

TEST REPORT

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China
Report Number: 2401U21148E-RF-00C
FCC ID: 2ASYE-T-WATCH-S3

Test Standard (s)

FCC PART 15.247

Sample Description

Product Type: T-WATCH S3
Model No.: T-WATCH S3
Multiple Model(s) No.: N/A
Trade Mark: LILYGO
Date Received: 2024/06/13
Issue Date: 2024/12/18

Test Result:

Pass▲

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

Prepared and Checked By:

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Ekko Wu
RF Engineer

Approved By:

Nancy Wang

Nancy Wang
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.

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TABLE OF CONTENTS

DOCUMENT REVISION HISTORY	3
GENERAL INFORMATION.....	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
OBJECTIVE	4
TEST METHODOLOGY	4
MEASUREMENT UNCERTAINTY	5
TEST FACILITY	5
SYSTEM TEST CONFIGURATION	6
SUMMARY OF TEST RESULTS	9
TEST EQUIPMENT LIST	10
REQUIREMENTS AND TEST PROCEDURES	12
AC LINE CONDUCTED EMISSIONS.....	12
SPURIOUS EMISSIONS.....	14
6 dB EMISSION BANDWIDTH.....	17
MAXIMUM CONDUCTED OUTPUT POWER	18
100 kHz BANDWIDTH OF FREQUENCY BAND EDGE.....	19
POWER SPECTRAL DENSITY	20
DUTY CYCLE	21
ANTENNA REQUIREMENT	22
TEST DATA AND RESULTS	23
AC LINE CONDUCTED EMISSIONS.....	23
SPURIOUS EMISSIONS.....	26
6dB EMISSION BANDWIDTH.....	89
99% OCCUPIED BANDWIDTH	93
MAXIMUM CONDUCTED OUTPUT POWER	97
POWER SPECTRAL DENSITY	99
100 kHz BANDWIDTH OF FREQUENCY BAND EDGE.....	103
DUTY CYCLE	106
RF EXPOSURE EVALUATION	109
EUT PHOTOGRAPHS.....	110
TEST SETUP PHOTOGRAPHS	111

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2401U21148E-RF-00C	Original Report	2024/12/18

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Frequency Range	2412~2462MHz
Maximum Conducted Output Peak Power	20.29dBm
Modulation Technique	DSSS, OFDM
Antenna Specification[#]	1.43dBi (provided by the applicant)
Voltage Range	DC 3.8V from battery or DC 5V from USB micro port
Sample serial number	2MP7-2 for Conducted and Radiated Emissions Test 2MP7-1 for RF Conducted Test (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's rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and 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 C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

And KDB 558074 D01 15.247 Meas Guidance v05r02.

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 output power, conducted		0.86dB(k=2, 95% level of confidence)
AC Power Lines Conducted Emissions	9kHz~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°C
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

For 2.4GHz Wi-Fi mode, total 11 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	/	/
6	2437	/	/
7	2442	/	/

802.11b, 802.11g and 802.11n-HT20 mode was tested with Channel 1, 6 and 11.

802.11n-HT40 mode was tested with Channel 3, 6 and 9.

EUT Exercise Software

Exercise Software [#]		EspRFTTestTool_v3.6_manual.exe		
Mode	Data rate	Power Level [#]		
		Low Channel	Middle Channel	High Channel
802.11b	1Mbps	16	16	16
802.11g	6Mbps	12	12	12
802.11n20	MCS0	12	12	12
802.11n40	MCS0	12	12	12

Special Accessories

No special accessory.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

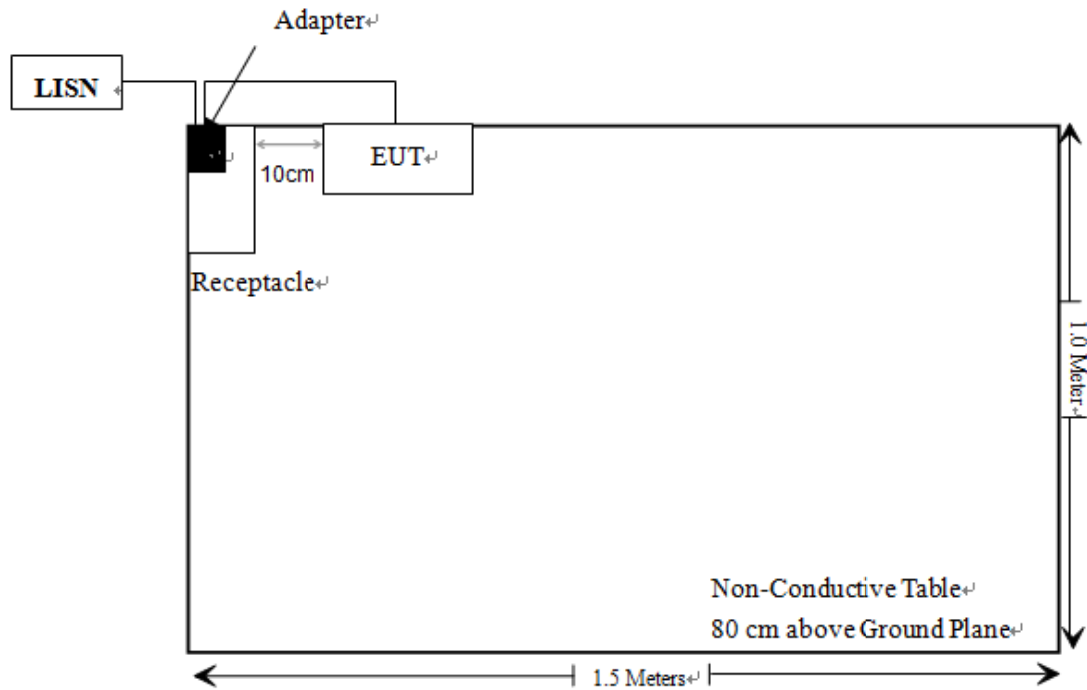
Manufacturer	Description	Model	Serial Number
BLU	Adapter	US-CR-2000	Unknown

External I/O Cable

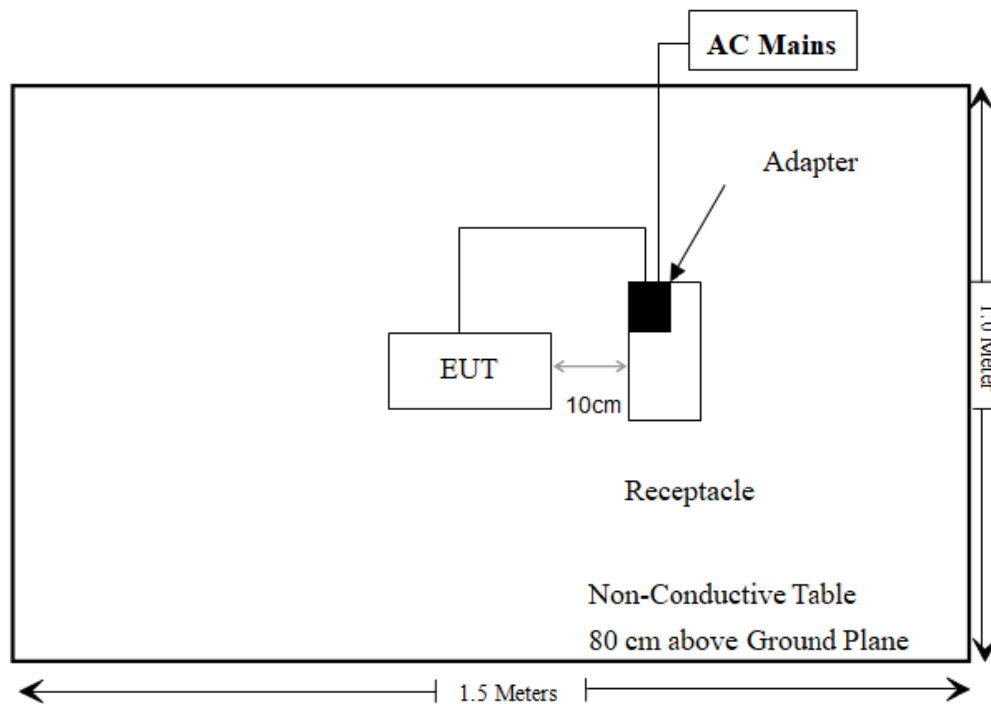
Cable Description	Length (m)	From Port	To
Un-shielding Detachable USB Cable	0.3	EUT	Adapter
Un-shielding Un-Detachable AC Cable	1.5	Receptacle	AC Mains/LISN

Block Diagram of Test Setup

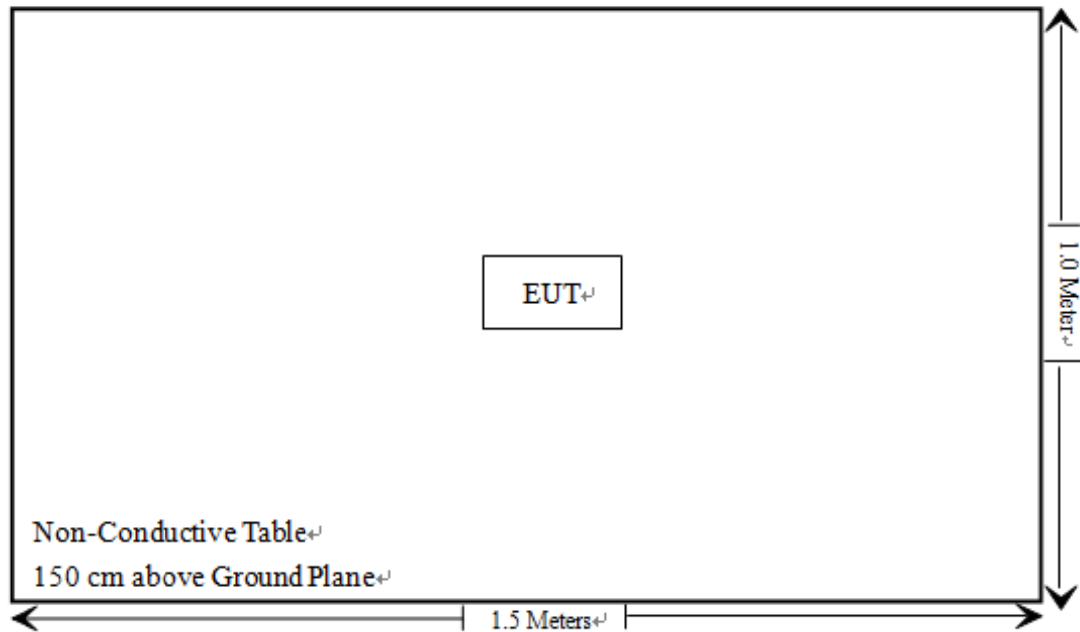
For Conducted Emissions:



For Radiated Emissions below 1GHz:



For Radiated Emissions above 1GHz:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
FCC §15.207(a)	AC Line Conducted Emissions	Compliant
FCC §15.205, §15.209, §15.247(d)	Radiated Spurious Emission	Compliant
FCC §15.207(a)(2)	6dB Emission Bandwidth	Compliant
FCC §15.247(b)(1)	Maximum Conducted Output Power	Compliant
FCC §15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
FCC §15.247(e)	Power Spectral Density	Compliant
ANSI C63.10-2013 §11.6	Duty Cycle	/
§15.247 (i), §1.1307 (b) (1) & §2.1093	RF Exposure	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2024/01/16	2025/01/15
Rohde & Schwarz	LISN	ENV216	101613	2024/01/16	2025/01/15
Rohde & Schwarz	Transient Limiter	ESH3Z2	DE25985	2024/05/21	2025/05/20
Audix	EMI Test software	E3	191218(V9)	NCR	NCR
Unknown	CE Cable	Unknown	UF A210B-1-0720-504504	2024/05/21	2025/05/20
Radiated Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR3	102455	2024/01/16	2025/01/15
Sonoma instrument	Pre-amplifier	310 N	186238	2024/05/21	2025/05/20
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2023/07/20	2026/07/19
Unknown	Cable	Chamber A Cable 1	N/A	2024/06/18	2025/06/17
Unknown	Cable	XH500C	J-10M-A	2024/06/18	2025/06/17
BACL	Active Loop Antenna	1313-1A	4031911	2024/05/14	2027/05/13
Unknown	Cable	2Y194	0735	2024/05/21	2025/05/20
Unknown	Cable	PNG214	1354	2024/05/21	2025/05/20
Audix	EMI Test software	E3	19821b(V9)	NCR	NCR
Rohde & Schwarz	Spectrum Analyzer	FSV40	101605	2024/03/27	2025/03/26
COM-POWER	Pre-amplifier	PA-122	181919	2024/06/18	2025/06/17
The Electro-Mechanics Co.	Horn Antenna	3115	9107-3694	2024/06/06	2027/06/05
Unknown	RF Cable	KMSE	735	2024/06/18	2025/06/17
Unknown	RF Cable	UFA147	219661	2024/06/18	2025/06/17
JD	Multiplex Switch Test Control Set	DT7220FSU	DQ77926	2024/06/18	2025/06/17
A.H.System	Pre-amplifier	PAM-1840VH	190	2024/06/18	2025/06/17
Electro-Mechanics Co	Horn Antenna	3116	2026	2023/09/18	2026/09/17
UTIFLEX	RF Cable	NO. 13	232308-001	2024/06/18	2025/06/17
Audix	EMI Test software	E3	191218(V9)	NCR	NCR

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
ANRITSU	Microwave peak power sensor	MA24418A	12622	2024/05/21	2025/05/20
Rohde & Schwarz	Spectrum Analyzer	FSV40	101473	2024/01/16	2025/01/15
Unknown	10dB Attenuator	Unknown	F-03-EM190	2024/06/27	2025/06/26

* **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).

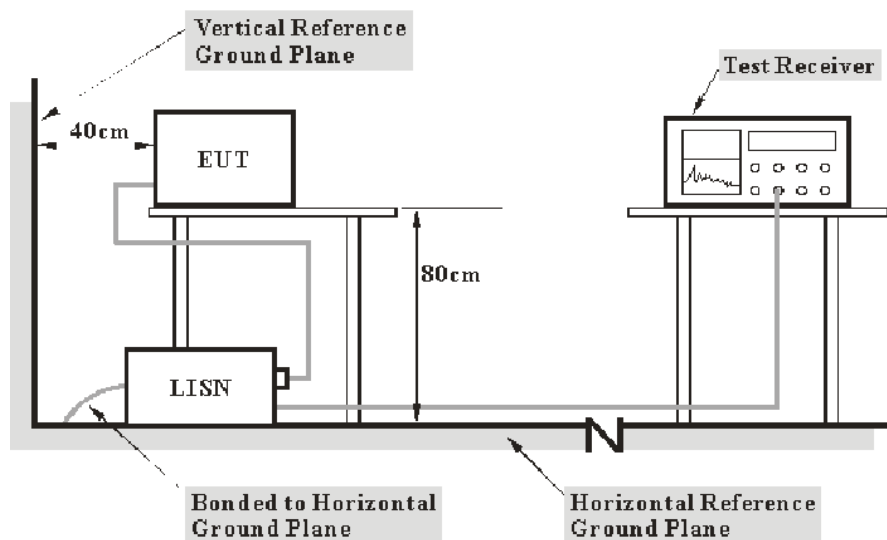
REQUIREMENTS AND TEST PROCEDURES

AC Line Conducted Emissions

Applicable Standard

FCC§15.207

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 setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

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	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

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:

$$\text{Factor} = \text{LISN VDF} + \text{Cable Loss}$$

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 margin calculation is as follows:

$$\begin{aligned}\text{Over Limit} &= \text{level} - \text{Limit} \\ \text{Level} &= \text{reading level} + \text{Factor}\end{aligned}$$

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

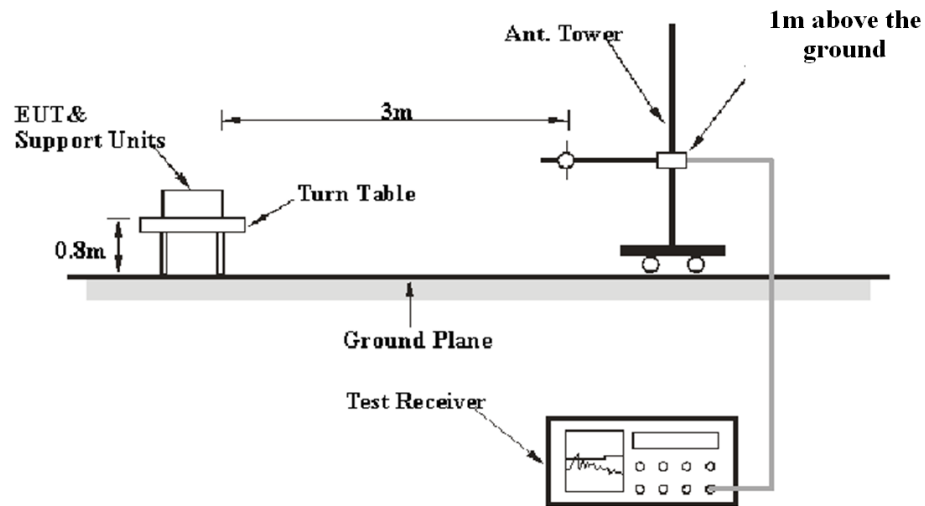
Spurious Emissions

Applicable Standard

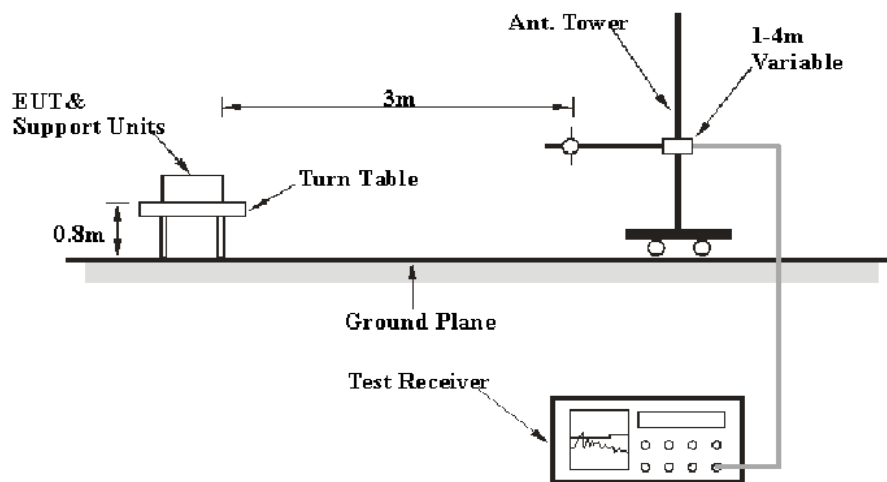
FCC §15.247 (d); §15.209; §15.205;

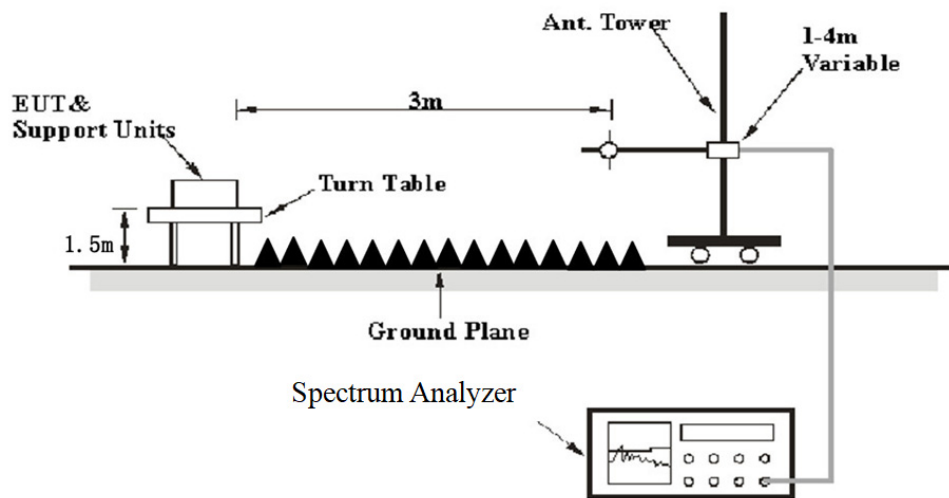
EUT Setup

9 kHz-30MHz:



30MHz-1GHz:



Above 1GHz:

The radiated emission performed in the 3 meters, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, FCC 15.247 limits.

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 were set with the following configurations:

9 kHz-1GHz:

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

1-25GHz:

Pre-scan

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	5 kHz
	<98%	1MHz	≥1/Ton, not less than 5 kHz

Final measurement for emission identified during pre-scan

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	10 Hz
	<98%	1MHz	≥1/Ton

Note: Ton is minimum transmission duration

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.

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.

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:

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Over Limit/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 calculation is as follows:

$$\begin{aligned} \text{Over Limit/Margin} &= \text{Level/Corrected Amplitude} - \text{Limit} \\ \text{Level / Corrected Amplitude} &= \text{Read Level} + \text{Factor} \end{aligned}$$

6 dB Emission Bandwidth

Applicable Standard

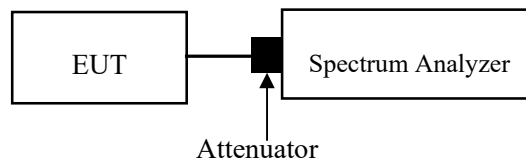
According to FCC §15.247(a) (2)

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

Test Method: ANSI C63.10-2013 Clause 11.8.1

- a) Set RBW = 100 kHz.
- b) Set the VBW $\geq [3 \times \text{RBW}]$.
- c) Detector = peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



Maximum Conducted Output Power

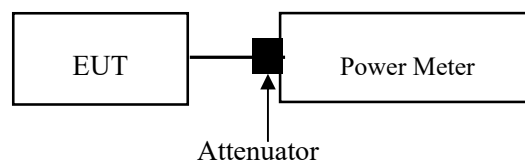
Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Procedure

Test method: ANSI C63.10-2013 clause 11.9.1.3 for peak power method or clause 11.9.2.3.2 for average power method.

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.



100 kHz Bandwidth of Frequency Band Edge

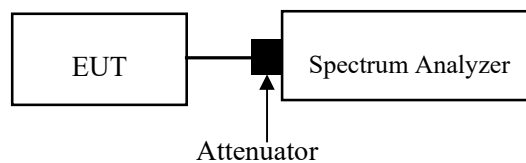
Applicable Standard

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 C63.10-2013 Clause 11.11

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.



Power Spectral Density

Applicable Standard

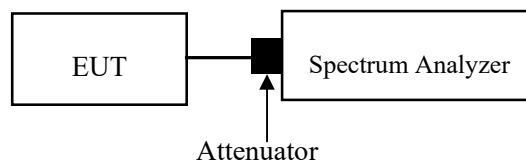
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

Test Method: ANSI C63.10-2013 Clause 11.10.2

Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.

1. Set the RBW to: $3\text{kHz} \leq \text{RBW} \leq 100\text{ kHz}$.
2. Set the VBW $\geq 3 \times \text{RBW}$.
3. Set the span to 1.5 times the DTS bandwidth.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level within the RBW.
9. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



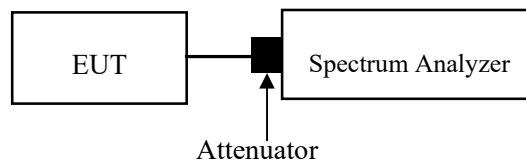
Duty Cycle

Test Procedure

According to ANSI C63.10-2013 Section 11.6

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:

- 1) Set the center frequency of the instrument to the center frequency of the transmission.
- 2) Set $RBW \geq OBW$ if possible; otherwise, set RBW to the largest available value.
- 3) Set $VBW \geq RBW$. Set detector = peak or average.
- 4) The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$ and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if $T \leq 16.7 \mu s$.)



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 one internal antenna arrangement which was permanently attached, the antenna gain[#] is 1.43dBi, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliant

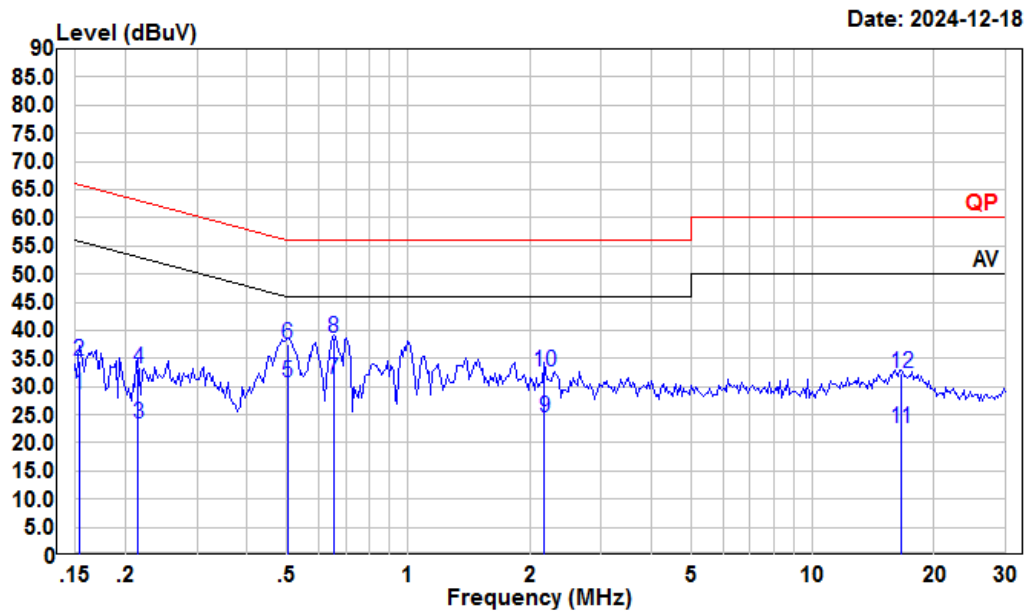
TEST DATA AND RESULTS

AC Line Conducted Emissions

Environmental Conditions

Temperature (°C)	25	Relative Humidity (%)	60
ATM Pressure (kPa)	101	Test engineer	Macy Shi
Test date	2024/12/18		
EUT operation mode	Transmitting (Maximum output power mode, 802.11g High Channel)		

AC120V 60 Hz, Line



Condition: Line

Project : 2401U21148E-RF

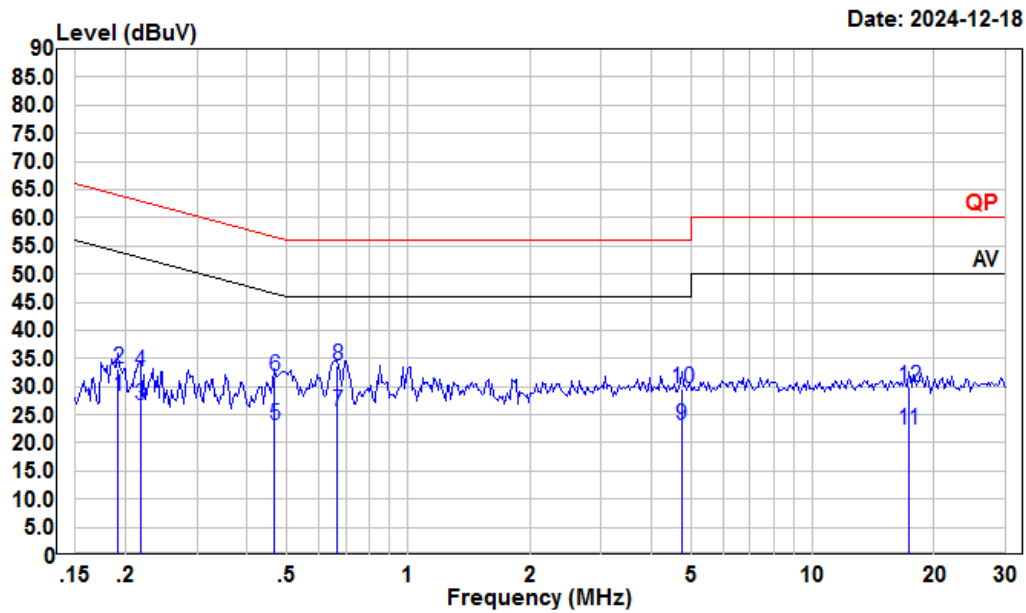
tester : Macy.shi

Note : Transmitting

Detector : RBW:9KHz VBW:Auto SWT:Auto

		Read	LISN	Cable	Over			
	Freq	Level	Level	Factor	Losslimit\C	Climit\C	Remark	
	MHz	dBuV	dBuV	dB	dB			
1	0.153	7.41	28.43	10.89	10.13	55.82	-27.39	Average
2	0.153	13.54	34.56	10.89	10.13	65.82	-31.26	QP
3	0.215	2.61	23.48	10.78	10.09	53.01	-29.53	Average
4	0.215	12.24	33.11	10.78	10.09	63.01	-29.90	QP
5	0.502	10.12	30.76	10.50	10.14	46.00	-15.24	Average
6	0.502	16.89	37.53	10.50	10.14	56.00	-18.47	QP
7	0.654	10.62	31.26	10.50	10.14	46.00	-14.74	Average
8	0.654	18.00	38.64	10.50	10.14	56.00	-17.36	QP
9	2.167	3.68	24.43	10.57	10.18	46.00	-21.57	Average
10	2.167	11.82	32.57	10.57	10.18	56.00	-23.43	QP
11	16.573	1.73	22.63	10.70	10.20	50.00	-27.37	Average
12	16.573	11.52	32.42	10.70	10.20	60.00	-27.58	QP

AC120V 60 Hz, Neutral



Condition: Neutral

Project : 2401U21148E-RF

tester : Macy.shi

Note : Transmitting

Detector : RBW:9KHz VBW:Auto SWT:Auto

	Freq	Read Level	LISN Level	Cable Factor	Over Losslimit\C	Remark
	MHz	dBuV	dBuV	dB	dB	
1	0.191	7.67	28.19	10.43	10.09	53.98 -25.79 Average
2	0.191	12.58	33.10	10.43	10.09	63.98 -30.88 QP
3	0.217	6.15	26.67	10.43	10.09	52.92 -26.25 Average
4	0.217	12.06	32.58	10.43	10.09	62.92 -30.34 QP
5	0.466	2.22	23.03	10.68	10.13	46.58 -23.55 Average
6	0.466	11.09	31.90	10.68	10.13	56.58 -24.68 QP
7	0.668	4.73	25.57	10.70	10.14	46.00 -20.43 Average
8	0.668	13.00	33.84	10.70	10.14	56.00 -22.16 QP
9	4.746	2.45	23.13	10.49	10.19	46.00 -22.87 Average
10	4.746	9.05	29.73	10.49	10.19	56.00 -26.27 QP
11	17.291	1.29	22.24	10.75	10.20	50.00 -27.76 Average
12	17.291	8.86	29.81	10.75	10.20	60.00 -30.19 QP

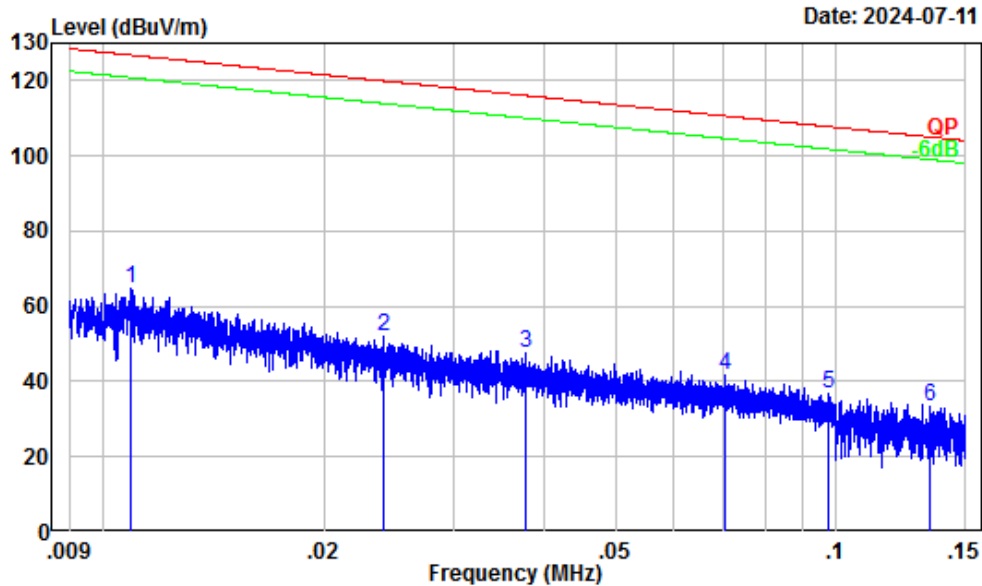
Spurious Emissions**Environmental Conditions**

Temperature (°C)	25~28	Relative Humidity (%)	50~55
ATM Pressure (kPa):	101	Test engineer:	Anson Su&Dylan Yang
Test date:	2024/7/11-2024/11/28		
EUT operation mode:	Below 1GHz: Transmitting (Maximum output power mode, 802.11g High Channel) Above 1GHz: Transmitting		
Note:	After pre-scan in the X, Y and Z axes of orientation, the worst case y-axis of orientation were recorded. For 9 kHz-30MHz, When the test result of peak was less than the limit of QP/Average more than 6dB, just peak value were recorded.		

Below 1GHz:

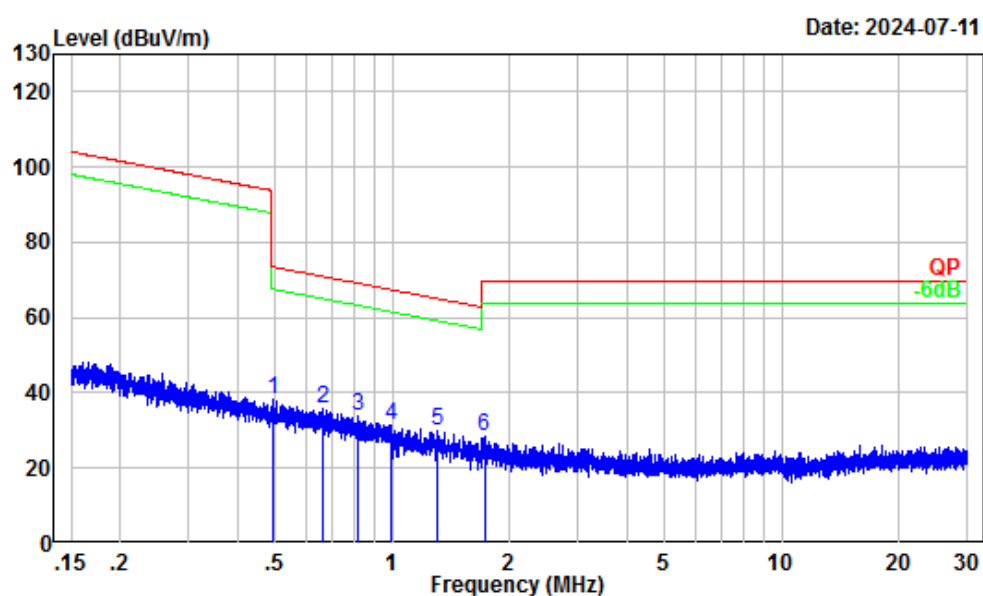
9 kHz-30MHz:

Parallel (worst case)



Site : Chamber A
Condition : 3m
Project Number: 2401U21148E-RF
Test Mode : 2.4G WIFI
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.01	37.22	27.30	64.52	126.84	-62.32	Peak
2	0.02	30.47	21.30	51.77	119.95	-68.18	Peak
3	0.04	25.77	21.82	47.59	116.07	-68.48	Peak
4	0.07	20.29	21.63	41.92	110.63	-68.71	Peak
5	0.10	17.30	19.62	36.92	107.82	-70.90	Peak
6	0.13	15.45	17.88	33.33	105.04	-71.71	Peak

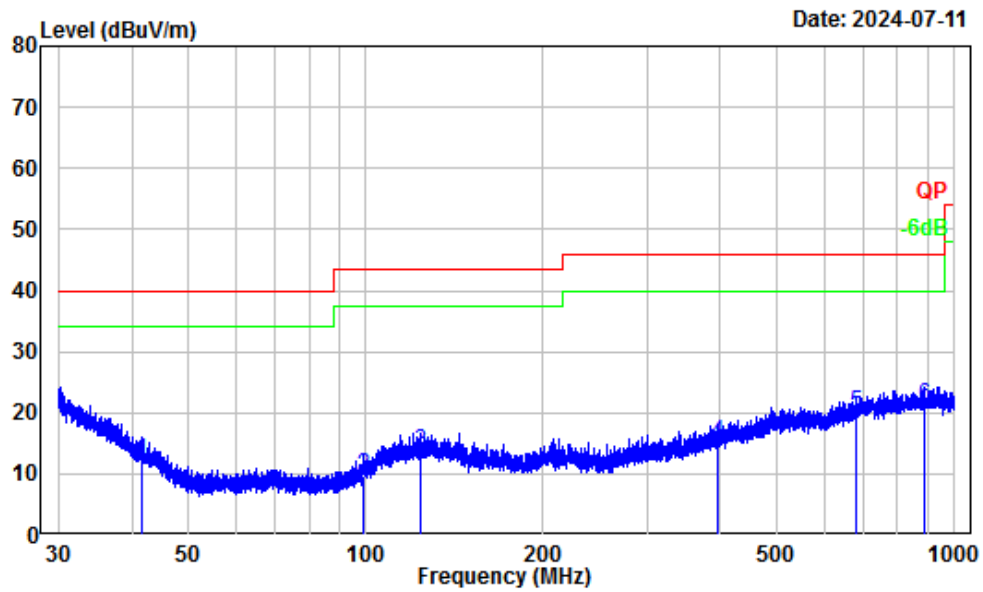


Site : Chamber A
Condition : 3m
Project Number: 2401U21148E-RF
Test Mode : 2.4G WIFI
Tester : Anson Su

	Freq	Factor	Read Level	Read Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.50	3.58	34.55	38.13	73.70	-35.57	Peak
2	0.67	1.49	34.10	35.59	71.08	-35.49	Peak
3	0.82	-0.26	33.87	33.61	69.23	-35.62	Peak
4	1.00	-1.56	33.16	31.60	67.51	-35.91	Peak
5	1.30	-2.64	32.60	29.96	65.13	-35.17	Peak
6	1.72	-4.11	32.37	28.26	69.54	-41.28	Peak

30MHz-1GHz:

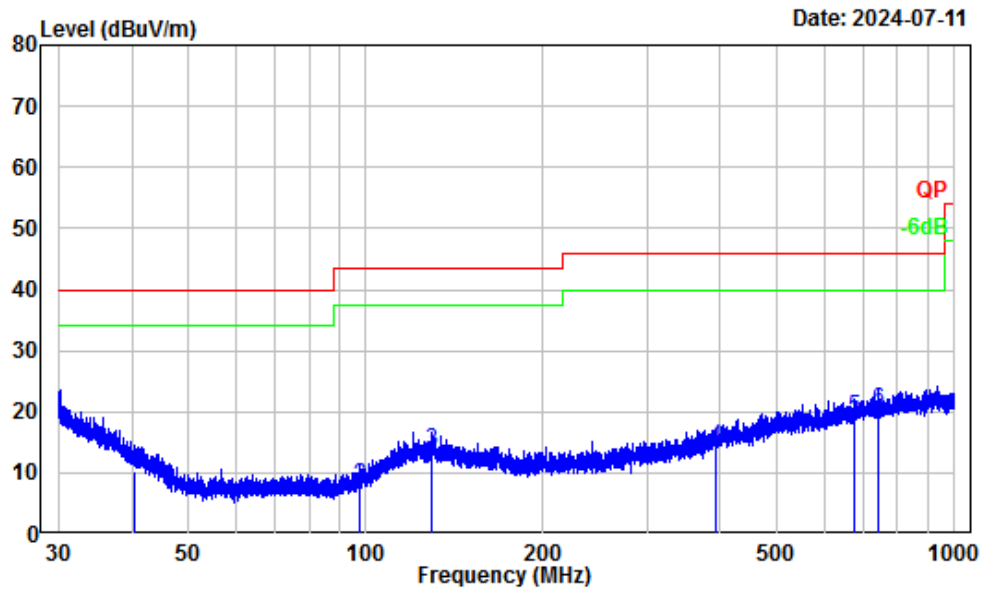
Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number: 2401U21148E-RF
Test Mode : 2.4G WIFI
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	41.75	-12.63	24.70	12.07	40.00	-27.93	QP
2	98.70	-15.78	25.58	9.80	43.50	-33.70	QP
3	123.54	-12.26	25.81	13.55	43.50	-29.95	QP
4	397.29	-10.67	25.82	15.15	46.00	-30.85	QP
5	682.05	-6.36	26.17	19.81	46.00	-26.19	QP
6	888.00	-4.52	25.56	21.04	46.00	-24.96	QP

Vertical



Site : Chamber A
Condition : 3m Vertical
Project Number: 2401U21148E-RF
Test Mode : 2.4G WIFI
Tester : Anson Su

	Freq		Read		Limit	Over	Remark
	Factor		Level	Level	Line	Limit	
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	40.56	-13.33	23.69	10.36	40.00	-29.64	QP
2	97.33	-17.45	25.27	7.82	43.50	-35.68	QP
3	129.70	-12.57	26.04	13.47	43.50	-30.03	QP
4	394.51	-10.95	25.24	14.29	46.00	-31.71	QP
5	674.03	-6.86	26.02	19.16	46.00	-26.84	QP
6	744.54	-6.10	26.45	20.35	46.00	-25.65	QP

Above 1GHz:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave					
802.11b							
Low Channel							
4824	47.39	PK	H	2.45	49.84	74	-24.16
4824	35.47	AV	H	2.45	37.92	54	-16.08
4824	46.75	PK	V	2.45	49.2	74	-24.8
4824	34.46	AV	V	2.45	36.91	54	-17.09
Middle Channel							
4874	47.64	PK	H	2.56	50.2	74	-23.8
4874	36.19	AV	H	2.56	38.75	54	-15.25
4874	47.08	PK	V	2.56	49.64	74	-24.36
4874	34.66	AV	V	2.56	37.22	54	-16.78
High Channel							
4924	53.12	PK	H	2.63	55.75	74	-18.25
4924	45.32	AV	H	2.63	47.95	54	-6.05
4924	51.62	PK	V	2.63	54.25	74	-19.75
4924	42.33	AV	V	2.63	44.96	54	-9.04
802.11g							
Low Channel							
4824	54.92	PK	H	2.45	57.37	74	-16.63
4824	38.87	AV	H	2.45	41.32	54	-12.68
4824	52.86	PK	V	2.45	55.31	74	-18.69
4824	37.86	AV	V	2.45	40.31	54	-13.69
Middle Channel							
4874	53.85	PK	H	2.56	56.41	74	-17.59
4874	37.46	AV	H	2.56	40.02	54	-13.98
4874	51.27	PK	V	2.56	53.83	74	-20.17
4874	36.91	AV	V	2.56	39.47	54	-14.53
High Channel							
4924	52.96	PK	H	2.63	55.59	74	-18.41
4924	37.33	AV	H	2.63	39.96	54	-14.04
4924	50.84	PK	V	2.63	53.47	74	-20.53
4924	36.12	AV	V	2.63	38.75	54	-15.25

802.11n20							
Low Channel							
4824	50.55	PK	H	2.45	53	74	-21
4824	36.33	AV	H	2.45	38.78	54	-15.22
4824	49.65	PK	V	2.45	52.1	74	-21.9
4824	35.81	AV	V	2.45	38.26	54	-15.74
Middle Channel							
4874	51.03	PK	H	2.56	53.59	74	-20.41
4874	36.45	AV	H	2.56	39.01	54	-14.99
4874	50.31	PK	V	2.56	52.87	74	-21.13
4874	36.58	AV	V	2.56	39.14	54	-14.86
High Channel							
4924	60.91	PK	H	2.63	63.54	74	-10.46
4924	46.48	AV	H	2.63	49.11	54	-4.89
4924	59.32	PK	V	2.63	61.95	74	-12.05
4924	46.21	AV	V	2.63	48.84	54	-5.16
802.11n40							
Low Channel							
4844	49.79	PK	H	2.47	52.26	74	-21.74
4844	36.59	AV	H	2.47	39.06	54	-14.94
4844	48.76	PK	V	2.47	51.23	74	-22.77
4844	35.42	AV	V	2.47	37.89	54	-16.11
Middle Channel							
4874	50.13	PK	H	2.56	52.69	74	-21.31
4874	36.65	AV	H	2.56	39.21	54	-14.79
4874	48.95	PK	V	2.56	51.51	74	-22.49
4874	35.73	AV	V	2.56	38.29	54	-15.71
High Channel							
4904	55.85	PK	H	2.64	58.49	74	-15.51
4904	42.96	AV	H	2.64	45.6	54	-8.4
4904	54.82	PK	V	2.64	57.46	74	-16.54
4904	41.78	AV	V	2.64	44.42	54	-9.58

Note:

Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor

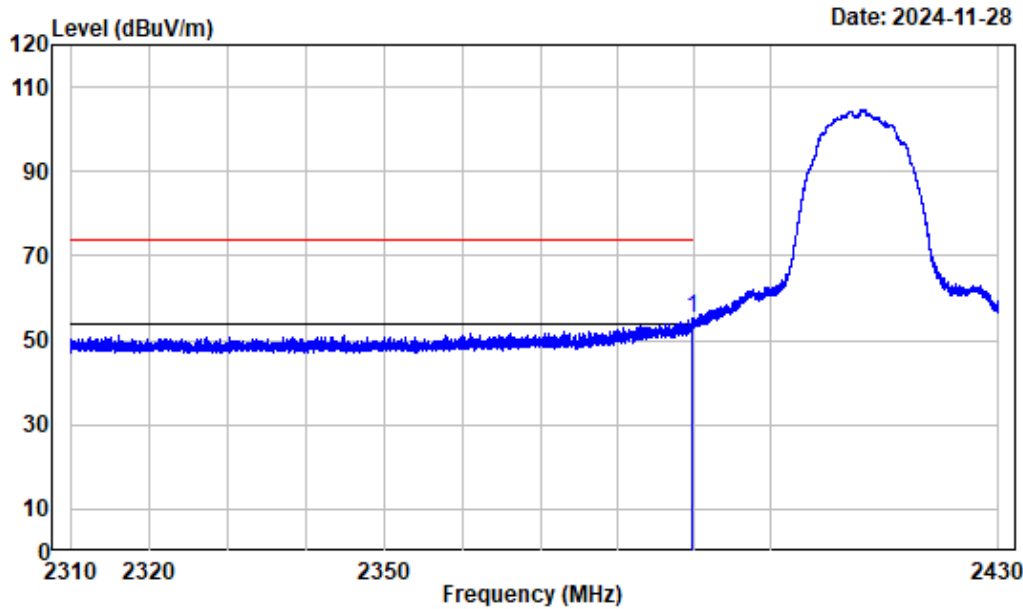
Corrected Amplitude = Corrected Factor + Reading

Margin = Corrected. Amplitude - Limit

The other spurious emission which is in the noise floor level was not recorded.

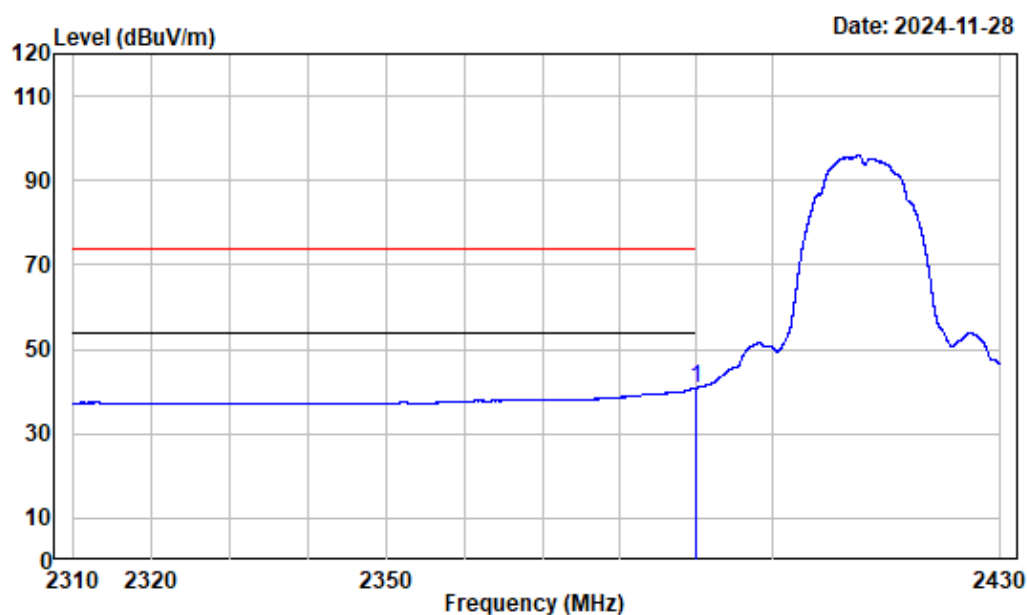
Test plots

802.11b



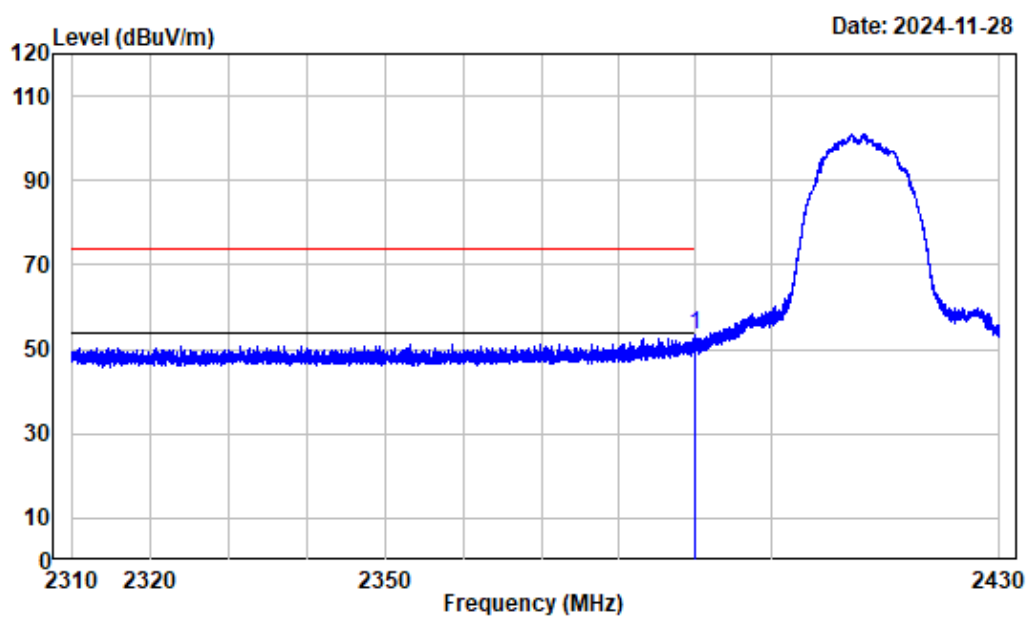
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11B_2412

Freq Factor		Read Level	Limit Level	Limit Line	Over Limit	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 2389.750	-3.20	58.33	55.13	74.00	-18.87	peak



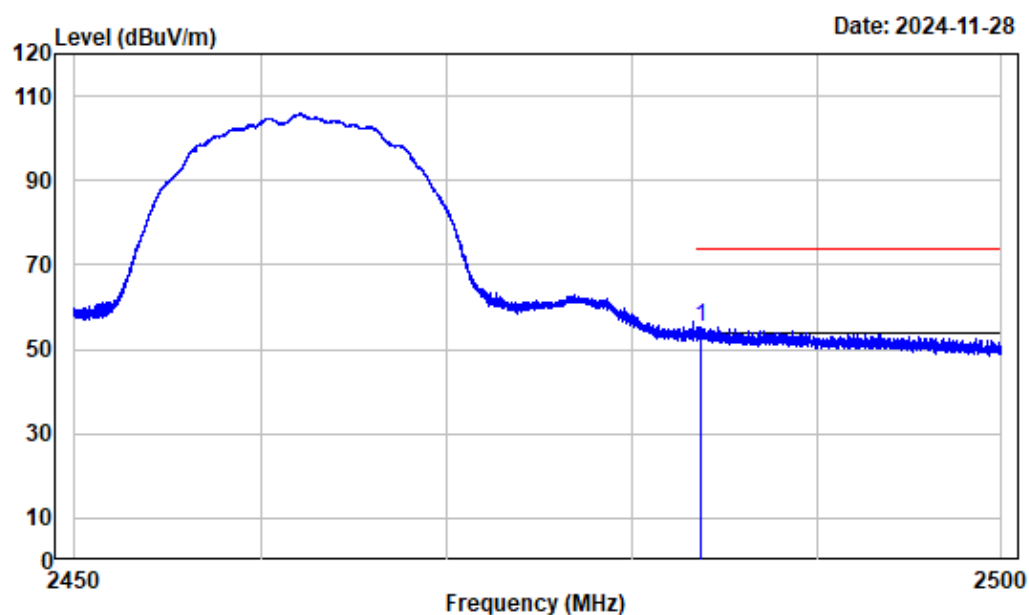
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11B_2412

Freq Factor		Read	Limit	Over	Remark	
MHz	dB/m	Level	Level	Line		
		dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	-3.20	44.11	40.91	54.00	-13.09 Average



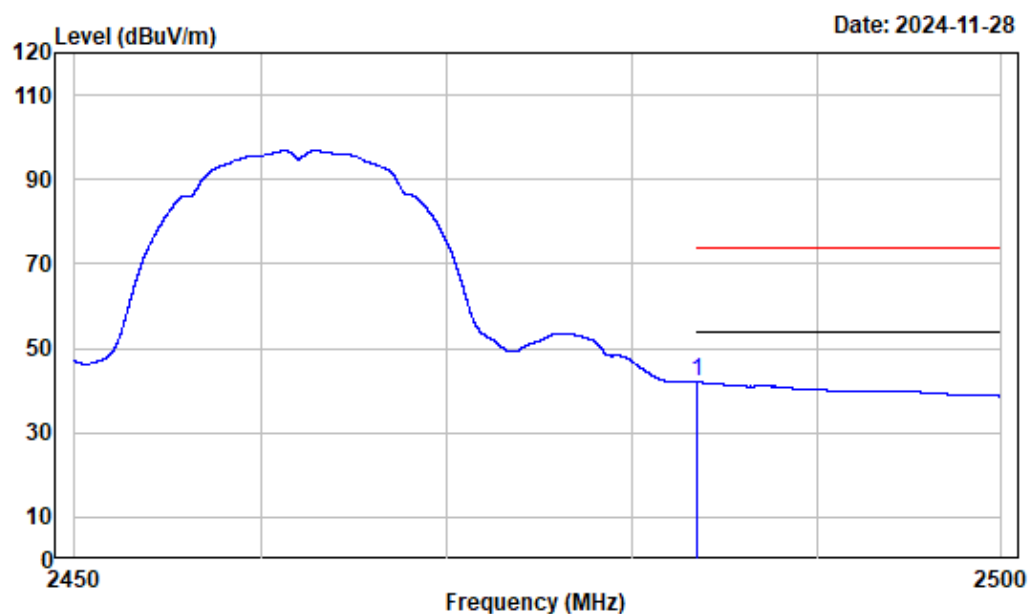
Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11B_2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	-3.20	56.53	53.33	74.00	-20.67	Peak



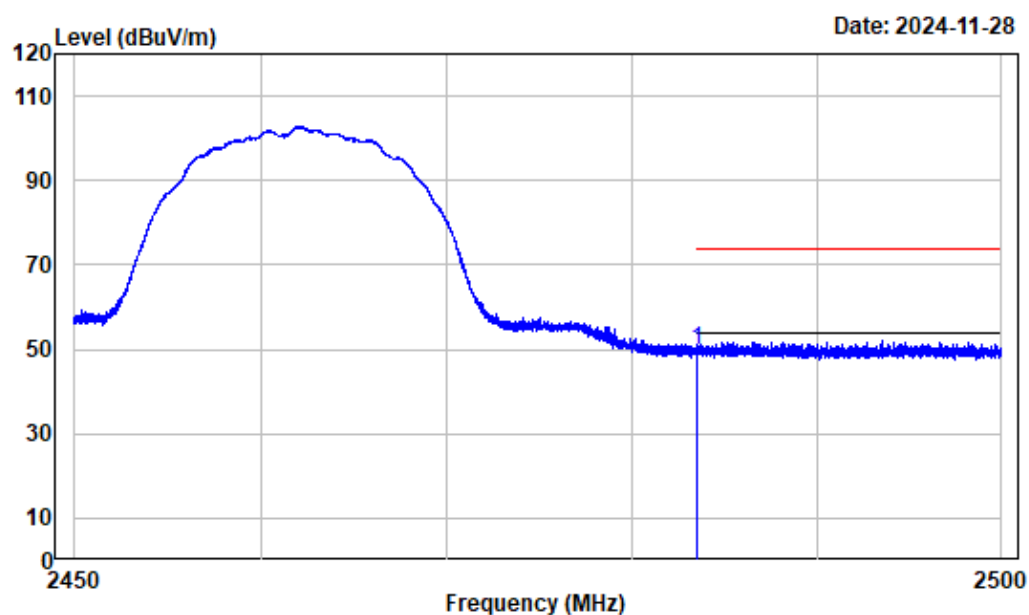
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11B_2462

Freq Factor		Read Level		Limit	Over	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.698	-3.17	58.50	55.33	74.00	-18.67 peak



Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11B_2462

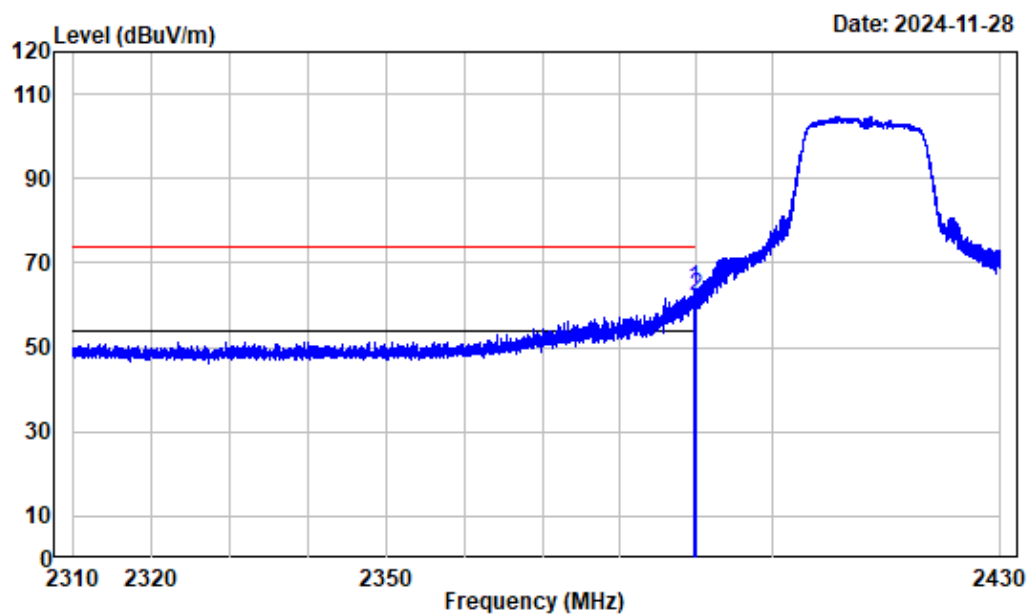
	Freq Factor		Read Level		Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	45.20	42.03	54.00	-11.97	Average



Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11B_2462

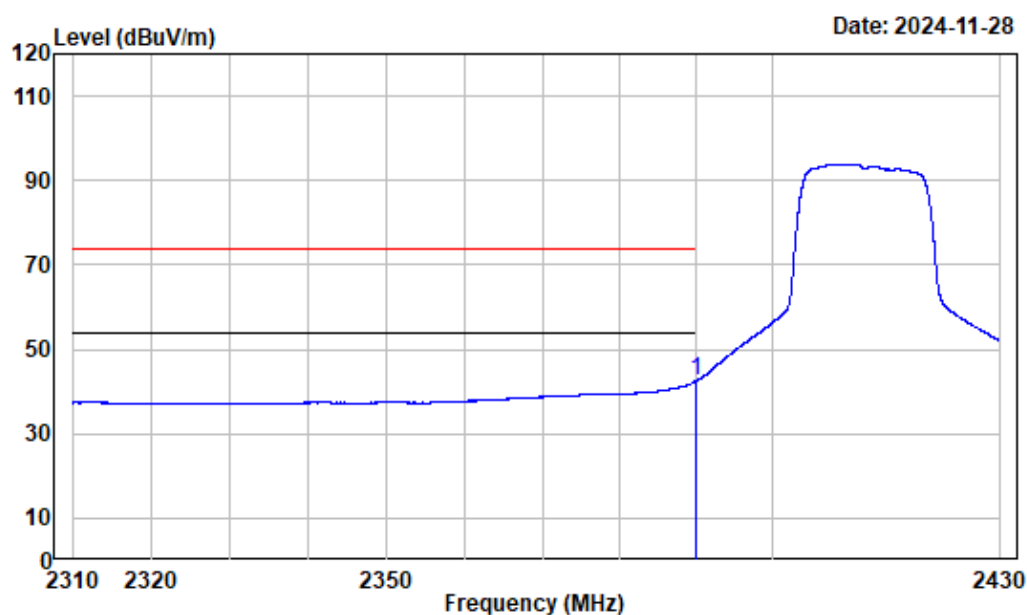
Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 2483.500	-3.17	52.88	49.71	74.00	-24.29	Peak

802.11g



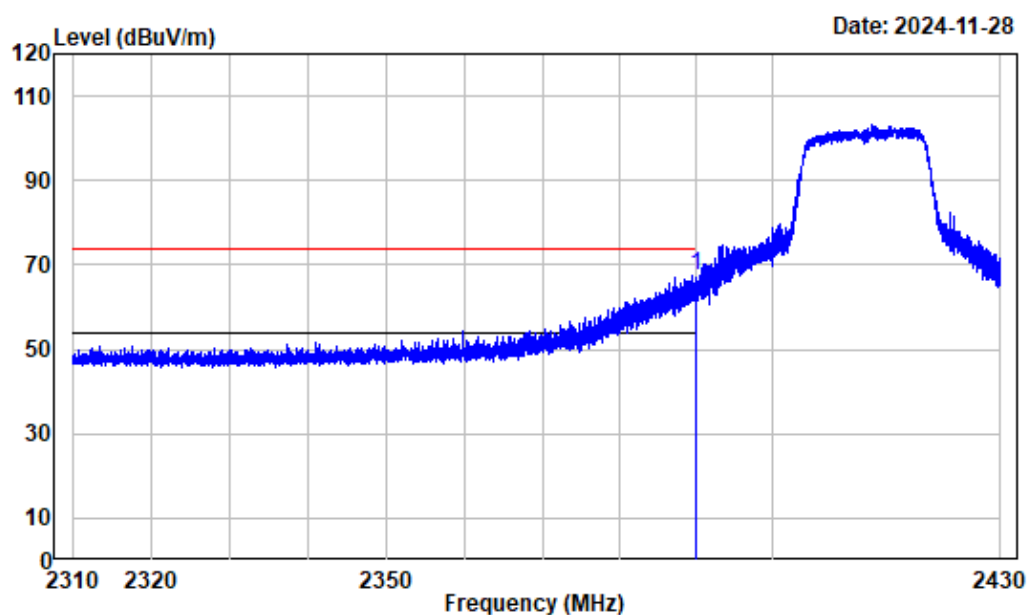
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11G_2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.645	-3.20	67.06	63.86	74.00	-10.14	peak
2	2390.000	-3.20	65.27	62.07	74.00	-11.93	Peak



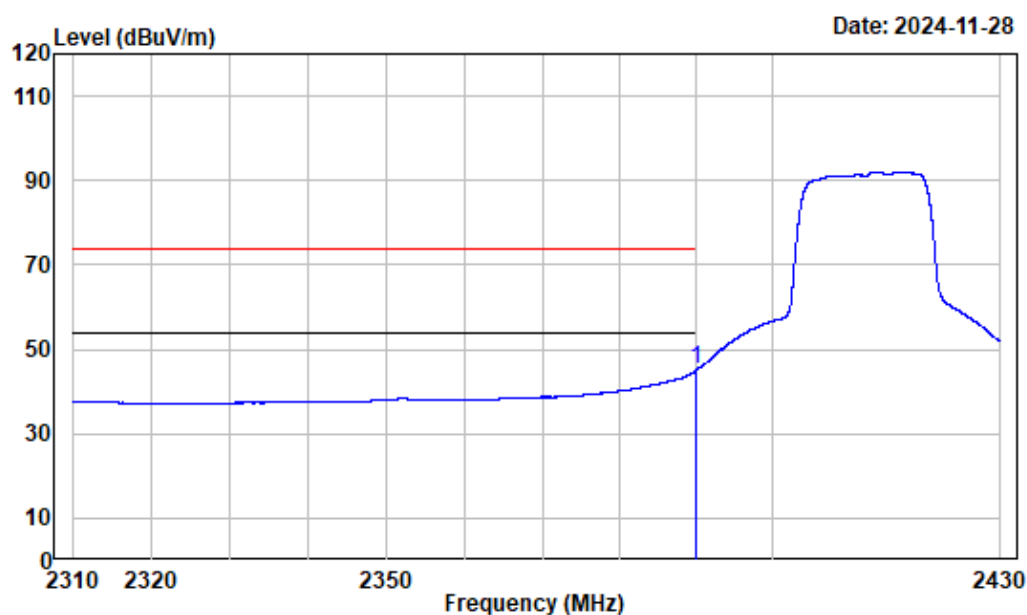
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11G_2412

Freq Factor		Read	Limit	Over	Remark	
MHz	dB/m	Level	Level	Line		
		dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	-3.20	45.70	42.50	54.00	-11.50 Average



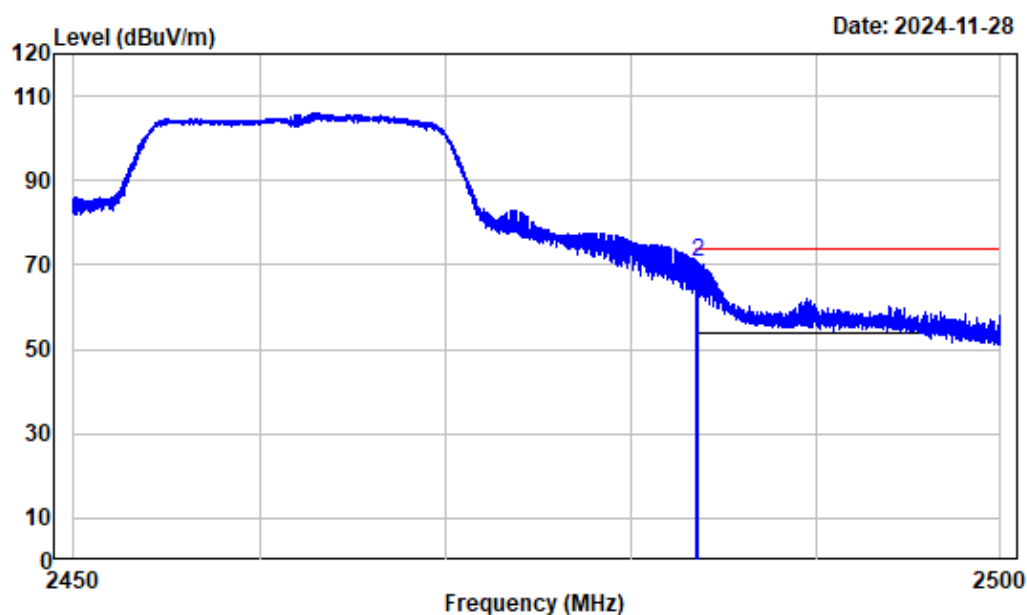
Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11G_2412

Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 2390.000	-3.20	70.65	67.45	74.00	-6.55	Peak



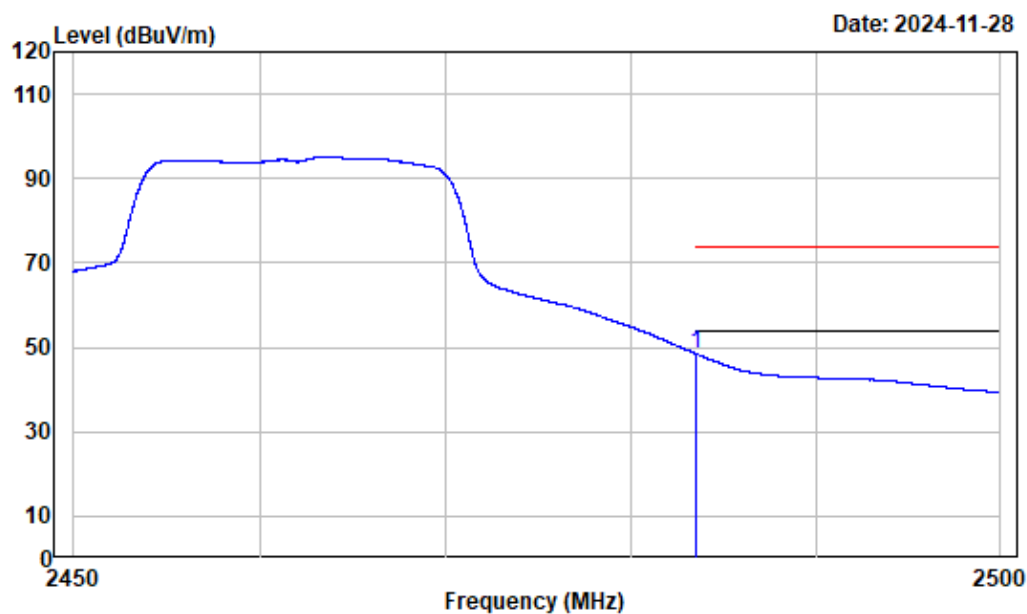
Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11G_2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	-3.20	48.32	45.12	54.00	-8.88	Average



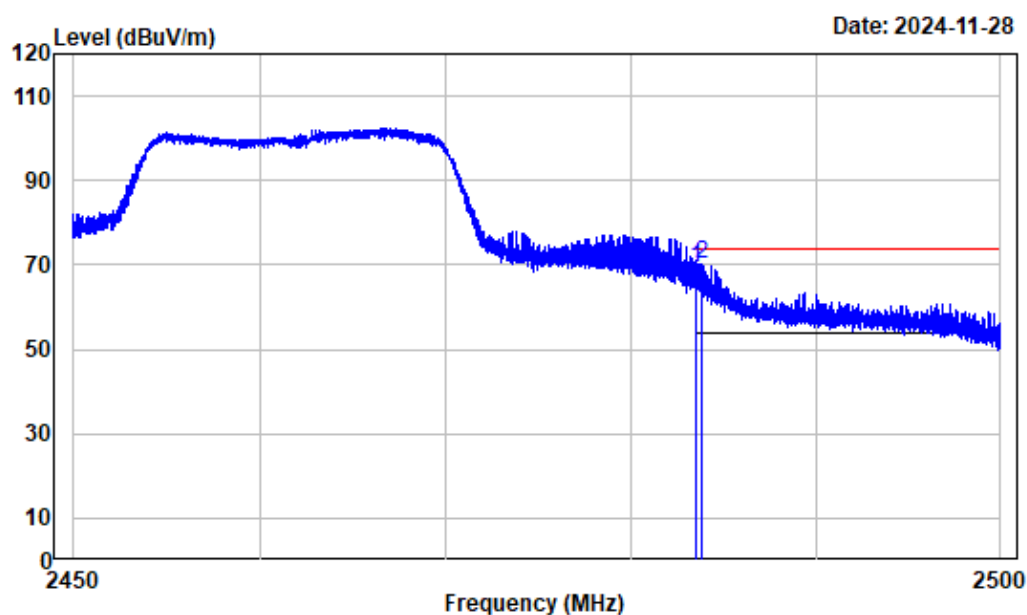
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11G_2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	67.08	63.91	74.00	-10.09	Peak
2	2483.579	-3.17	73.63	70.46	74.00	-3.54	peak



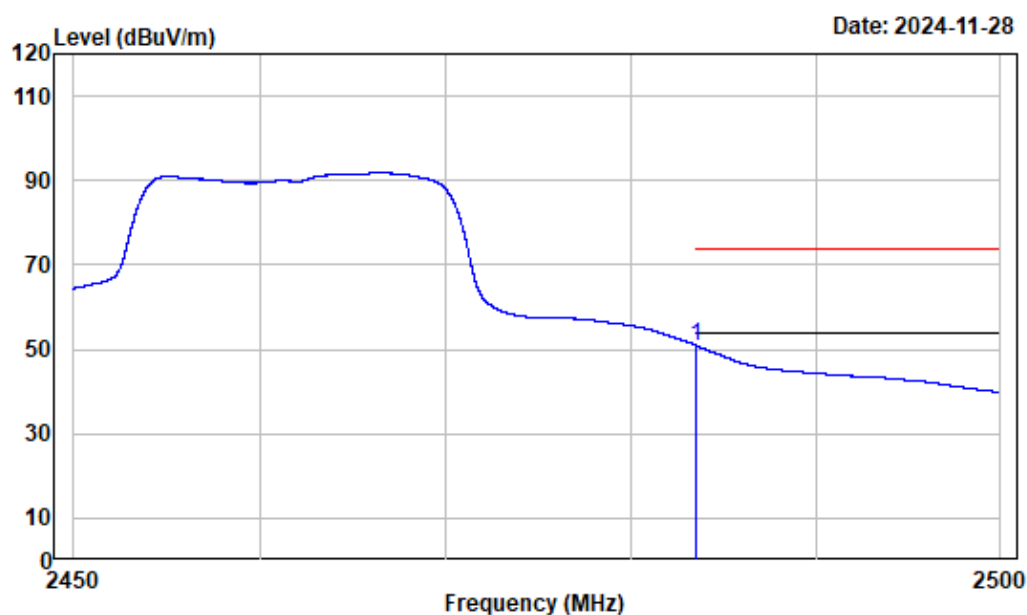
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11G_2462

	Freq Factor		Read Level		Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	51.64	48.47	54.00	-5.53	Average



Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11G_2462

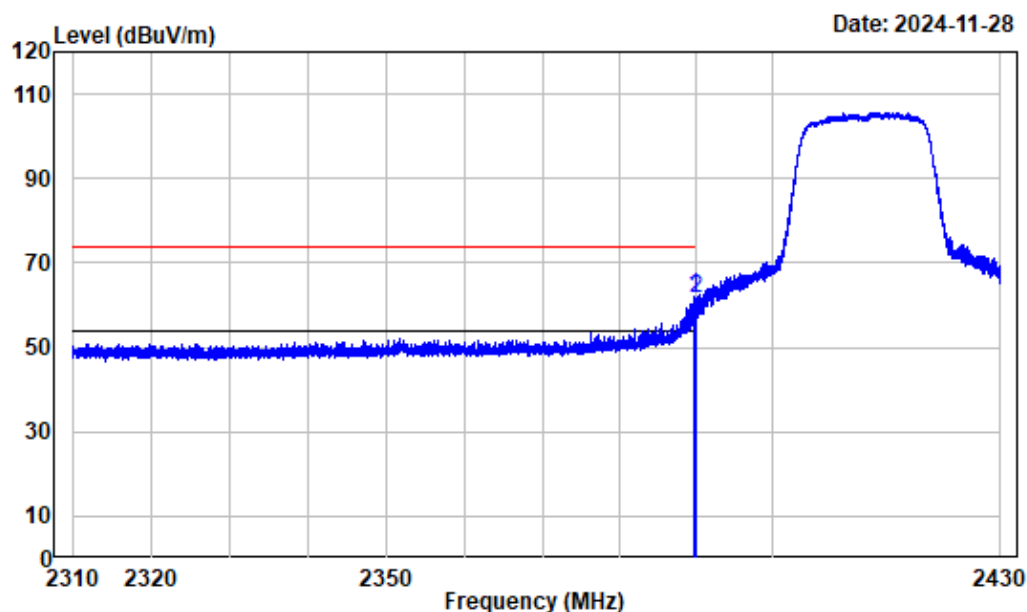
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	72.45	69.28	74.00	-4.72	Peak
2	2483.811	-3.17	73.57	70.40	74.00	-3.60	Peak



Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11G_2462

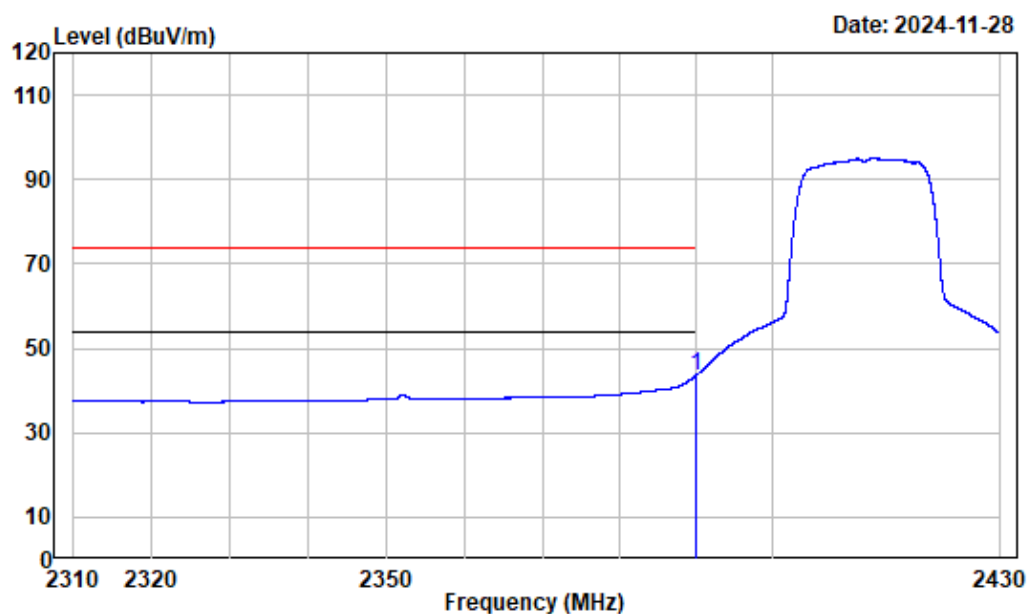
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	54.07	50.90	54.00	-3.10	Average

802.11n20



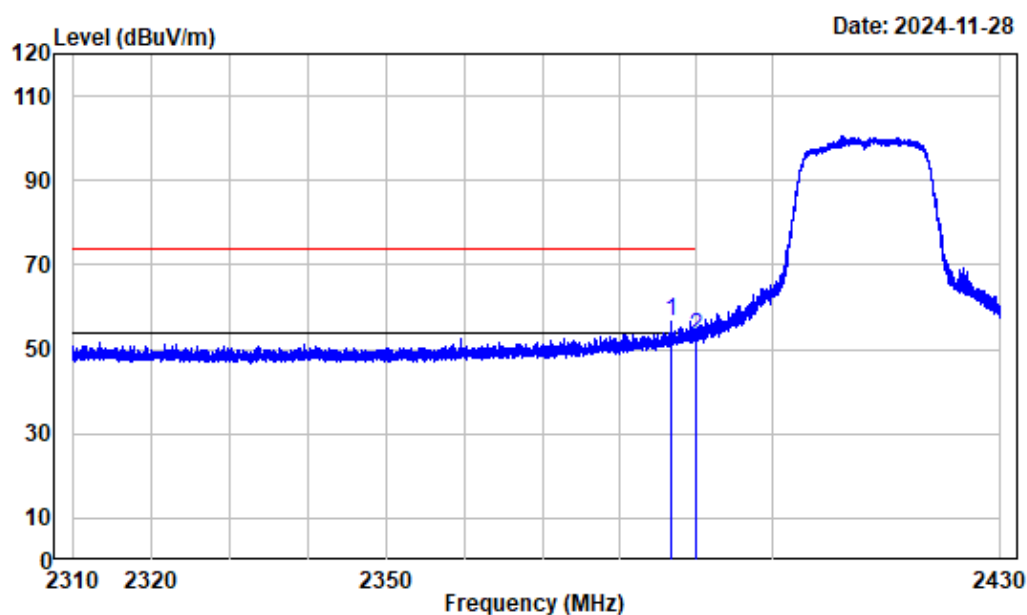
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11N20_2412

	Freq Factor		Read Level		Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.810	-3.20	65.25	62.05	74.00	-11.95	peak
2	2390.000	-3.20	64.78	61.58	74.00	-12.42	Peak



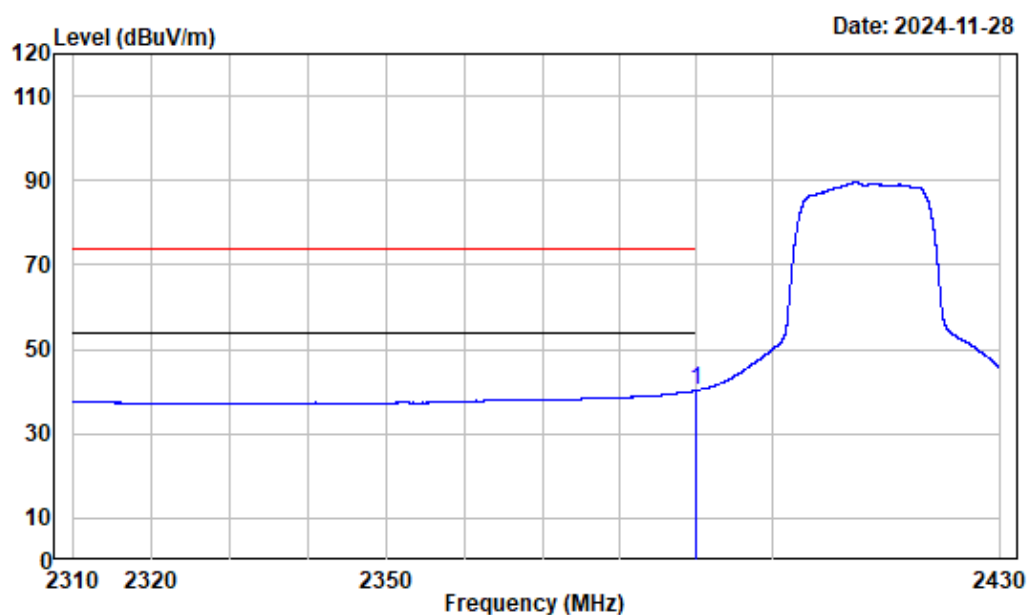
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11N20_2412

Freq Factor		Read	Limit	Over	Remark	
MHz	dB/m	Level	Level	Line		
		dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	-3.20	46.82	43.62	54.00	-10.38 Average



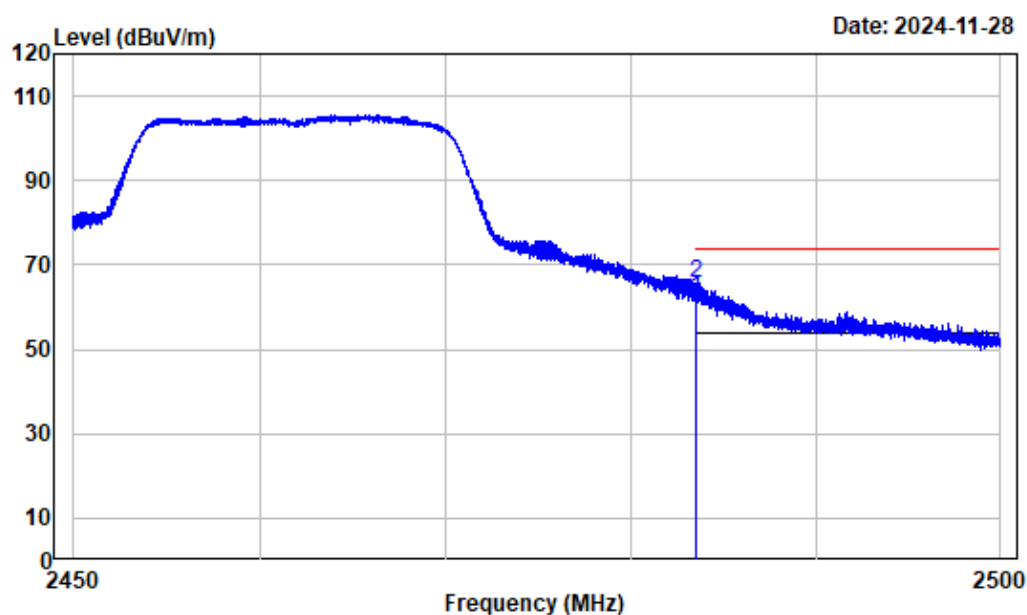
Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11N20_2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2386.675	-3.19	59.74	56.55	74.00	-17.45	peak
2	2390.000	-3.20	56.12	52.92	74.00	-21.08	Peak



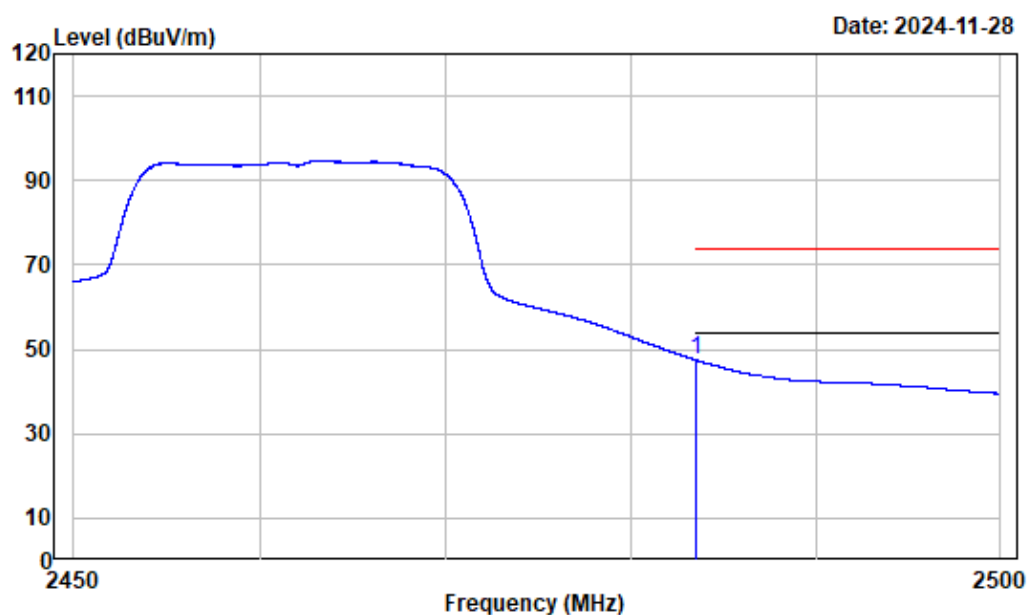
Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11N20_2412

Freq Factor		Read	Limit	Over	Remark	
MHz	dB/m	Level	Level	Line		
		dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	-3.20	43.50	40.30	54.00	-13.70 Average



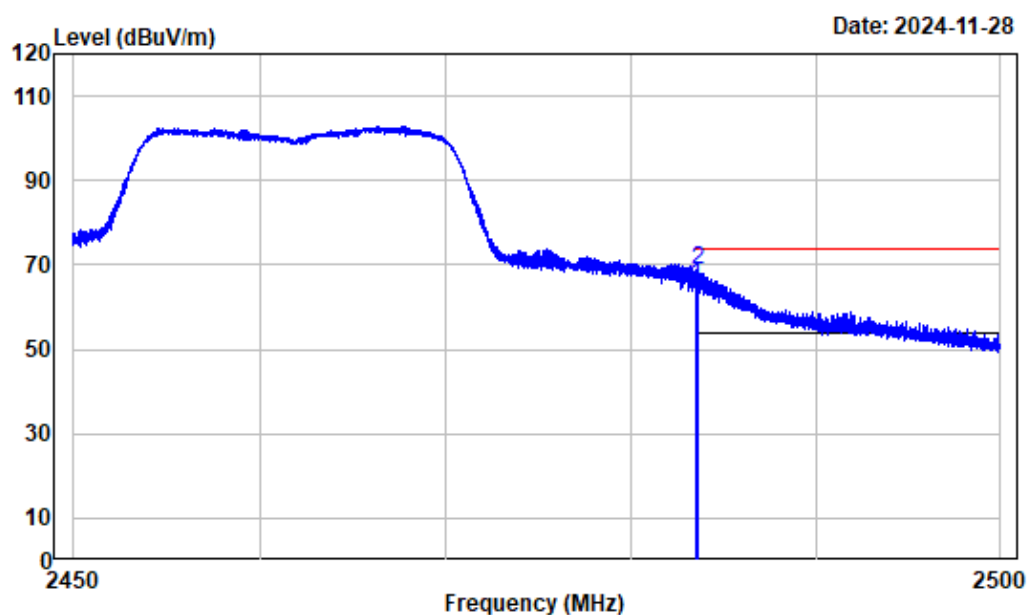
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11N20_2462

Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	64.99	61.82	74.00	-12.18 Peak
2	2483.523	-3.17	68.85	65.68	74.00	-8.32 peak



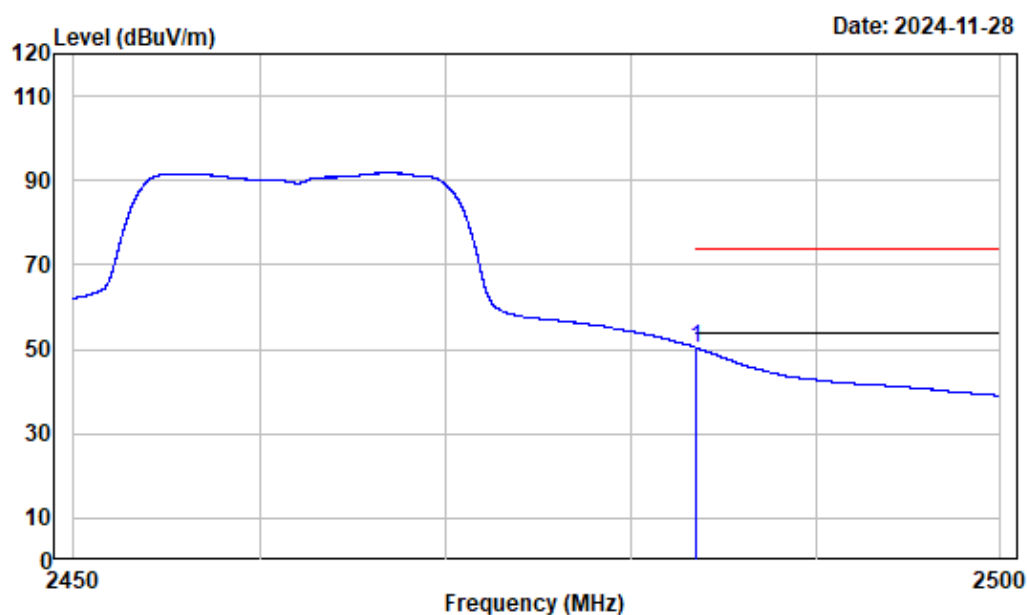
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11N20_2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	50.66	47.49	54.00	-6.51	Average



Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11N20_2462

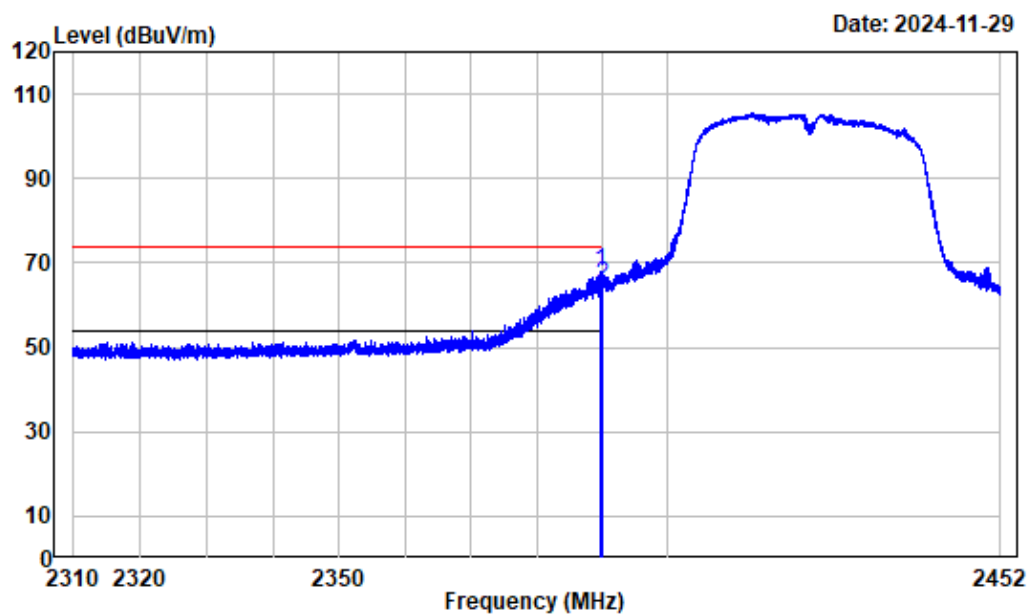
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	68.40	65.23	74.00	-8.77	Peak
2	2483.548	-3.17	72.08	68.91	74.00	-5.09	peak



Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:10Hz Detector:Peak
Note : 802.11N20_2462

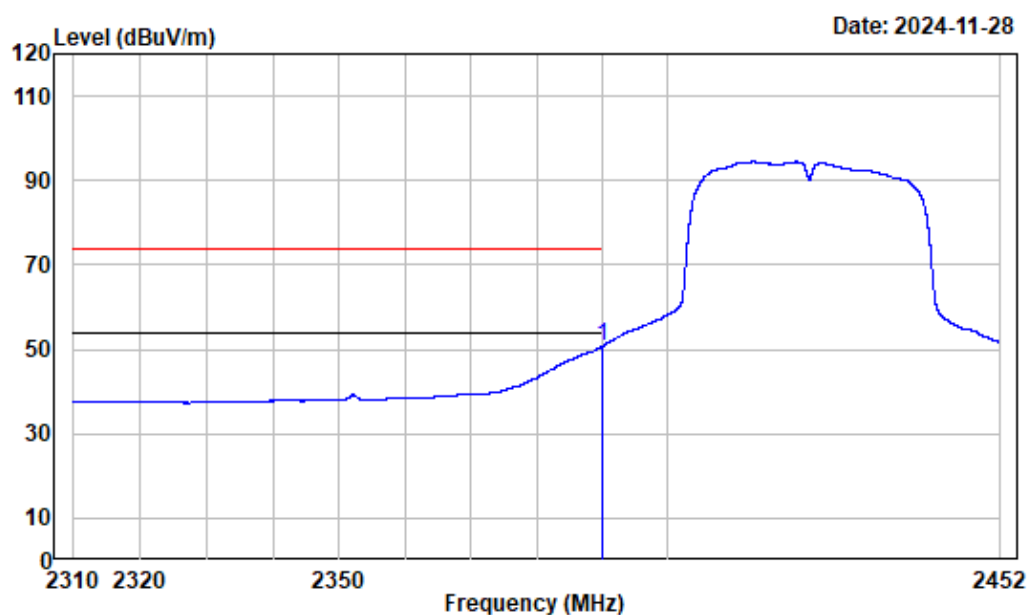
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	53.57	50.40	54.00	-3.60	Average

802.11n40



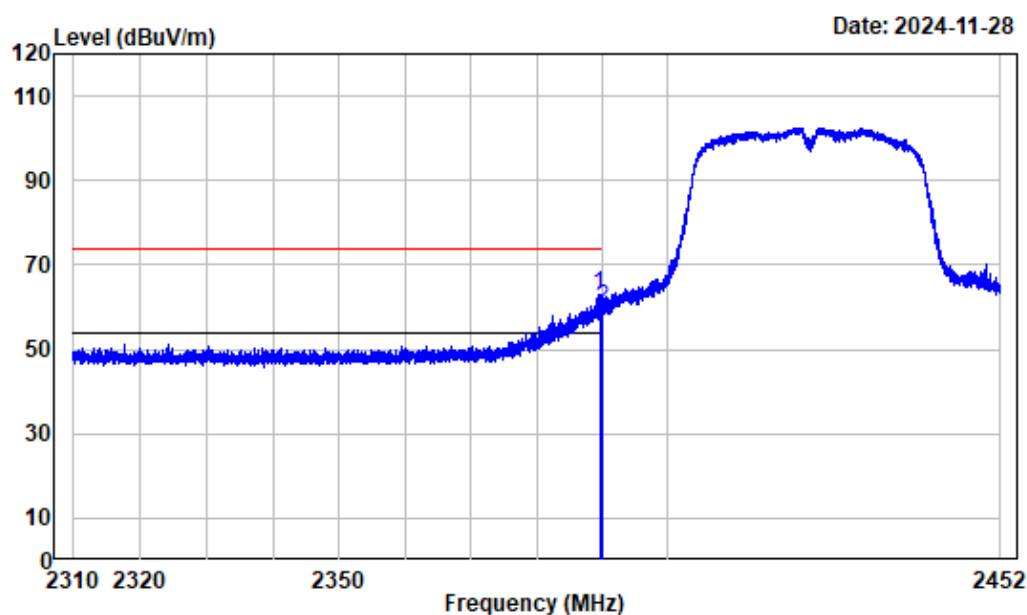
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11N40_2422

	Freq Factor		Read Level		Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.885	-3.20	71.34	68.14	74.00	-5.86	peak
2	2390.000	-3.20	67.74	64.54	74.00	-9.46	Peak



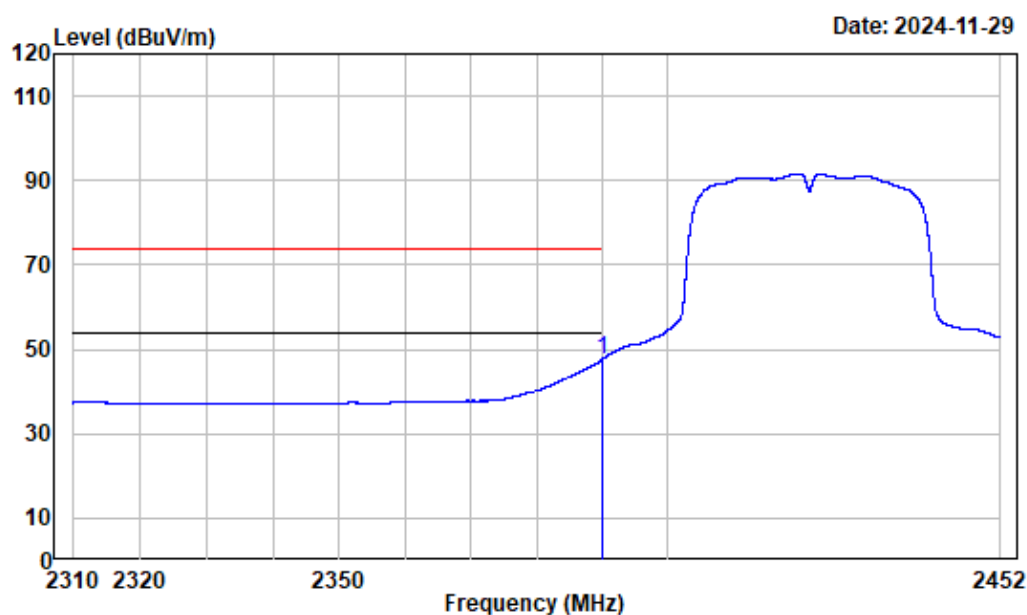
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:1KHz Detector:Peak
Note : 802.11N40_2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	-3.20	53.88	50.68	54.00	-3.32	Average



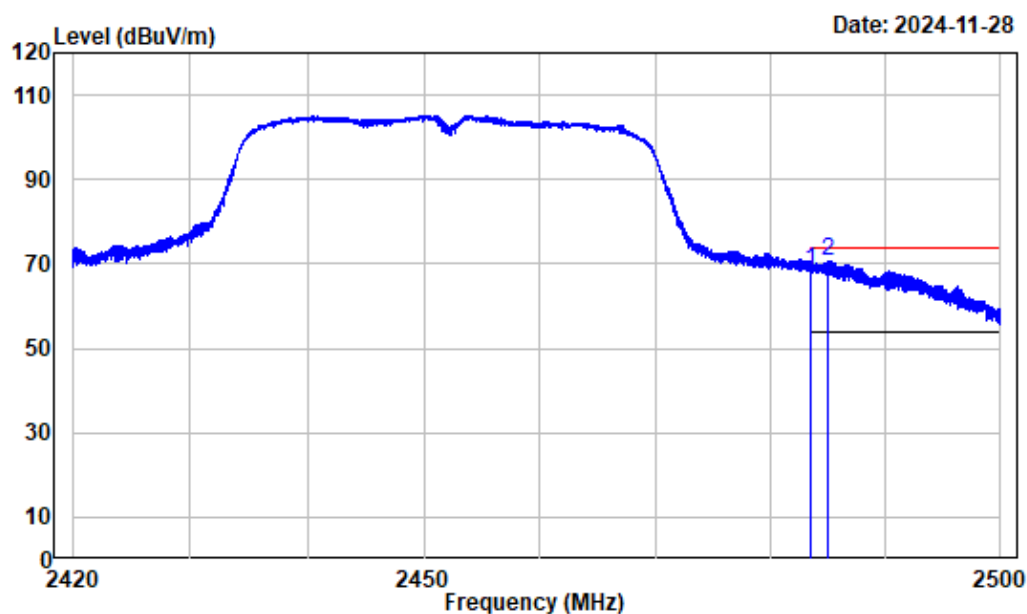
Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11N40_2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.619	-3.20	66.30	63.10	74.00	-10.90	Peak
2	2390.000	-3.20	63.09	59.89	74.00	-14.11	Peak



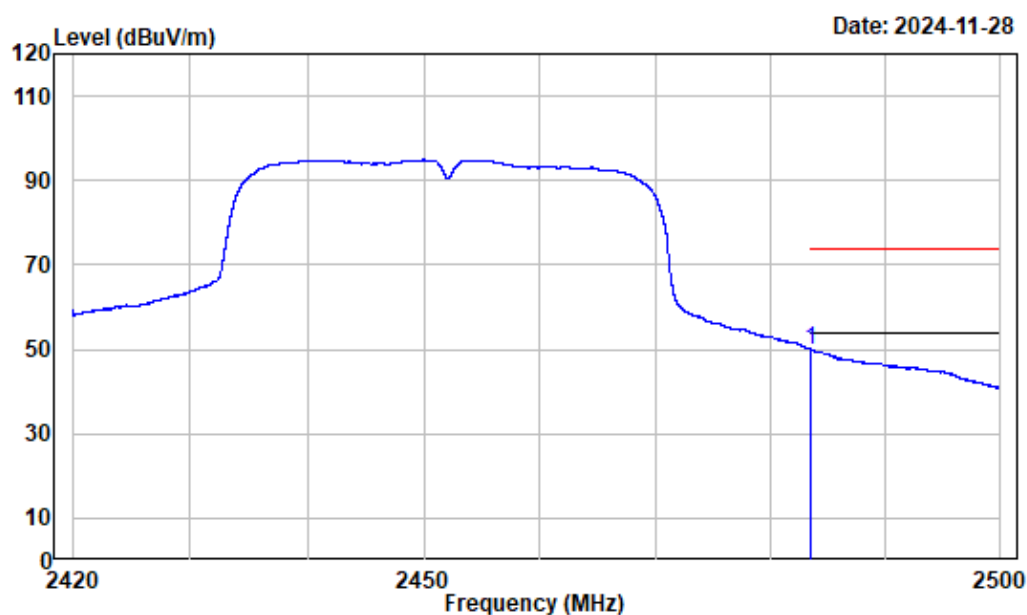
Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:1KHz Detector:Peak
Note : 802.11N40_2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	-3.20	50.77	47.57	54.00	-6.43	Average



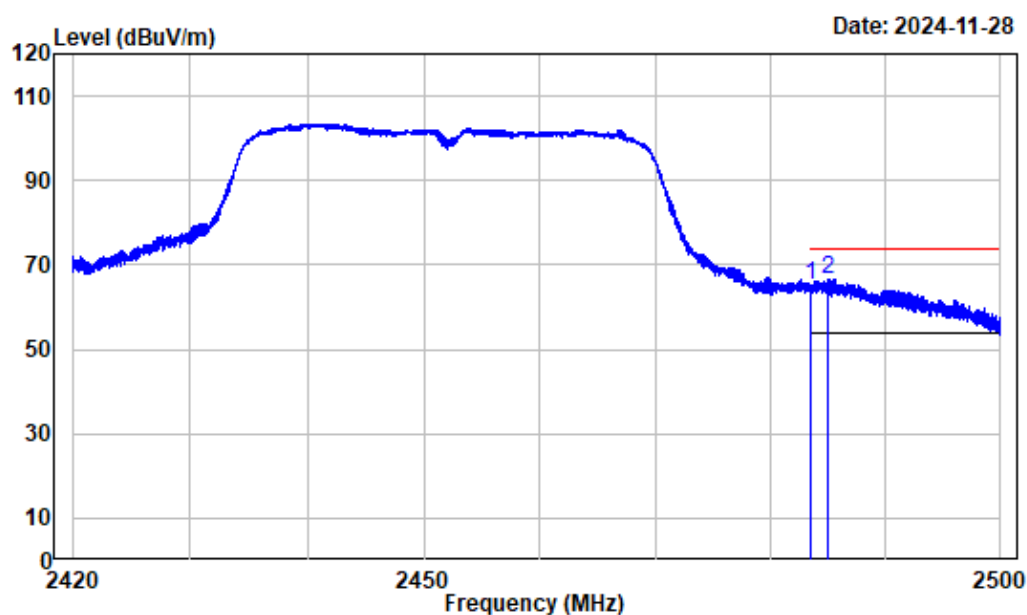
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11N40_2452

	Freq Factor		Read Level		Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	71.65	68.48	74.00	-5.52	Peak
2	2484.968	-3.17	73.89	70.72	74.00	-3.28	Peak



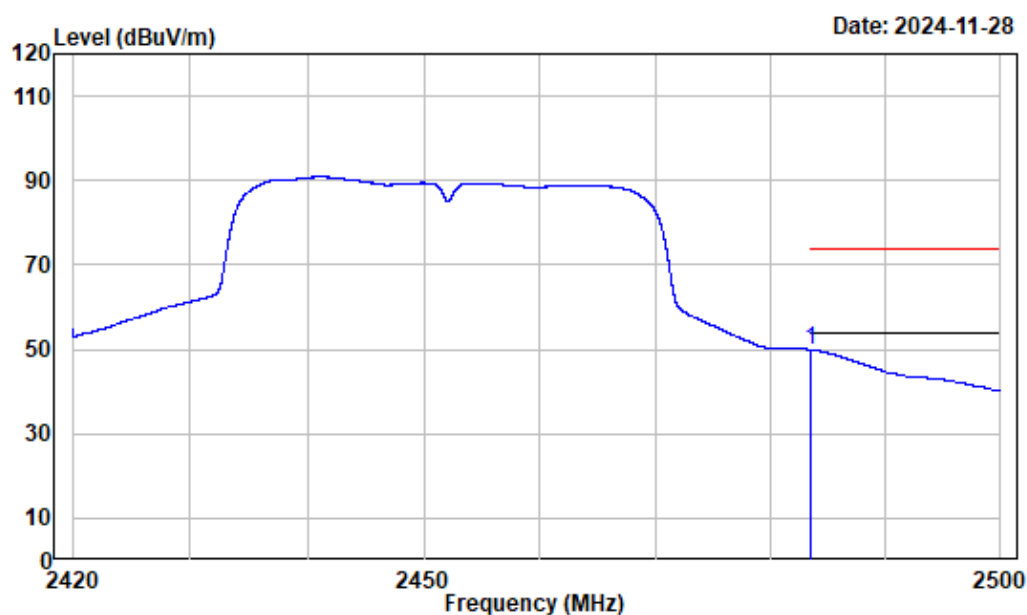
Condition : Horizontal
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Average reading: RBW:1MHz VBW:1KHz Detector:Peak
Note : 802.11N40_2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	53.15	49.98	54.00	-4.02	Average



Condition : Vertical
Project No. : 2401U21148E-RF
Tester : Dylan.Yang
Spectrum setting: Peak reading: RBW:1MHz VBW:3MHz Detector:Peak
Note : 802.11N40_2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	68.35	65.18	74.00	-8.82	Peak
2	2484.908	-3.17	69.87	66.70	74.00	-7.30	peak

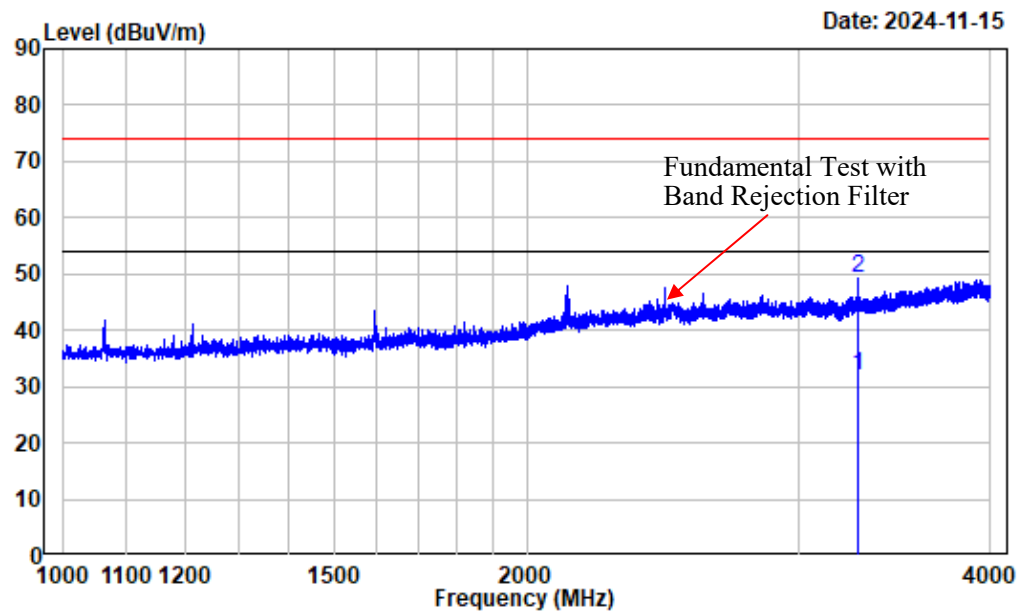


Condition : Vertical
 Project No. : 2401U21148E-RF
 Tester : Dylan.Yang
 Spectrum setting: Average reading: RBW:1MHz VBW:1KHz Detector:Peak
 Note : 802.11N40_2452

	Freq Factor		Read Level		Limit	Over	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	53.11	49.94	54.00	-4.06	Average

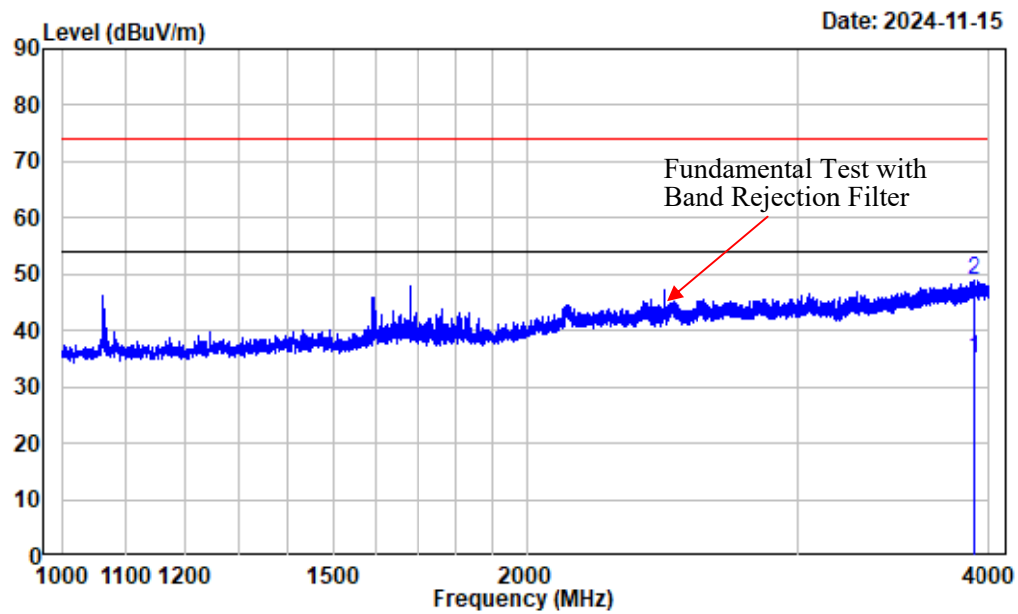
1-18GHz (Listed with the worst harmonic margin test plot):

802.11b



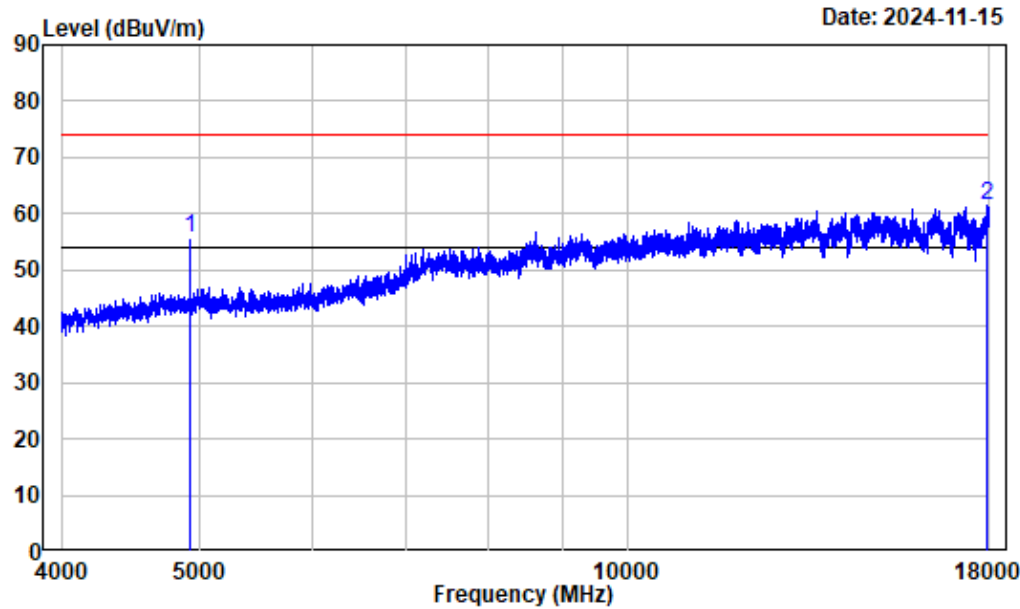
Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11B_2462

Freq Factor		Read Level		Limit	Over	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3282.910	-2.75	34.66	31.91	54.00	-22.09 Average
2	3282.910	-2.75	51.83	49.08	74.00	-24.92 Peak



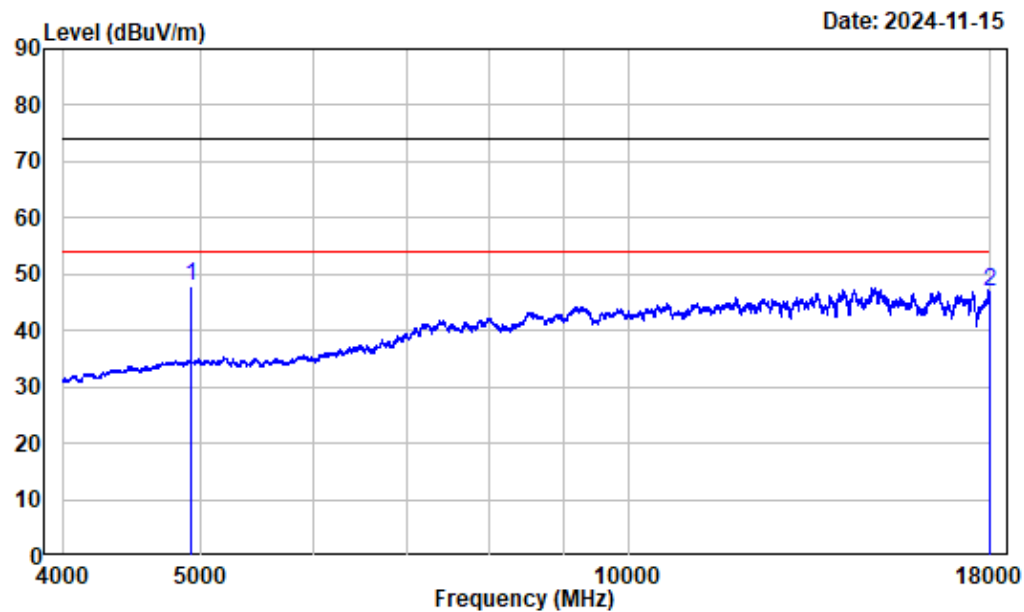
Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11B_2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3903.613	-0.50	35.33	34.83	54.00	-19.17	Average
2	3903.613	-0.50	49.49	48.99	74.00	-25.01	Peak



Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11B_2462

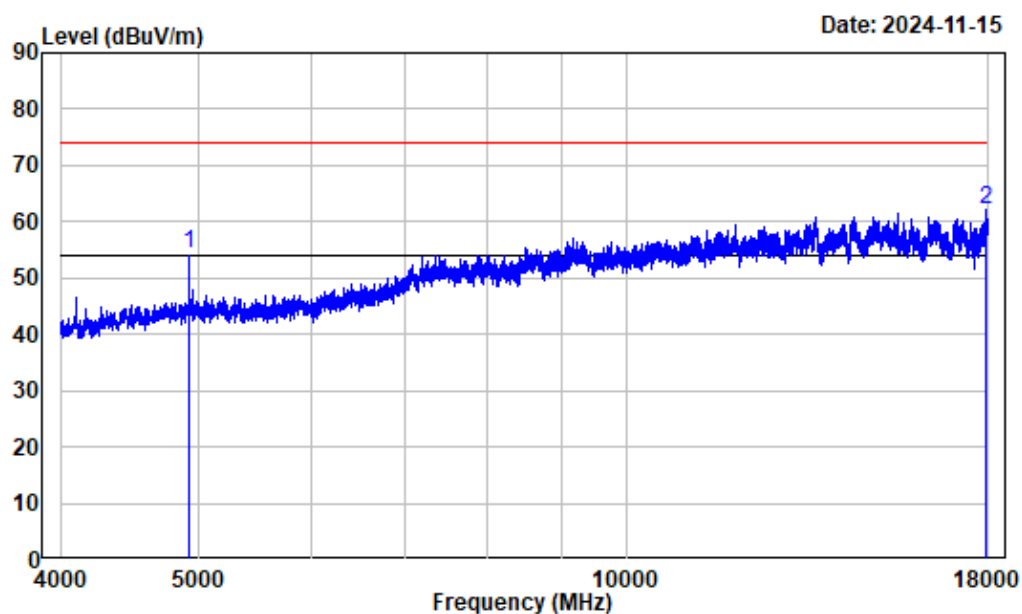
Freq		Factor	Read Level	Level	Limit Line	Over Limit	Remark
MHz		dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4924.000	2.63	53.12	55.75	74.00	-18.25	Peak
2	17942.240	24.21	37.30	61.51	74.00	-12.49	Peak



Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11B_2462

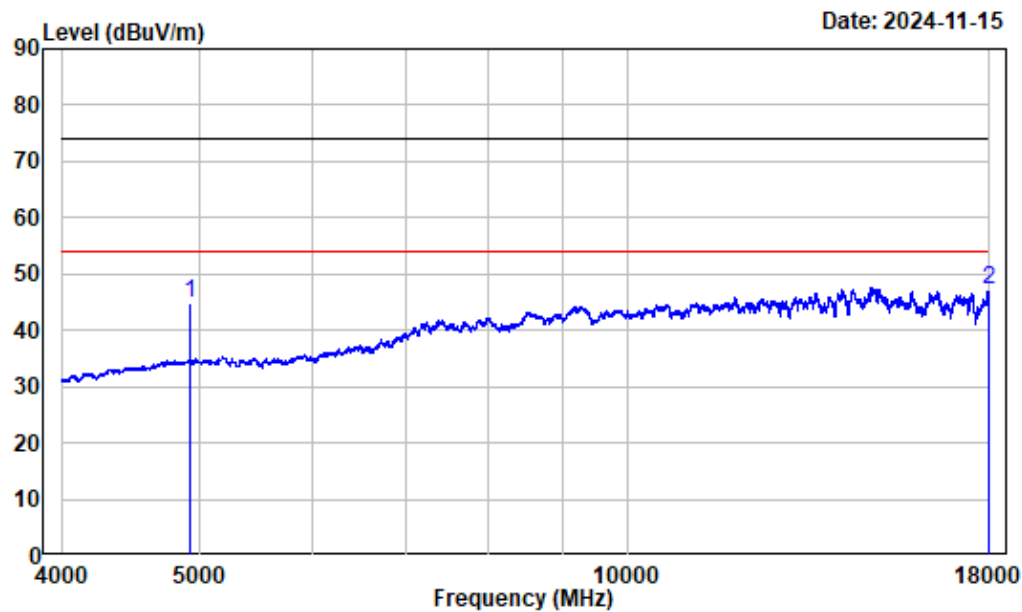
Freq		Factor	Read Level	Level	Limit Line	Over Limit	Remark
MHz		dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4924.000	2.63	45.32	47.95	54.00	-6.05	Average
2	17989.500	24.55	22.23	46.78	54.00	-7.22	Average

Note: Spectrum analyzer setting: RBW=1 MHz, VBW=5 kHz



Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11B_2462

Freq		Factor	Read Level	Level	Limit Line	Over Limit	Remark
MHz		dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4924.000	2.63	51.62	54.25	74.00	-19.75	Peak
2	17931.740	24.13	38.09	62.22	74.00	-11.78	Peak

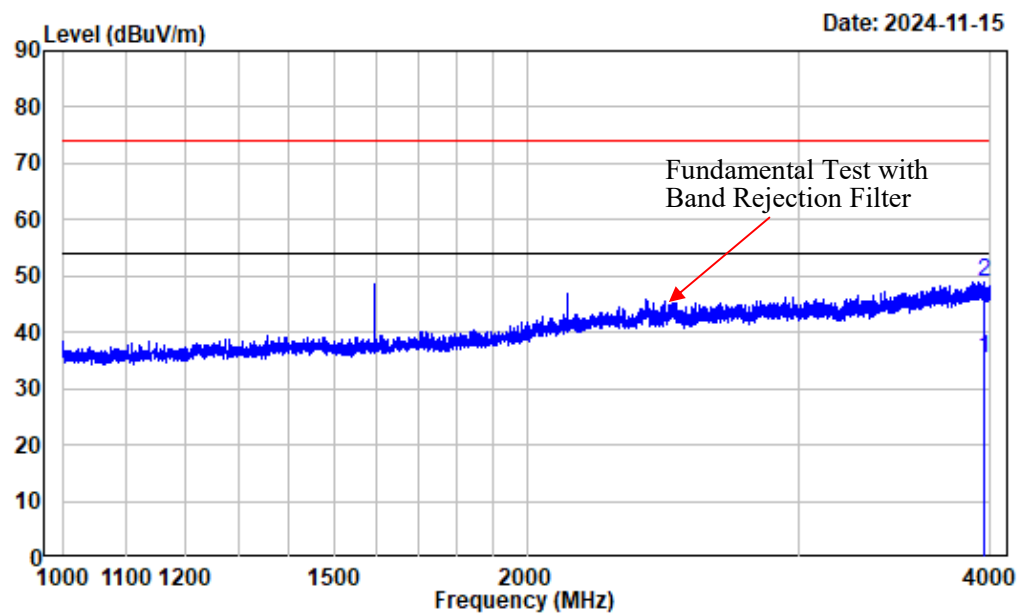


Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11B_2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4924.000	2.63	42.33	44.96	54.00	-9.04	Average
2	17998.250	24.61	22.43	47.04	54.00	-6.96	Average

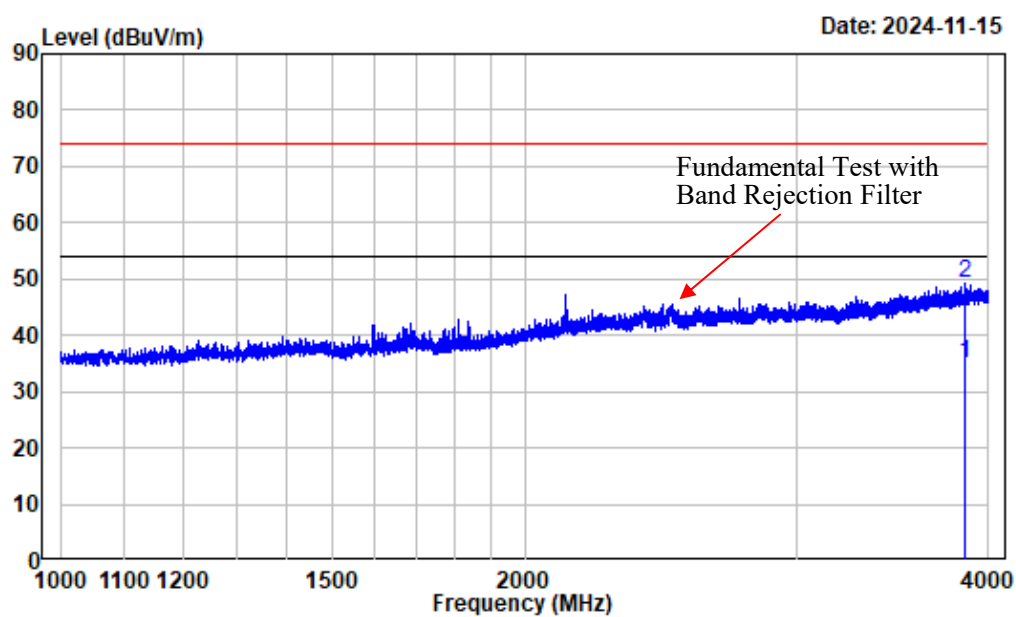
Note: Spectrum analyzer setting: RBW=1 MHz, VBW=5 kHz

802.11g



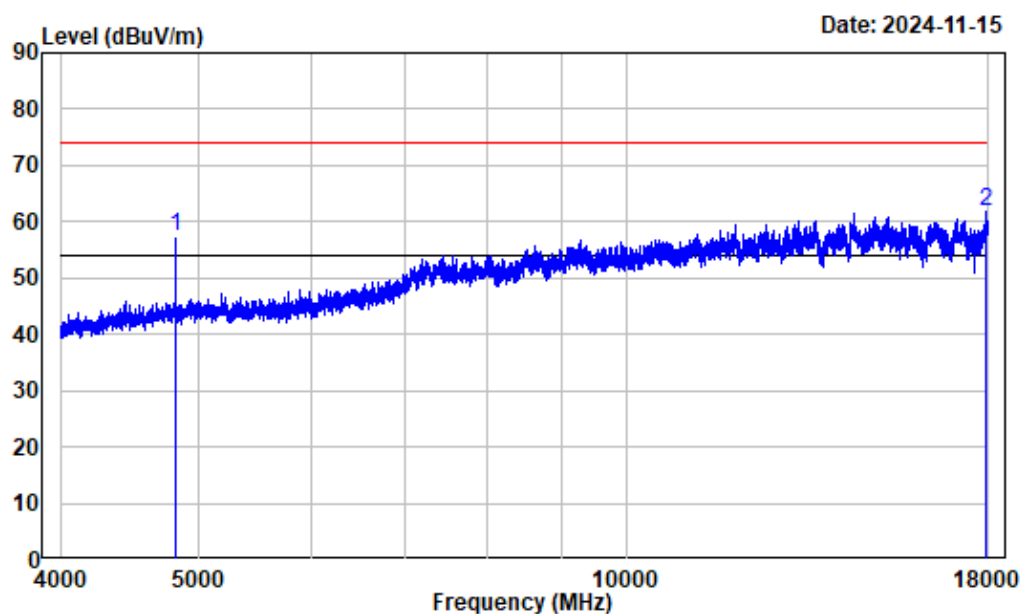
Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11G_2412

Freq Factor		Read Level	Level	Limit	Over	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3962.495	-0.17	35.63	35.46	54.00	-18.54 Average
2	3962.495	-0.17	49.20	49.03	74.00	-24.97 Peak



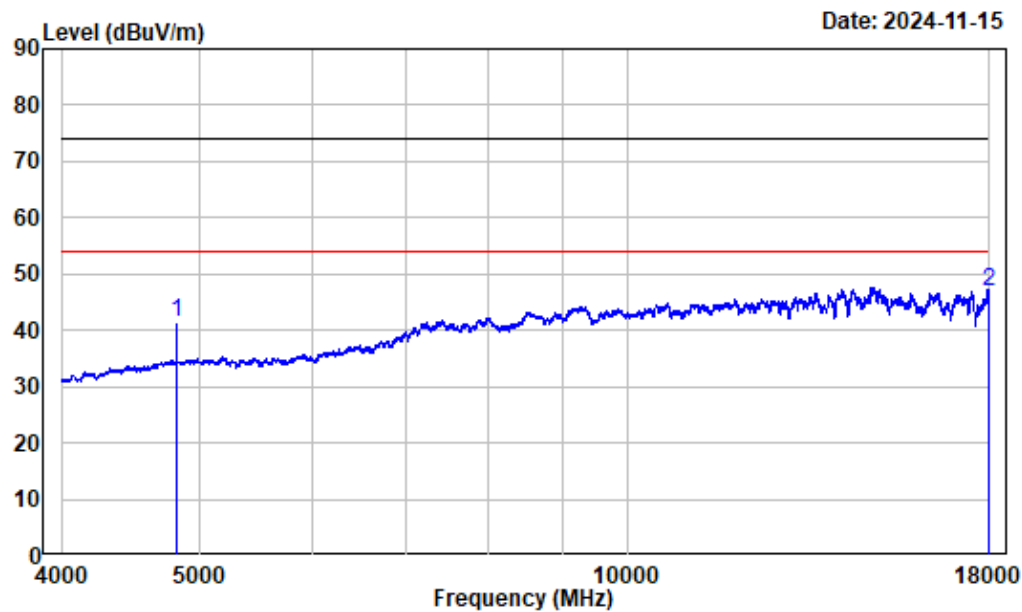
Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11G_2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3863.483	-0.72	35.63	34.91	54.00	-19.09	Average
2	3863.483	-0.72	50.05	49.33	74.00	-24.67	Peak



Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11G_2412

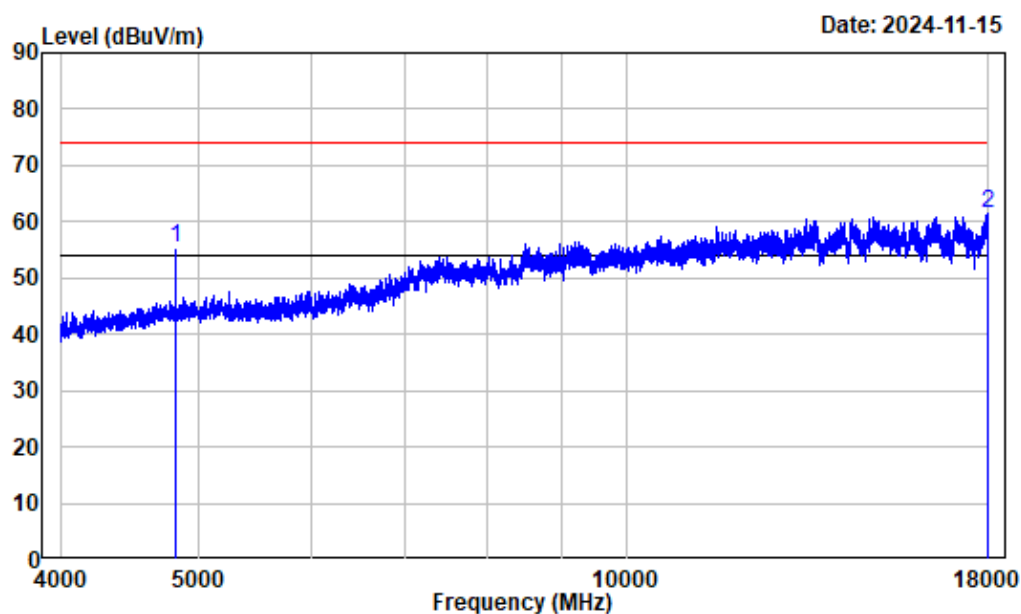
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	54.92	57.37	74.00	-16.63	Peak
2	17922.990	24.08	37.63	61.71	74.00	-12.29	Peak



Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11G_2412

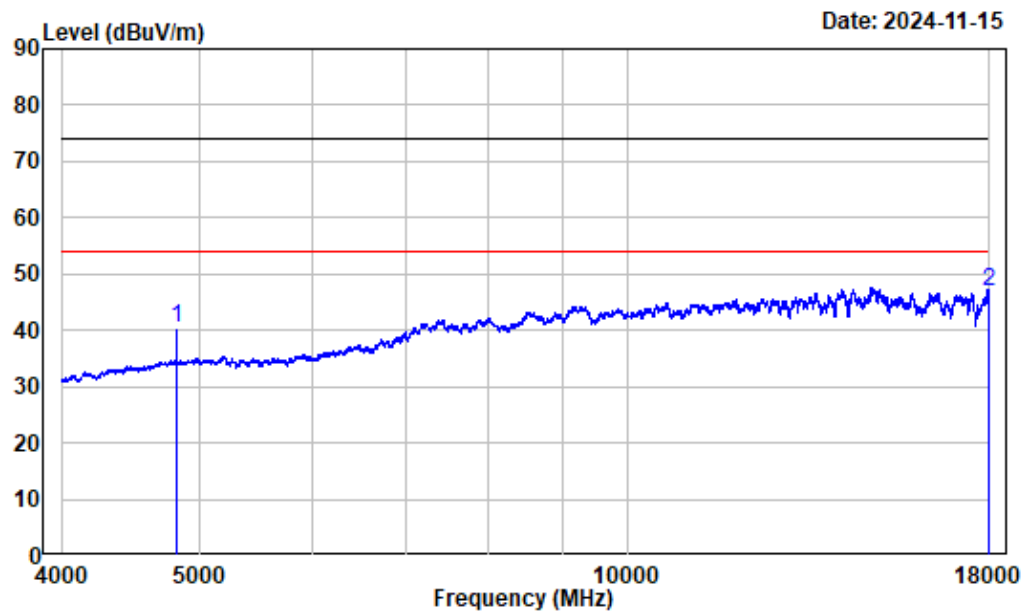
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	38.87	41.32	54.00	-12.68	Average
2	17989.500	24.55	22.31	46.86	54.00	-7.14	Average

Note: Spectrum analyzer setting: RBW=1 MHz, VBW=5 kHz



Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11G_2412

	Freq	Factor	Read		Limit	Over	Remark
			Level	Level			
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	52.86	55.31	74.00	-18.69	Peak
2	17982.500	24.49	36.83	61.32	74.00	-12.68	Peak

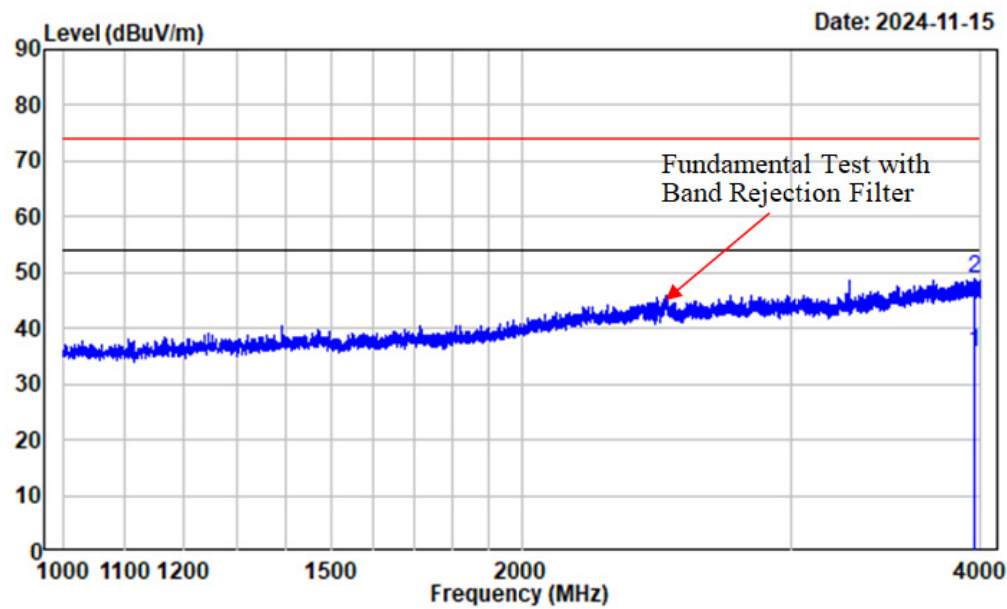


Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11G_2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	37.86	40.31	54.00	-13.69	Average
2	17996.500	24.60	22.14	46.74	54.00	-7.26	Average

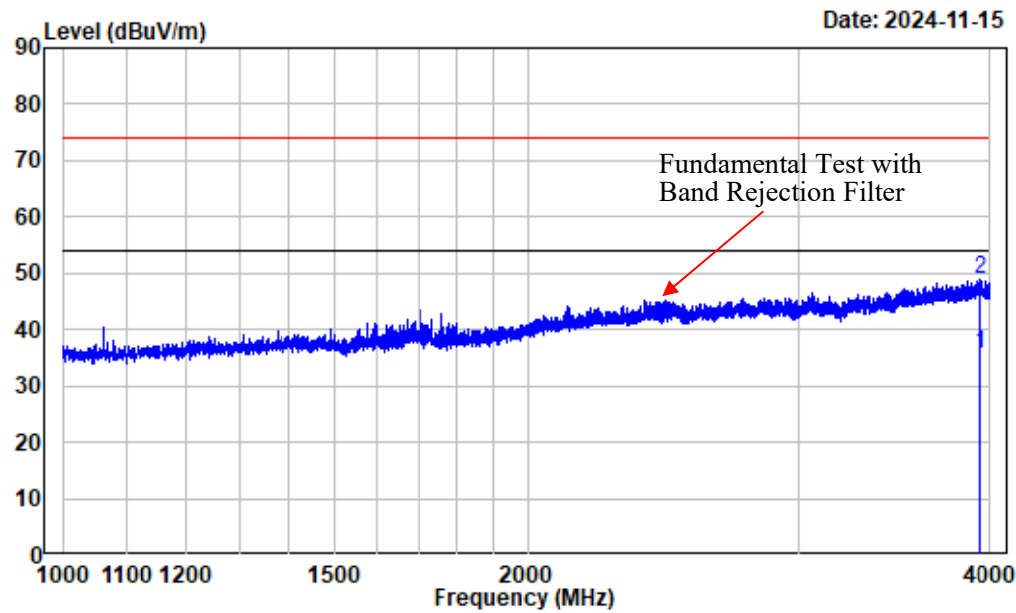
Note: Spectrum analyzer setting: RBW=1 MHz, VBW=5 kHz

802.11n20



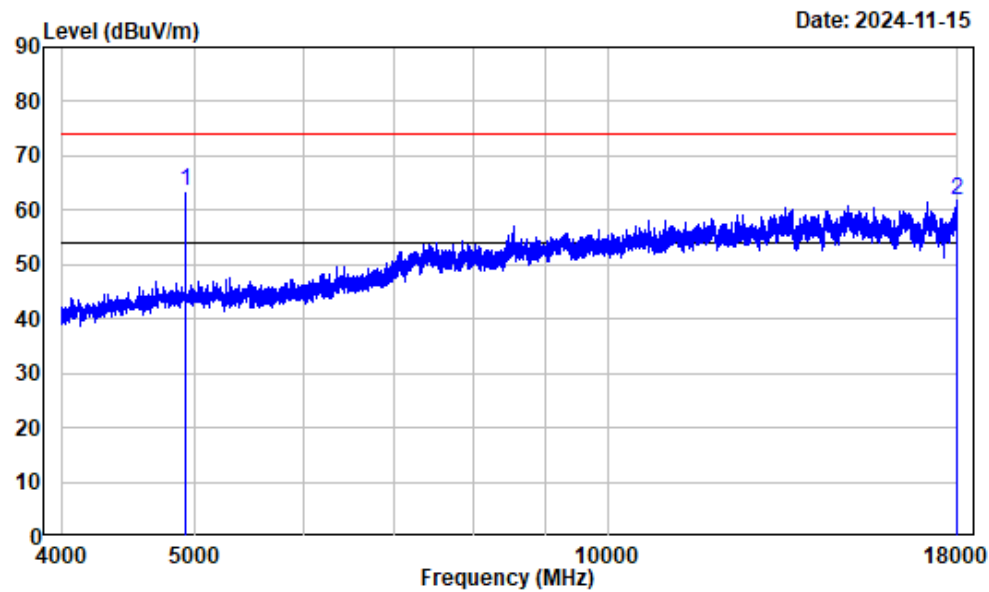
Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N20_2462

		Read		Limit	Over	Remark
Freq	Factor	Level	Level	Line	Limit	
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3965.496	-0.18	35.68	35.50	54.00	-18.50 Average
2	3965.496	-0.18	49.10	48.92	74.00	-25.08 Peak



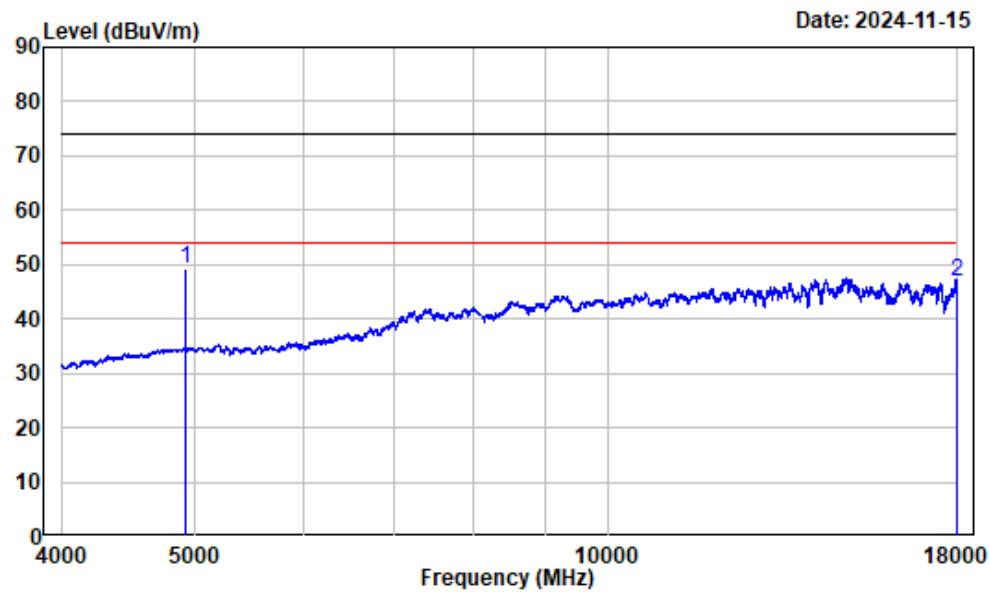
Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N20_2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3943.743	-0.22	35.83	35.61	54.00	-18.39	Average
2	3943.743	-0.22	49.15	48.93	74.00	-25.07	Peak



Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N20_2462

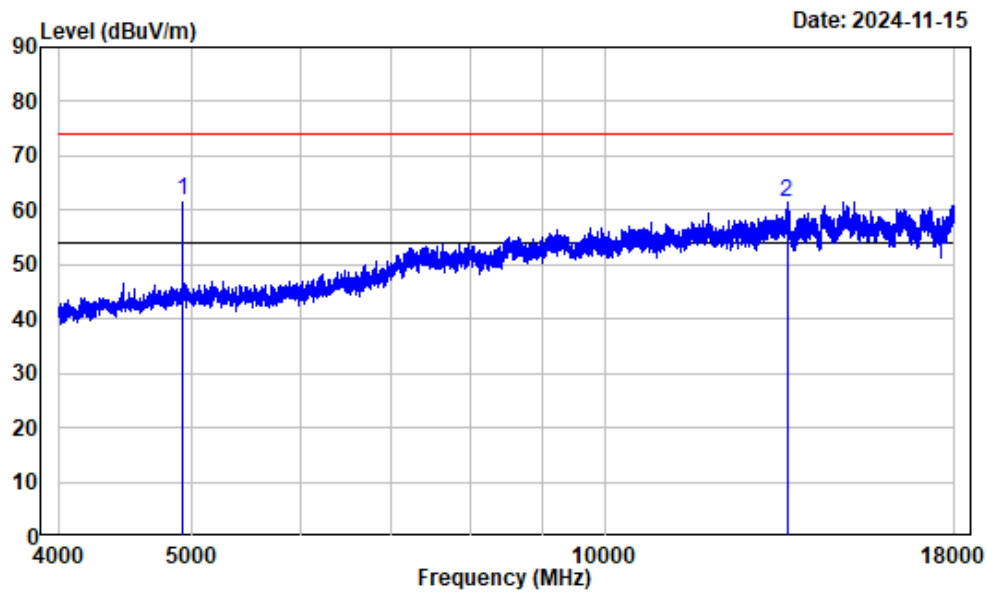
		Read		Limit	Over	Remark
Freq	Factor	Level	Level	Line	Limit	
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4924.000	2.63	60.91	63.54	74.00	-10.46 Peak
2	17975.500	24.44	37.31	61.75	74.00	-12.25 Peak



Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N20_2462

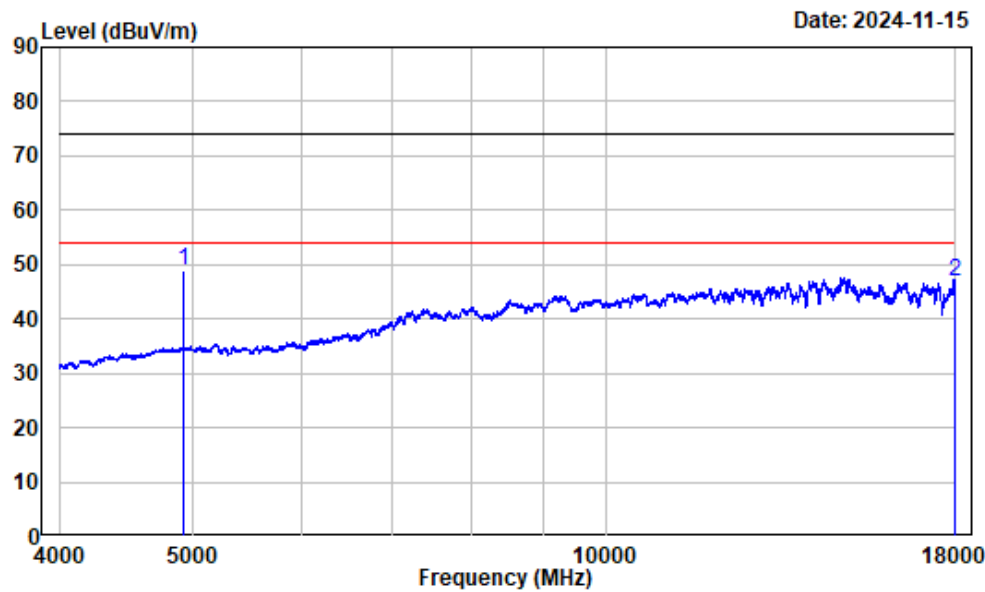
		Read		Limit	Over	Remark
Freq	Factor	Level	Level	Line	Limit	
MHz	dB/m	dBuV	dBUV/m	dBUV/m	dB	
1 4924.000	2.63	46.48	49.11	54.00	-4.89	Average
2 17993.000	24.57	22.17	46.74	54.00	-7.26	Average

Note: Spectrum analyzer setting: RBW=1 MHz, VBW=5 kHz



Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N20_2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4924.000	2.63	59.32	61.95	74.00	-12.05	Peak
2	13587.700	15.19	46.28	61.47	74.00	-12.53	Peak

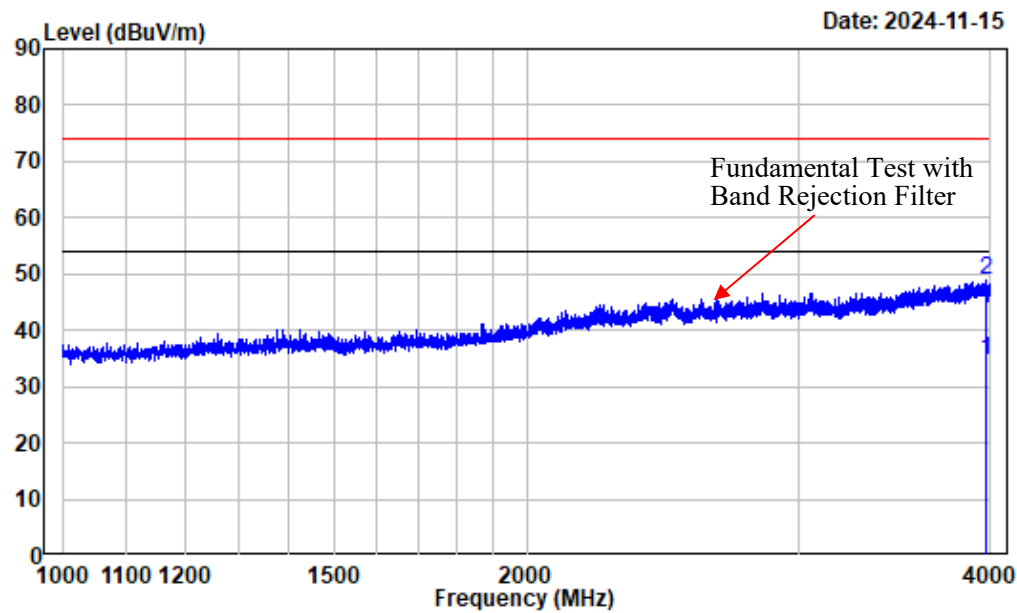


Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N20_2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4924.000	2.63	46.21	48.84	54.00	-5.16	Average
2	17998.250	24.61	22.26	46.87	54.00	-7.13	Average

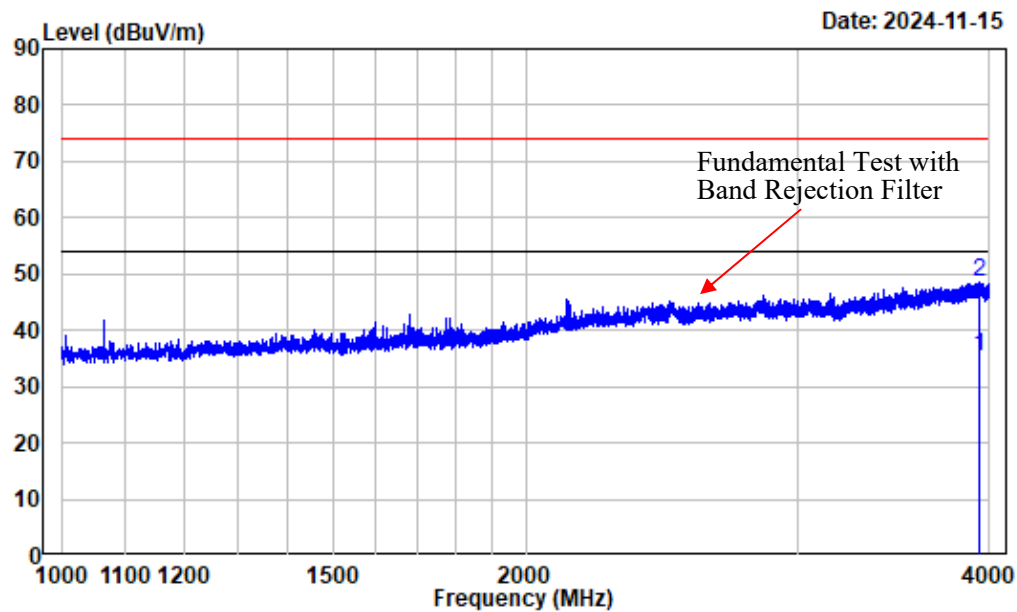
Note: Spectrum analyzer setting: RBW=1 MHz, VBW=5 kHz

802.11n40



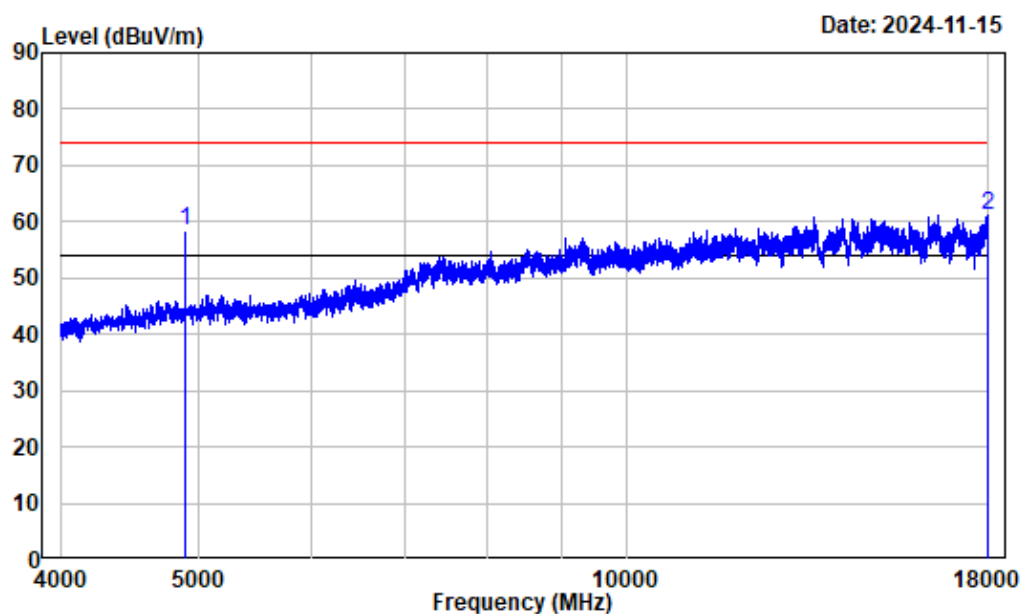
Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N40_2452

Freq Factor		Read Level	Level	Limit	Over Limit	Remark
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3976.747	-0.19	34.69	34.50	54.00	-19.50 Average
2	3976.747	-0.19	49.05	48.86	74.00	-25.14 Peak



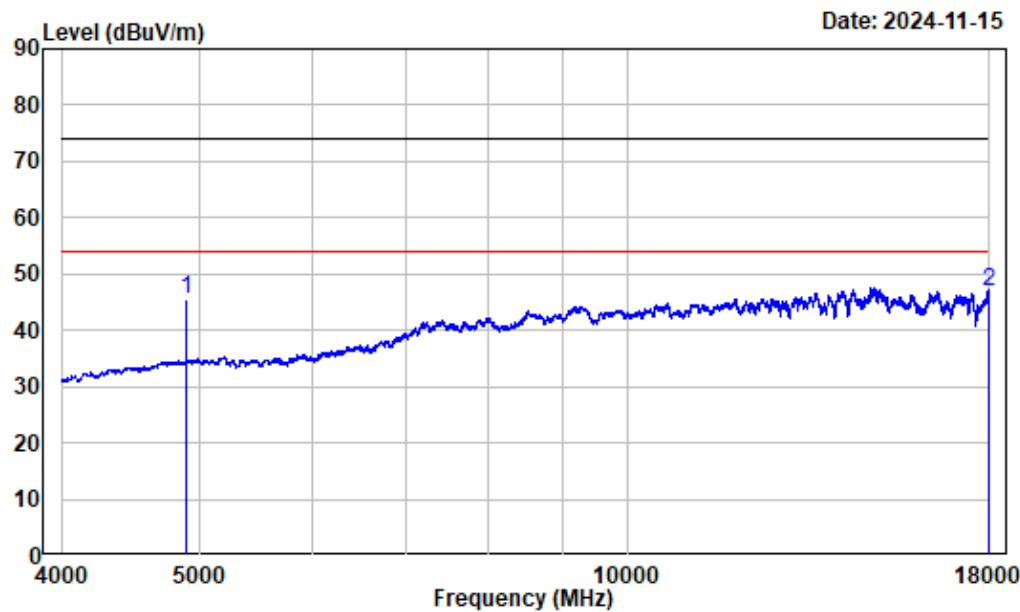
Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N40_2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3942.993	-0.22	35.69	35.47	54.00	-18.53	Average
2	3942.993	-0.22	48.72	48.50	74.00	-25.50	Peak



Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N40_2452

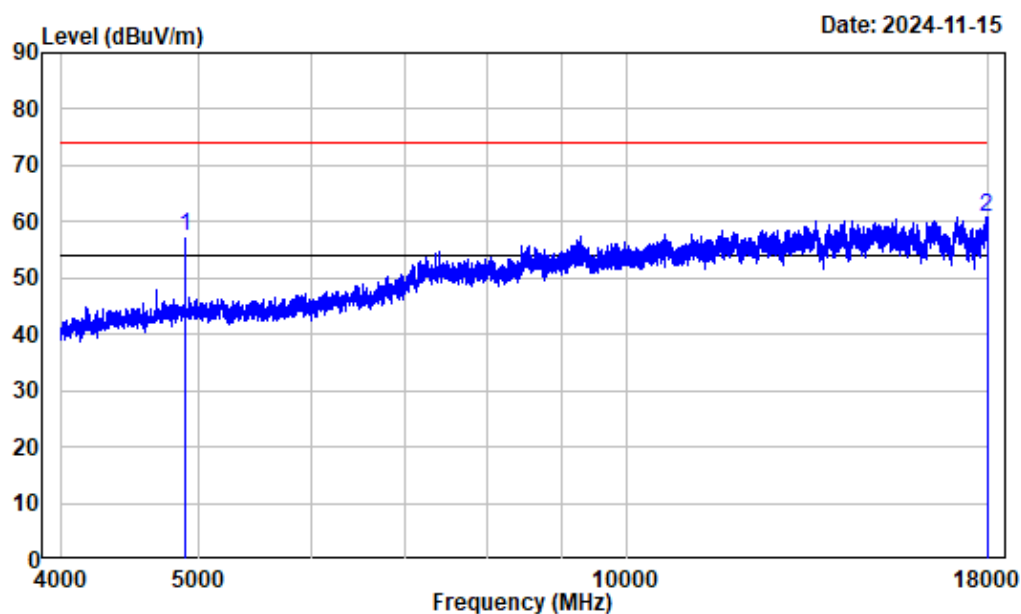
Freq		Factor	Read Level	Level	Limit Line	Over Limit	Remark
MHz		dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4904.000	2.64	55.85	58.49	74.00	-15.51	Peak
2	17975.500	24.44	36.62	61.06	74.00	-12.94	Peak



Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N40_2452

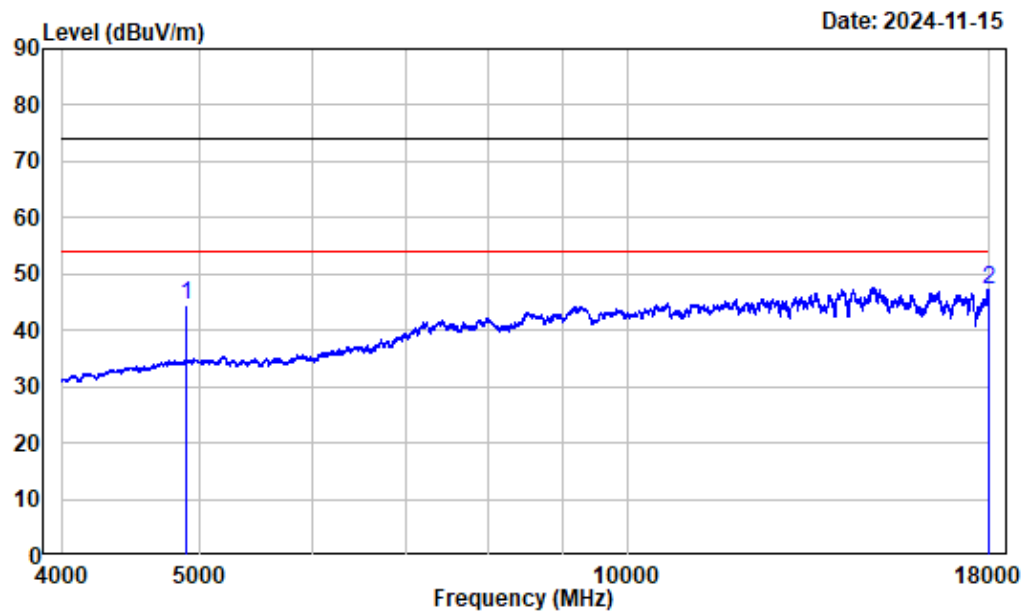
	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4904.000	2.64	42.96	45.60	54.00	-8.40	Average
2	18000.000	24.62	22.19	46.81	54.00	-7.19	Average

Note: Spectrum analyzer setting: RBW=1 MHz, VBW=5 kHz



Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N40_2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4904.000	2.64	54.82	57.46	74.00	-16.54	Peak
2	17957.990	24.33	36.55	60.88	74.00	-13.12	Peak

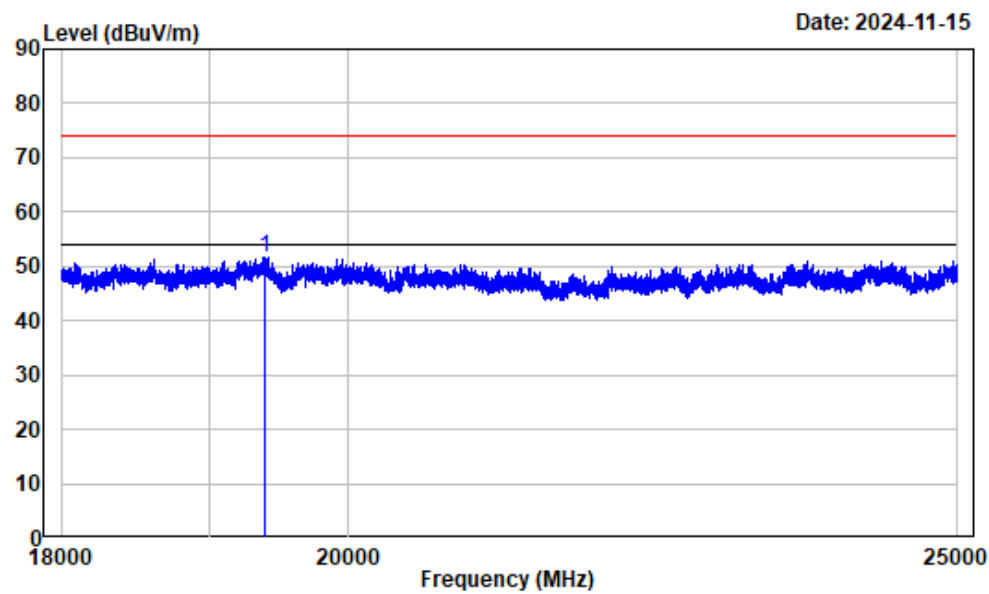


Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N40_2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4904.000	2.64	41.78	44.42	54.00	-9.58	Average
2	17989.500	24.55	22.66	47.21	54.00	-6.79	Average

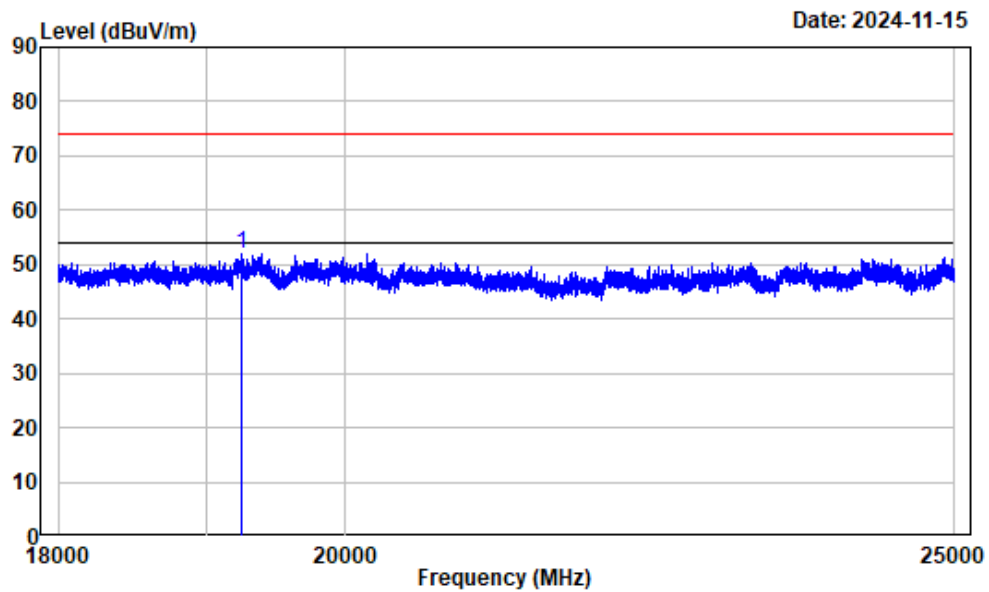
Note: Spectrum analyzer setting: RBW=1 MHz, VBW=5 kHz

18-25GHz (only test with the worst harmonic margin):



Condition : Horizontal
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N20_2462

		Read		Limit	Over	Remark
Freq	Factor	Level	Level	Line	Limit	
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 19399.300	15.08	36.69	51.77	74.00	-22.23	Peak



Condition : Vertical
Project No.: 2401U21148E-RF
Tester : Dylan.Yang
Note : 802.11N20_2462

Freq	Factor	Read		Limit	Over	Remark
		Level	Level	Line	Limit	
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 19245.280	15.27	36.82	52.09	74.00	-21.91	Peak

6dB Emission Bandwidth

Test Information:

Sample No.:	2MP7-1	Test Date:	2024/11/07
Test Site:	RF	Test Mode:	Transmitting
Tester:	Kungfumaster Liang	Test Result:	Pass

Environmental Conditions:

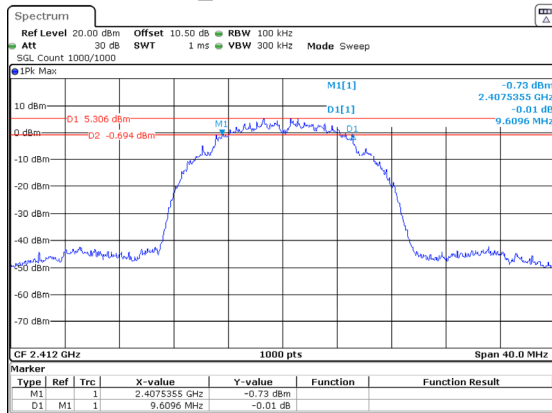
Temperature: (°C):	25.4	Relative Humidity: (%)	55	ATM Pressure: (kPa)	101
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Test Data:

Mode	Test Frequency (MHz)	Result (MHz)	Limit (MHz)	Verdict
802.11b	2412	9.610	≥ 0.5	Pass
	2437	9.650	≥ 0.5	Pass
	2462	9.169	≥ 0.5	Pass
802.11g	2412	16.376	≥ 0.5	Pass
	2437	16.376	≥ 0.5	Pass
	2462	16.376	≥ 0.5	Pass
802.11n20	2412	16.617	≥ 0.5	Pass
	2437	16.376	≥ 0.5	Pass
	2462	16.376	≥ 0.5	Pass
802.11n40	2422	35.235	≥ 0.5	Pass
	2437	35.235	≥ 0.5	Pass
	2452	35.235	≥ 0.5	Pass

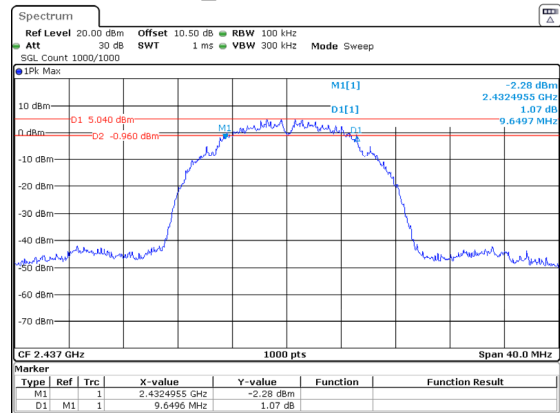
2.4G

802.11b_2412MHz 9.610MHz



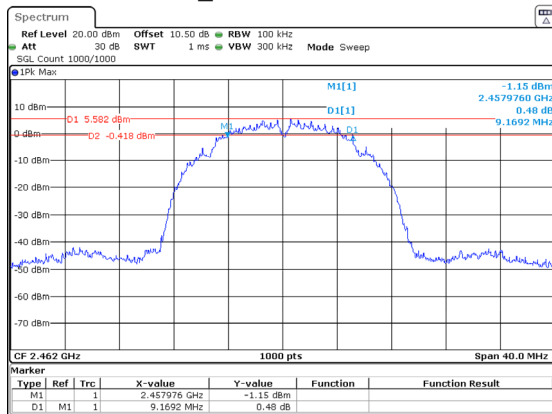
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 21:49:01

802.11b_2437MHz 9.650MHz



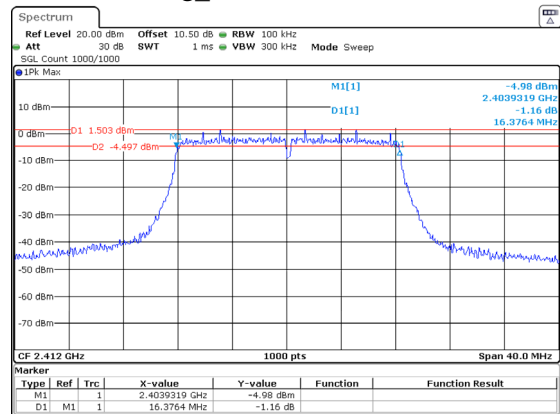
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 21:50:30

802.11b_2462MHz 9.169MHz



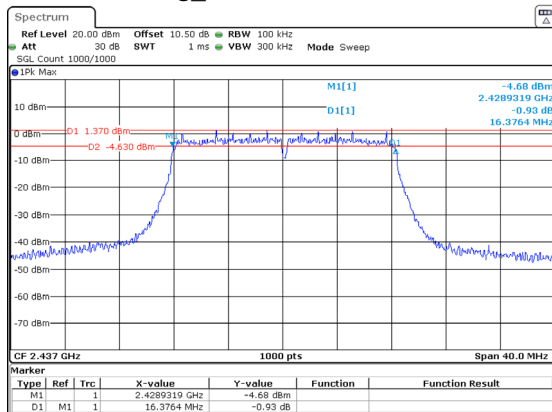
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 21:51:56

802.11g_2412MHz 16.376MHz



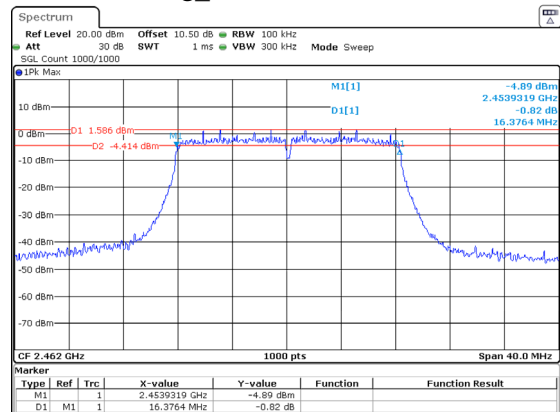
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 21:53:45

802.11g_2437MHz 16.376MHz



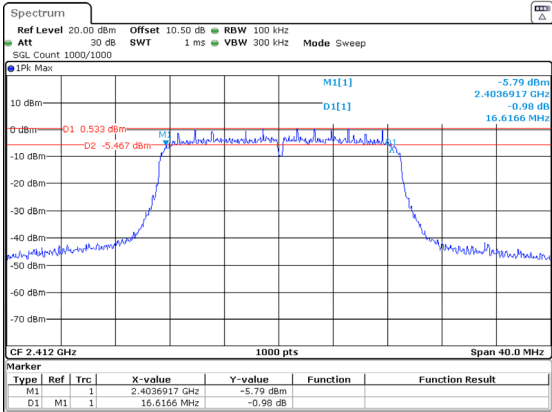
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 21:54:40

802.11g_2462MHz 16.376MHz



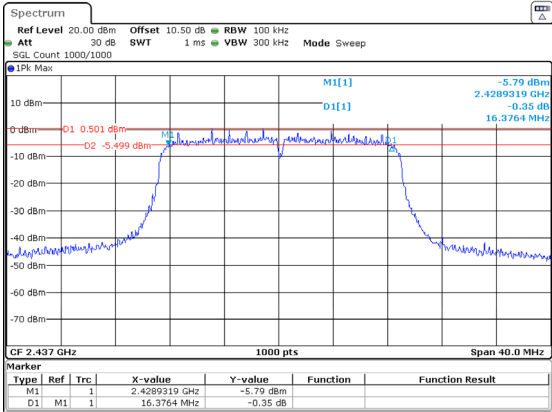
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 21:55:54

802.11n20_2412MHz_16.617MHz



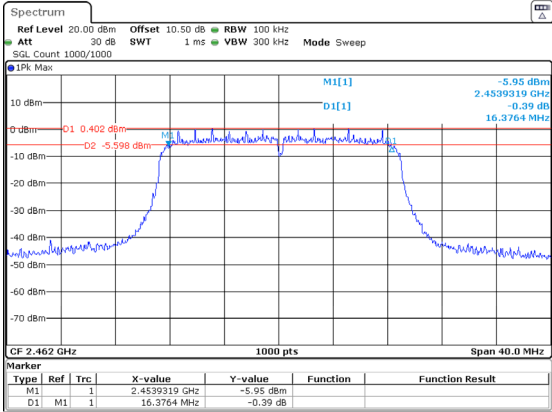
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
 Date: 7.NOV.2024 21:58:05

802.11n20_2437MHz_16.376MHz



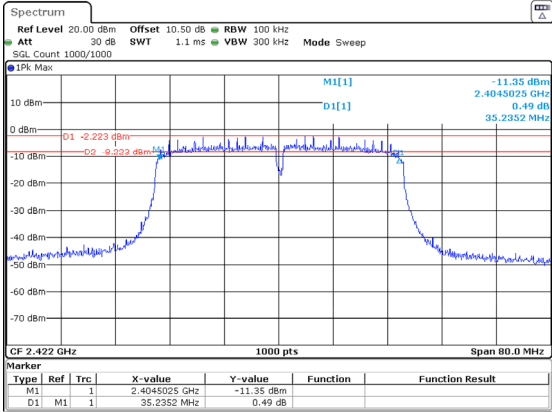
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
 Date: 7.NOV.2024 21:59:35

802.11n20_2462MHz_16.376MHz



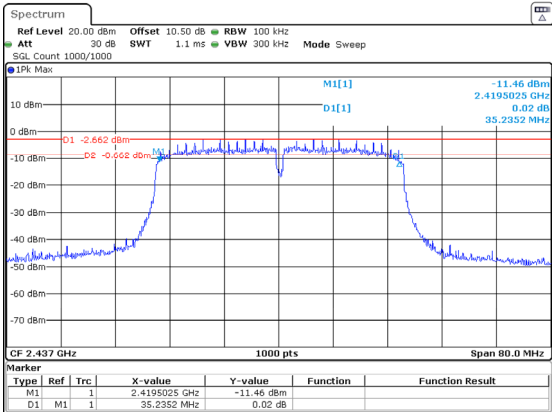
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
 Date: 7.NOV.2024 22:00:58

802.11n40_2422MHz_35.235MHz



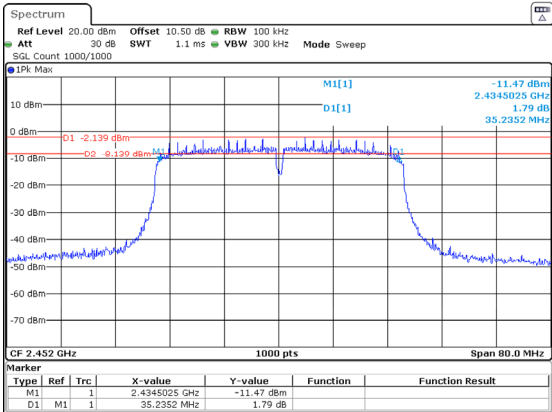
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
 Date: 7.NOV.2024 22:04:12

802.11n40_2437MHz_35.235MHz



ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
 Date: 7.NOV.2024 22:04:49

802.11n40_2452MHz_35.235MHz



ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
 Date: 7.NOV.2024 22:05:36

99% Occupied Bandwidth

Test Information:

Sample No.:	2MP7-1	Test Date:	2024/11/07
Test Site:	RF	Test Mode:	Transmitting
Tester:	Kungfumaster Liang	Test Result:	N/A

Environmental Conditions:

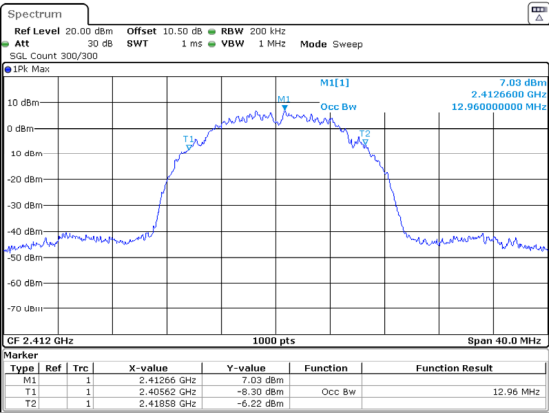
Temperature: (°C):	25.4	Relative Humidity: (%)	55	ATM Pressure: (kPa)	101
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Test Data:

Mode	Test Frequency (MHz)	99% OBW (MHz)
802.11b	2412	12.960
	2437	12.880
	2462	12.880
802.11g	2412	16.360
	2437	16.360
	2462	16.360
802.11n20	2412	17.240
	2437	17.240
	2462	17.280
802.11n40	2422	35.680
	2437	35.760
	2452	35.600

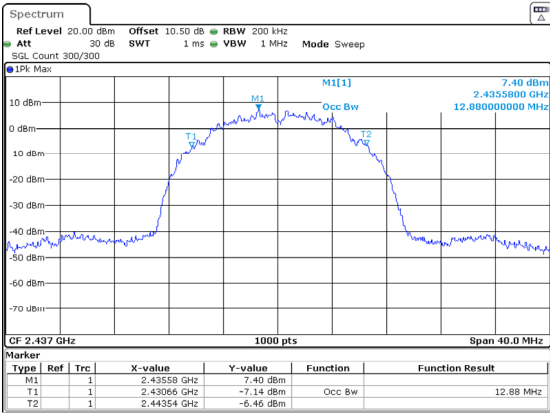
2.4G

802.11b_2412MHz 12.960MHz



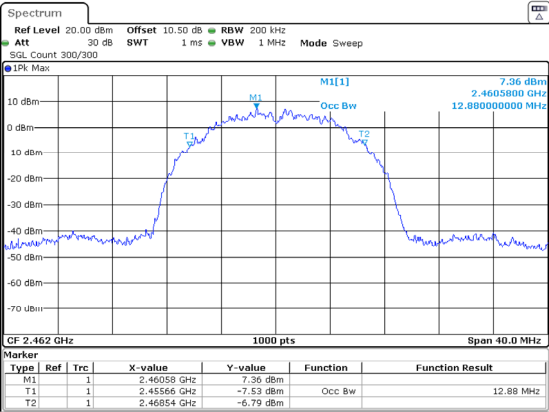
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 22:08:08

802.11b_2437MHz 12.880MHz



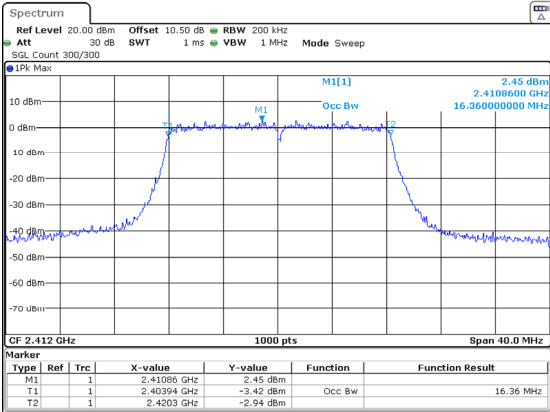
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 22:08:53

802.11b_2462MHz 12.880MHz



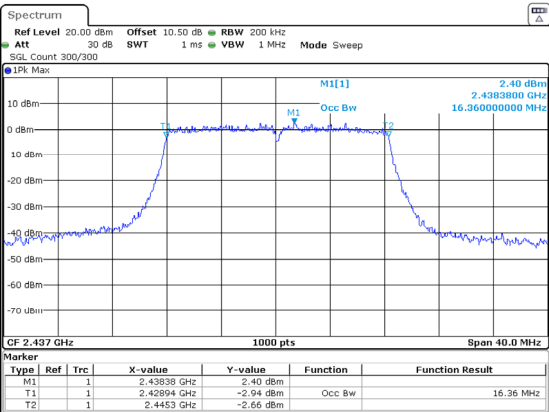
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 22:09:40

802.11g_2412MHz 16.360MHz



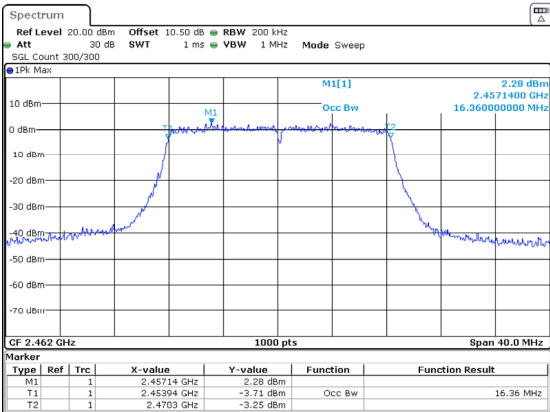
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 22:10:24

802.11g_2437MHz 16.360MHz



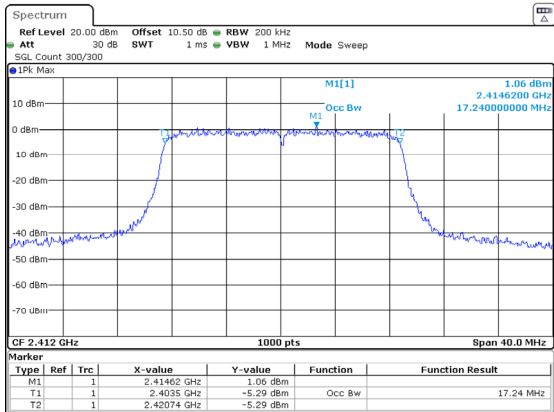
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 22:11:12

802.11g_2462MHz 16.360MHz



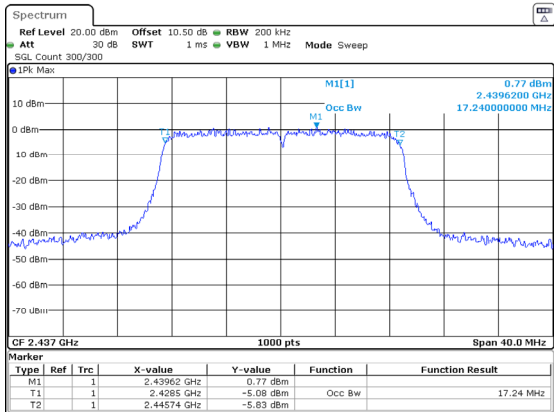
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 22:11:56

802.11n20_2412MHz 17.240MHz



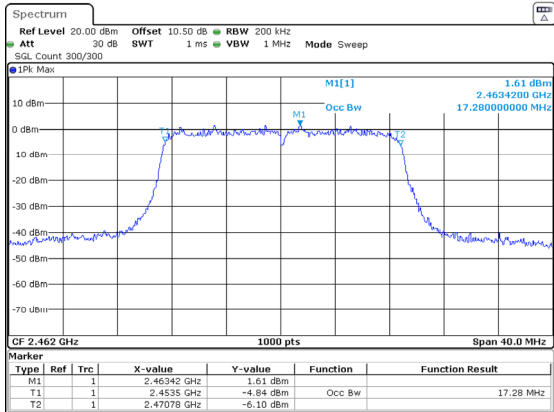
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 22:12:52

802.11n20_2437MHz 17.240MHz



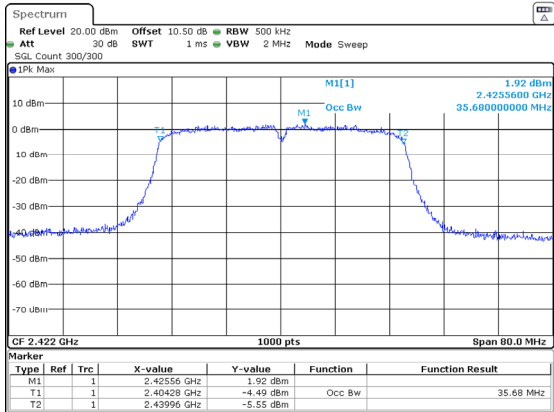
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 22:15:55

802.11n20_2462MHz 17.280MHz



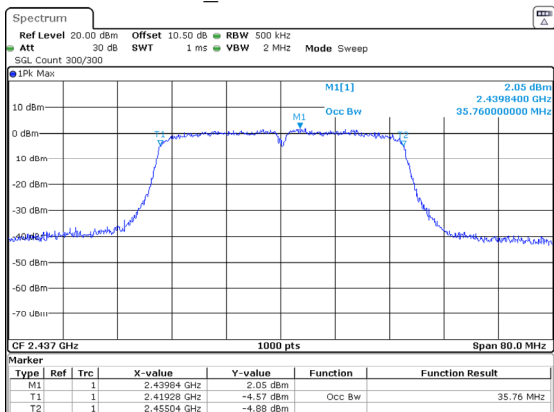
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 22:17:58

802.11n40_2422MHz 35.680MHz



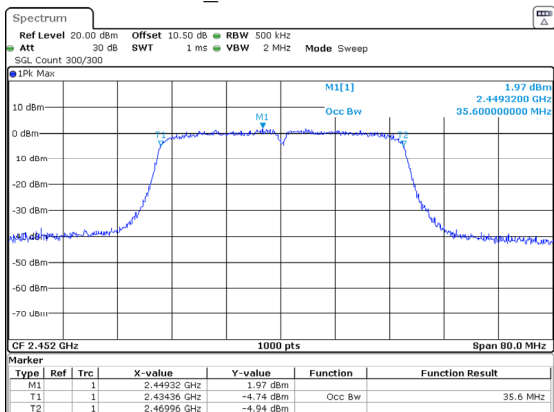
ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 22:18:16

802.11n40_2437MHz 35.760MHz



ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 22:18:53

802.11n40_2452MHz 35.600MHz



ProjectNo.:2401U21148E-RF Tester:Kungfumaester Liang
Date: 7.NOV.2024 22:19:29

Maximum Conducted Output Power

Test Information:

Sample No.:	2MP7-1	Test Date:	2024/11/07
Test Site:	RF	Test Mode:	Transmitting
Tester:	Kungfumaster Liang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C):	25.4	Relative Humidity: (%)	55	ATM Pressure: (kPa)	101
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Test Data:

Mode	Test Frequency (MHz)	Peak Output Power(dBm)	Average Output Power(dBm)	Limit (dBm)	Verdict
802.11b	2412	16.18	13.15	30	Pass
	2437	16.45	13.16	30	Pass
	2462	16.76	13.41	30	Pass
802.11g	2412	20.07	12.82	30	Pass
	2437	20.15	12.64	30	Pass
	2462	20.29	13.06	30	Pass
802.11n20	2412	18.57	11.33	30	Pass
	2437	18.40	11.14	30	Pass
	2462	18.82	11.43	30	Pass
802.11n40	2422	18.97	10.58	30	Pass
	2437	18.79	10.54	30	Pass
	2452	18.63	10.51	30	Pass

Power Spectral Density

Test Information:

Sample No.:	2MP7-1	Test Date:	2024/11/07
Test Site:	RF	Test Mode:	Transmitting
Tester:	Kungfumaster Liang	Test Result:	Pass

Environmental Conditions:

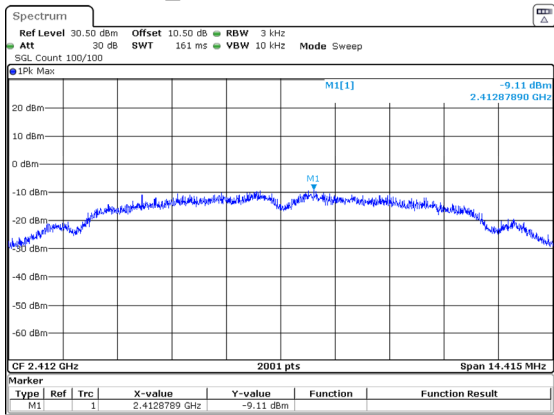
Temperature: (°C):	25.4	Relative Humidity: (%)	55	ATM Pressure: (kPa)	101
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Test Data:

Mode	Test Frequency (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
802.11b	2412	-9.11	8	Pass
	2437	-8.27	8	Pass
	2462	-7.88	8	Pass
802.11g	2412	-12.63	8	Pass
	2437	-12.48	8	Pass
	2462	-12.31	8	Pass
802.11n20	2412	-12.71	8	Pass
	2437	-12.78	8	Pass
	2462	-12.57	8	Pass
802.11n40	2422	-15.94	8	Pass
	2437	-15.87	8	Pass
	2452	-15.84	8	Pass

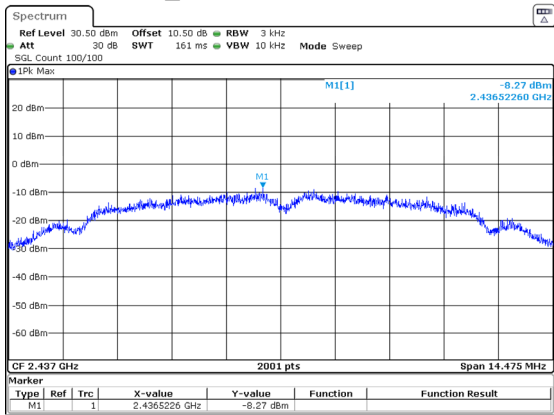
2.4G

802.11b_2412MHz -9.11dBm/3kHz



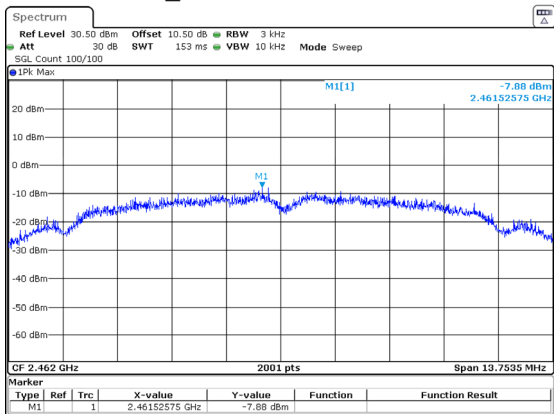
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:01:40

802.11b_2437MHz -8.27dBm/3kHz



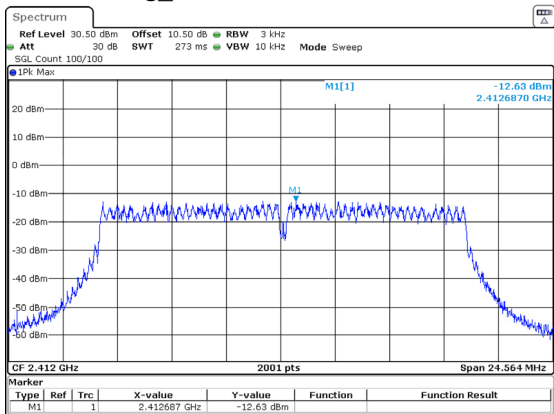
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:13:29

802.11b_2462MHz -7.88dBm/3kHz



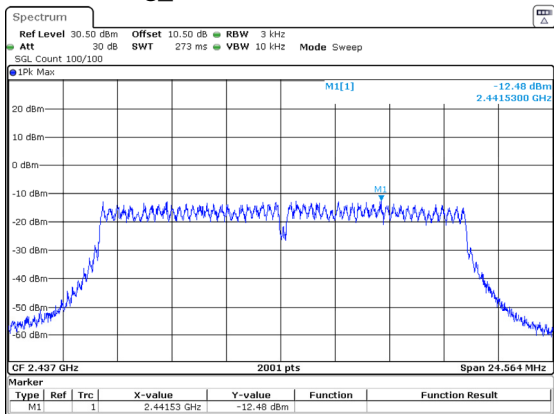
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:22:25

802.11g_2412MHz -12.63dBm/3kHz



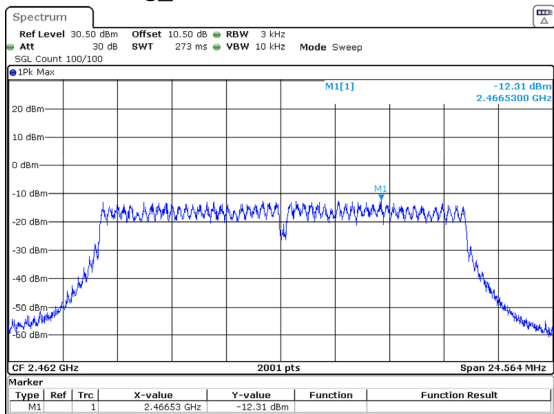
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:23:33

802.11g_2437MHz -12.48dBm/3kHz



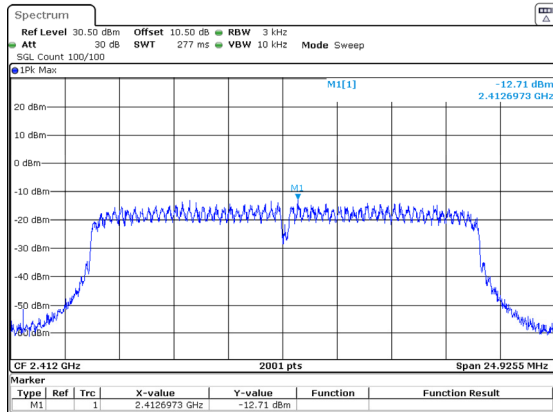
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:24:47

802.11g_2462MHz -12.31dBm/3kHz



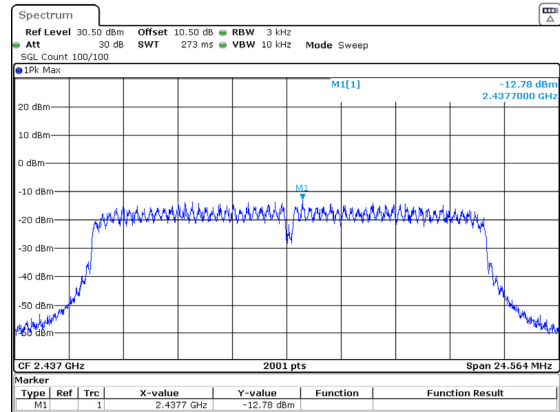
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:26:03

802.11n20_2412MHz -12.71dBm/3kHz



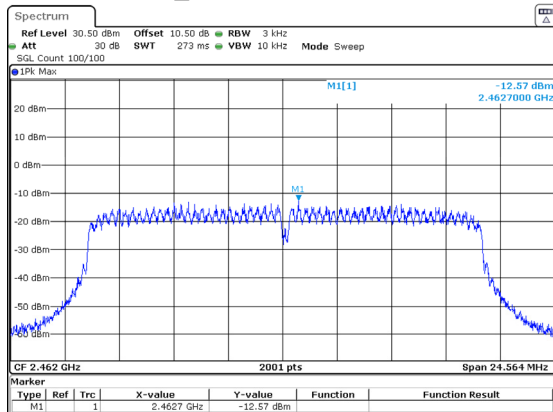
ProjectNo.:2401U21148E-RF Tester:Kungfumaister Liang
Date: 7.NOV.2024 23:27:28

802.11n20_2437MHz -12.78dBm/3kHz



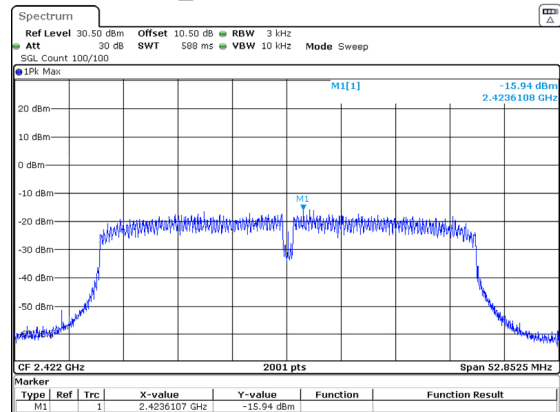
ProjectNo.:2401U21148E-RF Tester:Kungfumaister Liang
Date: 7.NOV.2024 23:28:37

802.11n20_2462MHz -12.57dBm/3kHz



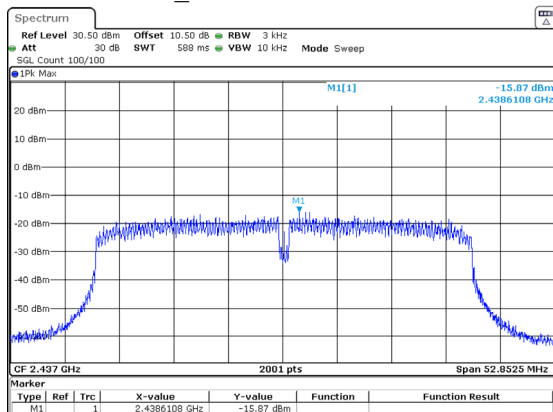
ProjectNo.:2401U21148E-RF Tester:Kungfumaister Liang
Date: 7.NOV.2024 23:29:37

802.11n40_2422MHz -15.94dBm/3kHz



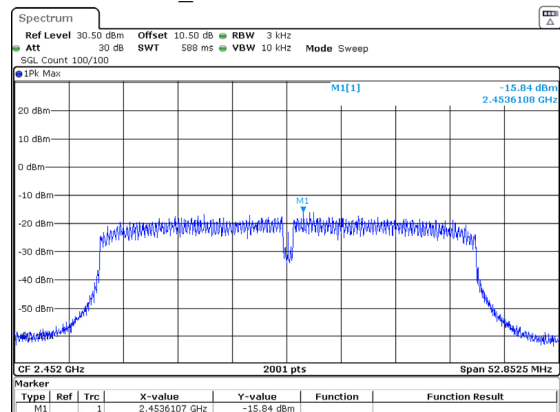
ProjectNo.:2401U21148E-RF Tester:Kungfumaister Liang
Date: 7.NOV.2024 23:34:18

802.11n40_2437MHz -15.87dBm/3kHz



ProjectNo.:2401U21148E-RF Tester:Kungfumaister Liang
Date: 7.NOV.2024 23:36:10

802.11n40_2452MHz -15.84dBm/3kHz



ProjectNo.:2401U21148E-RF Tester:Kungfumaister Liang
Date: 7.NOV.2024 23:38:17

100 kHz Bandwidth of Frequency Band Edge

Test Information:

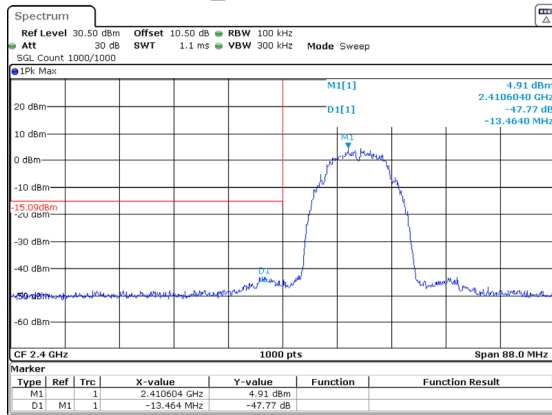
Sample No.:	2MP7-1	Test Date:	2024/11/07
Test Site:	RF	Test Mode:	Transmitting
Tester:	Kungfumaster Liang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C):	25.4	Relative Humidity: (%)	55	ATM Pressure: (kPa)	101
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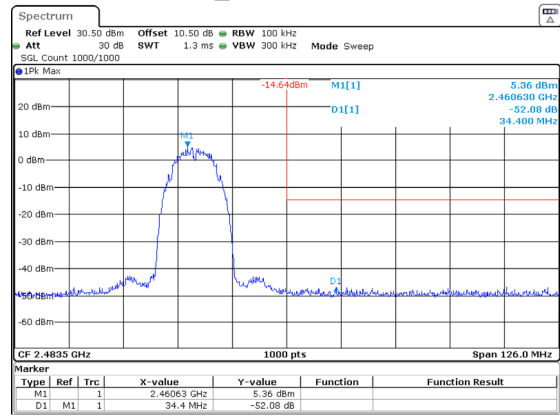
2.4G

802.11b_2412MHz 47.77dB



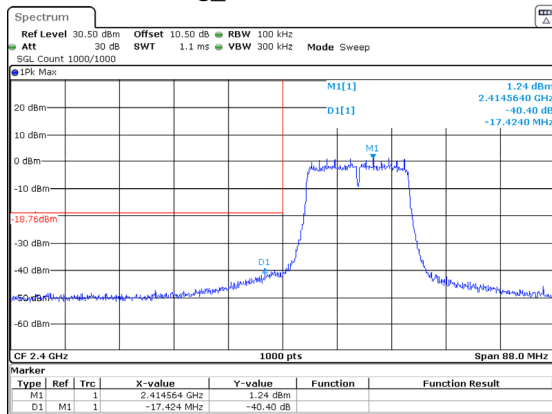
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:42:30

802.11b_2462MHz 52.08dB



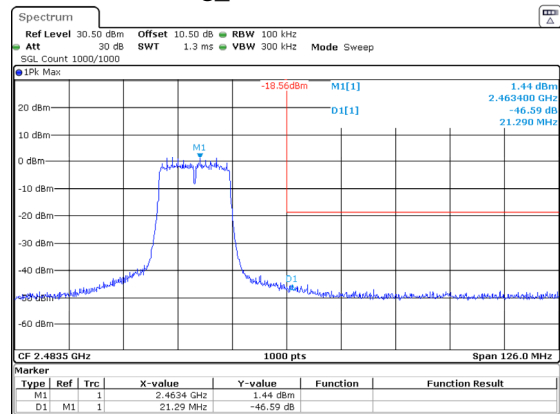
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:43:47

802.11g_2412MHz 40.40dB



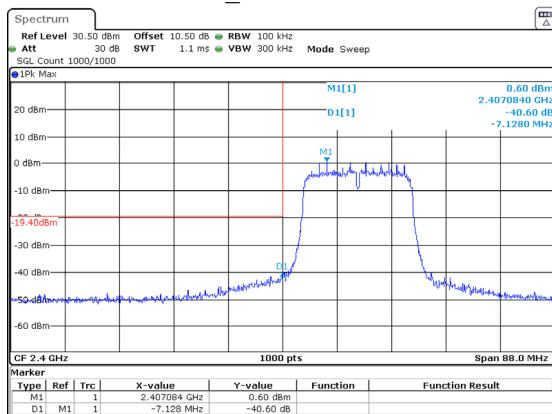
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:44:28

802.11g_2462MHz 46.59dB



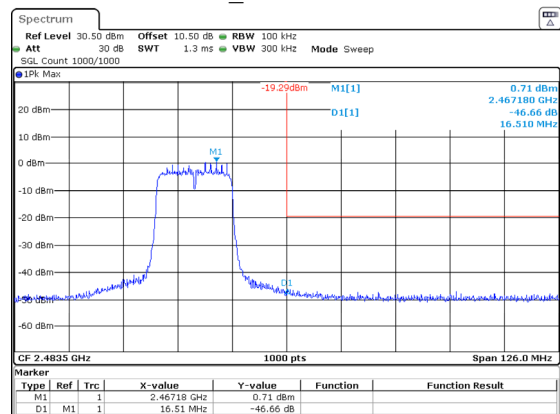
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:45:19

802.11n20_2412MHz 40.60dB



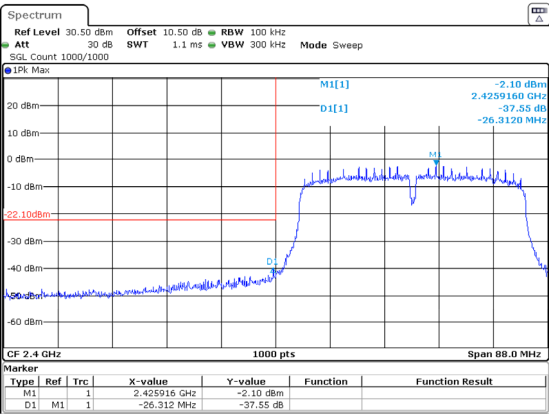
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:46:19

802.11n20_2462MHz 46.66dB



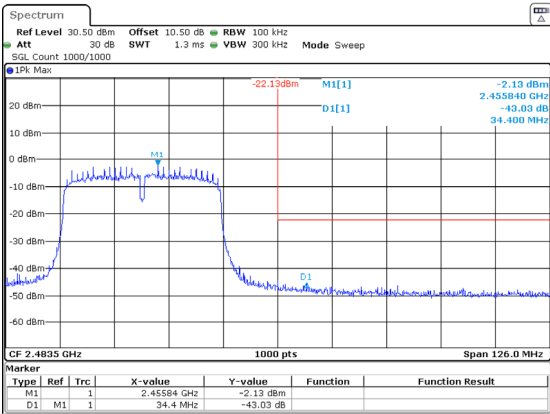
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 23:47:45

802.11n40_2422MHz 37.55dB



ProjectNo.:2401U21148E-RF Tester:Kungfumaster Liang
Date: 7.NOV.2024 23:49:05

802.11n40_2452MHz 43.03dB



ProjectNo.:2401U21148E-RF Tester:Kungfumaster Liang
Date: 7.NOV.2024 23:49:52

Duty Cycle

Test Information:

Sample No.:	2MP7-1	Test Date:	2024/11/07
Test Site:	RF	Test Mode:	Transmitting
Tester:	Kungfumaster Liang	Test Result:	N/A

Environmental Conditions:

Temperature: (°C):	25.4	Relative Humidity: (%)	55	ATM Pressure: (kPa)	101
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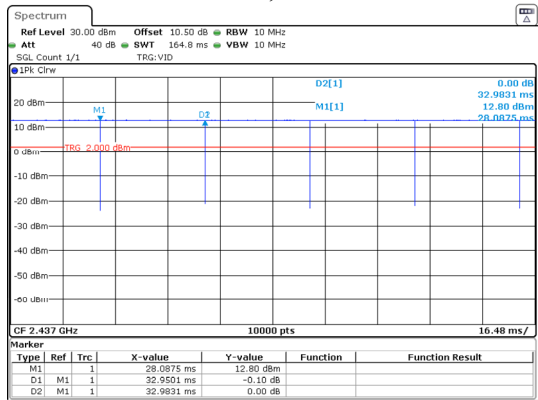
Test Data:

Mode	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11b	2437	32.950	32.983	99.90	/	/	0.010
802.11g	2437	5.478	5.506	99.49	/	/	0.010
802.11n20	2437	5.065	5.098	99.35	/	/	0.010
802.11n40	2437	2.456	2.484	98.87	/	/	0.010

Duty Cycle = Ton/(Ton+Toff)*100%

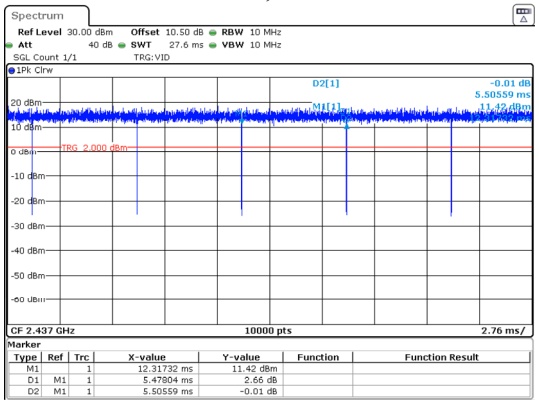
2.4G

802.11b_2437MHz
32.950ms,32.983ms



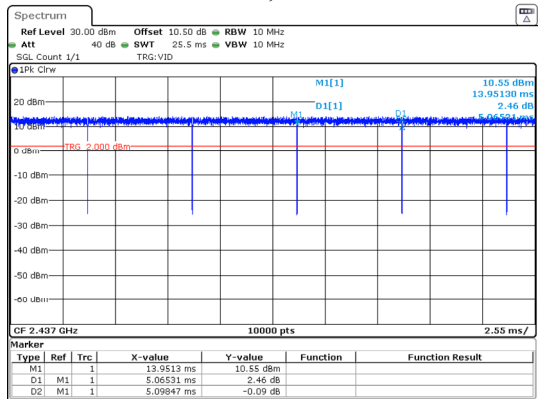
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 21:27:13

802.11g_2437MHz
5.478ms,5.506ms



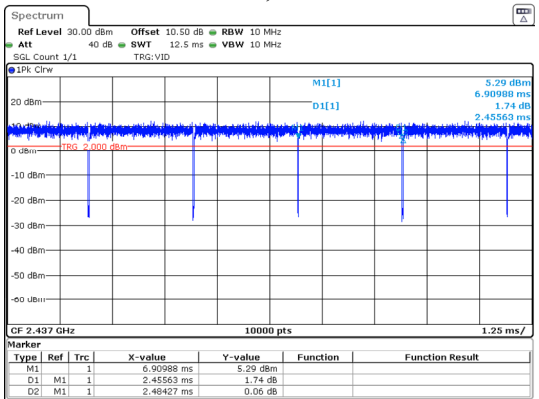
ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 21:30:21

802.11n20_2437MHz
5.065ms,5.098ms



ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 21:32:02

802.11n40_2437MHz
2.456ms,2.484ms



ProjectNo.:2401U21148E-RF Tester:Kungfumaater Liang
Date: 7.NOV.2024 21:37:22

RF EXPOSURE EVALUATION

RF EXPOSURE

Applicable Standard

According to FCC §2.1093 and §1.1307(b) (1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D01 General RF Exposure Guidance

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

1. $f(\text{GHz})$ is the RF channel transmit frequency in GHz.

2. Power and distance are rounded to the nearest mW and mm before calculation.

3. The result is rounded to one decimal place for comparison.

4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

Measurement Result

For worst case:

Mode	Frequency (MHz)	Max tune-up conducted power [#] (dBm)	Max tune-up conducted power [#] (mW)	Distance (mm)	Calculated value	Threshold (10-g SAR)	SAR Test Exclusion
Wi-Fi	2412-2462	13.5	22.39	5	7.0	7.5	Yes

Note: The EUT is a handheld device. Lora, Bluetooth and Wi-Fi cannot transmit simultaneously.

Result: Compliant

EUT PHOTOGRAPHS

Please refer to the attachment 2401U21148E-RF External photo and 2401U21148E-RF Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2401U21148E-RFB Test Setup photo.

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