



FCC PART 15.249

TEST REPORT

For

Quanzhou WenTeLai Import and Export Trade Co., Ltd.

Room 2207, Building 1, Vanke Phase I, No. 209 Fuxi Road, Fengze District, Quanzhou City,
Fujian Province, China, 362000

FCC ID: 2BH4T-RC01

Report Type: Original	Product Name: Remote Controller
Report Number:	2407W68709E-RF-01
Report Date:	2024-09-29
Reviewed By:	Ash Lin
Approved By:	Miles Chen
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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	2407W68709E-RF-01	R1V1	2024-09-29	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Quanzhou WenTeLai Import and Export Trade Co., Ltd.
Manufacture:	Sperax
Manufacture Address:	Room 2207, Building 1, Vanke Phase I, No. 209 Fuxi Road, Fengze District, Quanzhou City, Fujian Province, China, 362000
Product Name:	Remote Controller
Tested Model:	RC01
Power Supply:	DC 3V from Battery
RF Function:	SRD
Operating Frequency:	2414MHz, 2445MHz, 2469MHz
Modulation Type:	GFSK
Antenna Type:	PCB Antenna
★Maximum Antenna Gain:	-2.93 dBi
<i>Note:</i> 1. The maximum antenna gain is provided by the applicant. 2. All measurement and test data in this report was gathered from production sample serial number: 2PZR-1 (Assigned by the BACL (Xiamen). The EUT supplied by the applicant was received on 2024-08-13)	

Objective

This test report is prepared for *Quanzhou WenTeLai Import and Export Trade Co., Ltd.* in accordance with Part 2-Subpart J, and 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, and section 15.203, 15.205, 15.209, 15.215 and 15.249 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.

Measurement Uncertainty

Item		U _{lab}
Conducted Emissions	150kHz-30MHz(LISN)	2.33 dB
Radiated Disturbance	9kHz~30MHz	2.59 dB
	30MHz~200MHz	4.38 dB
	200MHz ~1GHz	4.50 dB
	1GHz~6GHz	4.58 dB
	6GHz~18GHz	5.43 dB
	18GHz~26.5GHz	5.47 dB
Occupied Bandwidth		0.053 kHz
Temperature		1 °C
Humidity		5 %

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. (Xiamen) to collect test data is located on the Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen.

Bay Area Compliance Laboratories Corp. (Xiamen) Lab is accredited to ISO/IEC 17025 by A2LA (Certificate Number: 7134.01) and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, FCC Registration No.: 485720, the FCC Designation No.: CN1384.

SYSTEM TEST CONFIGURATION

Test Mode and Voltage

The system was configured for testing in a typical mode (as normally used by a typical user).	
Test mode:	Test Model 1: Transmitting
Test voltage:	DC 3V
Remark:	During all emission tests, the EUT was configured to measure its highest possible emission level and the worst case's test data was presented in this test report.

Justification

The system was configured in testing mode which was provided by manufacturer.

Channel list:

Channel	Frequency(MHz)
1	2414
2	2445
3	2469

EUT Exercise Software

Engineering Mode was provided by manufacturer.

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
/	/	/	/

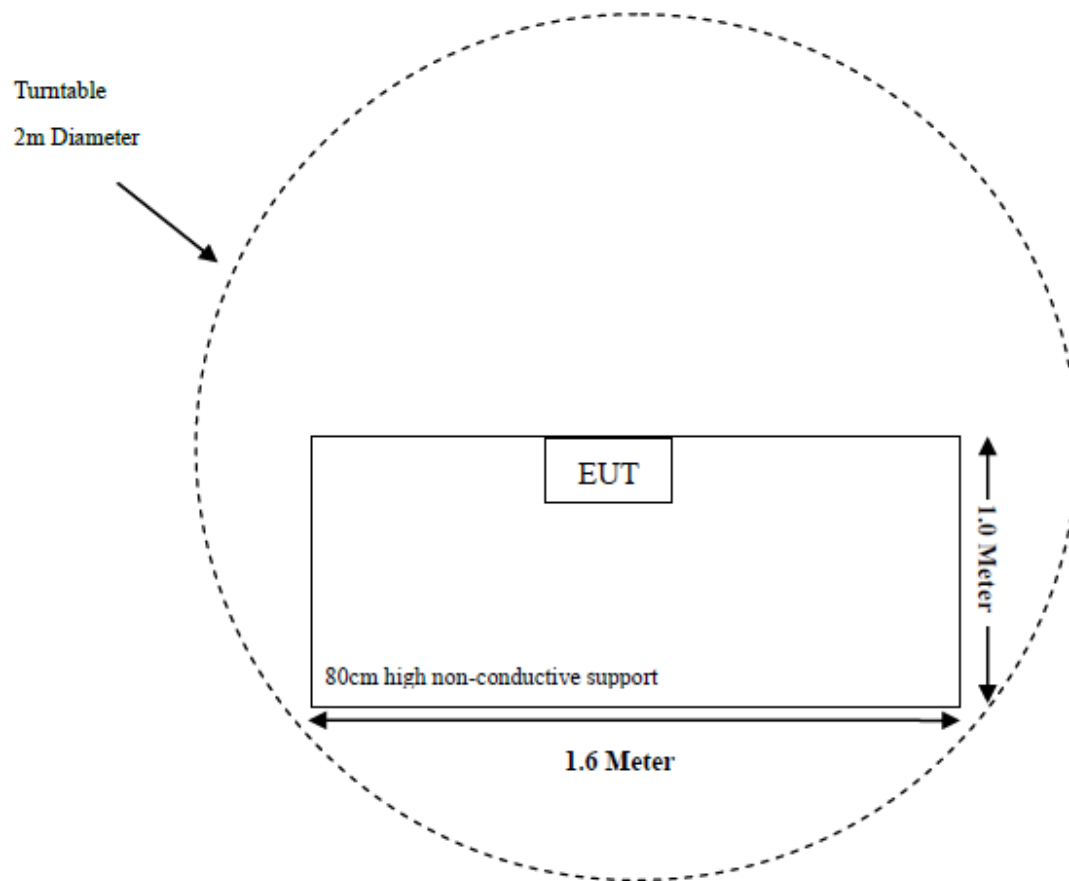
External I/O Cable

Cable Description	Length (m)	From Port	To Port
/	/	/	/

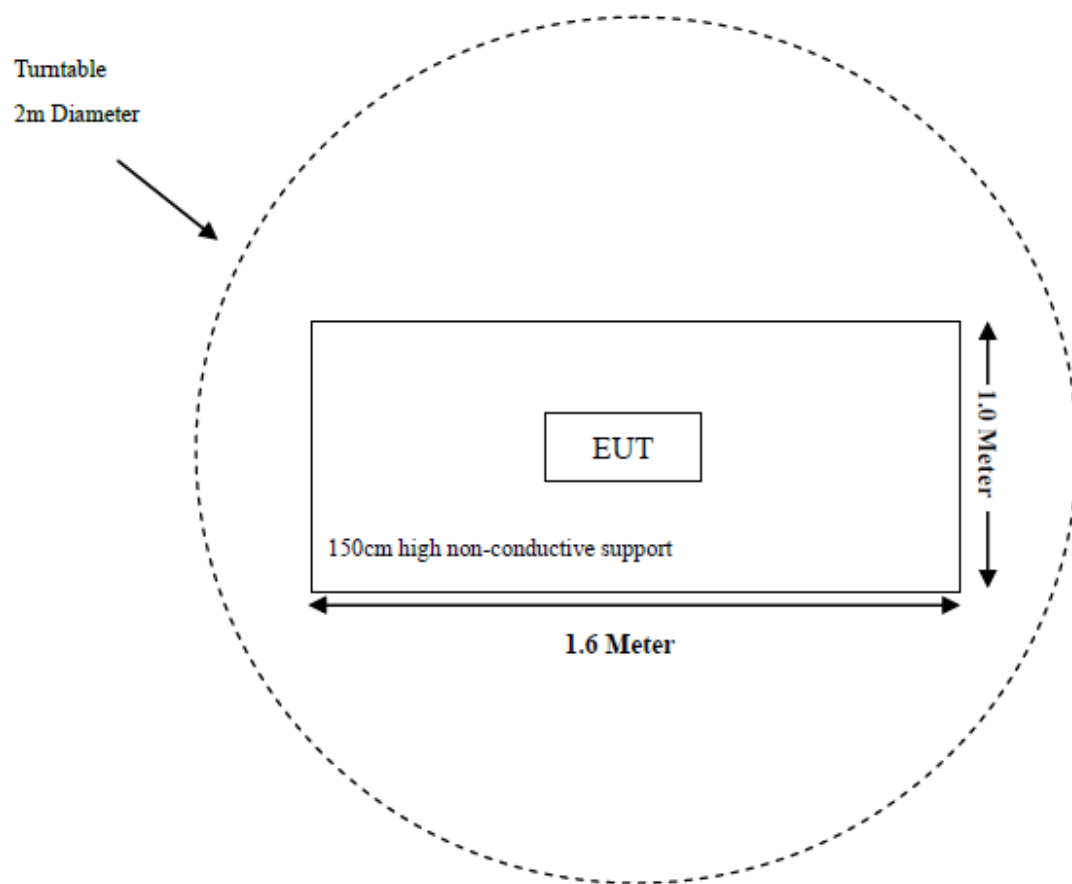
Block Diagram of Test Setup

For Radiated Emissions:

Below 1GHz:



Above 1GHz:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	Conducted Emissions	Not Applicable (See Note)
§15.205, §15.209, §15.249	Radiated Emissions & Fundamental Test & Out-of-band Emissions Test	Compliant
§15.215 (c)	20 dB Bandwidth	Compliant

Note: The EUT operates on battery power only and cannot be connected to the AC power network.

TEST EQUIPMENT LIST

Test Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emissions Below 1 GHz					
EMI Test Receiver	Rohde & Schwarz	ESR	103103	2024/03/29	2025/03/28
Loop Antenna	Rohde & Schwarz	HFH2-Z2	830749/001	2023/07/27	2026/07/26
Antenna	Sunol Sciences	JB6	A122022-5	2023/07/27	2026/07/26
Amplifier	Sonoma	310B	120903	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC002	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH460B-N-2M	CC006	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH460B-N-12M	CC007	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	HFH2-CC	335.3609	2024/03/29	2025/03/28
Test Software	Audix	E3	18621a	N/A	N/A
Radiated Emissions Above 1 GHz					
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	2024/03/29	2025/03/28
Filter Switch Unit	Decentest	DT7220FSU	DS79904	2024/02/23	2025/02/22
Multiplex Switch Test Control Set	Decentest	DT7220SCU	DS79901	2024/02/23	2025/02/22
Double Ridge Guide Horn Antenna	A.H.Systems	SAS-571	1980	2023/07/28	2026/07/27
Preamplifier	A.H.Systems	PAM-0118P	489	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH800A-N-6M	CC003	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH800A-N-1M	CC005	2024/03/29	2025/03/28
Horn Antenna	EMCO	3116	9407-2232	2023/07/31	2026/07/30
Preamplifier	A.H.Systems	PAM-1840	200	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-3M	CC008	2024/03/29	2025/03/28
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-1M	CC009	2024/03/29	2025/03/28
Test Software	Audix	E3	18621a	N/A	N/A
RF Conducted Test (20 dB Bandwidth)					
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	2024/03/29	2025/03/28
Coaxial Cable	N/A	N/A	N/A	2024/03/29	2025/03/28

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

FCC§15.203 - ANTENNA REQUIREMENT

Applicable Standard

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.

Antenna Connected Construction

The EUT has a PCB antenna which was permanently attached and the antenna gain is -2.93 dBi; fulfill the requirement of this section. Please refer to EUT photos.

Result: Compliant.

FCC §15.205, §15.209, §15.249 - RADIATED EMISSIONS & OUT OF BAND EMISSION

Applicable Standard

As per FCC§15.249 (a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

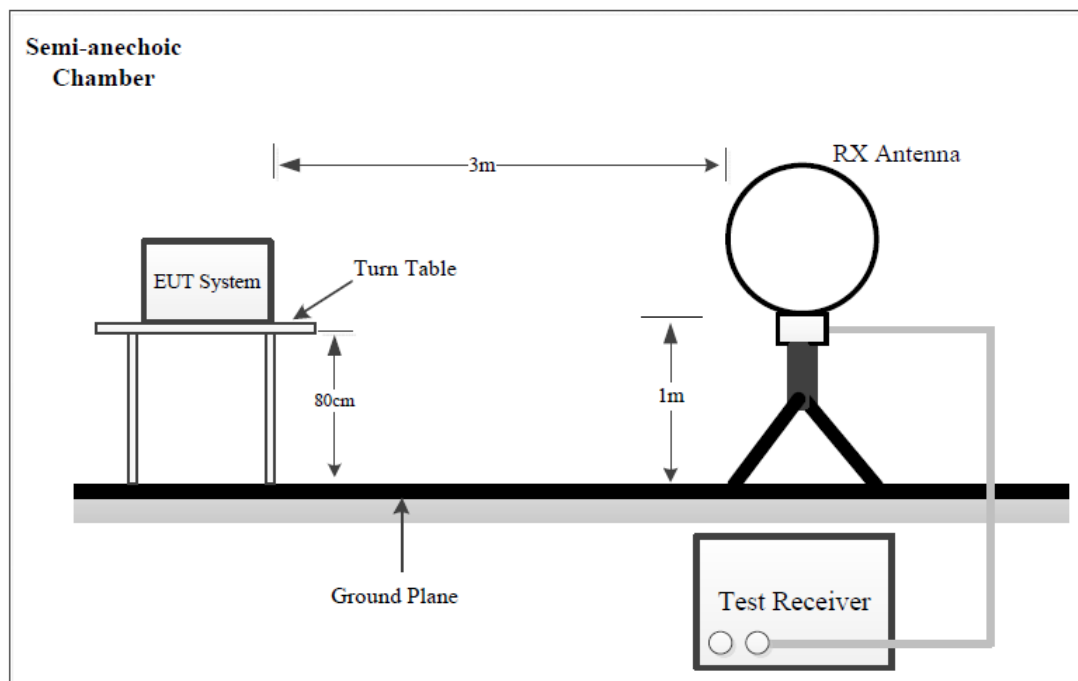
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC§15.249 (c), Field strength limits are specified at a distance of 3 meters.

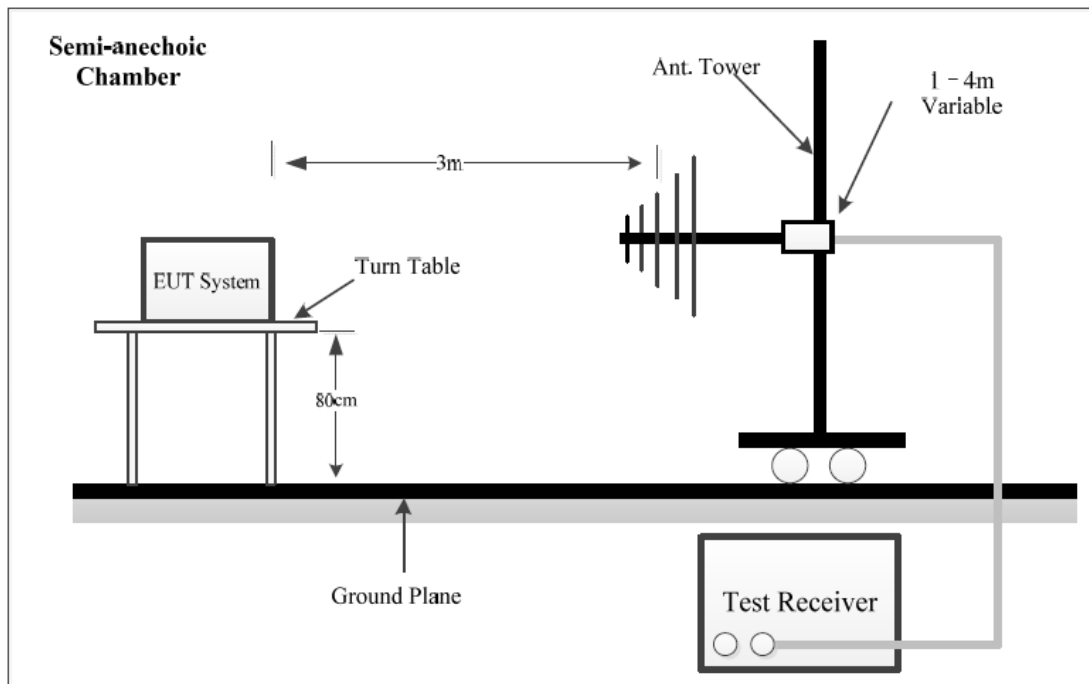
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

Test System Setup

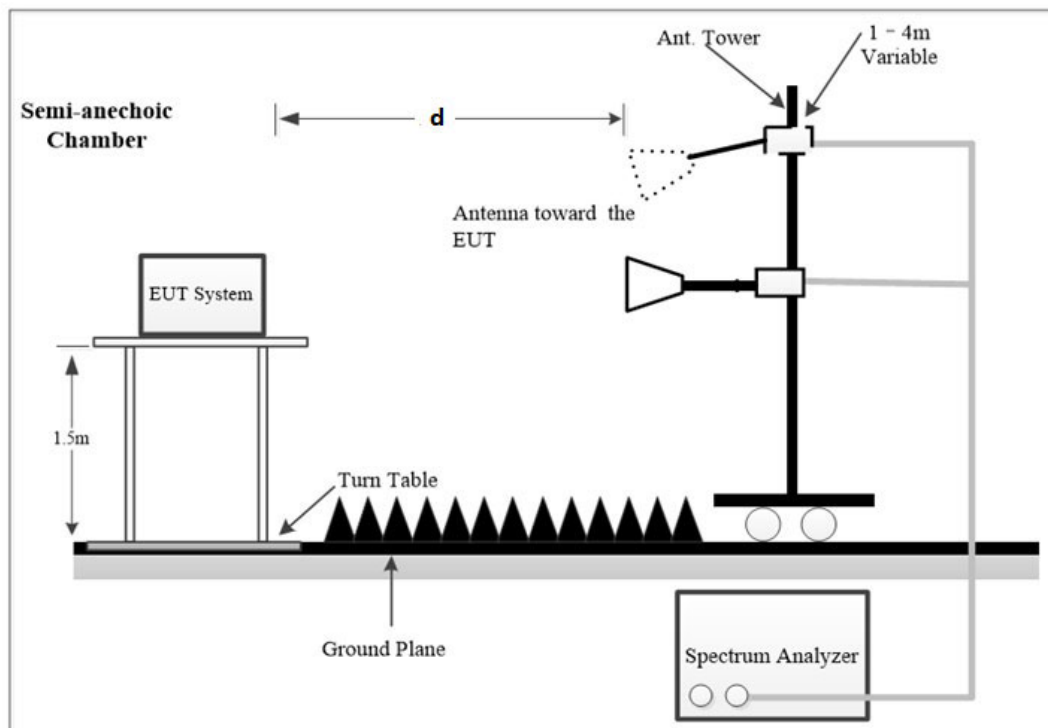
9 kHz-30MHz:



30MHz-1GHz:



Above 1GHz:



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

NOTE: d is testing distance;

For Radiated Emission test (1GHz-18GHz) and Bandedge Emission test, which was performed at 3 m distance.

For Radiated Emission test (18GHz-25GHz), which was performed at 1.0 m distance, according to ANSI C63.10-2020, the test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.0m.

Distance extrapolation Factor = $20 \log (\text{specific distance [3m]}/\text{test distance [1.0m]})$ dB = 9.54 dB

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 25 GHz.

During the radiated emission test, the EMI Test Receiver & Spectrum Analyzer Setup was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
9 kHz – 150 kHz	300Hz	1 kHz	200Hz	QP/AV
150 kHz – 30 MHz	9 kHz	30 kHz	9 kHz	QP/AV
30 MHz – 1000 MHz	100 kHz	300 kHz	/	PK
	/	/	120kHz	QP

1GHz~25GHz:

Pre-scan:

Measurement	RBW	Video B/W	Detector
PK	1MHz	3MHz	PK
Ave.	1MHz	5kHz	PK

Final measurement for emission identified during the pre-scan:

Measurement	RBW	Video B/W	Detector
PK	1MHz	3MHz	PK
Ave.	1MHz	10Hz	PK

Test Procedure

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

For each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable. 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, then the following statement shall be made: “all emissions were greater than 20 dB below the limit.”

Below 1GHz, if the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 6 dB below the QP emission limit, there's no need to record the measured QP level of the emissions in the report.

Above 1GHz, if the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is below the AV emission limit, there's no need to record the measured AV level of the emissions in the report.

Result & Margin Calculation

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

For 9 kHz to 18GHz Radiated emission test

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

For 18GHz to 25GHz Radiated emission test and Bandedge emissions test

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB) - Extrapolation factor (dB)

Extrapolation factor = 9.54dB (distance = 1m)

Result (dBμV/m) = Reading (dBμV) + Factor (dB/m)

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBμV/m) - Result (dBμV/m)

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBμV/m) - Result (dBμV/m)

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209 & 15.205 & 15.249.

Test Data

Frequency Range:	Below 1 GHz	Above 1 GHz	Fundamental and band edge
Temperature:	23.8°C	23.8°C	23.8°C
Relative Humidity:	58 %	58 %	58 %
ATM Pressure:	100.1kPa	100.1kPa	100.1kPa
Test Date:	2024-09-24	2024-09-24~2024-09-29	2024-09-24
Test Engineer:	Wlif Wu	Wlif Wu	Wlif Wu

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

1) 9 kHz~30MHz

Pre-scan in parallel, ground-parallel and perpendicular of orientation of loop antenna, parallel is worst case

EUT Operation mode: Transmitting in high channel (worst case)

Project No.: 2407W68709E-RF

Temp/Humi/ATM: 23.8°C/58%/100.1kPa

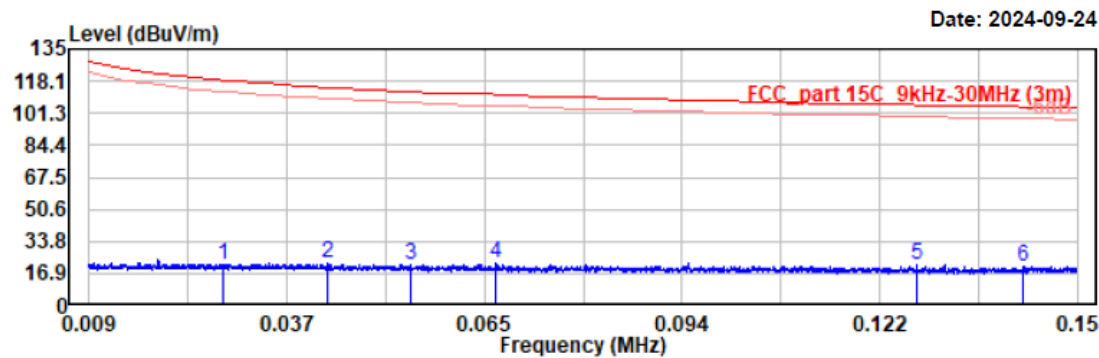
Test Mode: high channel Transmitting

Tested by: Wlif Wu

EUT Model: RC01

Power Source: DC 3V

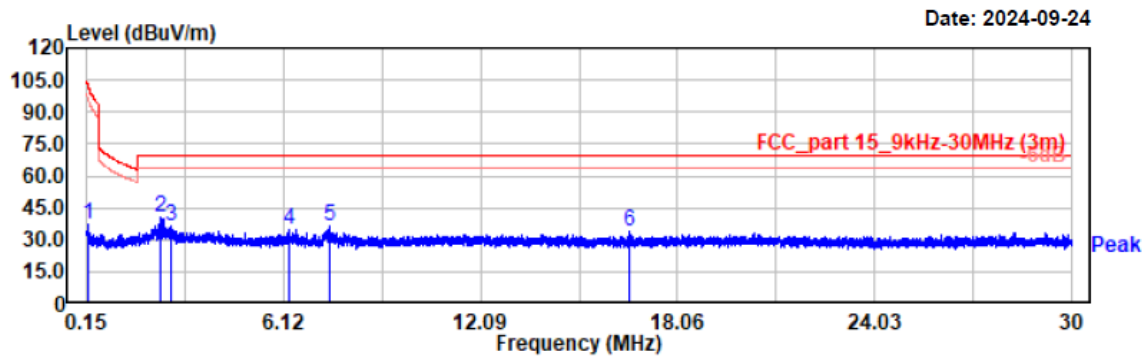
Test distance: 3m



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.028	1.97	19.89	21.86	118.66	96.80	Peak
0.043	2.41	19.91	22.32	114.92	92.60	Peak
0.055	1.26	19.91	21.17	112.84	91.67	Peak
0.067	2.50	19.84	22.34	111.08	88.74	Peak
0.127	1.28	19.73	21.01	105.53	84.52	Peak
0.142	0.49	19.73	20.22	104.54	84.32	Peak

Project No.: 2407W68709E-RF
Test Mode: high channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.186	17.63	19.72	37.35	102.22	64.87	Peak
2.389	20.96	19.68	40.64	69.54	28.90	Peak
2.681	16.58	19.76	36.34	69.54	33.20	Peak
6.269	14.62	19.77	34.39	69.54	35.15	Peak
7.496	16.80	19.68	36.48	69.54	33.06	Peak
16.597	13.66	19.87	33.53	69.54	36.01	Peak

2) 30MHz~ 1GHz

EUT Operation mode: Transmitting in high channel (worst case)

Project No.: 2407W68709E-RF

Temp/Humi/ATM: 23.8°C/58%/100.1kPa

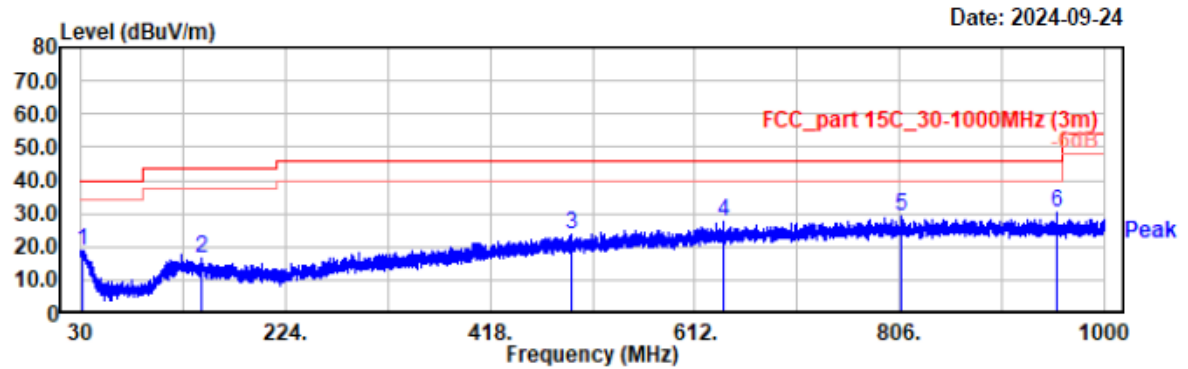
Test Mode: high channel Transmitting

Tested by: Wlif Wu

EUT Model: RC01

Power Source: DC 3V

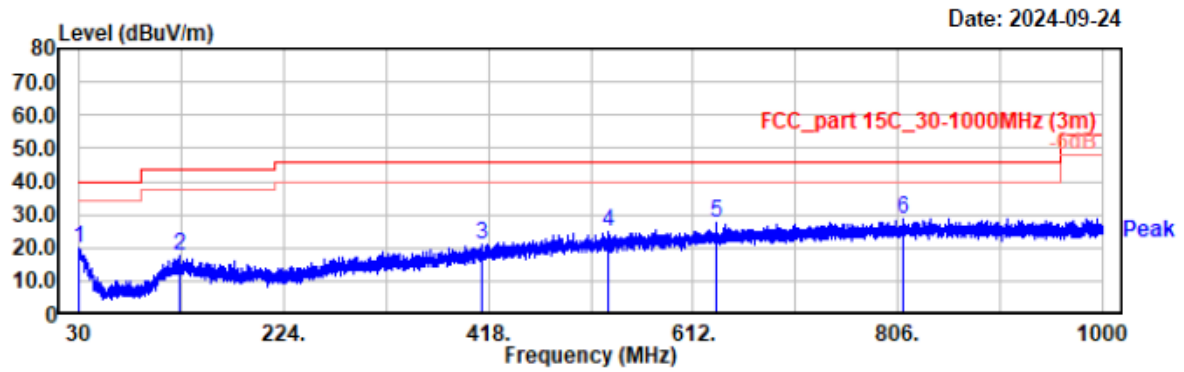
Test distance: 3m



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
30.97	24.82	-5.84	18.98	40.00	21.02	Horizontal	Peak
144.65	27.36	-10.97	16.39	43.50	27.11	Horizontal	Peak
494.82	27.30	-3.53	23.77	46.00	22.23	Horizontal	Peak
639.45	28.60	-1.15	27.45	46.00	18.55	Horizontal	Peak
808.13	28.08	1.34	29.42	46.00	16.58	Horizontal	Peak
955.77	27.31	3.28	30.59	46.00	15.41	Horizontal	Peak

Project No.: 2407W68709E-RF
Test Mode: high channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

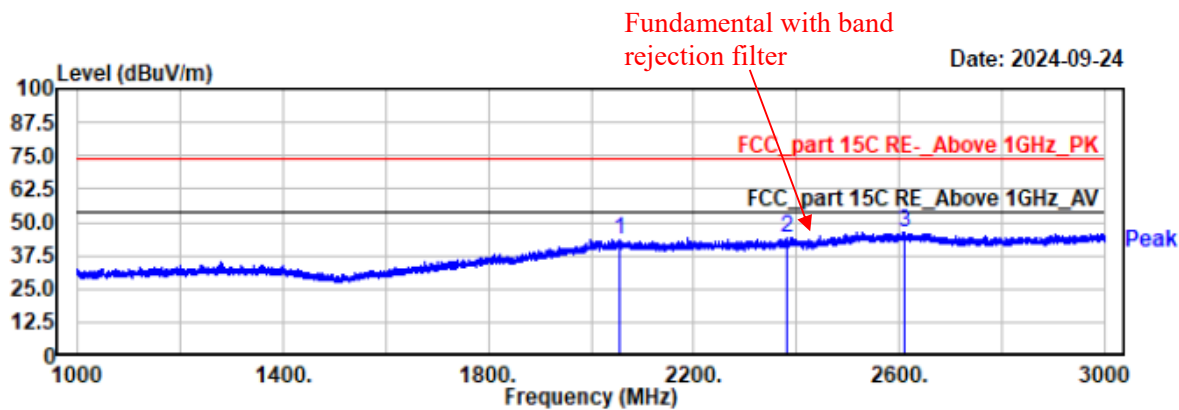


Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
30.10	25.35	-5.63	19.72	40.00	20.28	Vertical	Peak
125.16	27.52	-9.94	17.58	43.50	25.92	Vertical	Peak
411.11	26.97	-6.01	20.96	46.00	25.04	Vertical	Peak
532.07	27.87	-3.20	24.67	46.00	21.33	Vertical	Peak
634.31	28.83	-1.27	27.56	46.00	18.44	Vertical	Peak
810.46	27.42	1.39	28.81	46.00	17.19	Vertical	Peak

3) 1GHz~18 GHz

Project No.: 2407W68709E-RF
Test Mode: low channel Transmitting
EUT Model: RC01
Test distance: 3m

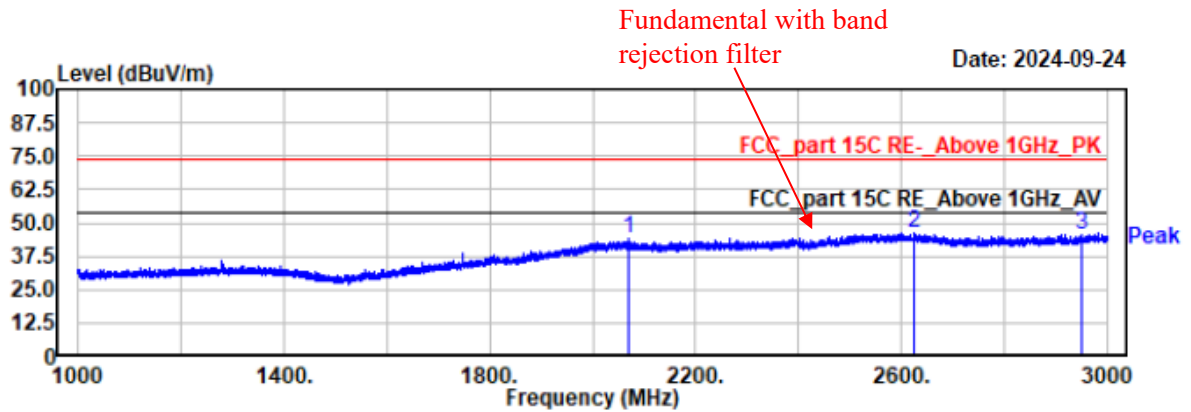
Temp/Humi/ATM: 23.8℃/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2056.00	48.45	-4.90	43.55	74.00	30.45	horizontal	Peak
2380.40	48.29	-4.17	44.12	74.00	29.88	horizontal	Peak
2610.20	48.25	-1.96	46.29	74.00	27.71	horizontal	Peak

Project No.: 2407W68709E-RF
Test Mode: low channel Transmitting
EUT Model: RC01
Test distance: 3m

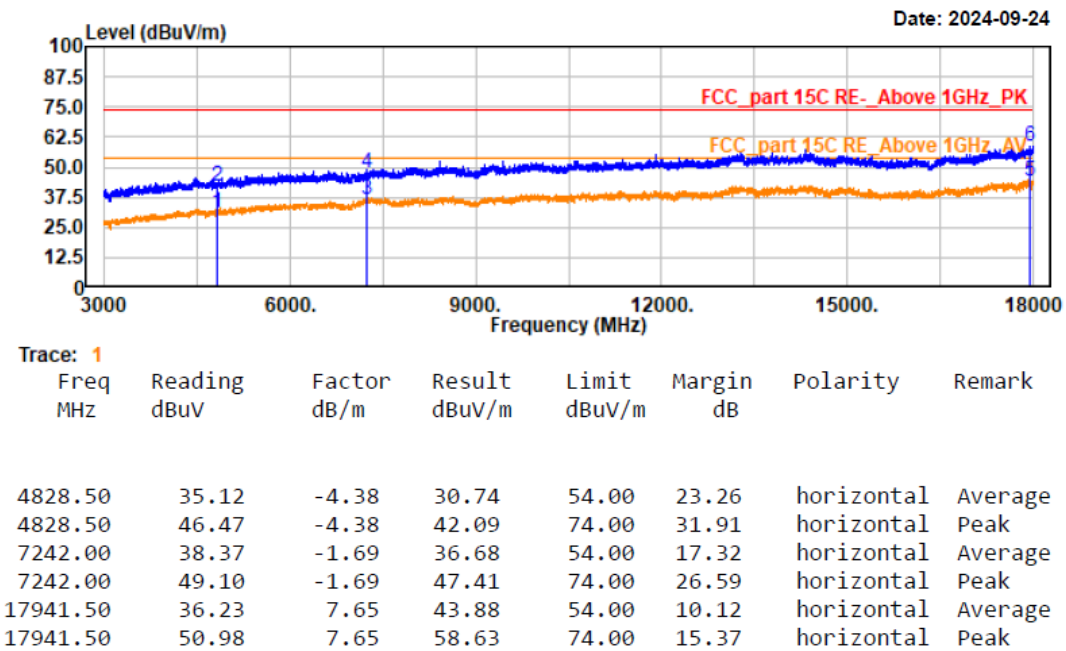
Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2070.60	49.01	-5.11	43.90	74.00	30.10	vertical	Peak
2624.20	47.92	-1.99	45.93	74.00	28.07	vertical	Peak
2950.40	48.45	-2.76	45.69	74.00	28.31	vertical	Peak

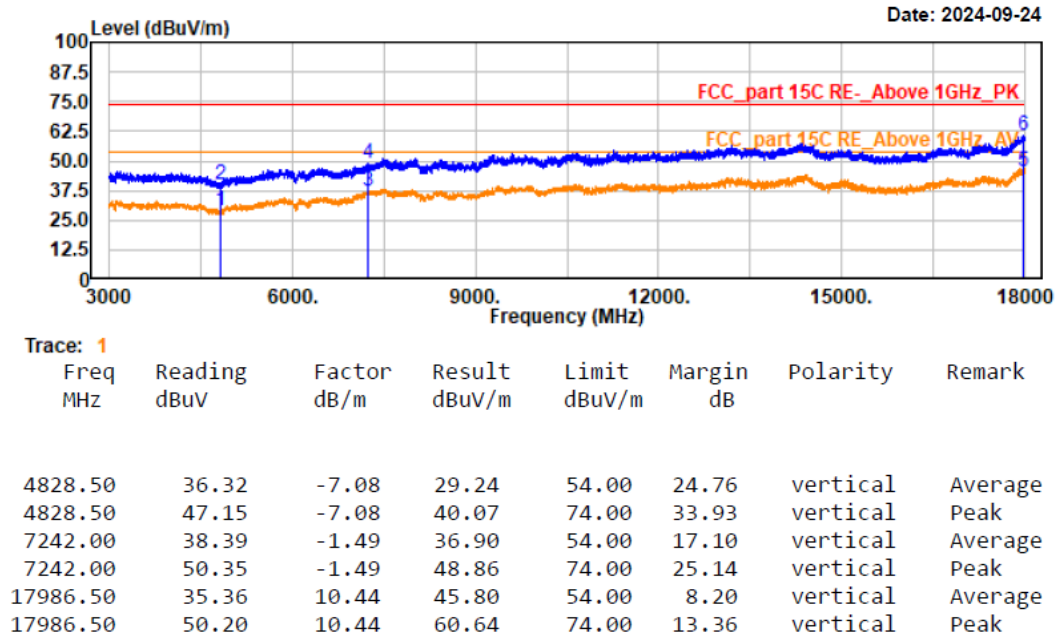
Project No.: 2407W68709E-RF
Test Mode: low channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



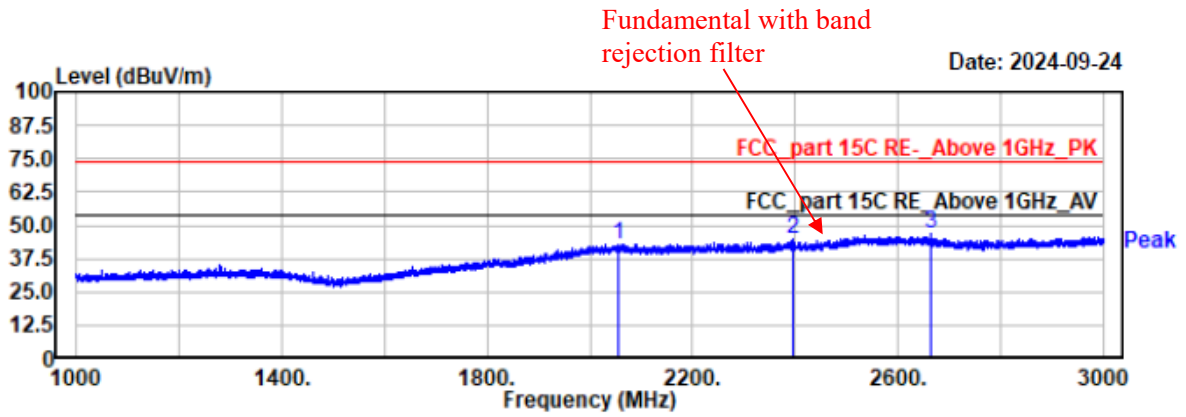
Project No.: 2407W68709E-RF
Test Mode: low channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Project No.: 2407W68709E-RF
Test Mode: mid channel Transmitting
EUT Model: RC01
Test distance: 3m

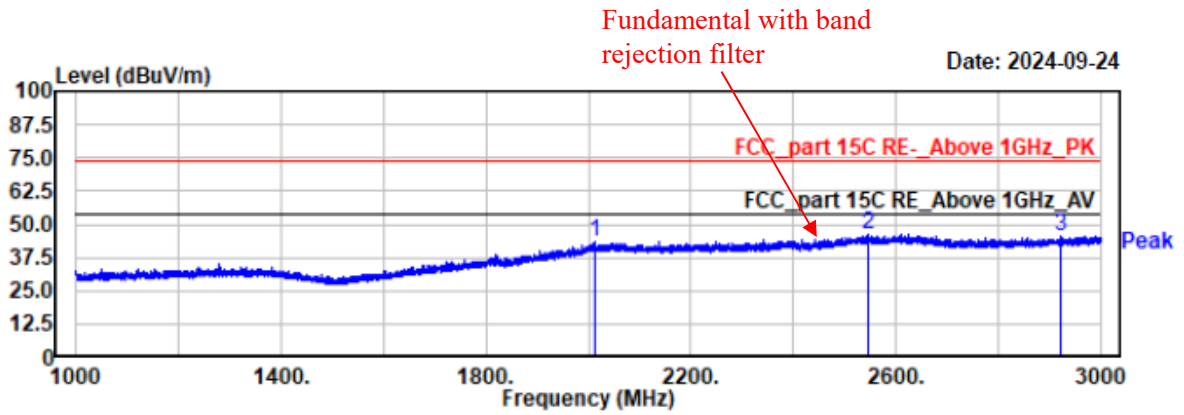
Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2054.80	47.94	-4.88	43.06	74.00	30.94	horizontal	Peak
2397.20	48.48	-3.94	44.54	74.00	29.46	horizontal	Peak
2664.80	49.03	-2.37	46.66	74.00	27.34	horizontal	Peak

Project No.: 2407W68709E-RF
Test Mode: mid channel Transmitting
EUT Model: RC01
Test distance: 3m

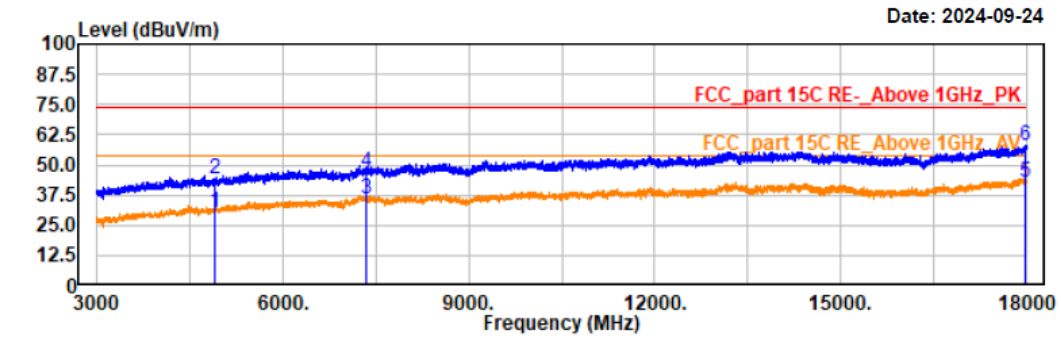
Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2011.60	48.52	-5.41	43.11	74.00	30.89	vertical	Peak
2545.80	48.71	-2.20	46.51	74.00	27.49	vertical	Peak
2922.00	48.09	-2.87	45.22	74.00	28.78	vertical	Peak

Project No.: 2407W68709E-RF
Test Mode: mid channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

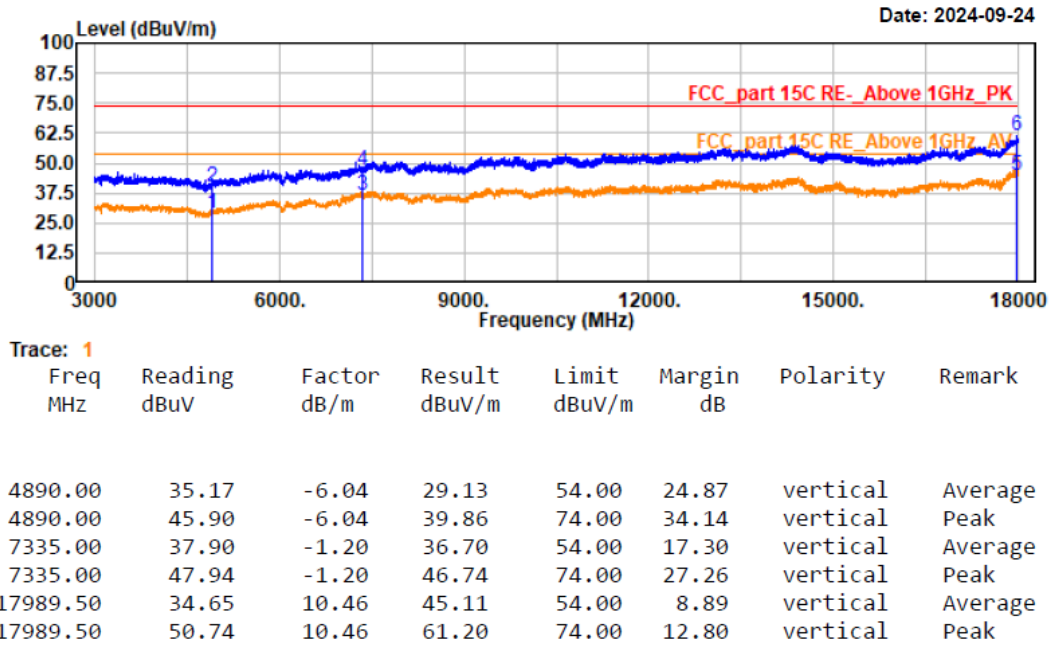


Trace: 1

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4890.00	34.65	-4.22	30.43	54.00	23.57	horizontal	Average
4890.00	48.23	-4.22	44.01	74.00	29.99	horizontal	Peak
7335.00	37.75	-1.59	36.16	54.00	17.84	horizontal	Average
7335.00	48.28	-1.59	46.69	74.00	27.31	horizontal	Peak
17983.50	34.92	7.72	42.64	54.00	11.36	horizontal	Average
17983.50	50.24	7.72	57.96	74.00	16.04	horizontal	Peak

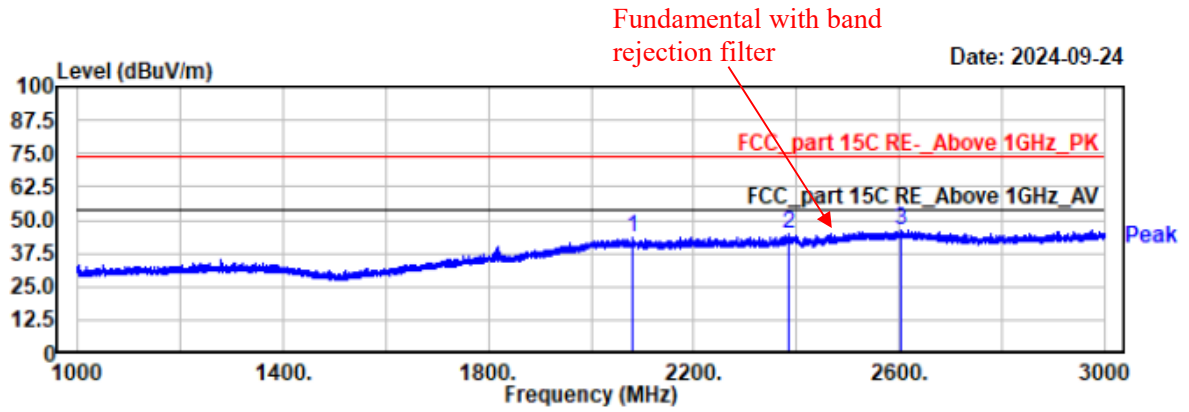
Project No.: 2407W68709E-RF
Test Mode: mid channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Project No.: 2407W68709E-RF
Test Mode: high channel Transmitting
EUT Model: RC01
Test distance: 3m

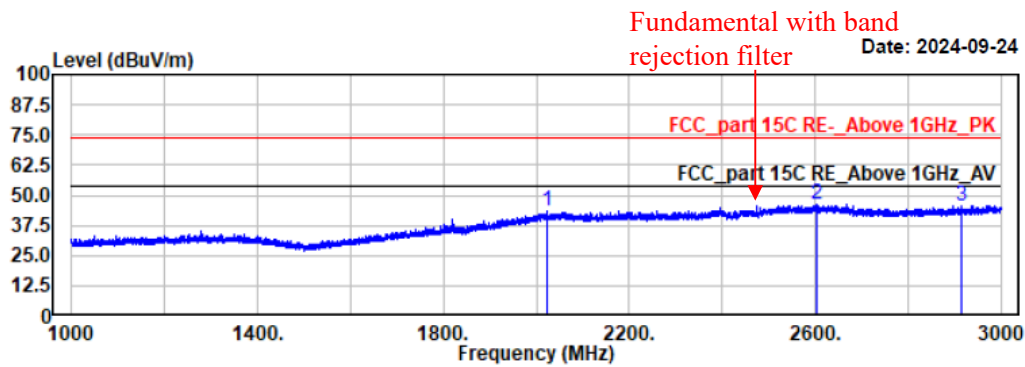
Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2079.20	48.73	-5.23	43.50	74.00	30.50	horizontal	Peak
2386.40	48.91	-4.09	44.82	74.00	29.18	horizontal	Peak
2604.20	48.00	-1.96	46.04	74.00	27.96	horizontal	Peak

Project No.: 2407W68709E-RF
Test Mode: high channel Transmitting
EUT Model: RC01
Test distance: 3m

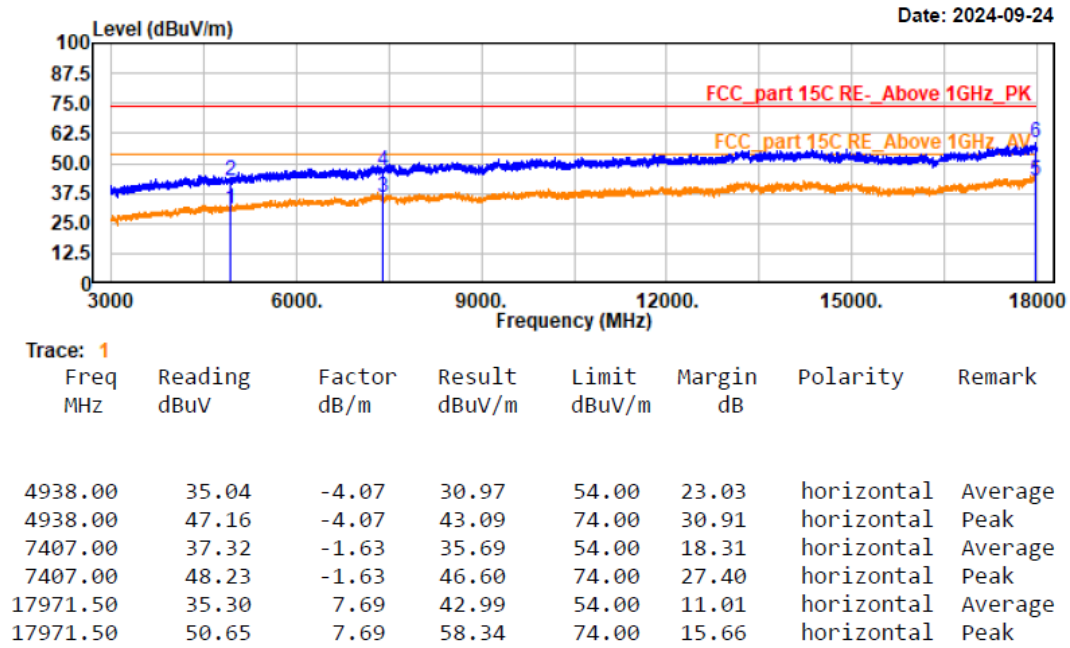
Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2022.00	48.56	-5.24	43.32	74.00	30.68	vertical	Peak
2604.20	47.92	-1.96	45.96	74.00	28.04	vertical	Peak
2916.00	48.40	-2.89	45.51	74.00	28.49	vertical	Peak

Project No.: 2407W68709E-RF
Test Mode: high channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Project No.: 2407W68709E-RF

Test Mode: high channel Transmitting

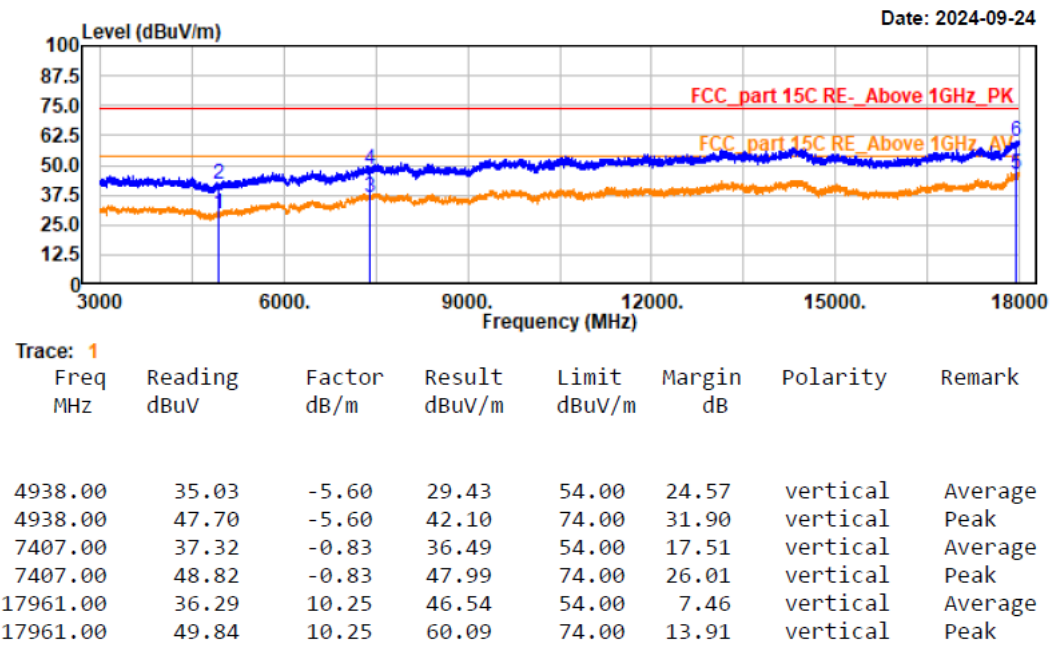
EUT Model: RC01

Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa

Tested by: Wlif Wu

Power Source: DC 3V



4) 18 GHz~25 GHz

EUT Operation mode: Transmitting in high channel (worst case)

Project No.: 2407W68709E-RF

Test Mode: high channel Transmitting

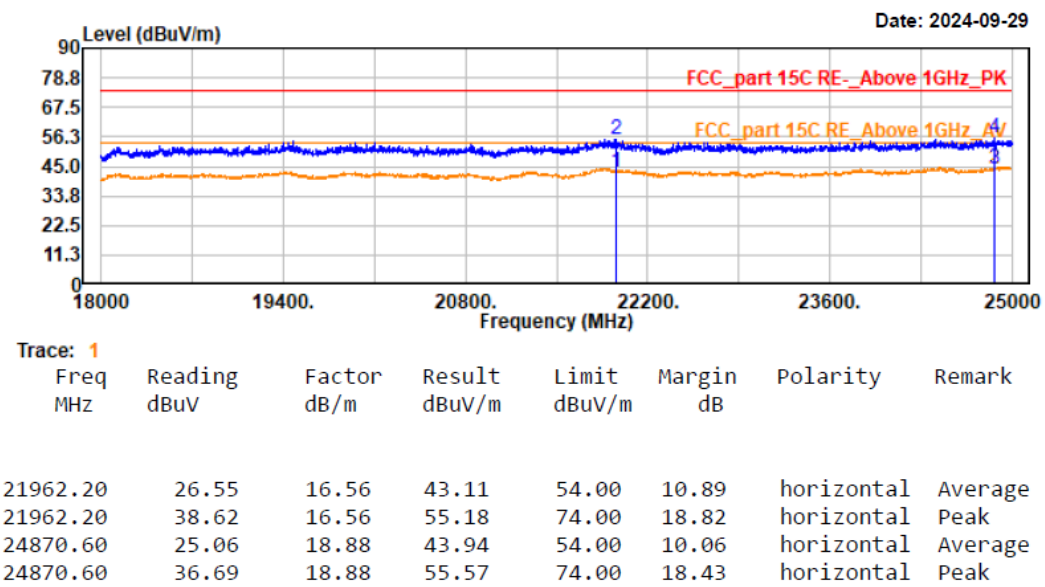
EUT Model: RC01

Test distance: 1m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa

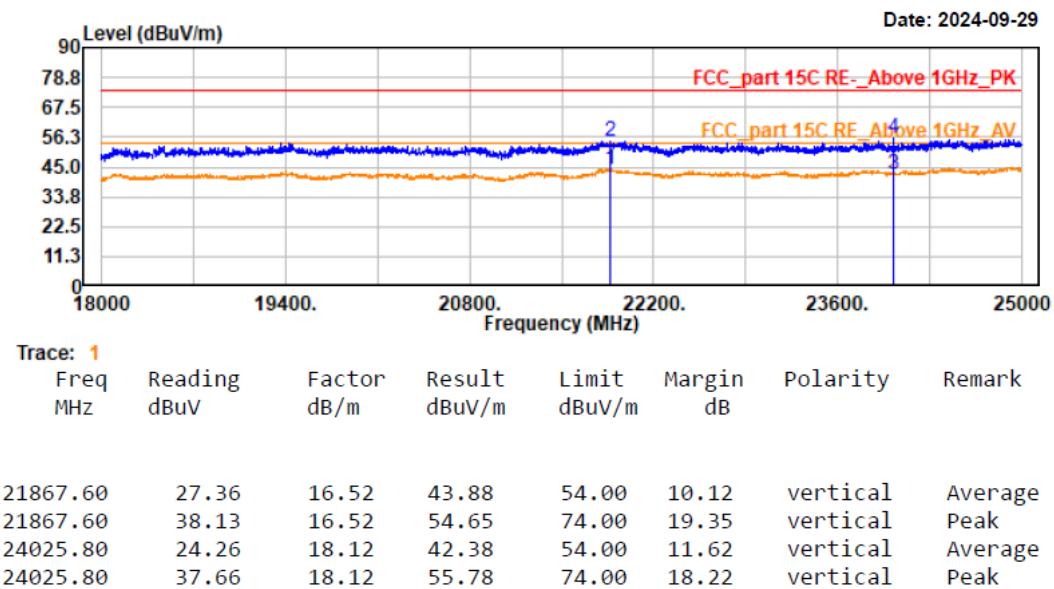
Tested by: Wlif Wu

Power Source: DC 3V



Project No.: 2407W68709E-RF
Test Mode: high channel Transmitting
EUT Model: RC01
Test distance: 1m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Fundamental Test & Out-of-band Emissions Test:

(Pre-scan in the X, Y and Z ax of orientation, the worst case Y-axis of orientation was recorded.)

Note:

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

Result (dBμV/m) = Reading (dBμV) + Factor (dB/m)

Margin (dB) = Limit (dBμV/m) - Result (dBμV/m)

Project No.: 2407W68709E-RF

Test Mode: low channel Transmitting

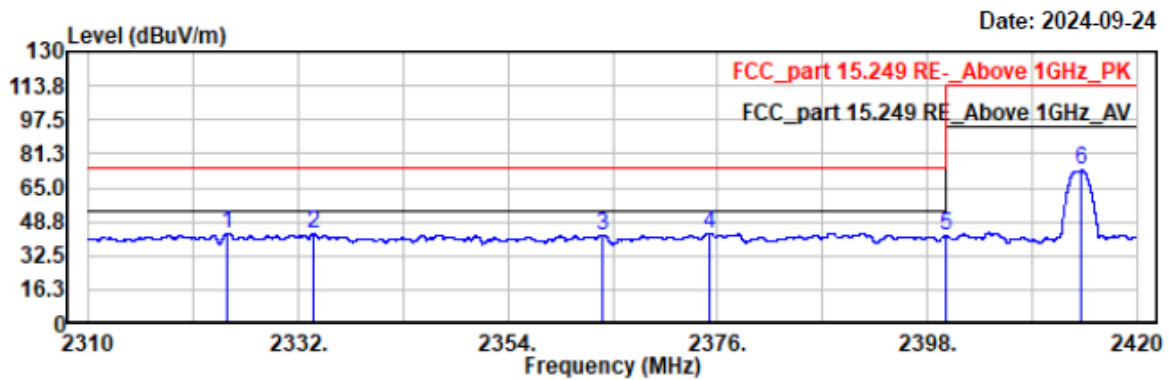
EUT Model: RC01

Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa

Tested by: Wlif Wu

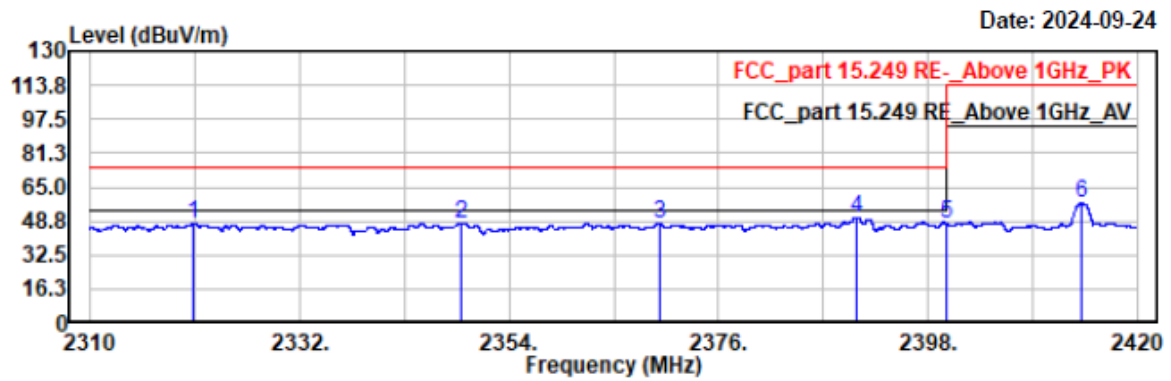
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2324.60	47.94	-4.91	43.03	74.00	30.97	horizontal	Peak
2333.61	48.13	-4.88	43.25	74.00	30.75	horizontal	Peak
2363.92	47.25	-4.76	42.49	74.00	31.51	horizontal	Peak
2375.08	48.14	-4.71	43.43	74.00	30.57	horizontal	Peak
2400.00	46.69	-4.59	42.10	74.00	31.90	horizontal	Peak
2414.21	77.60	-4.51	73.09	114.00	40.91	horizontal	Peak

Project No.: 2407W68709E-RF
Test Mode: low channel Transmitting
EUT Model: RC01
Test distance: 3m

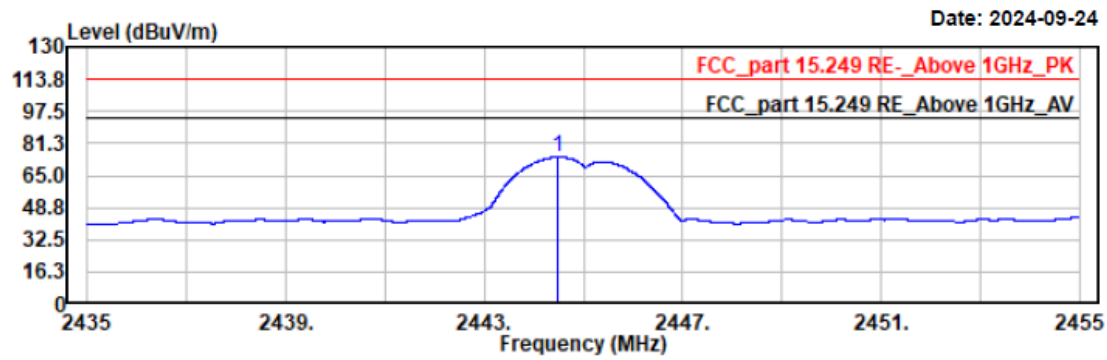
Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2320.88	48.00	-0.35	47.65	74.00	26.35	vertical	Peak
2349.02	47.97	-0.04	47.93	74.00	26.07	vertical	Peak
2369.80	47.26	0.27	47.53	74.00	26.47	vertical	Peak
2390.50	49.97	0.58	50.55	74.00	23.45	vertical	Peak
2400.00	46.69	0.71	47.40	74.00	26.60	vertical	Peak
2414.07	56.49	0.76	57.25	114.00	56.75	vertical	Peak

Project No.: 2407W68709E-RF
Test Mode: mid channel Transmitting
EUT Model: RC01
Test distance: 3m

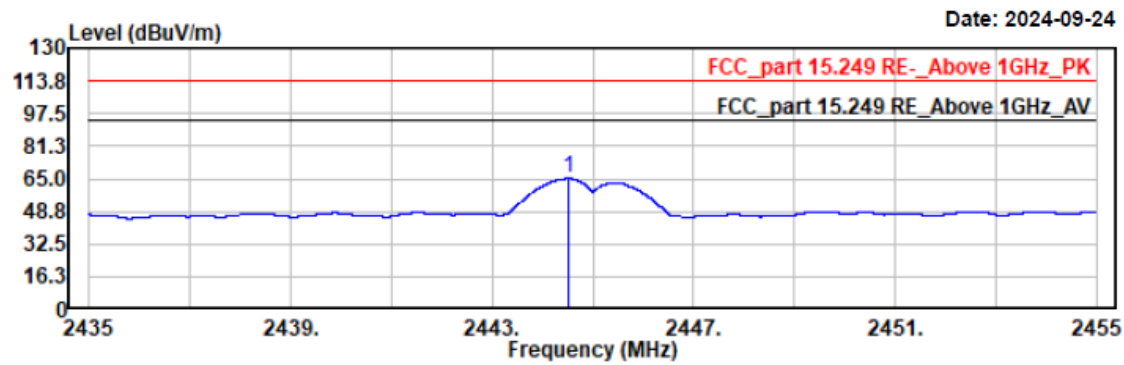
Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2444.49	78.60	-4.36	74.24	114.00	39.76	horizontal	Peak

Project No.: 2407W68709E-RF
Test Mode: mid channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

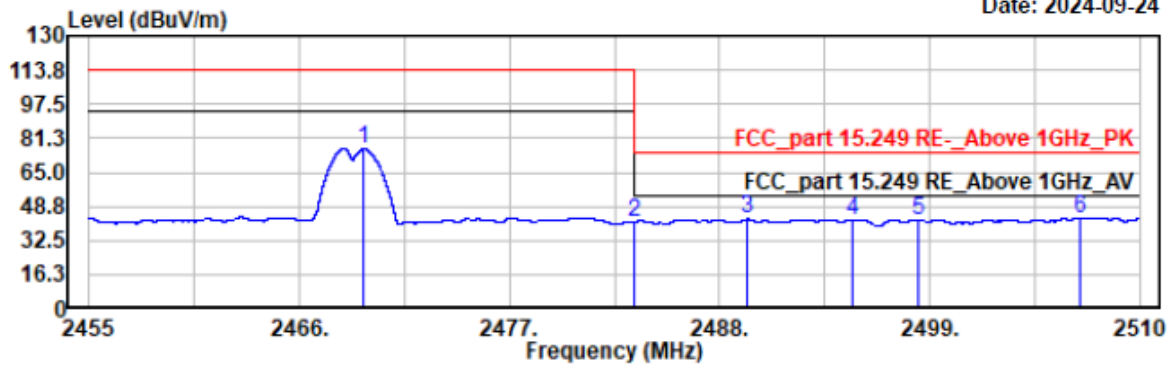


Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2444.53	64.28	0.85	65.13	114.00	48.87	vertical	Peak

Project No.: 2407W68709E-RF
Test Mode: high channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

Date: 2024-09-24

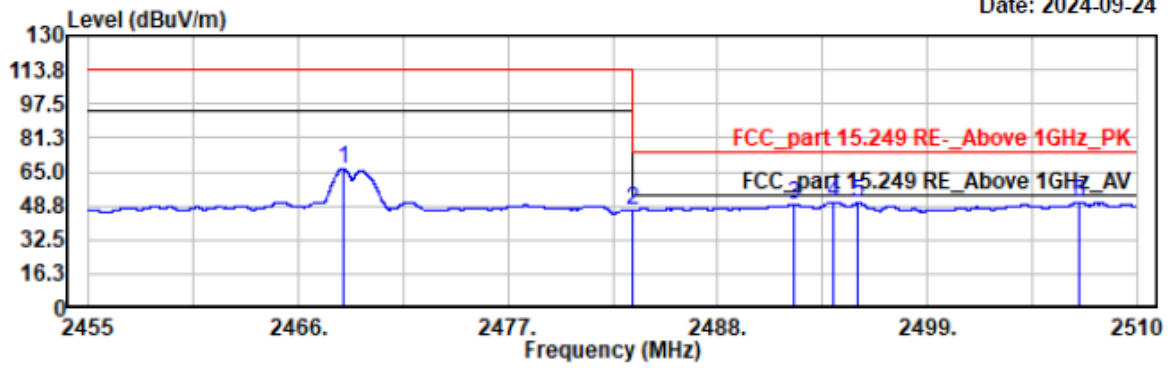


Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2469.38	80.54	-4.24	76.30	114.00	37.70	horizontal	Peak
2483.50	45.47	-4.17	41.30	74.00	32.70	horizontal	Peak
2489.49	46.75	-4.14	42.61	74.00	31.39	horizontal	Peak
2494.95	46.51	-4.10	42.41	74.00	31.59	horizontal	Peak
2498.42	46.61	-4.09	42.52	74.00	31.48	horizontal	Peak
2506.89	47.45	-4.08	43.37	74.00	30.63	horizontal	Peak

Project No.: 2407W68709E-RF
Test Mode: high channel Transmitting
EUT Model: RC01
Test distance: 3m

Temp/Humi/ATM: 23.8°C/58%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

Date: 2024-09-24



Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2468.34	65.00	1.25	66.25	114.00	47.75	vertical	Peak
2483.50	44.81	1.57	46.38	74.00	27.62	vertical	Peak
2492.00	47.45	1.76	49.21	74.00	24.79	vertical	Peak
2494.06	48.81	1.80	50.61	74.00	23.39	vertical	Peak
2495.39	48.11	1.83	49.94	74.00	24.06	vertical	Peak
2506.95	48.48	2.01	50.49	74.00	23.51	vertical	Peak

FCC §15.215(c) - 20dB EMISSION BANDWIDTH TESTING

Applicable Standard

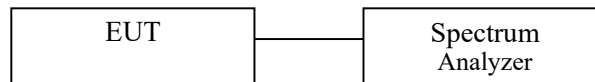
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

Test Procedure

According to section 6.9 of standard ANSI C63.10-2020.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
3. Repeat above procedures until all frequencies measured were complete.

Test Setup



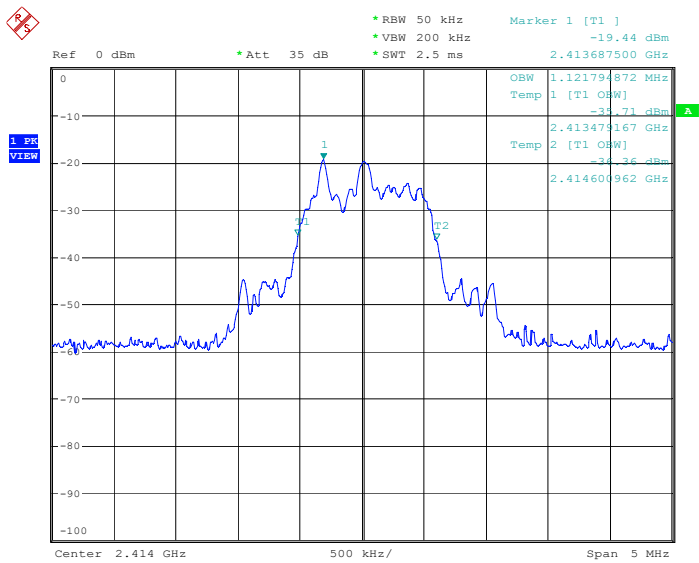
Test Data

Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2024-08-29	Test Voltage:	DC 3V
Test Frequency:	2414MHz, 2445MHz, 2469MHz	Environment:	Temp.: 20.0°C Humi.: 62% Atm:101.1kPa

Test Result: Compliant.

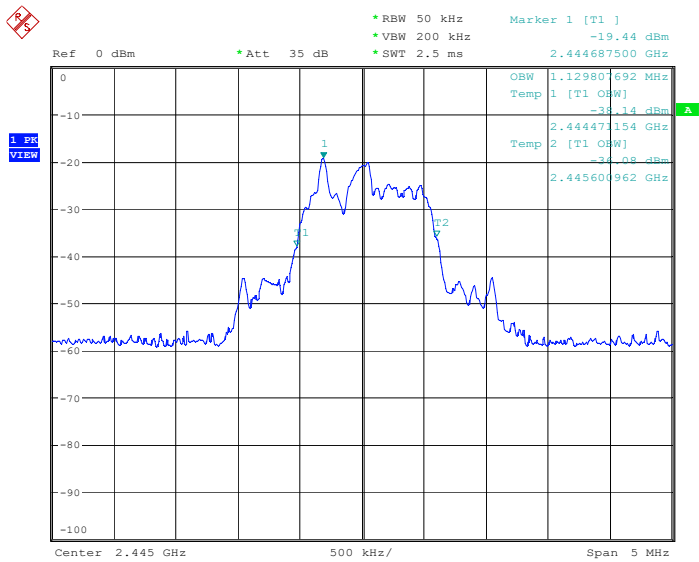
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
Low	2414	1.122
Middle	2445	1.130
High	2469	1.162

Low Channel



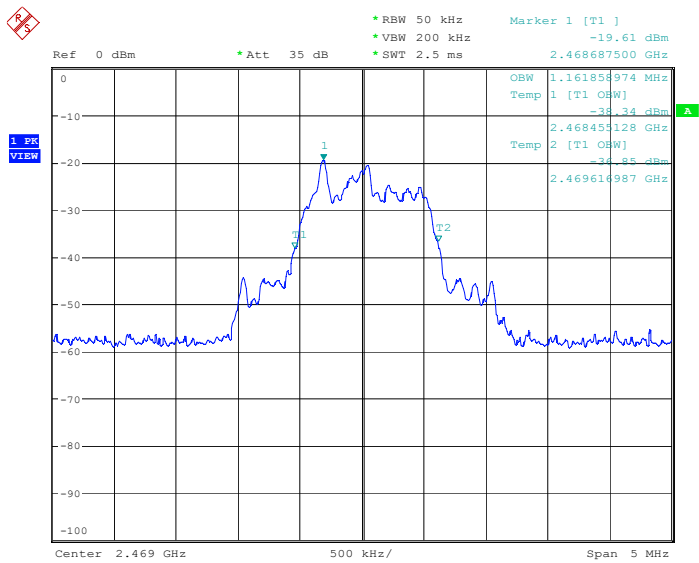
ProjectNo.:2407W68709E-RF Tester:Braylon Ma
Date: 29.AUG.2024 16:15:11

Middle Channel



ProjectNo.:2407W68709E-RF Tester:Braylon Ma
Date: 29.AUG.2024 16:17:28

High Channel



ProjectNo.:2407W68709E-RF Tester:Braylon Ma
Date: 29.AUG.2024 16:19:24

EUT PHOTOGRAPHS

Please refer to the attachment 2407W68709E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2407W68709E-RF-INP EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2407W68709E-RF-TSP TEST SETUP PHOTOGRAPHS.

Declarations

1. Bay Area Compliance Laboratories Corp. (Xiamen) is not responsible for authenticity of any information provided by the applicant. Information from the applicant that may affect test results are marked with an asterisk “★”.
2. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.
3. Unless required by the rule provided by the applicant or product regulations, then decision rule in this report did not consider the uncertainty.
4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor $k=2$ with the 95.45% confidence interval.
5. This report cannot be reproduced except in full, without prior written approval of Bay Area Compliance Laboratories Corp. (Xiamen).
6. This report is valid only with a valid digital signature. The digital signature may be available only under the adobe software above version 7.0.

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