatory limit shall be determined. A spectral plot of the data shall be included in the test report.

Where the device shares the same channel plan (carrier frequencies and number of channels) across multiple data rates or modulation schemes then the carrier separation need only be measured for one of those modulation schemes or data rates.



Note: The limit is 2/3*20 dB bandwidth

Test Data

Environmental Conditions

Temperature:	25.1 ℃
Relative Humidity:	40 %
ATM Pressure:	100.9 kPa

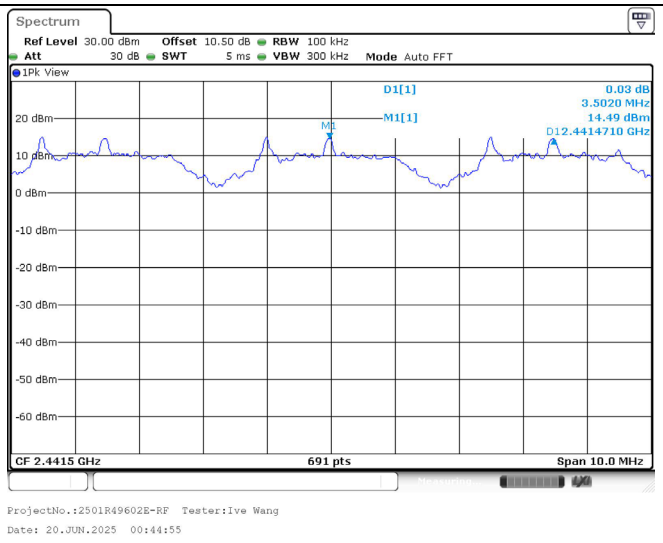
The testing was performed by Ive Wang on 2025-06-20.

EUT operation mode: Transmitting

Test Result: Compliant

Test Channel	Test Frequency (MHz)	Channel Separation (MHz)	Limits (MHz)
Middle	2441.5	3.502	3.213

Please refer to the below plots:

Middle Channel	

FCC §15.247(a) (1) - 20dBEMISSION BANDWIDTH & 99% OCCUPIED BANDWIDTH

Applicable Standard

Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

In some cases, the "20 dB bandwidth" is required, which is defined as the frequency range between two points, one at the lowest frequency below and one at the highest frequency above the carrier frequency, at which the maximum power level of the transmitted emission is attenuated 20 dB below the maximum in-band power level of the modulated signal, where the two points are on the outskirts of the in-band emission.

Test Procedure

Test Method: ANSI C63.10-2020 Clause 6.9.2

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be at least three times RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.6.2.

d) Steps a) through c) might require iteration to adjust within the specified tolerances.

e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target "−xx dB down" requirement; that is, if the requirement calls for measuring the −20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value.

f) Set detection mode to peak and trace mode to max-hold.

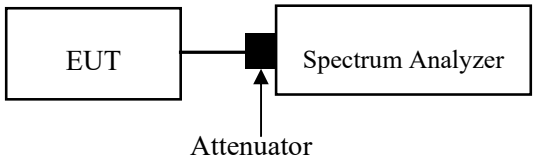
g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).

h) Determine the "−xx dB down amplitude" using [(reference value) - xx]. Alternatively, this calculation may be made by using the marker-delta function of the instrument.

i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).

j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the "−xx dB down amplitude" determined in step h). If a marker is below this "−xx dB down amplitude" value, then it shall be as close as possible to this value. The dBc bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the "−xx dB down amplitude" determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth.

k) The dBc bandwidth shall be reported by providing spectral plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).



Test Data

Environmental Conditions

Temperature:	23.7℃
Relative Humidity:	47%
ATM Pressure:	100.9 kPa

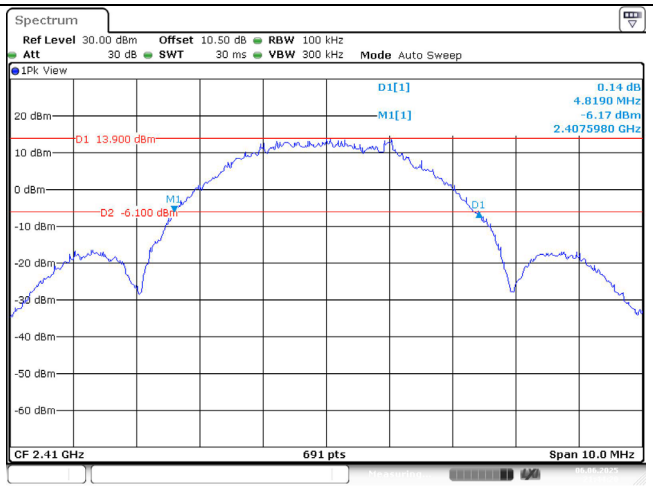
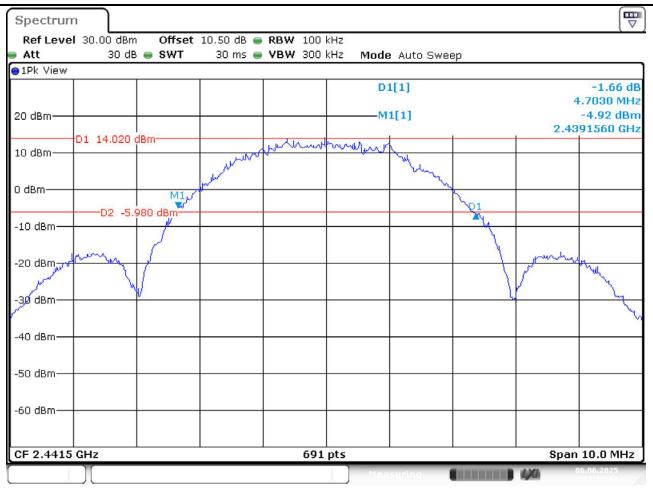
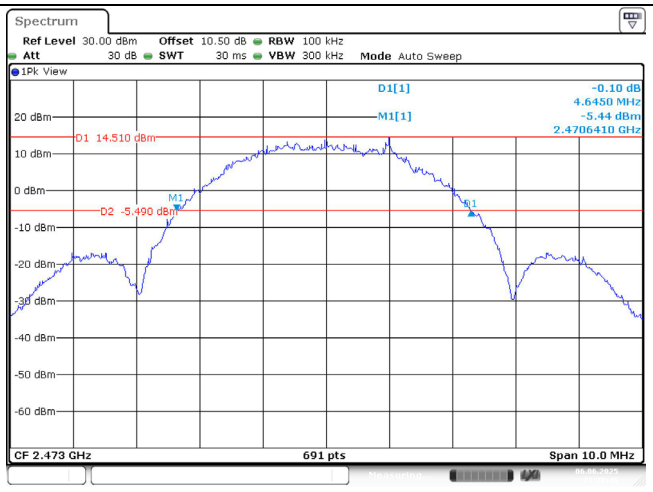
The testing was performed by Ive Wang on 2025-06-06.

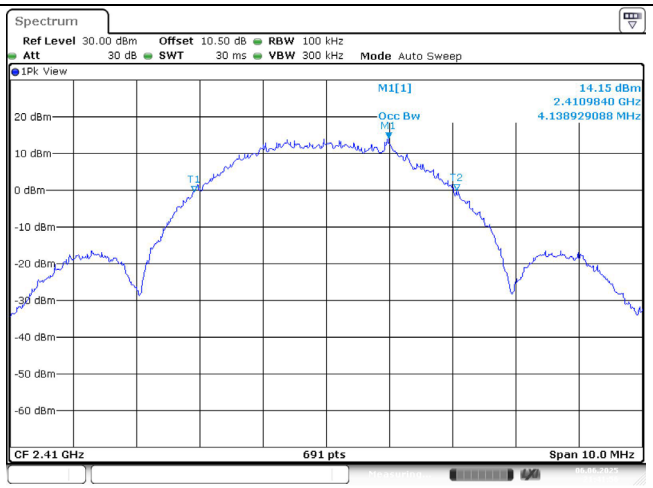
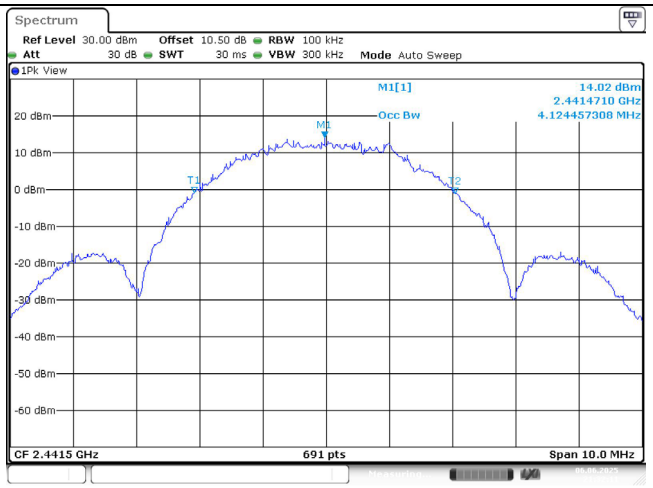
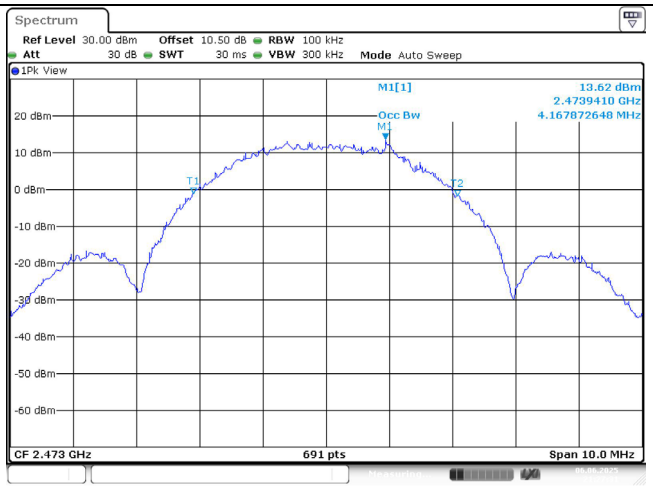
EUT operation mode: Transmitting

Test Result: Compliant

Mode	Channel	Frequency (MHz)	99% Emission Bandwidth (MHz)	20 dB Emission Bandwidth (MHz)
GFSK	Low	2410	4.139	4.819
	Middle	2441.5	4.124	4.703
	High	2473	4.168	4.645

Please refer to the below plots:

20 dB Bandwidth	
Low Channel	
Middle Channel	
High Channel	

99% Emission Bandwidth	
Low Channel	
Middle Channel	
High Channel	

FCC §15.247(a) (1) (iii) - QUANTITY OF HOPPING CHANNEL TEST

Applicable Standard

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that
a minimum of 15 channels are used.

Test Procedure

Test Method: ANSI C63.10-2020 Clause 7.8.3

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

a) Span: The frequency band of operation. Depending on the number of channels the device supports, it could be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.

b) RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.

c) VBW $\geqslant$ RBW.

d) Sweep: No faster than coupled (auto) time.

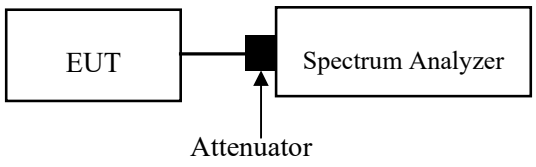
e) Detector function: Peak.

f) Trace: Max-hold.

g) Allow the trace to stabilize.

It might prove necessary to break the span up into subranges to show clearly all of the hopping frequencies. Compliance of an EUT with the appropriate regulatory limit shall be determined for the number of hopping channels. A spectral plot of the data shall be included in the test report.

Where the device shares the same channel plan (carrier frequencies and number of channels) across multiple data rates or modulation schemes then the number of channels need only be measured for one of those modulation schemes or data rates.



Test Data

Environmental Conditions

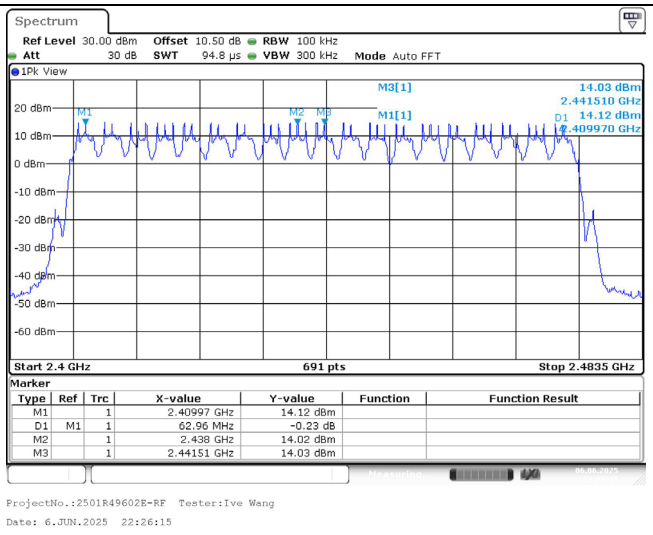
Temperature:	23.7℃
Relative Humidity:	47 %
ATM Pressure:	100.9 kPa

The testing was performed by Ive Wang on2025-06-06.

EUT operation mode: Transmitting

Test Result: Compliant

Mode	Frequency Range (MHz)	Number of Hopping Channel (CH)	Limit (CH)
GFSK	2400-2483.5	19	≥15

Hopping Channel	
GFSK	

FCC §15.247(a) (1) (iii) - TIME OF OCCUPANCY (DWELL TIME)

Applicable Standard

Frequency hopping systems (FHSs) in the 2400-2483.5 MHz shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Procedure

Test Method: ANSI C63.10-2020 Clause 7.8.4

Use the following spectrum analyzer settings to determine the dwell time per hop:

a) Span: Zero span, centered on a hopping channel.

b) RBW shall be ⩽ channel spacing and where possible RBW should be set >> 1 / T, where T is the expected transmission time per hop.

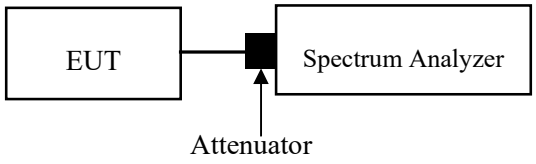
c) Sweep time: Set so that the start of the first transmission and end of the last transmission for the hop are clearly captured. Setting the sweep time to be slightly longer than the hopping period per channel (hopping period = 1/hopping rate) should achieve this.

d) Use a video trigger, where possible with a trigger delay, so that the start of the transmission is clearly observed. The trigger level might need adjustment to reduce the chance of triggering when the system hops on an adjacent channel.
e) Detector function: Peak.
f) Trace: Clear-write, single sweep.
g) Place markers at the start of the first transmission on the channel and at the end of the last transmission. The dwell time per hop is the time between these two markers.

To determine the number of hops on a channel in the regulatory observation period repeat the measurement using a longer sweep time. When the device uses a single hopping sequence the period of measurement should be sufficient to capture at least 2 hops. When the device uses a dynamic hopping sequence, or the sequence varies, the period of measurement may need to capture multiple hops to better determine the average time of occupancy. Count the number of hops on the channel across the sweep time.

The average number of hops on the same channel within the regulatory observation period is calculated from the number of hops on the channel divided by the spectrum analyzer sweep time multiplied by the regulatory observation period. For example, if three hops are counted with an analyzer sweep time of 500 ms and the regulatory observation period is 10 s, then the number of hops in that ten seconds is 3 / 0.5 × 10, or 60 hops.

The average time of occupancy is calculated by multiplying the dwell time per hop by the number of hops in the observation period.



Test Data

Environmental Conditions

Temperature:	23.7~25.1℃
Relative Humidity:	40~47%
ATM Pressure:	100.9kPa

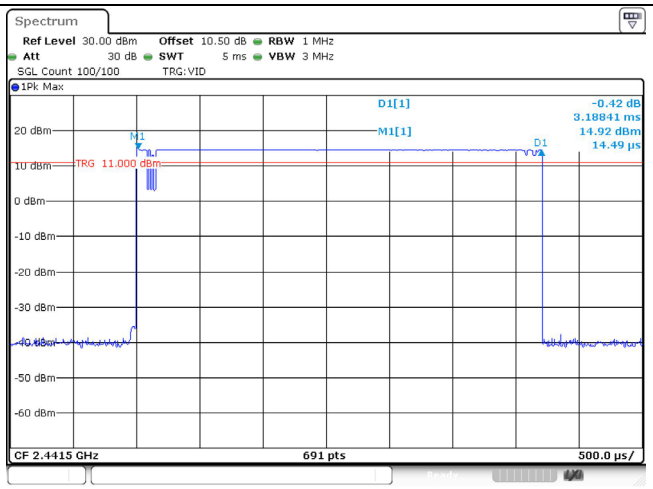
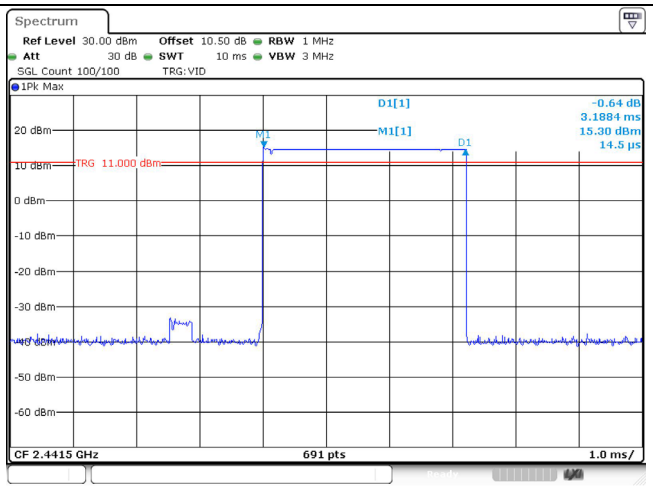
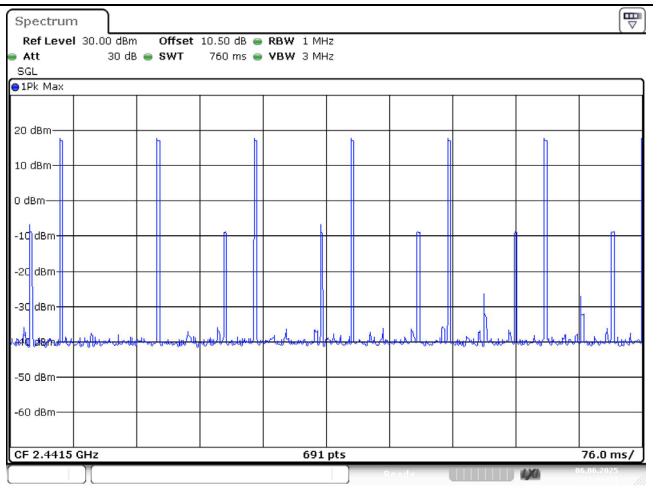
The testing was performed by Ive Wang from 2025-06-06 to 2025-06-20.

EUT operation mode: Transmitting

Test Result: Compliant

Test Mode	Test Frequency (MHz)	Pulse width (ms)	Observation time (s)	Hopping Numbers in Observation time	Dwell Time (s)	Limit (s)
GFSK	2441.5	3.188	7.6	60	0.191	0.400

Note 1: Observation time= Hopping Channel Number× 0.4
Note 2: Dwell Time = Pulse width *Hopping Numbers in Observation time

GFSK	
Pulse Width 5 ms	
Pulse Width 10 ms	
Hopping Numbers in 760ms	

FCC §15.247(b) (1) - PEAK OUTPUT POWER MEASUREMENT

Applicable Standard

According to §15.247(b) (1), for frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. And for all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts.

For frequency hopping systems (FHSs) operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1.0 W if the hopset uses 75 or more hopping channels; the maximum peak conducted output power shall not exceed 0.125 W if the hopset uses less than 75 hopping channels. The e.i.r.p. shall not exceed 4 W (see Section 5.4(e) for exceptions).

Frequency hopping systems (FHSs) shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the -20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, FHSs operating in the band 2400-2483.5 MHz may have hopping channel carrier frequencies that are separated by 25 kHz or two thirds of the -20 dB bandwidth of the hopping channel, whichever is greater, provided that the systems operate with an output power no greater than 0.125 W.

Test Procedure

Test Method: ANSI C63.10-2020 Clause 7.8.5

This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation. Frequency hopping shall be disabled for this test. Use the following spectrum analyzer settings:

a) Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.

b) RBW > 20 dB bandwidth of the emission being measured.

c) VBW ⩾ RBW.

d) Sweep: No faster than coupled (auto) time.

e) Detector function: Peak.

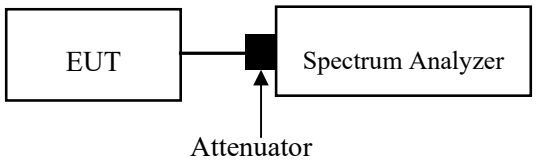
f) Trace: Max-hold.

g) Allow trace to stabilize.

h) Use the marker-to-peak function to set the marker to the peak of the emission.

i) The indicated level is the peak output power, after any corrections for external attenuators and cables.

j) A spectral plot of the test results and setup description shall be included in the test report.



Note: A short RF cable with low cable loss connected to the EUT antenna port,which was provided by client or lab, the cable loss was add with offset into test equipment, the total offset consists of attenuator and/or RF cable loss

Test Data

Environmental Conditions

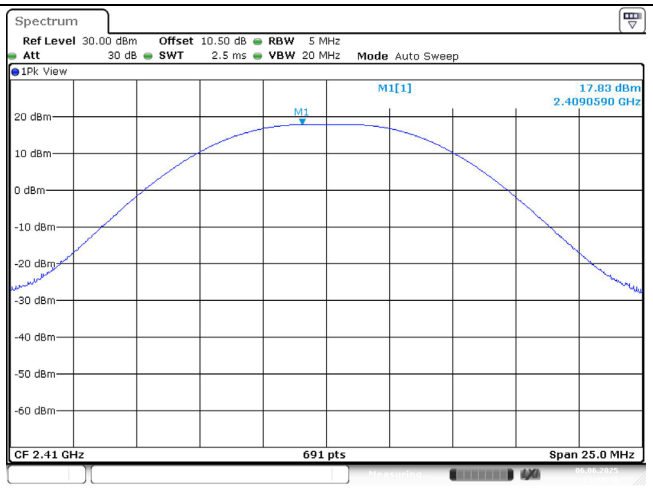
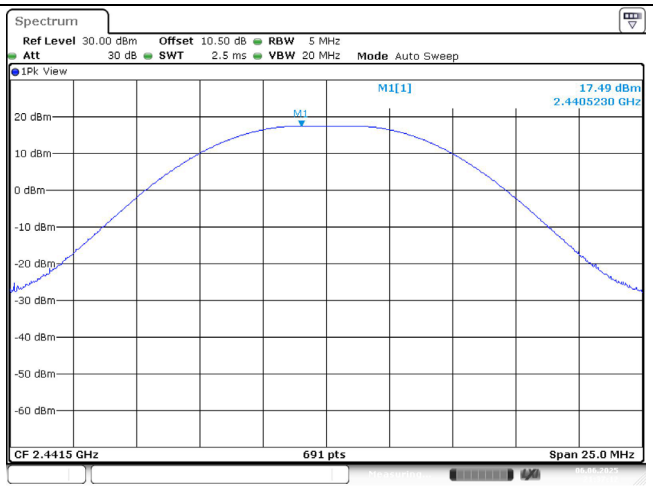
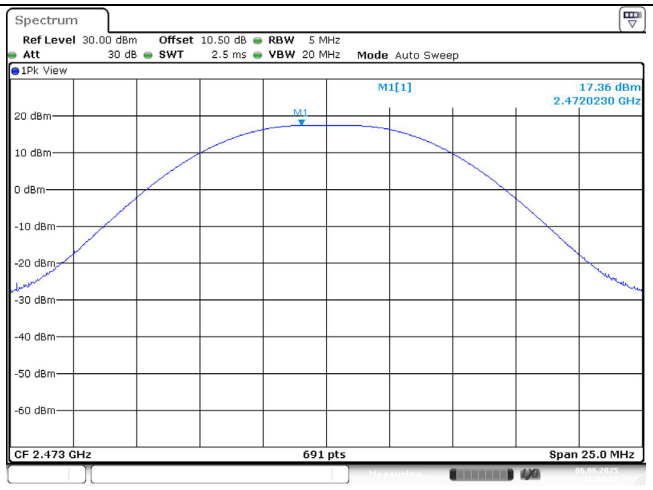
Temperature:	23.7~25.1 ℃
Relative Humidity:	40~47 %
ATM Pressure:	100.9 kPa

The testing was performed by Ive Wang on 2025-06-06.

EUT operation mode: Transmitting

Test Result: Compliant

Mode	Channel	Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
GFSK	Low	2410	17.83	21
	Middle	2441.5	17.49	21
	High	2473	17.36	21

Low Channel	
Middle Channel	
High Channel	

FCC §15.247(d) - BAND EDGES TESTING

Applicable Standard

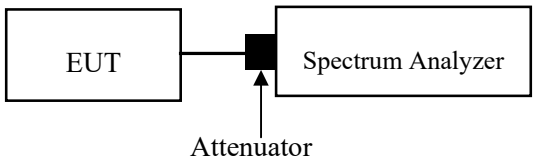
According to FCC §15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

Test Method: ANSI C63.10-2020 Clause 7.8.7.2 & Clause 6.10

1) Span: Wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products that fall outside of the authorized band of operation.
2) Reference level: As required to keep the signal from exceeding the maximum instrument input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.6.2.
3) Attenuation: Auto (at least 10 dB preferred).
4) Sweep time: No faster than coupled (auto) time.
5) Resolution bandwidth: 100 kHz.
6) Video bandwidth: 300 kHz.
7) Detector: Peak.
8) Trace: Max-hold.



Test Data

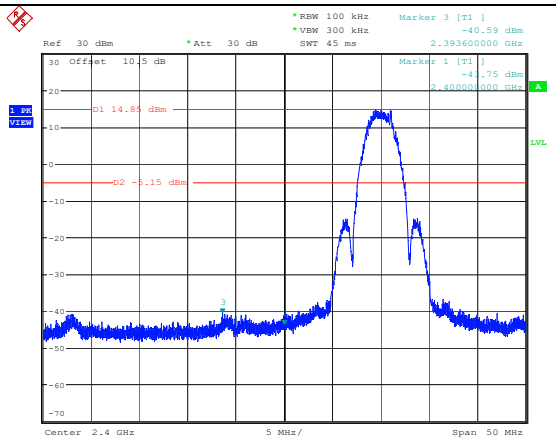
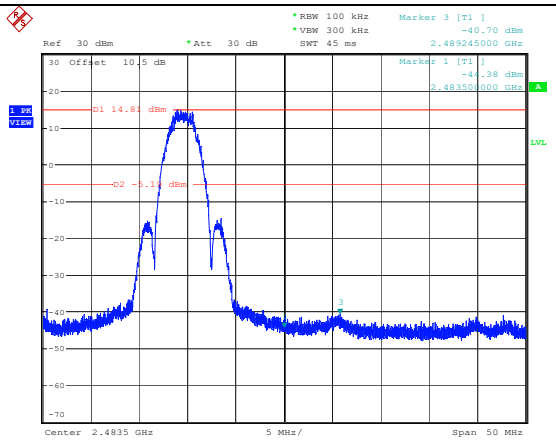
Environmental Conditions

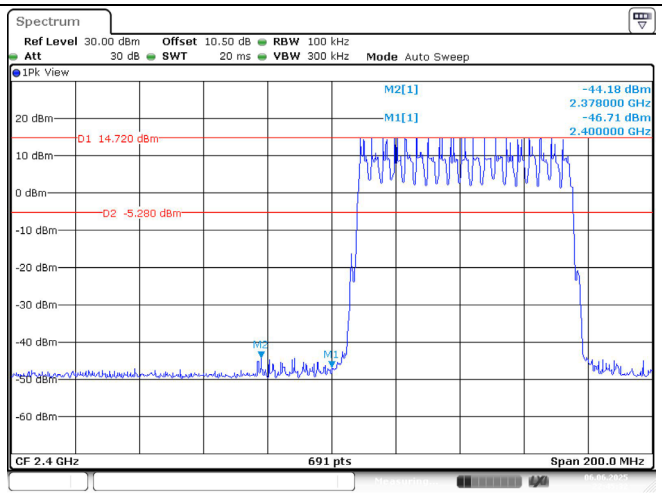
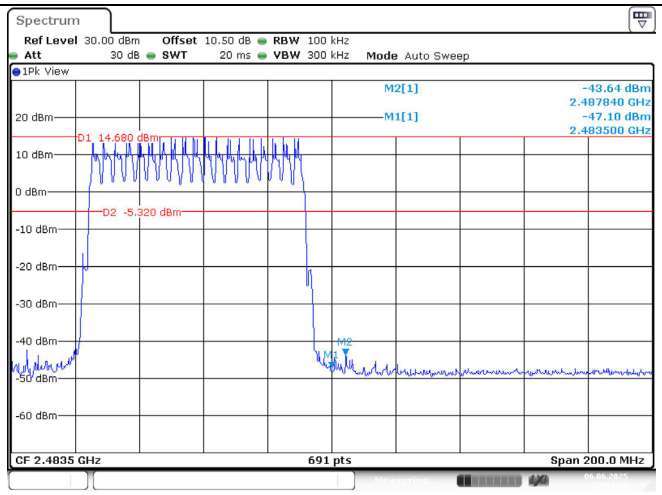
Temperature:	23.7~25.1 ℃
Relative Humidity:	40~47 %
ATM Pressure:	100.9 kPa

The testing was performed by Ive Wang on from 2025-06-06 to 2025-07-18.

EUT operation mode: Transmitting

Test Result: Compliant

Band Edge, Single Channel	
GFSK, Left Side	
GFSK, Right Side	

Band Edge, Hopping Channel	
GFSK, Left Side	
GFSK, Right Side	

EUT PHOTOGRAPHS

Please refer to the attachment 2501R49602E-RF External photo and 2501R49602E-RF Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2501R49602E-RF Test Setup photo.

******* END OF REPORT *******