TEST REPORT

Applicant Name:	Fanvil Technology Co., Ltd
Address:	10/F Block A, Dualshine Global Science Innovation Center, Honglang North 2nd Road, Bao'an District, Shenzhen, 518101, China
Report Number:	2401Y99995E-RF-00A
FCC ID:	2APPZ-V66

Test Standard (s)

FCC PART 15.247

Sample Description

Product Type:	IP Phone
Model No.:	V66
Multiple Model(s) No.:	J660
Trade Mark:	Fanvil
Date Received:	2024-10-17
Issue Date:	2025-01-24

Test Result:	Pass▲

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

Prepared and Checked By:

Ekko Wu
RF Engineer

Approved By:

Michelle Zeng
RF Supervisor

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

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

TABLE OF CONTENTS

DOCUMENT REVISION HISTORY **3**

GENERAL INFORMATION **4**

PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) 4
OBJECTIVE 4
TEST METHODOLOGY 5
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 22

ANTENNA REQUIREMENT **23**

TEST DATA AND RESULTS **24**

AC LINE CONDUCTED EMISSIONS 24
SPURIOUS EMISSIONS 27
6DB EMISSION BANDWIDTH 117
99% OCCUPIED BANDWIDTH 121
MAXIMUM CONDUCTED OUTPUT POWER 125
100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE 126
POWER SPECTRAL DENSITY 129
DUTY CYCLE 133

RF EXPOSURE EVALUATION **135**

EUT PHOTOGRAPHS **136**

TEST SETUP PHOTOGRAPHS **137**

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2401Y99995E-RF-00A	Original Report	2025-01-24

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	IP Phone
Tested Model	V66
Multiple Model(s)	J660
Frequency Range	2412~2462MHz for 802.11b, 802.11g, 802.11n-HT20, 802.11ax20 2422~2452 MHz for 802.11n-HT40, 802.11ax40
Maximum Conducted Output Peak Power	21.74 dBm
Modulation Technique	DSSS, OFDM, OFDMA
Antenna Specification#	4.2dBi (provided by the applicant)
Voltage Range	DC 12V from adapter or DC 48V from PoE
Sample serial number	2T31-2 for Conducted and Radiated Emissions Test 2T31-1 for RF Conducted Test (Assigned by BACL, Shenzhen)
Sample/EUT Status	Good condition
Adapter Information	Adapter 1 Model: DCT18W120150US-A0 Input: AC 100-240V, 50/60Hz, 0.7A max Output: DC 12.0V, 1.5A Adapter 2 Model: F18L16-120150SPAU Input: AC 100-240V, 50/60Hz, 0.6A Output: DC 12.0V, 1.5A, 18.0W
Note: 1. The multiple models are electrically identical with the test model except for model name, touch screen and appearance structure. Please refer to the declaration letter# for more detail, which was provided by manufacturer. 2. The EUT was powered by two adapters or PoE, the worst case power supply adapter 1 was selected to test for AC line conducted emission and radiated emissions below 1 GHz according to the BT report test result. 3. The model J660 was evaluated under BT report, according to the result, it was verified model J660 is compliant with requirement, so the model J660 not performed in this report.	

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℃
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	/	/

For 802.11b, 802.11g, 802.11n-HT20, 802.11ax20, EUT was tested with Channel 1, 6 and 11.
For 802.11n-HT40, 802.11ax40, EUT was tested with Channel 3, 6 and 9.

EUT Exercise Software

Exercise Software#		SecureCRTPortable.exe		
Mode	Data rate	Power Level#		
		Low Channel	Middle Channel	High Channel
802.11b	1Mbps	default	default	default
802.11g	6Mbps	default	default	default
802.11n-HT20	MCS0	default	default	default
802.11n-HT40	MCS0	default	default	default
802.11ax20	MCS0	default	default	default
802.11ax40	MCS0	default	default	default

Note:
1. The worst-case data rates are determined to be as follows for each mode based upon investigation by measuring the power and PSD across all data rates bandwidths, and modulations.
2. For 802.11 ax modes, the device not support partial RU mode.

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
DELL	PC	Latitude E5430	37K4X AOO
HIKVISION	Router	DS-3WR03	10021642429
Kinton	USB disk	Unknown	Unknown
Vbet	Headset	MonoLED-BT	Unknown

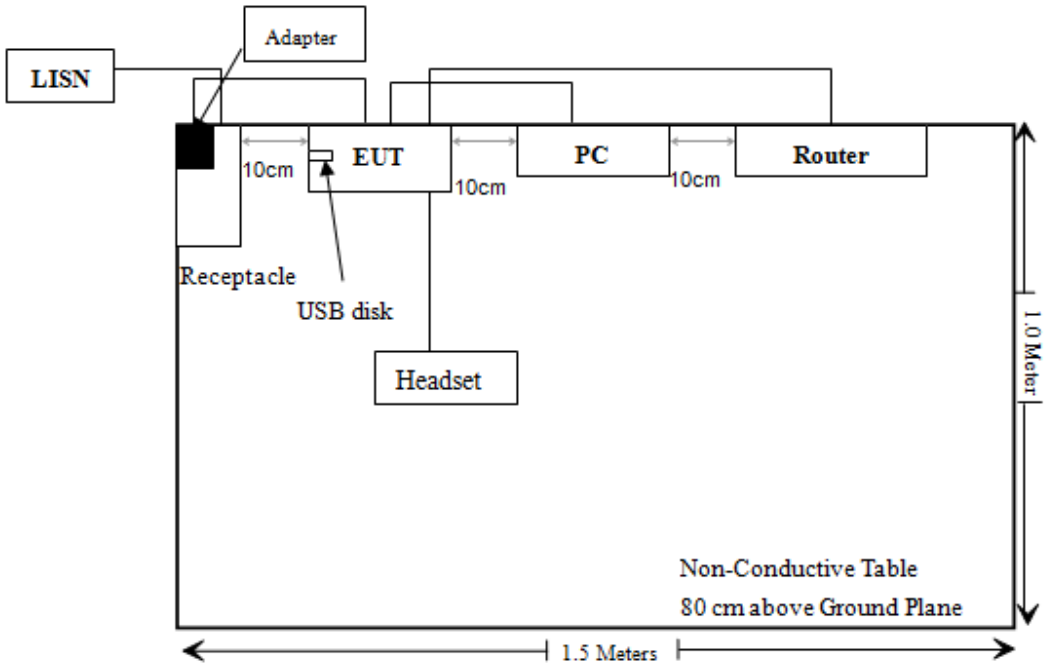
External I/O Cable

Cable Description	Length (m)	From Port	To
Unshielded detachable AC cable	1.0	Receptacle	LISN/AC Mains
Unshielded un-detachable DC cable	1.5	Adapter	EUT
Unshielded un-detachable audio cable	1.0	EUT	Headset
Unshielded detachable RJ45 cable	1.5	EUT	PC
Unshielded detachable RJ45 cable	1.5	EUT	Router

Block Diagram of Test Setup

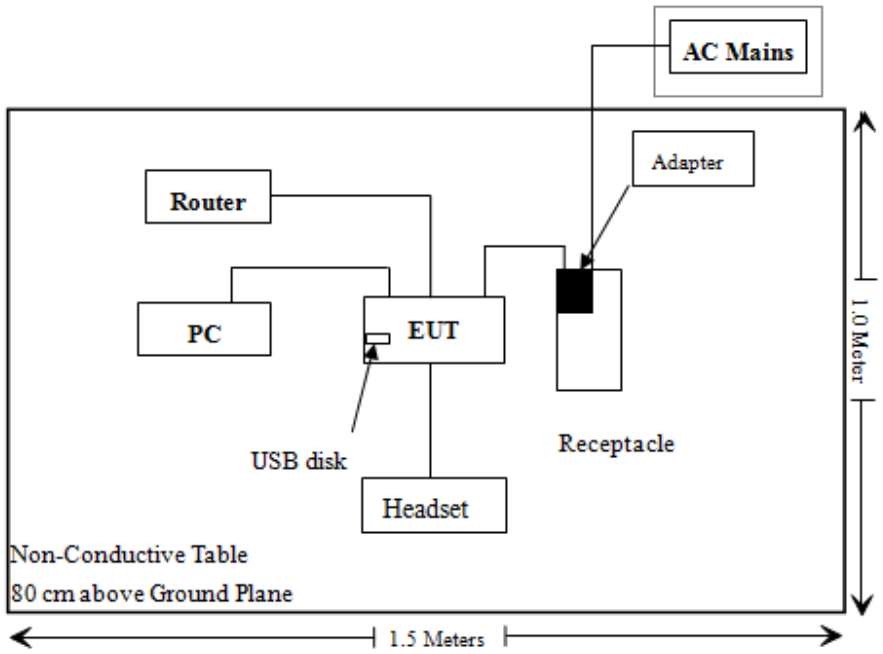
For Conducted Emissions:

Powered by adapter

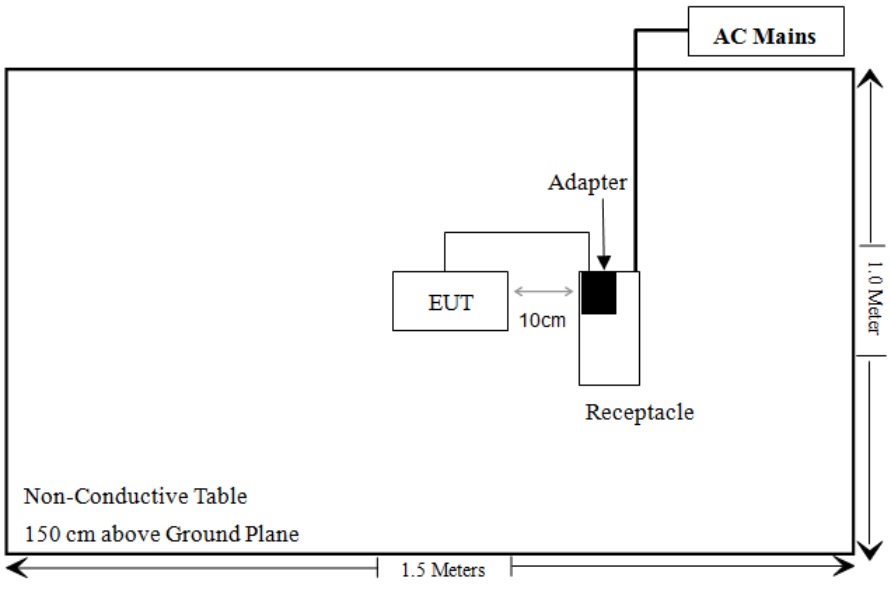


For Radiated Emissions below 1GHz:

Powered by adapter



For Radiated Emissions above 1GHz:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207 (a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliant
§15.247(b)(3)	Maximum Conducted Output Power	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant
C63.10 §11.6	Duty Cycle	/
§15.247 (i), §1.1307(b)(3)(i)(C) & §2.1091	MPE-Based Exemption	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
Unknown	CE Cable	Unknown	UF A210B-1-0720-504504	2024/05/21	2025/05/20
Rohde & Schwarz	Transient Limiter	ESH3Z2	DE25985	2024/05/21	2025/05/20
Audix	EMI Test software	E3	191218(V9)	NCR	NCR
Radiated Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR3	102455	2024/01/16	2025/01/15
Sonoma instrument	Pre-amplifier	310N	186238	2024/05/21	2025/05/20
Unknown	Cable	XH500C	J-10M-A	2024/06/18	2025/06/17
Unknown	Cable	Chamber Cable 1	F-03-EM236	2024/06/18	2025/06/17
BACL	Active Loop Antenna	1313-1A	4031911	2024/05/14	2027/05/13
Unknown	Cable	PNG214	1354	2024/05/21	2025/05/20
Unknown	Cable	2Y194	0735	2024/05/21	2025/05/20
Audix	EMI Test software	E3	19821b(V9)	NCR	NCR
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2023/07/20	2026/07/19
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
Schwarzbeck	Horn Antenna	BBHA9120D(1201)	1143	2023/07/26	2026/07/25
Unknown	RF Cable	KMSE	0735	2024/06/18	2025/06/17
Unknown	RF Cable	UFA147	219661	2024/06/18	2025/06/17
Unknown	RF Cable	XH750A-N	J-10M	2024/06/18	2025/06/17
JD	Filter Switch Unit	DT7220FSU	DS79906	2024/09/09	2025/09/08
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	9510-2270	2023/09/18	2026/09/17
UTIFLEX	RF Cable	NO. 13	232308-001	2024/06/18	2025/06/17

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyze	FSU26	200982	2024/09/20	2025/09/19
MARCONI	10dB Attenuator	6534/3	2942	2024/06/27	2025/06/26
Rohde&Schwarz	Spectrum Analyzer	FSV40-N	102259	2024/01/16	2025/01/15
ANRITSU	Microwave peak power sensor	MA24418A	12622	2024/05/21	2025/05/20

*** 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).

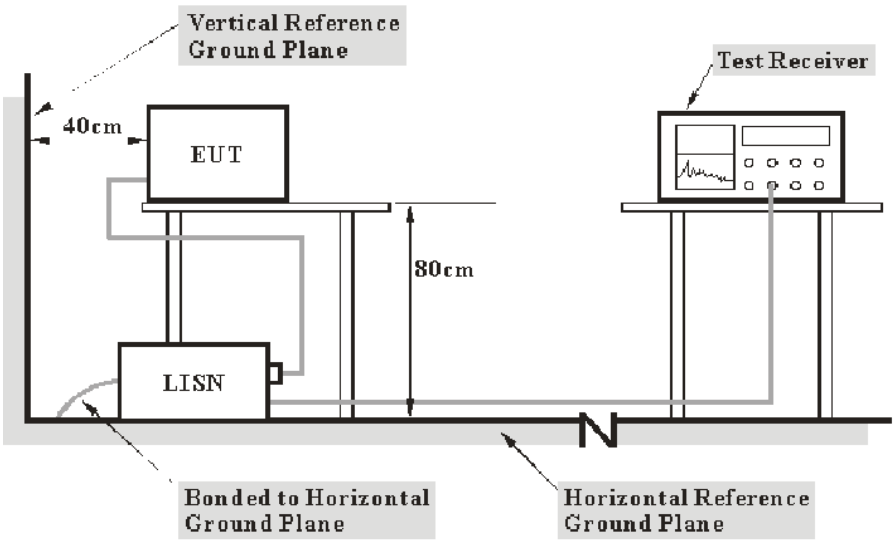
REQUIREMENTS AND TEST PROCEDURES

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:

Factor = LISN VDF + Cable Loss

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

Over Limit = level – Limit
Level= reading level+ Factor

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

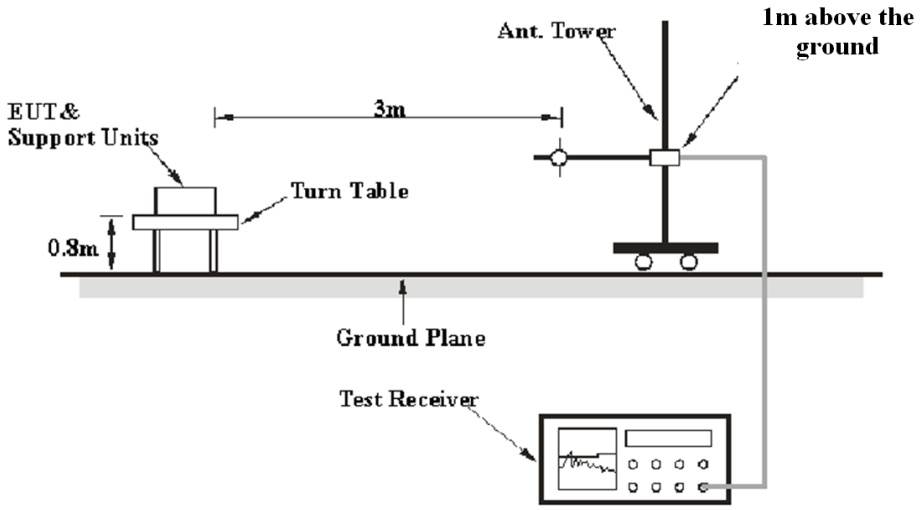
Spurious Emissions

Applicable Standard

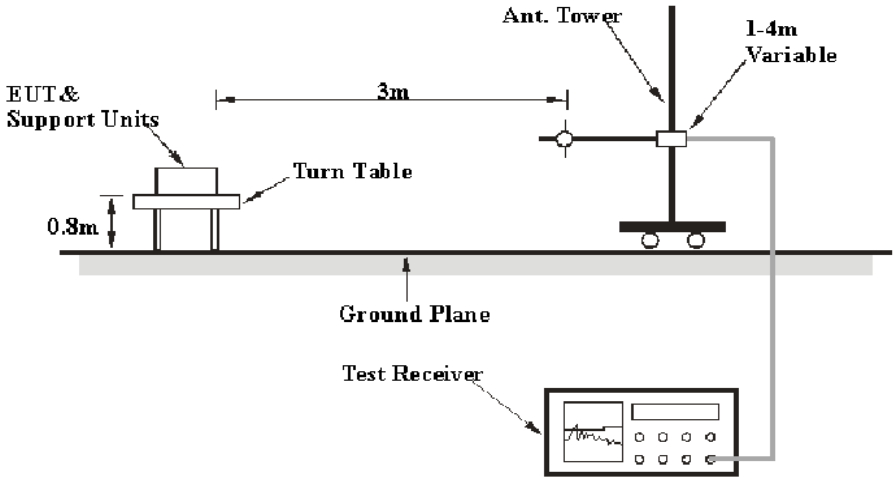
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

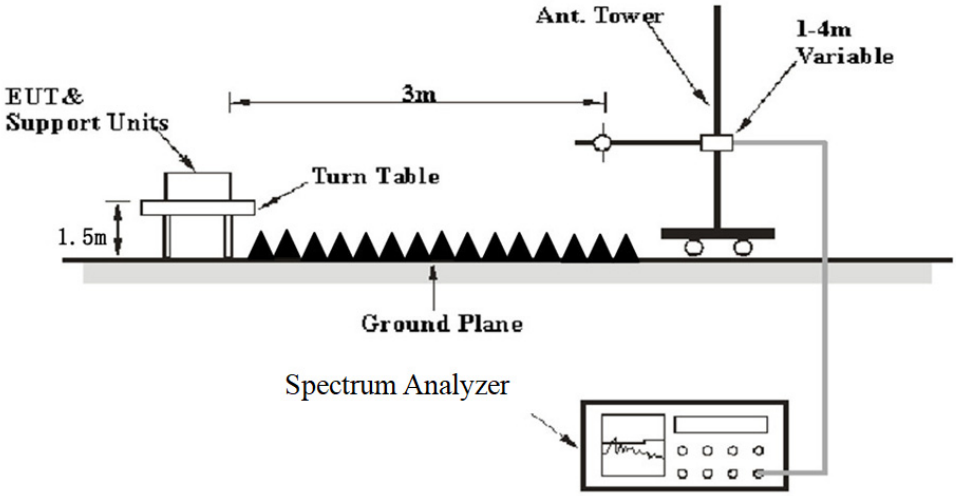
9 kHz-30MHz:



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:

Factor = Antenna Factor + Cable Loss - 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:

Over Limit/Margin = Level/Corrected Amplitude – Limit
Level / Corrected Amplitude = Read Level + Factor

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.

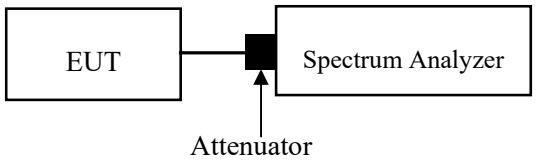
Test Procedure

Test Method: ANSI C63.10-2013 Clause 11.8.1

a) Set RBW = 100 kHz.
b) Set the VBW ⩾ [3 × 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 by6 dB relative to the maximum level measured in the fundamental emission.

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.
Procedure as below

a. The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
b. The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW (for RSS rules, VBW shall not be smaller than three times the RBW, unless otherwise specified by the applicable requirement).
c. Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level.
d. Step a) through step c) might require iteration to adjust within the specified range.
e. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
f. Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
g. If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
h. The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data maybe reported in addition to the plot(s).



Maximum Conducted Output Power

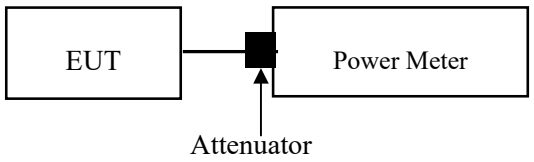
Applicable Standard

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.



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

100 kHz Bandwidth of Frequency Band Edge

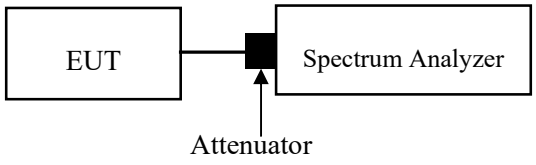
Applicable Standard

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. Set the RBW =100 kHz.
2. Set the VBW ≥ 3×RBW.
3. Detector = peak
4. Sweep time = auto couple.
5. Trace mode=max hold
6. All trace to fully stabilize
7. Use the peak marker function to determine the maximum amplitude level.
   Ensure that amplitude of all unwanted emissions outside of the authorized frequency band(excluding restricted frequency bands) is attenuated by at least the minimum requirement specified in 11.11.
   Report the three highest emissions relative to the limit.



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: 3kHz≤ RBW≤100 kHz.
2. Set the VBW ≥ 3×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.

Test Method: ANSI C63.10-2013 Clause 11.10.3 Method AVGPSD-1

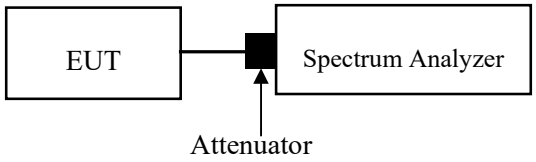
The following procedure may be used when the maximum (average) conducted output power was used to determine compliance to the fundamental output power limit. This is the baseline method for determining the maximum (average) conducted PSD level. If the instrument has a power averaging (rms) detector, then it must be used; otherwise, use the sample detector. The EUT must be configured to transmit continuously (D ⩾ 98%), or else sweep triggering/signal gating must be implemented to ensure that measurements are made only when the EUT is transmitting at its maximum power control level (no transmitter OFF time to be considered):

1. Set instrument center frequency to DTS channel center frequency.
2. Set span to at least 1.5 times the OBW.
3. Set the RBW to: 3kHz≤ RBW≤100 kHz.
4. Set the VBW ≥ 3×BW.
5. Detector = power averaging (rms) or sample detector (when rms not available)
6. Ensure that the number of measurement points in the sweep ⩾ [2 × span / RBW].
7. Sweep time = auto couple.
8. Employ trace averaging (rms) mode over a minimum of 100 traces.
9. Use the peak marker function to determine the maximum amplitude level.
10. If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

Test Method: ANSI C63.10-2013 Clause 11.10.5 Method AVGPSD-2

The following procedure is applicable when the EUT cannot be configured to transmit continuously (i.e., D < 98%), when sweep triggering/signal gating cannot be used to measure only when the EUT is transmitting at its maximum power control level, and when the transmission duty cycle is constant (i.e., duty cycle variations are less than ±2%):

1. Measure the duty cycle (D) of the transmitter output signal as described in 11.6.
2. Set instrument center frequency to DTS channel center frequency.
3. Set span to at least 1.5 times the OBW.
4. Set the RBW to: 3kHz≤ RBW≤100 kHz.
5. Set the VBW ≥ 3×BW.
6. Detector = power averaging (rms) or sample detector (when rms not available)
7. Ensure that the number of measurement points in the sweep ⩾ [2 × span / RBW].
8. Sweep time = auto couple.
9. Do not use sweep triggering; allow sweep to “free run.”
10. Employ trace averaging (rms) mode over a minimum of 100 traces.
11. Use the peak marker function to determine the maximum amplitude level.
12. If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).



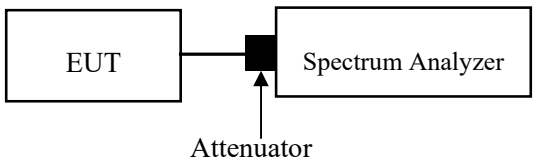
Note: A short RF cable with low cable loss connected to the EUT antenna port,which was provided by client or lab, the cable loss was add with offset into test equipment, the total offset consists of attenuator and/or RF cable and/or power splitter loss

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 ≥ OBW if possible; otherwise, set RBW to the largest available value.
3) Set VBW ≥ 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 ≤ 16.7 μs.)



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 4.2dBi, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliant

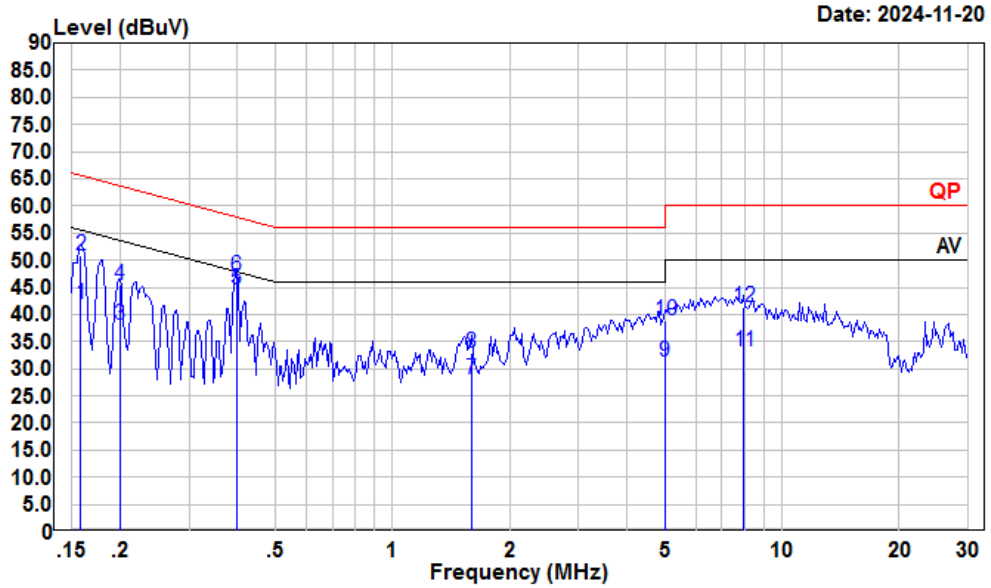
TEST DATA AND RESULTS

AC Line Conducted Emissions

Environmental Conditions

Temperature (℃)	24	**Relative Humidity (%)**	62
ATM Pressure (kPa)	101	**Test engineer**	Macy.shi
Test date	2024.11.20		
EUT operation mode	Transmitting (Maximum output power mode, 802.11AX20, middle channel)		

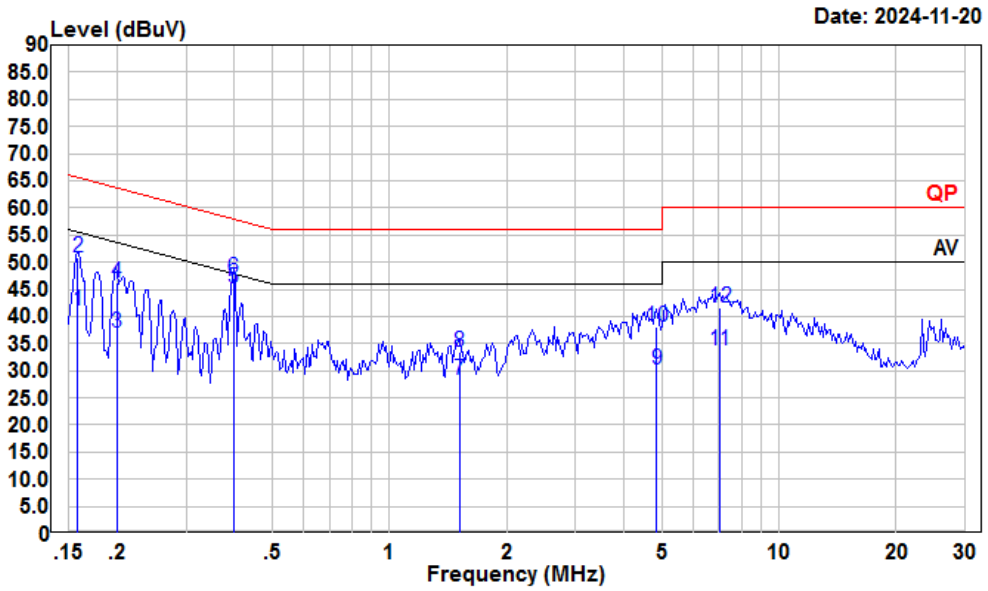
AC 120V 60 Hz, Line



Condition: Line
Project : 2401Y99995E-RF
tester : Macy.shi
Note : Transmitting

	Freq	Read Level	Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.158	20.80	41.80	10.88	10.12	55.56	-13.76	Average
2	0.158	29.90	50.90	10.88	10.12	65.56	-14.66	QP
3	0.200	17.12	38.01	10.80	10.09	53.62	-15.61	Average
4	0.200	24.53	45.42	10.80	10.09	63.62	-18.20	QP
5	0.398	24.05	44.73	10.58	10.10	47.90	-3.17	Average
6	0.398	26.43	47.11	10.58	10.10	57.90	-10.79	QP
7	1.593	7.22	27.92	10.53	10.17	46.00	-18.08	Average
8	1.593	12.28	32.98	10.53	10.17	56.00	-23.02	QP
9	5.005	10.65	31.21	10.38	10.18	50.00	-18.79	Average
10	5.005	18.36	38.92	10.38	10.18	60.00	-21.08	QP
11	7.977	12.57	33.31	10.54	10.20	50.00	-16.69	Average
12	7.977	20.55	41.29	10.54	10.20	60.00	-18.71	QP

AC 120V 60 Hz, Neutral



Condition: Neutral
Project : 2401Y99995E-RF
tester : Macy.shi
Note : Transmitting

	Freq	Read Level	Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.158	20.42	41.10	10.56	10.12	55.56	-14.46	Average
2	0.158	30.13	50.81	10.56	10.12	65.56	-14.75	QP
3	0.200	16.37	36.86	10.40	10.09	53.62	-16.76	Average
4	0.200	25.78	46.27	10.40	10.09	63.62	-17.35	QP
5	0.398	24.30	45.02	10.62	10.10	47.90	-2.88	Average
6	0.398	26.21	46.93	10.62	10.10	57.90	-10.97	QP
7	1.511	7.64	28.40	10.60	10.16	46.00	-17.60	Average
8	1.511	12.56	33.32	10.60	10.16	56.00	-22.68	QP
9	4.848	9.41	30.09	10.50	10.18	46.00	-15.91	Average
10	4.848	17.49	38.17	10.50	10.18	56.00	-17.83	QP
11	7.025	12.78	33.67	10.70	10.19	50.00	-16.33	Average
12	7.025	20.82	41.71	10.70	10.19	60.00	-18.29	QP

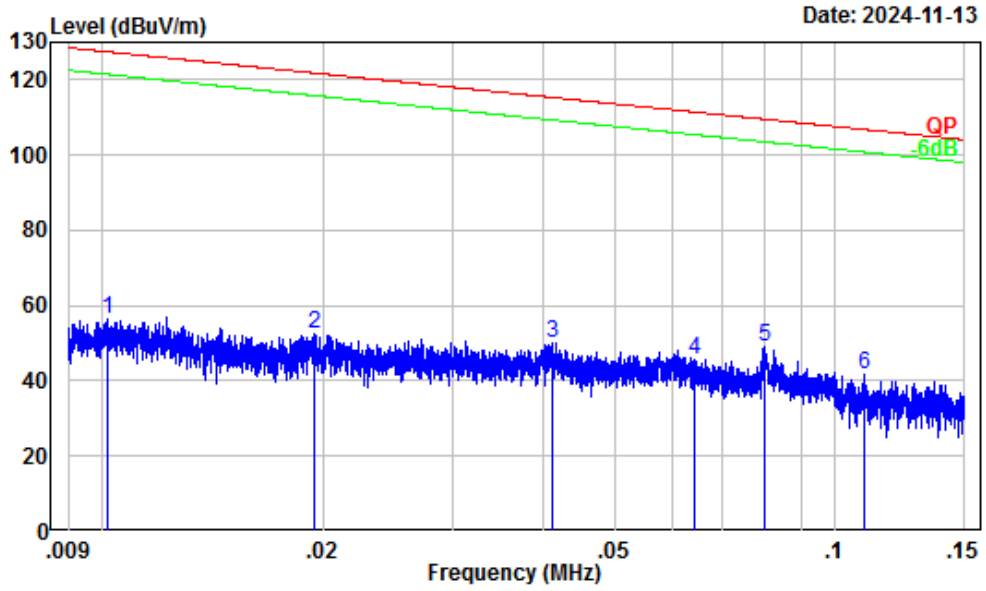
Spurious Emissions

Environmental Conditions

Temperature (℃)	25-26	**Relative Humidity (%)**	49-50
ATM Pressure (kPa):	101	**Test engineer:**	Carl.zhu &Zenos.qiao
Test date:	2024.11.12-2024.11.15		
EUT operation mode:	Below 1GHz: Transmitting (Maximum output power mode, 802.11AX20, middle channel) Above 1GHz: Transmitting		
Note:	*1. After pre-scan in the X, Y and Z axes of orientation, the worst case z-axis of orientation were recorded.* *2. For 9 kHz~30 MHz test, Pre-scan in the parallel, perpendicular and ground parallel, just the worst case parallel was recorded in the report.* *3. The spurious emission from 9 kHz-30MHz of IC RSS-GEN standard, the unit of final result on the test plots are dBμV/m, so the limit should be added by 51,5 dB from dBμA/m to dBμV/m.*		

Below 1GHz:

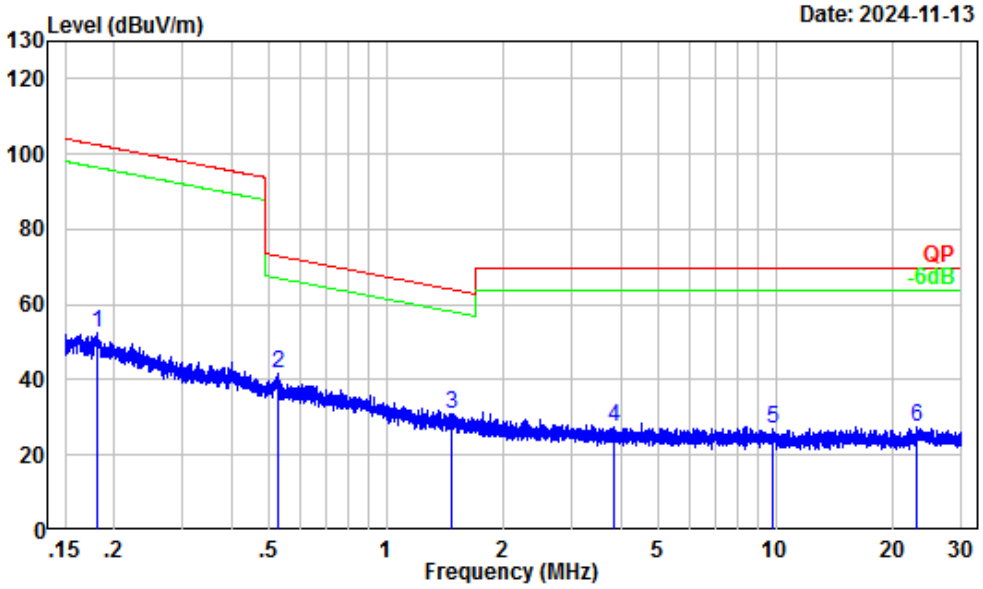
9 kHz-150 kHz(Adapter1)



Site : Chamber A
Condition : 3m
Project Number: 2401Y99995E-RF
Test Mode : Transmitting
Tester : Carl Zhu

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.01	32.26	23.95	56.21	127.44	-71.23	Peak
2	0.02	30.51	21.91	52.42	121.83	-69.41	Peak
3	0.04	27.33	22.69	50.02	115.32	-65.30	Peak
4	0.06	24.98	20.61	45.59	111.45	-65.86	Peak
5	0.08	23.38	25.57	48.95	109.51	-60.56	Peak
6	0.11	21.43	20.23	41.66	106.80	-65.14	Peak

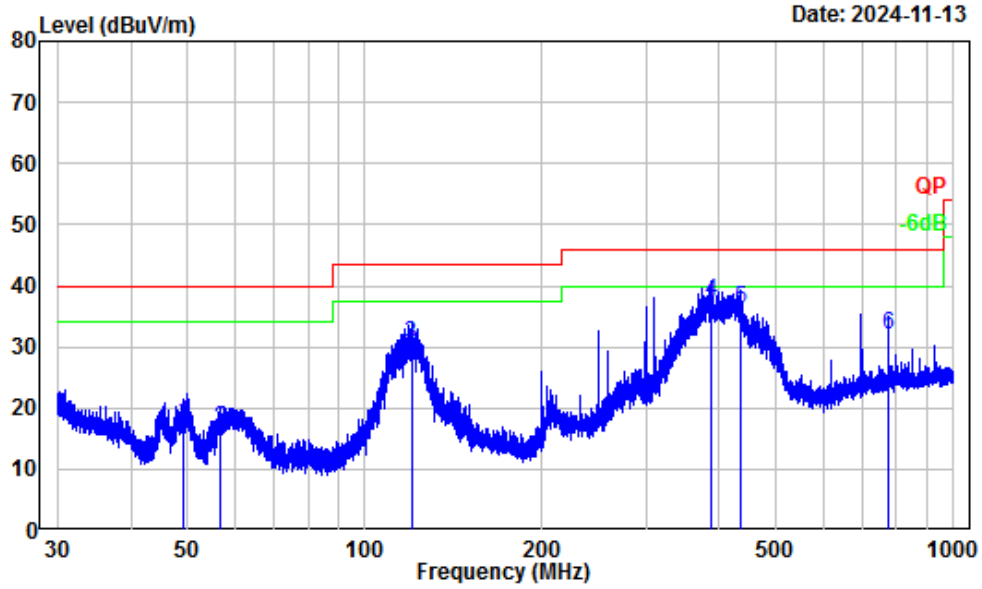
150 kHz-30MHz(Adapter1)



Site : Chamber A
Condition : 3m
Project Number: 2401Y99995E-RF
Test Mode : Transmitting
Tester : Carl Zhu

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.18	17.25	35.24	52.49	102.48	-49.99	Peak
2	0.53	6.08	35.48	41.56	73.17	-31.61	Peak
3	1.47	-0.11	31.25	31.14	64.06	-32.92	Peak
4	3.86	-2.62	29.85	27.23	69.54	-42.31	Peak
5	9.81	-2.82	29.80	26.98	69.54	-42.56	Peak
6	23.03	-3.10	30.34	27.24	69.54	-42.30	Peak

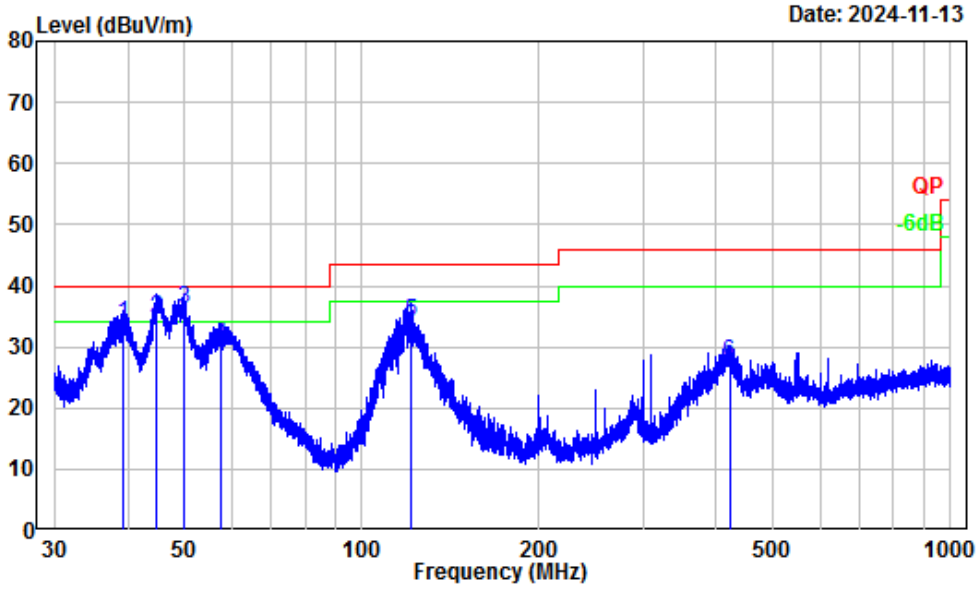
30MHz-1GHz_Horizontal (Adapter1)



Site : Chamber A
Condition : 3m Horizontal
Project Number: 2401Y99995E-RF
Test Mode : Transmitting
Tester : Carl Zhu

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	49.19	-17.77	35.32	17.55	40.00	-22.45	QP
2	56.92	-18.31	34.97	16.66	40.00	-23.34	QP
3	119.86	-11.46	42.00	30.54	43.50	-12.96	QP
4	387.65	-8.94	46.52	37.58	46.00	-8.42	QP
5	433.87	-7.76	44.12	36.36	46.00	-9.64	QP
6	775.18	-2.47	34.56	32.09	46.00	-13.91	QP

30MHz-1GHz_Vertical (Adapter1)



Site : Chamber A
Condition : 3m Vertical
Project Number: 2401Y99995E-RF
Test Mode : Transmitting
Tester : Carl Zhu

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	39.37	-11.93	45.79	33.86	40.00	-6.14	QP
2	44.68	-15.66	50.39	34.73	40.00	-5.27	QP
3	49.90	-17.90	54.14	36.24	40.00	-3.76	QP
4	57.54	-18.27	48.58	30.31	40.00	-9.69	QP
5	121.34	-11.32	45.44	34.12	43.50	-9.38	QP
6	421.13	-7.93	35.36	27.43	46.00	-18.57	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	52.85	PK	H	2.45	55.3	74	-18.7
4824	48.54	AV	H	2.45	50.99	54	-3.01
4824	51.8	PK	V	2.45	54.25	74	-19.75
4824	47.73	AV	V	2.45	50.18	54	-3.82
Middle Channel							
4874	51.91	PK	H	2.56	54.47	74	-19.53
4874	47.09	AV	H	2.56	49.65	54	-4.35
4874	51.46	PK	V	2.56	54.02	74	-19.98
4874	46.88	AV	V	2.56	49.44	54	-4.56
High Channel							
4924	52.57	PK	H	2.63	55.2	74	-18.8
4924	48.32	AV	H	2.63	50.95	54	-3.05
4924	52.13	PK	V	2.63	54.76	74	-19.24
4924	47.95	AV	V	2.63	50.58	54	-3.42
802.11g							
Low Channel							
4824	56.86	PK	H	2.45	59.31	74	-14.69
4824	42.93	AV	H	2.45	45.38	54	-8.62
4824	56.55	PK	V	2.45	59	74	-15
4824	42.69	AV	V	2.45	45.14	54	-8.86
Middle Channel							
4874	56.54	PK	H	2.56	59.1	74	-14.9
4874	42.49	AV	H	2.56	45.05	54	-8.95
4874	56.17	PK	V	2.56	58.73	74	-15.27
4874	42.36	AV	V	2.56	44.92	54	-9.08
High Channel							
4924	55.89	PK	H	2.63	58.52	74	-15.48
4924	41.27	AV	H	2.63	43.9	54	-10.1
4924	55.48	PK	V	2.63	58.11	74	-15.89
4924	41.04	AV	V	2.63	43.67	54	-10.33

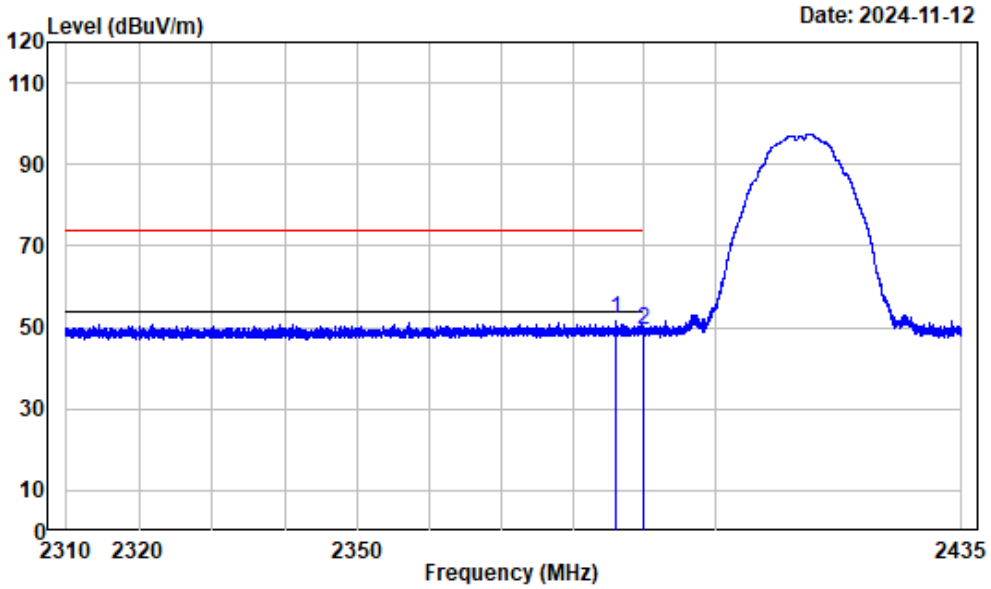
Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	PK/Ave					
802.11n-HT20							
Low Channel							
4824	56.99	PK	H	2.45	59.44	74	-14.56
4824	42.54	AV	H	2.45	44.99	54	-9.01
4824	56.67	PK	V	2.45	59.12	74	-14.88
4824	42.3	AV	V	2.45	44.75	54	-9.25
Middle Channel							
4874	56.17	PK	H	2.56	58.73	74	-15.27
4874	41.68	AV	H	2.56	44.24	54	-9.76
4874	55.72	PK	V	2.56	58.28	74	-15.72
4874	41.41	AV	V	2.56	43.97	54	-10.03
High Channel							
4924	55.64	PK	H	2.63	58.27	74	-15.73
4924	40.95	AV	H	2.63	43.58	54	-10.42
4924	55.26	PK	V	2.63	57.89	74	-16.11
4924	40.7	AV	V	2.63	43.33	54	-10.67
802.11n-HT40							
Low Channel							
4844	52.38	PK	H	2.45	54.83	74	-19.17
4844	38.83	AV	H	2.45	41.28	54	-12.72
4844	51.92	PK	V	2.45	54.37	74	-19.63
4844	38.6	AV	V	2.45	41.05	54	-12.95
Middle Channel							
4874	54.19	PK	H	2.56	56.75	74	-17.25
4874	39.61	AV	H	2.56	42.17	54	-11.83
4874	53.87	PK	V	2.56	56.43	74	-17.57
4874	39.36	AV	V	2.56	41.92	54	-12.08
High Channel							
4904	53.53	PK	H	2.64	56.17	74	-17.83
4904	39.45	AV	H	2.64	42.09	54	-11.91
4904	53.16	PK	V	2.64	55.8	74	-18.2
4904	39.28	AV	V	2.64	41.92	54	-12.08

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	PK/Ave					
802.11ax20							
Low Channel							
4824	57.45	PK	H	2.45	59.9	74	-14.1
4824	43.32	AV	H	2.45	45.77	54	-8.23
4824	56.87	PK	V	2.45	59.32	74	-14.68
4824	42.98	AV	V	2.45	45.43	54	-8.57
Middle Channel							
4874	56.74	PK	H	2.56	59.3	74	-14.7
4874	42.88	AV	H	2.56	45.44	54	-8.56
4874	56.26	PK	V	2.56	58.82	74	-15.18
4874	42.52	AV	V	2.56	45.08	54	-8.92
High Channel							
4924	55.87	PK	H	2.63	58.5	74	-15.5
4924	41.36	AV	H	2.63	43.99	54	-10.01
4924	55.4	PK	V	2.63	58.03	74	-15.97
4924	41.01	AV	V	2.63	43.64	54	-10.36
802.11ax40							
Low Channel							
4844	52.6	PK	H	2.45	55.05	74	-18.95
4844	39.76	AV	H	2.45	42.21	54	-11.79
4844	52.05	PK	V	2.45	54.5	74	-19.5
4844	39.32	AV	V	2.45	41.77	54	-12.23
Middle Channel							
4874	54.28	PK	H	2.56	56.84	74	-17.16
4874	40.19	AV	H	2.56	42.75	54	-11.25
4874	53.73	PK	V	2.56	56.29	74	-17.71
4874	39.84	AV	V	2.56	42.4	54	-11.6
High Channel							
4904	53.97	PK	H	2.64	56.61	74	-17.39
4904	40.06	AV	H	2.64	42.7	54	-11.3
4904	53.45	PK	V	2.64	56.09	74	-17.91
4904	39.69	AV	V	2.64	42.33	54	-11.67

Note:
Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
Corrected Amplitude/Level = Corrected Factor + Reading
Margin = CorrectedAmplitude/Level - Limit
The other spurious emission which is in the noise floor level was not recorded.

Test plots

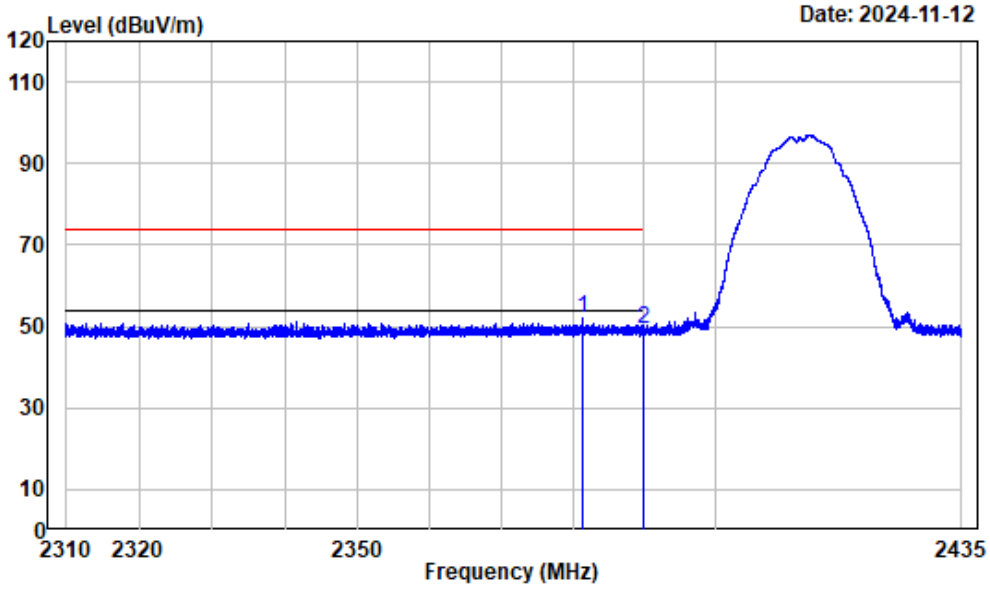
802.11b, Left band edge, Horizontal



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2386.072	-3.19	55.38	52.19	74.00	-21.81	Peak
2	2390.000	-3.20	52.56	49.36	74.00	-24.64	Peak

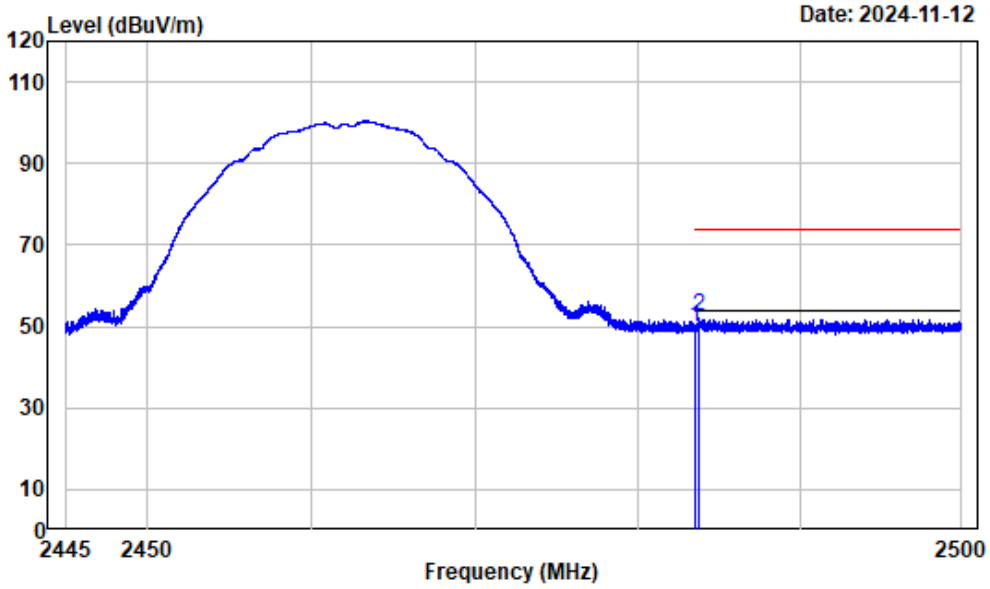
802.11b, Left band edge,Vertical



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2381.400	-3.19	55.14	51.95	74.00	-22.05	Peak
2	2390.000	-3.20	52.48	49.28	74.00	-24.72	Peak

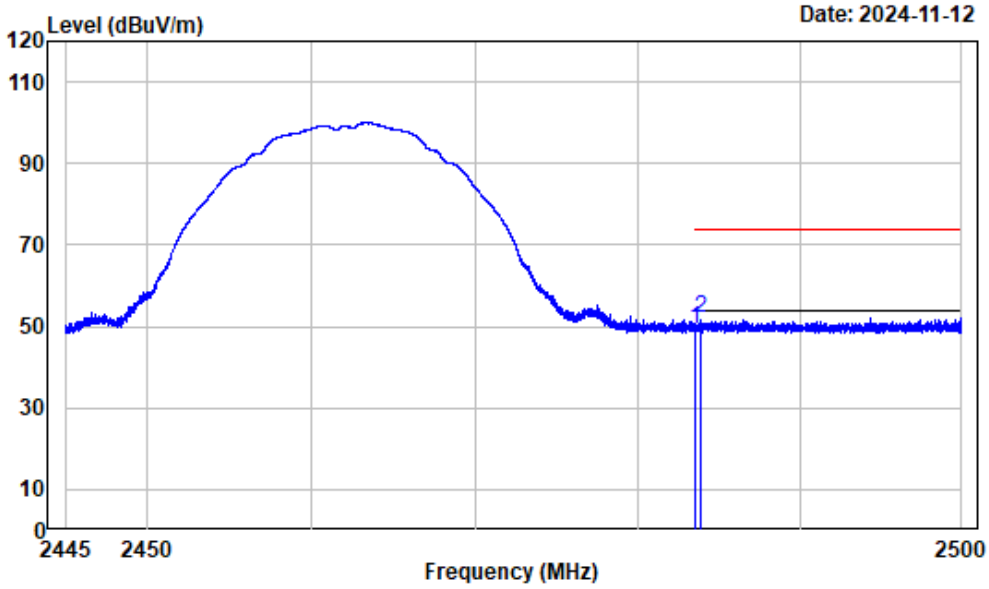
802.11b, Right band edge, Horizontal



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-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
2	2483.738	-3.17	55.59	52.42	74.00	-21.58	Peak

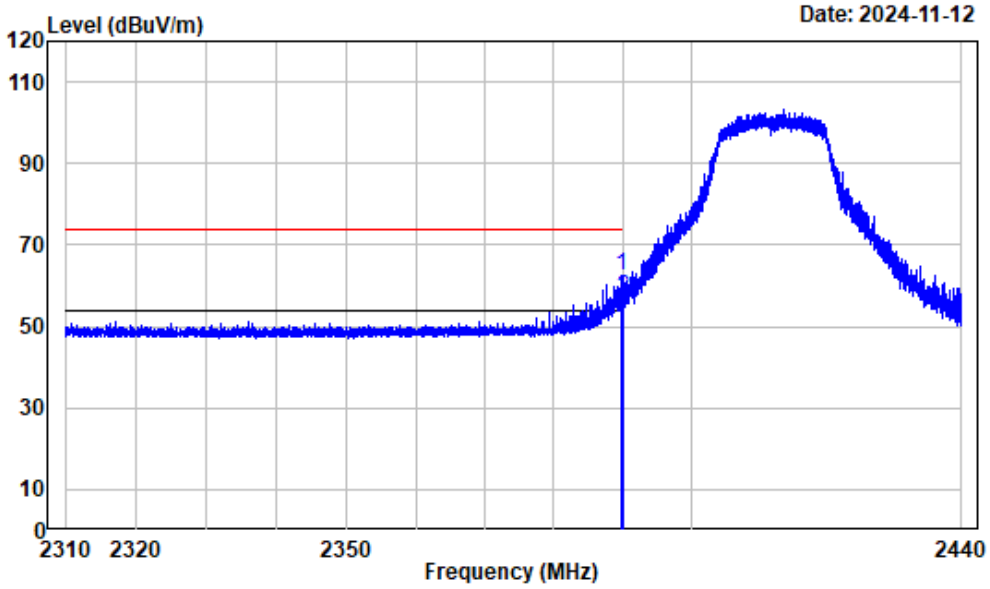
802.11b, Right band edge,Vertical



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-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	52.52	49.35	74.00	-24.65	Peak
2	2483.888	-3.17	55.36	52.19	74.00	-21.81	Peak

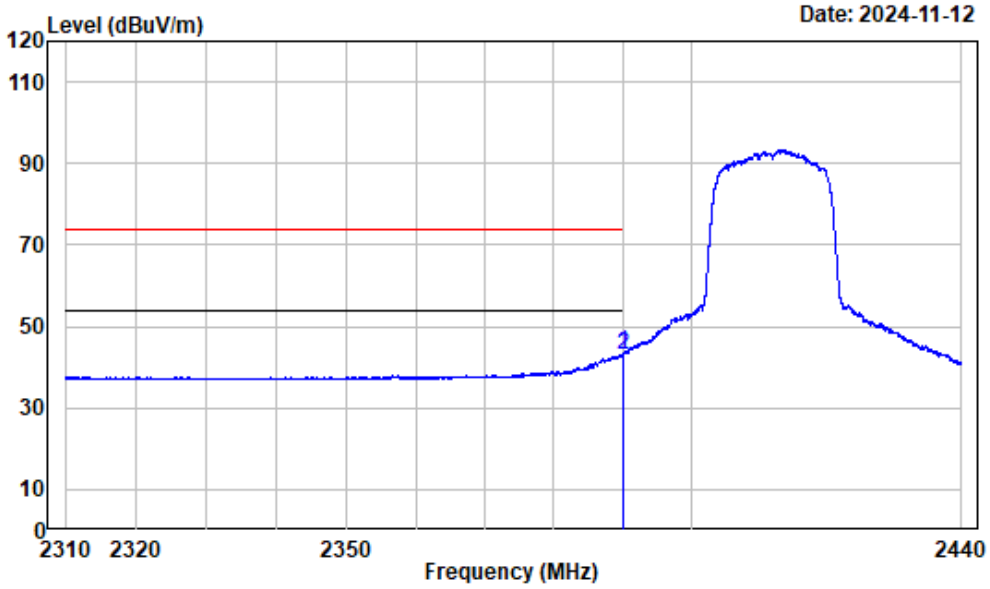
802.11g, Left band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.911	-3.20	65.74	62.54	74.00	-11.46	Peak
2	2390.000	-3.20	60.34	57.14	74.00	-16.86	Peak

802.11g, Left band edge, Horizontal-Average

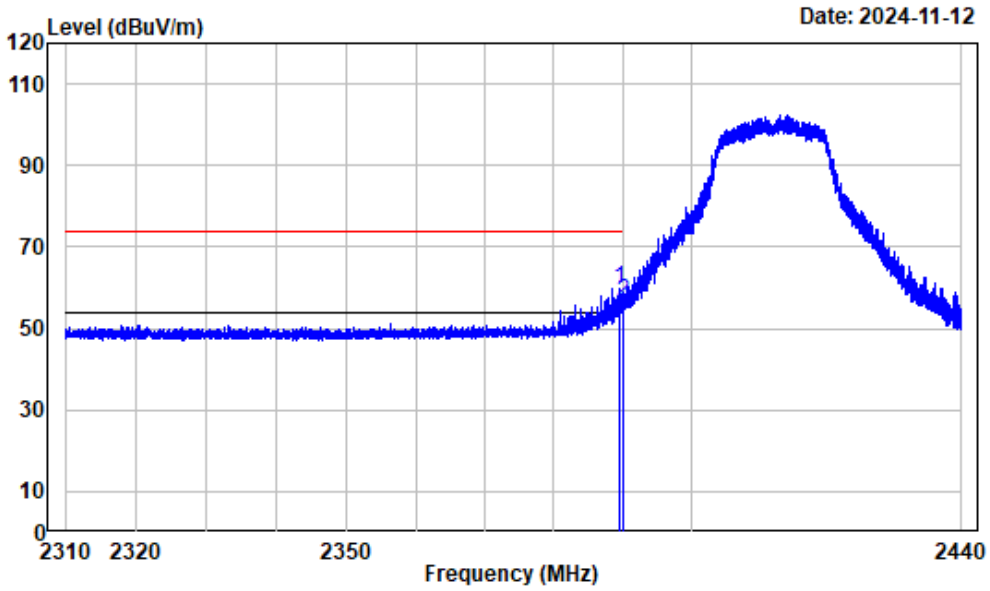


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.976	-3.20	46.47	43.27	54.00	-10.73	Average
2	2390.000	-3.20	46.33	43.13	54.00	-10.87	Average

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

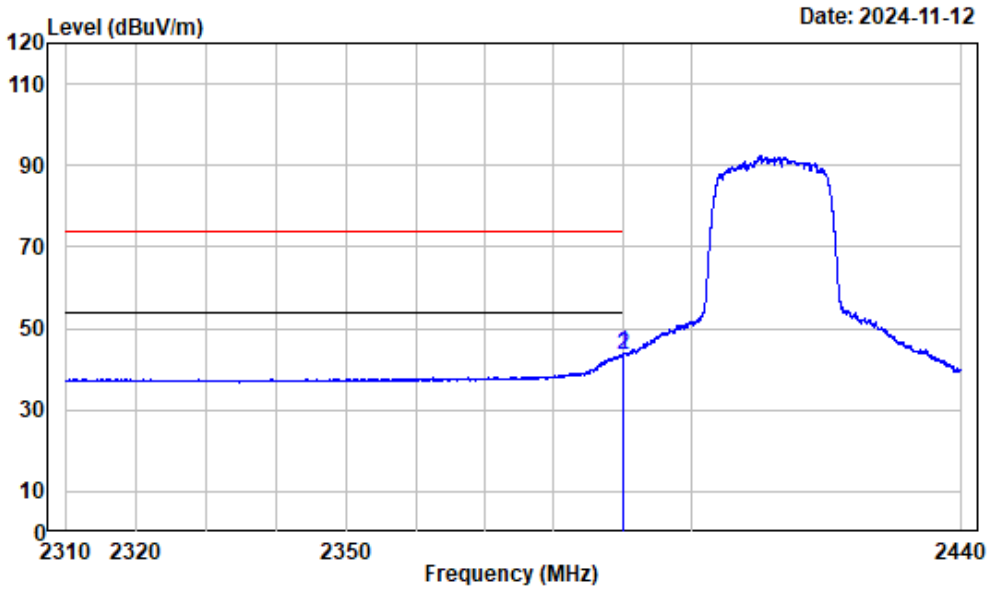
802.11g, Left band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.440	-3.20	63.02	59.82	74.00	-14.18	Peak
2	2390.000	-3.20	59.98	56.78	74.00	-17.22	Peak

802.11g, Left band edge, Vertical-Average

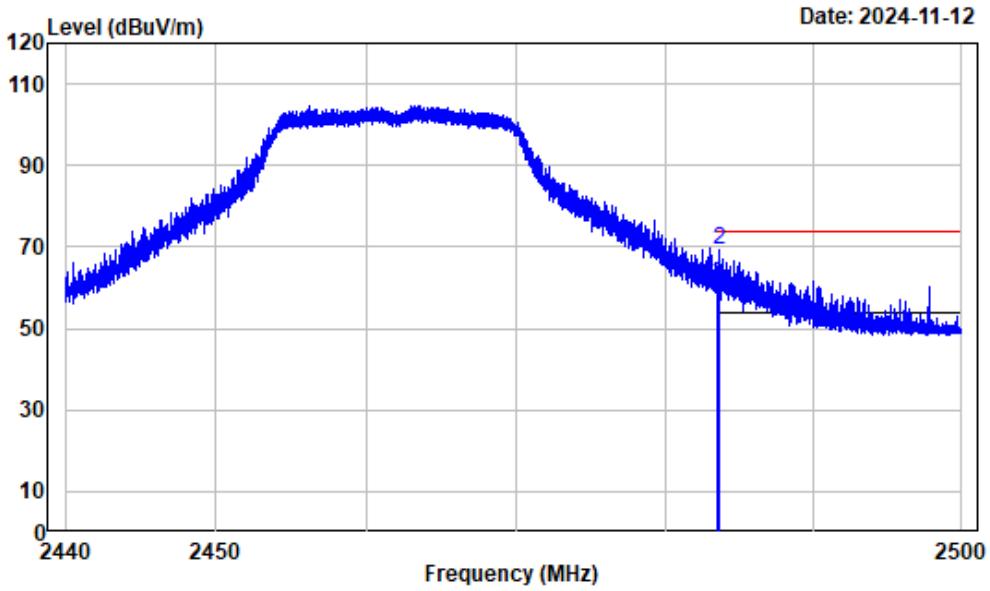


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.992	-3.20	46.95	43.75	54.00	-10.25	Average
2	2390.000	-3.20	46.86	43.66	54.00	-10.34	Average

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

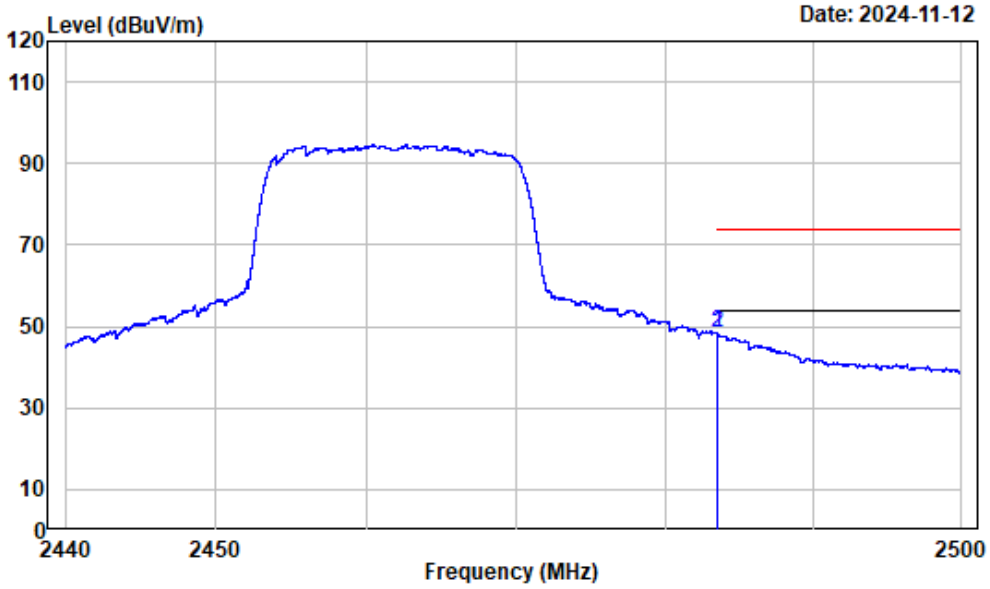
802.11g, Right band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-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	64.23	61.06	74.00	-12.94	Peak
2	2483.610	-3.17	72.30	69.13	74.00	-4.87	Peak

802.11g, Right band edge, Horizontal-Average

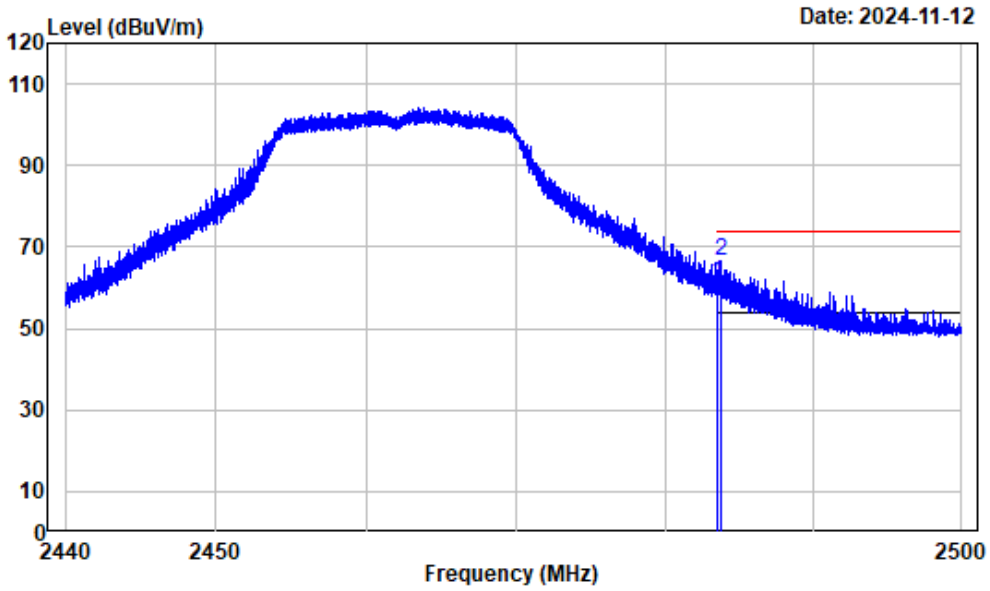


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	51.63	48.46	54.00	-5.54	Average
2	2483.542	-3.17	51.81	48.64	54.00	-5.36	Average

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

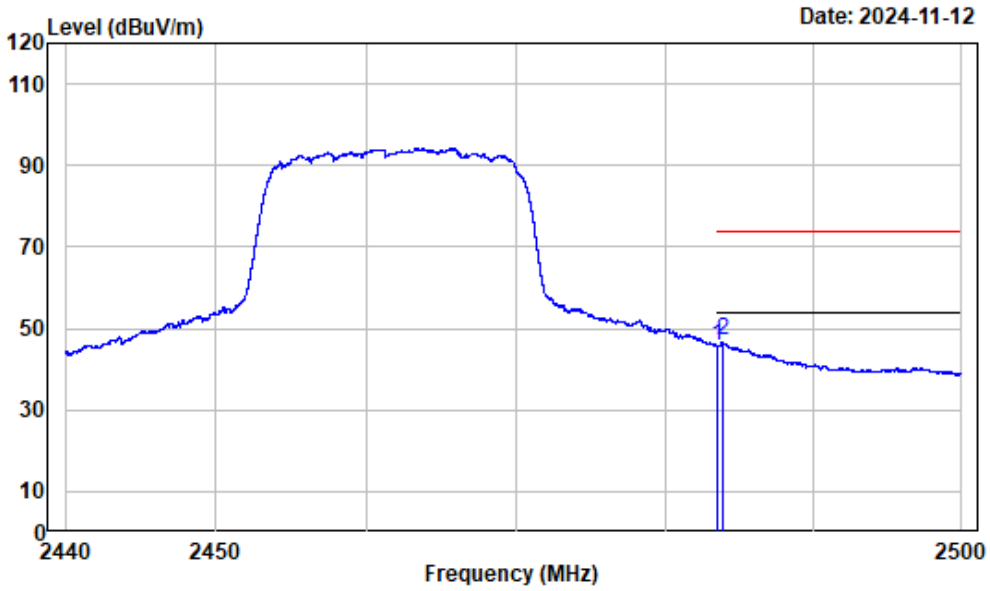
802.11g, Right band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-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	64.31	61.14	74.00	-12.86	Peak
2	2483.760	-3.17	69.80	66.63	74.00	-7.37	Peak

802.11g, Right band edge, Vertical-Average

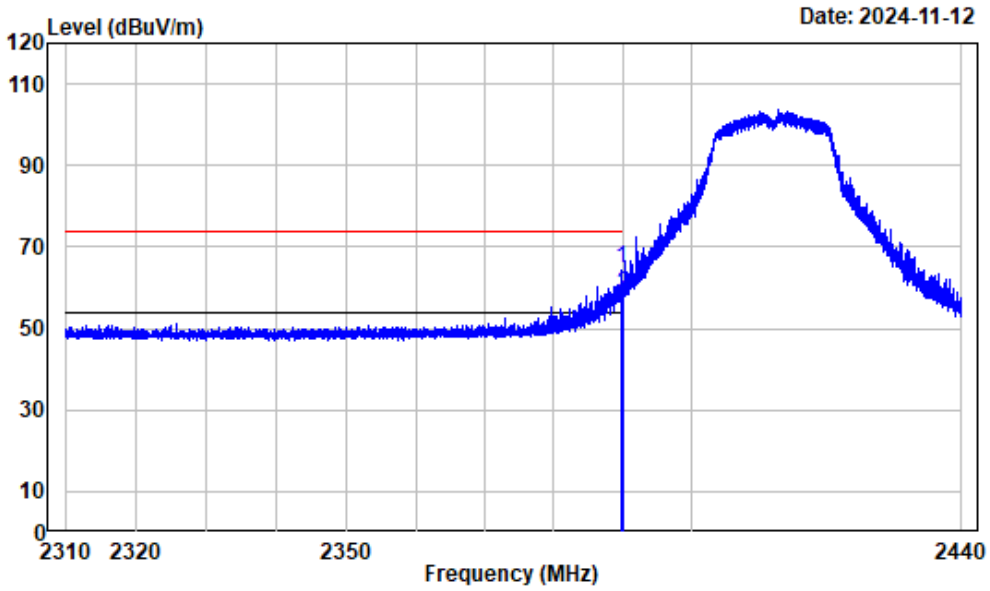


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	48.86	45.69	54.00	-8.31	Average
2	2483.873	-3.17	50.24	47.07	54.00	-6.93	Average

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

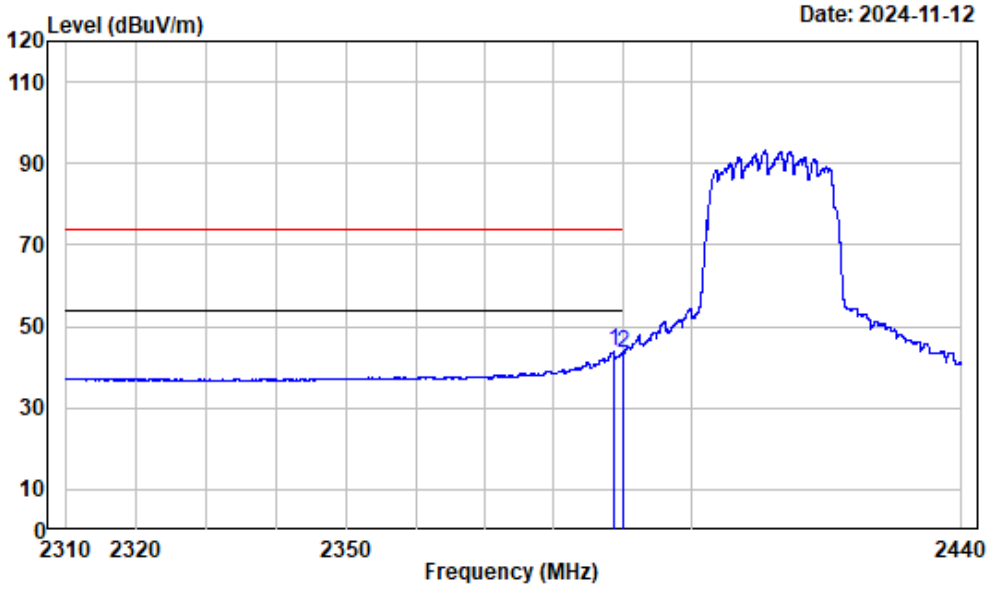
802.11n-HT20, Left band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.797	-3.20	68.07	64.87	74.00	-9.13	Peak
2	2390.000	-3.20	61.58	58.38	74.00	-15.62	Peak

802.11n-HT20, Left band edge, Horizontal-Average

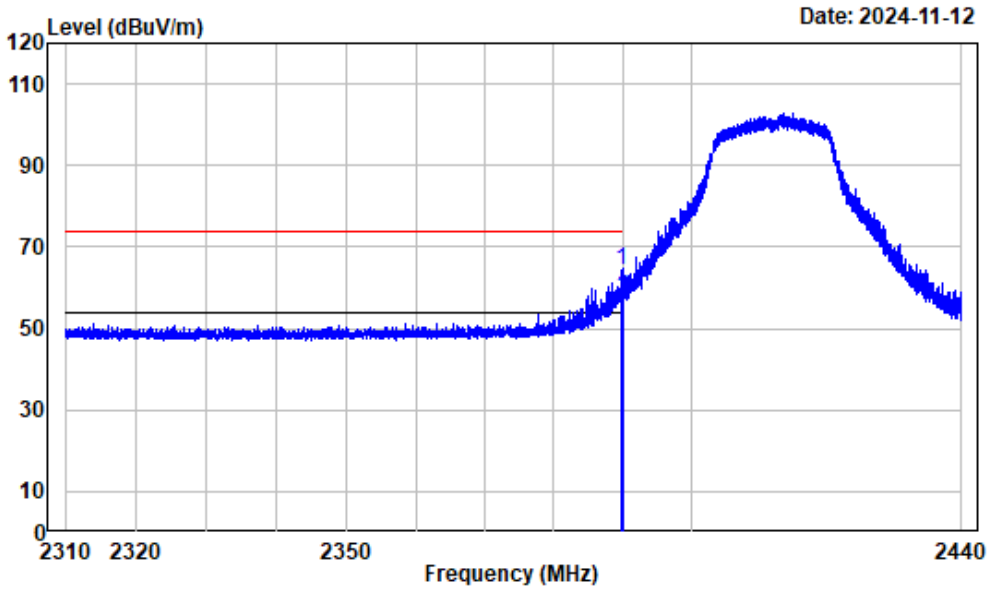


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2388.806	-3.20	47.31	44.11	54.00	-9.89	Average
2	2390.000	-3.20	46.54	43.34	54.00	-10.66	Average

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

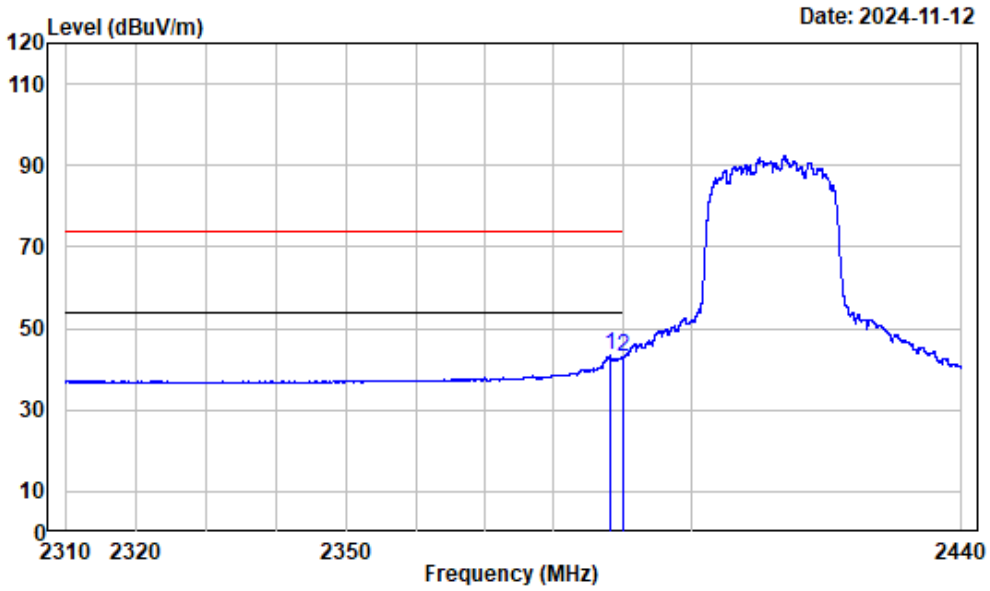
802.11n-HT20, Left band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.781	-3.20	67.29	64.09	74.00	-9.91	Peak
2	2390.000	-3.20	60.77	57.57	74.00	-16.43	Peak

802.11n-HT20, Left band edge, Vertical-Average

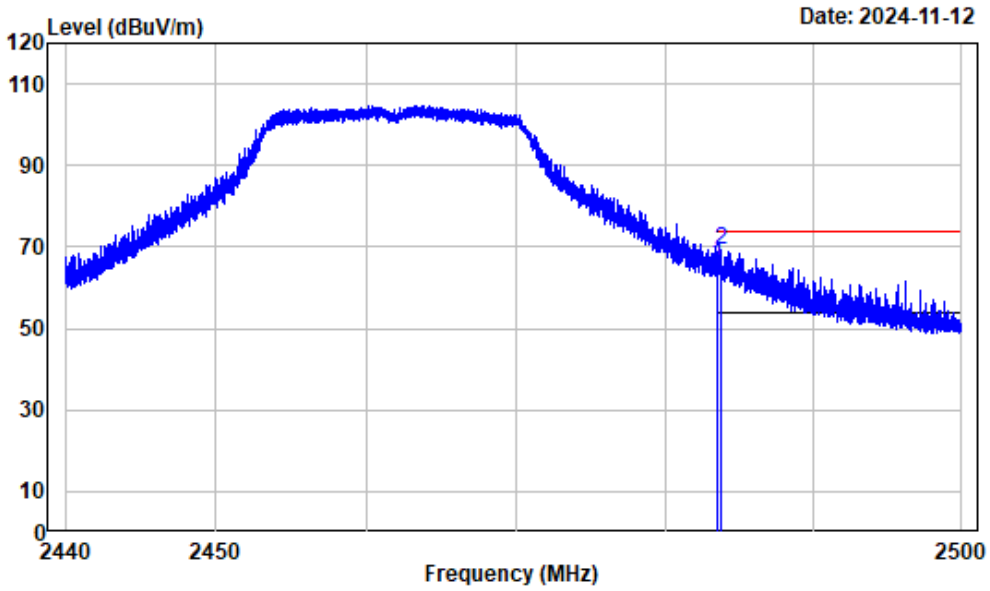


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2388.124	-3.20	46.48	43.28	54.00	-10.72	Average
2	2390.000	-3.20	46.08	42.88	54.00	-11.12	Average

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

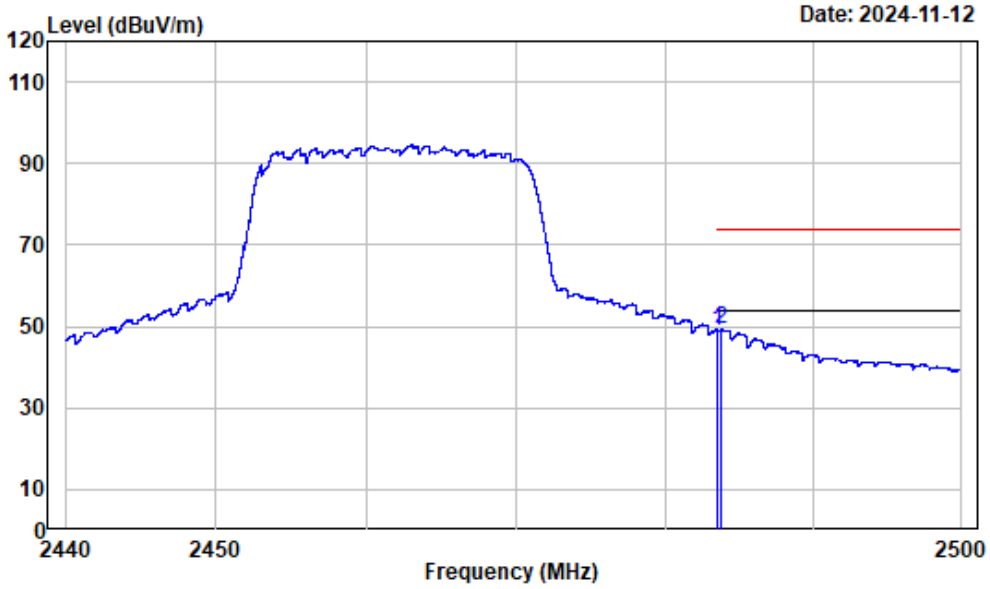
802.11n-HT20, Right band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	68.69	65.52	74.00	-8.48	Peak
2	2483.745	-3.17	72.58	69.41	74.00	-4.59	Peak

802.11n-HT20, Right band edge, Horizontal-Average

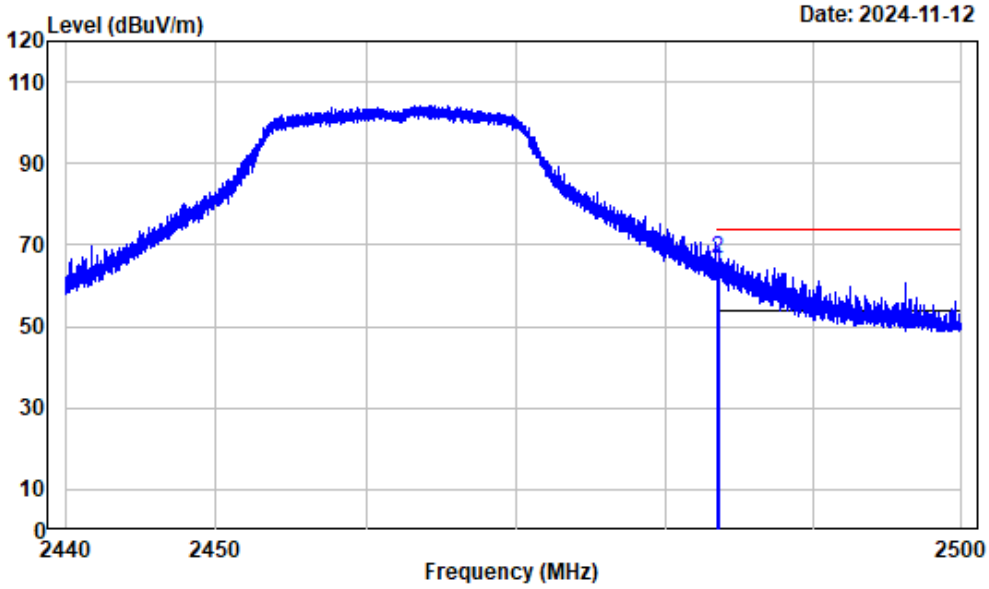


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	52.30	49.13	54.00	-4.87	Average
2	2483.813	-3.17	52.40	49.23	54.00	-4.77	Average

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

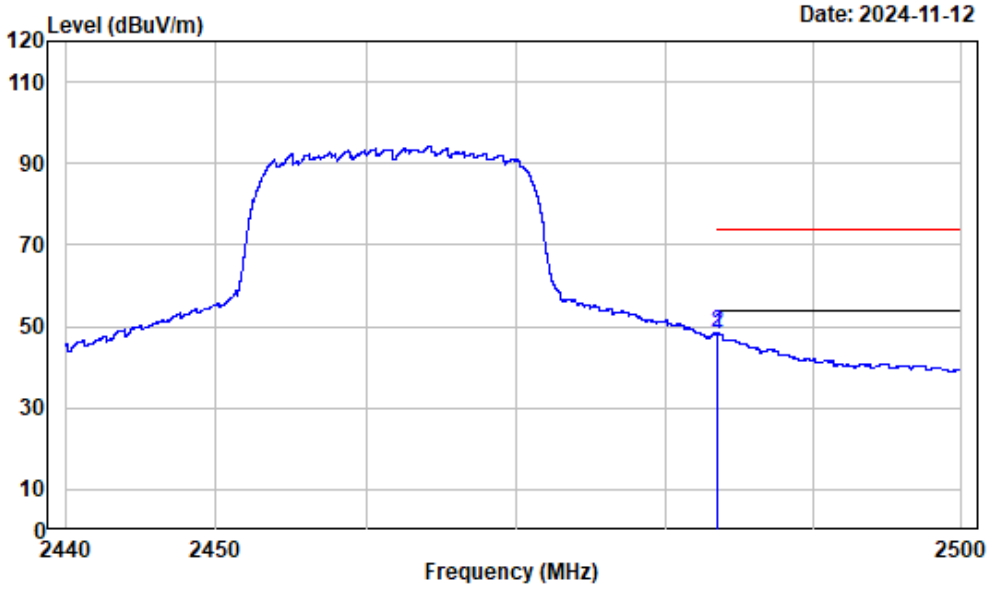
802.11n-HT20, Right band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	67.02	63.85	74.00	-10.15	Peak
2	2483.573	-3.17	69.89	66.72	74.00	-7.28	Peak

802.11n-HT20, Right band edge, Vertical-Average

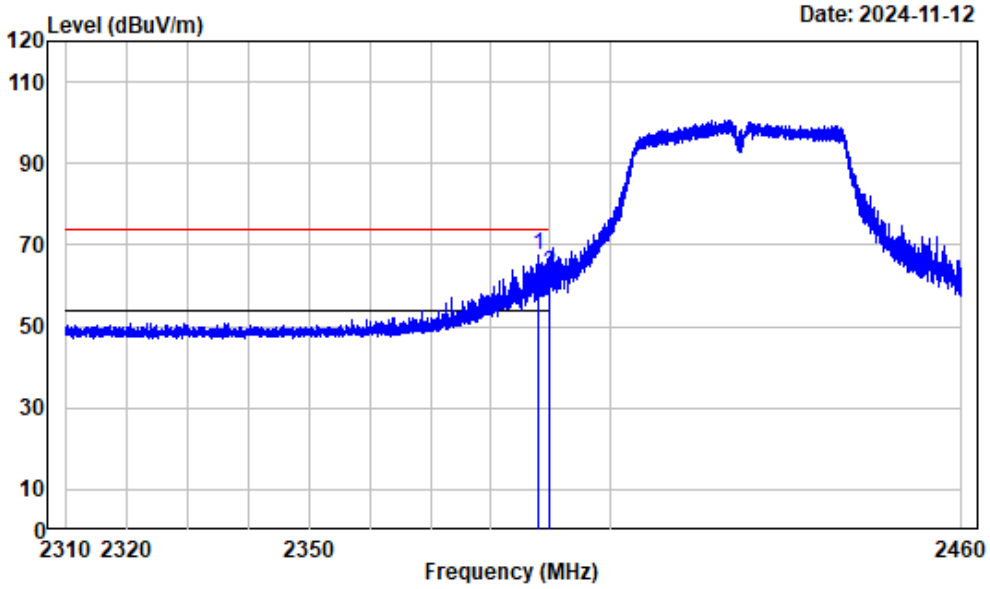


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	51.37	48.20	54.00	-5.80	Average
2	2483.543	-3.17	51.48	48.31	54.00	-5.69	Average

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

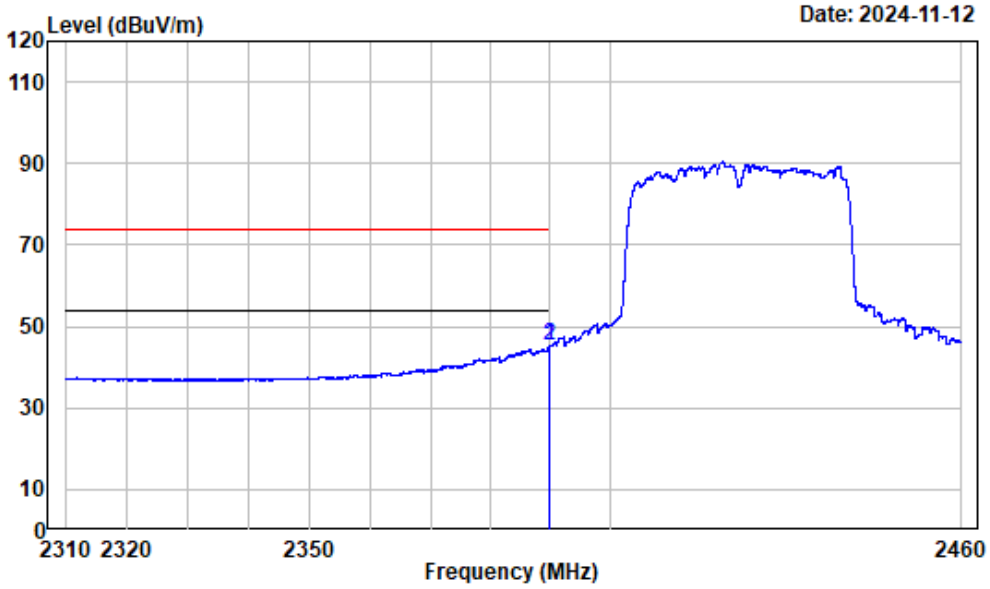
802.11n-HT40, Left band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2388.010	-3.20	70.57	67.37	74.00	-6.63	Peak
2	2390.000	-3.20	66.32	63.12	74.00	-10.88	Peak

802.11n-HT40, Left band edge, Horizontal-Average

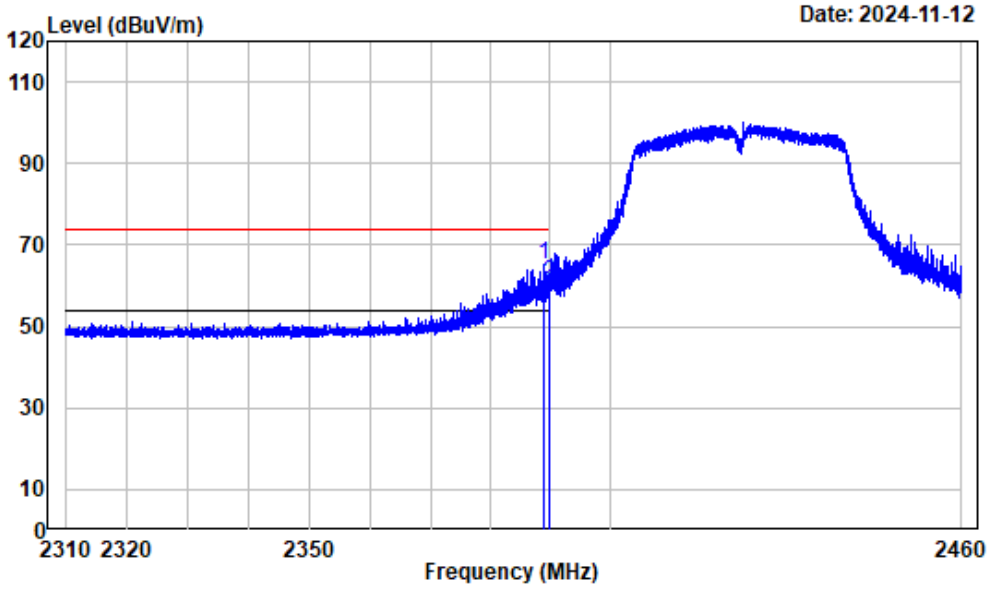


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.829	-3.20	48.69	45.49	54.00	-8.51	Average
2	2390.000	-3.20	48.56	45.36	54.00	-8.64	Average

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

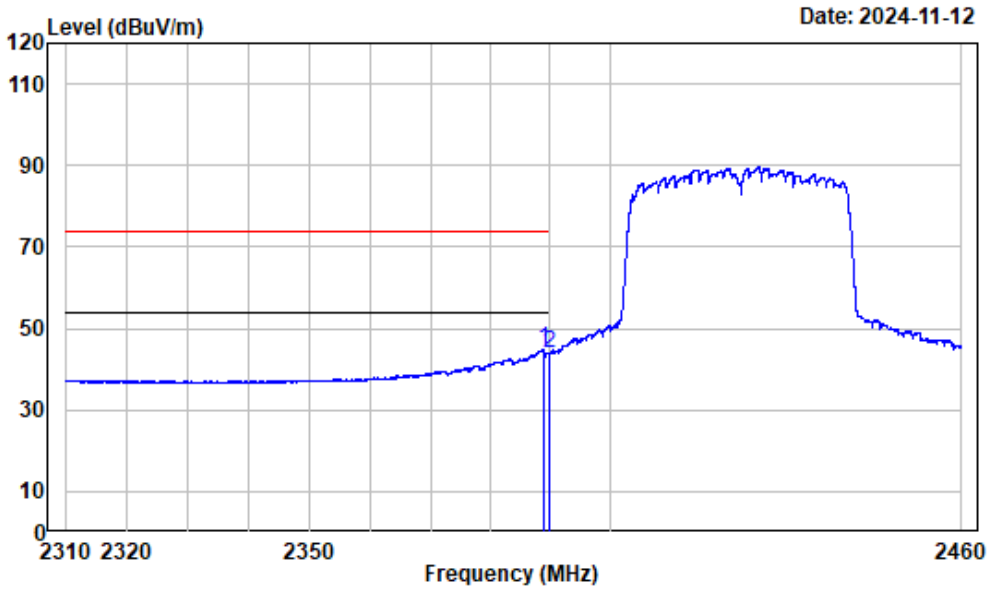
802.11n-HT40, Left band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2388.947	-3.20	68.57	65.37	74.00	-8.63	Peak
2	2390.000	-3.20	63.67	60.47	74.00	-13.53	Peak

802.11n-HT40, Left band edge, Vertical-Average

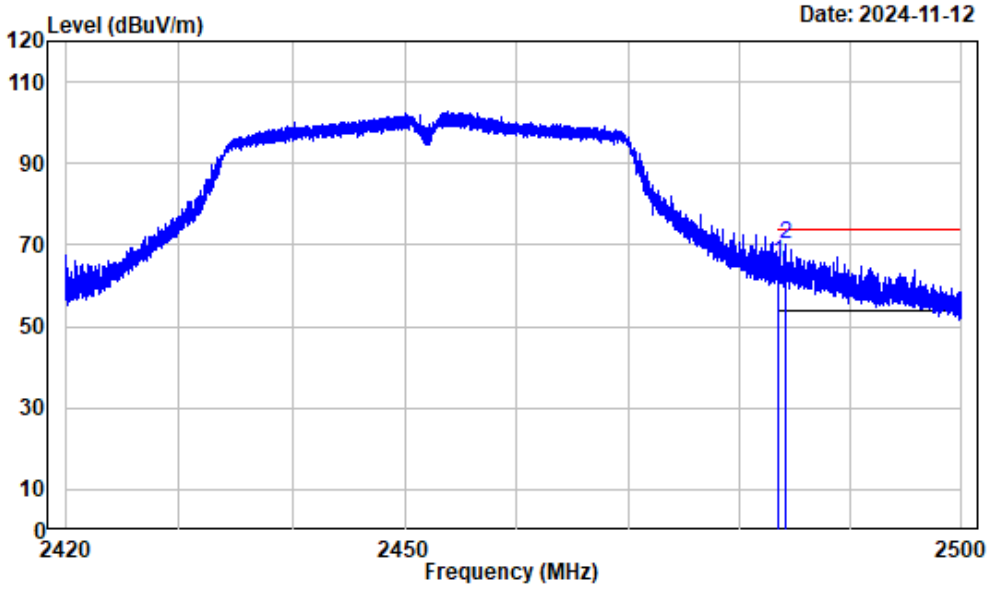


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.004	-3.20	48.10	44.90	54.00	-9.10	Average
2	2390.000	-3.20	47.09	43.89	54.00	-10.11	Average

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

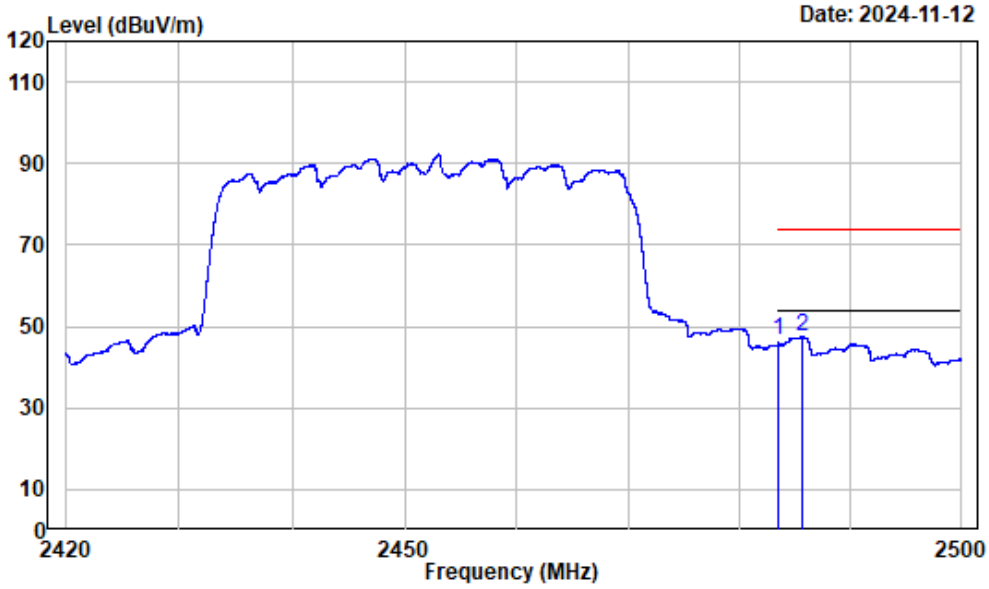
802.11n-HT40, Right band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	68.95	65.78	74.00	-8.22	Peak
2	2484.158	-3.17	73.50	70.33	74.00	-3.67	Peak

802.11n-HT40, Right band edge, Horizontal-Average

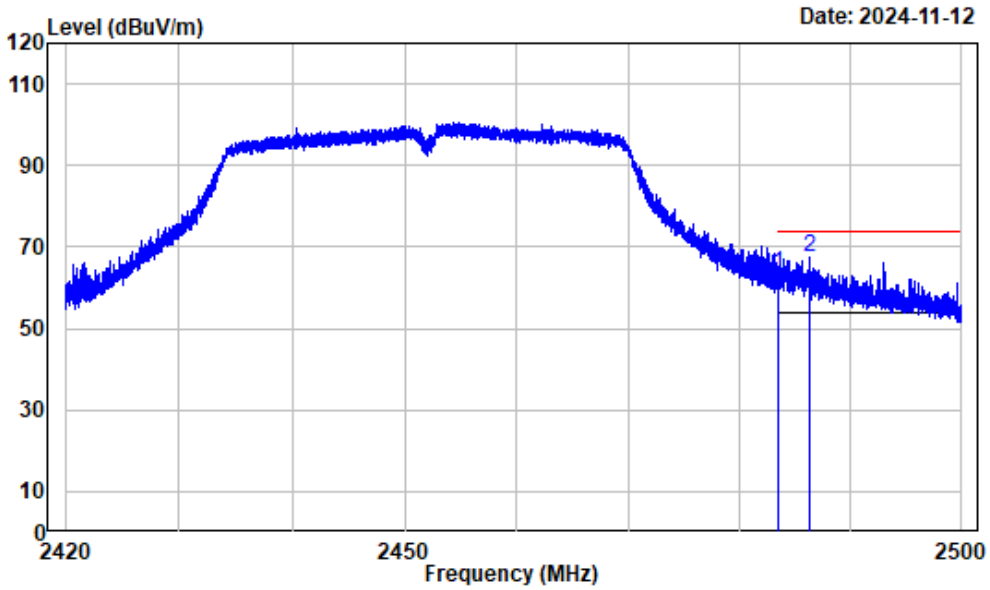


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	49.87	46.70	54.00	-7.30	Average
2	2485.548	-3.17	50.71	47.54	54.00	-6.46	Average

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

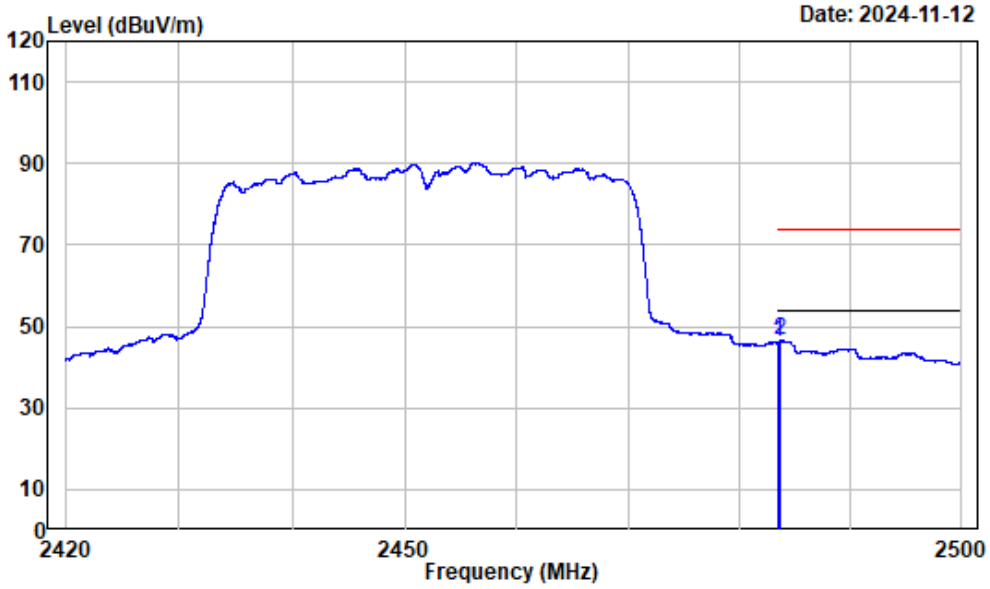
802.11n-HT40, Right band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	66.59	63.42	74.00	-10.58	Peak
2	2486.228	-3.17	70.77	67.60	74.00	-6.40	Peak

802.11n-HT40, Right band edge, Vertical-Average

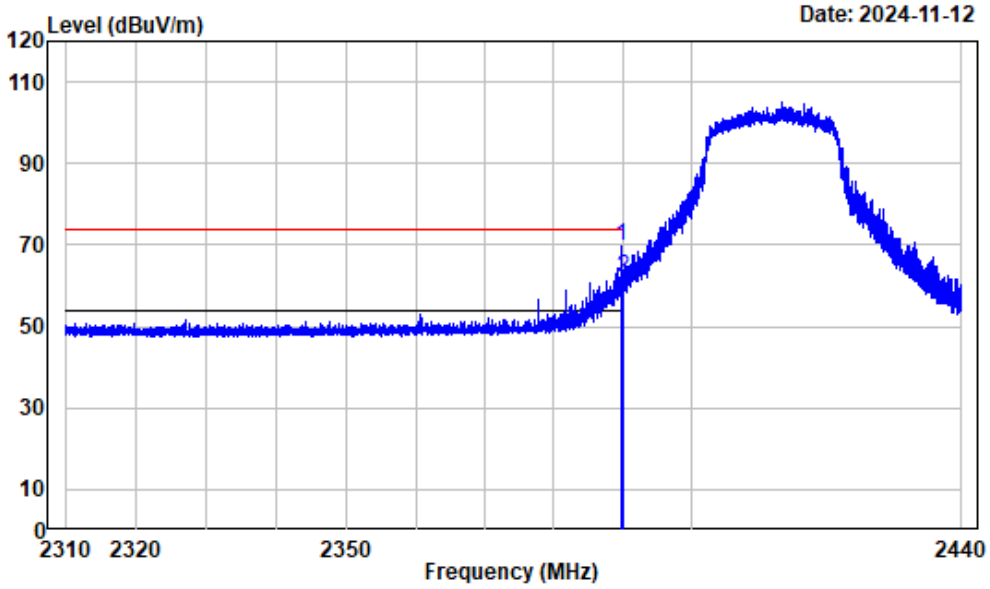


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	49.52	46.35	54.00	-7.65	Average
2	2483.618	-3.17	49.80	46.63	54.00	-7.37	Average

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

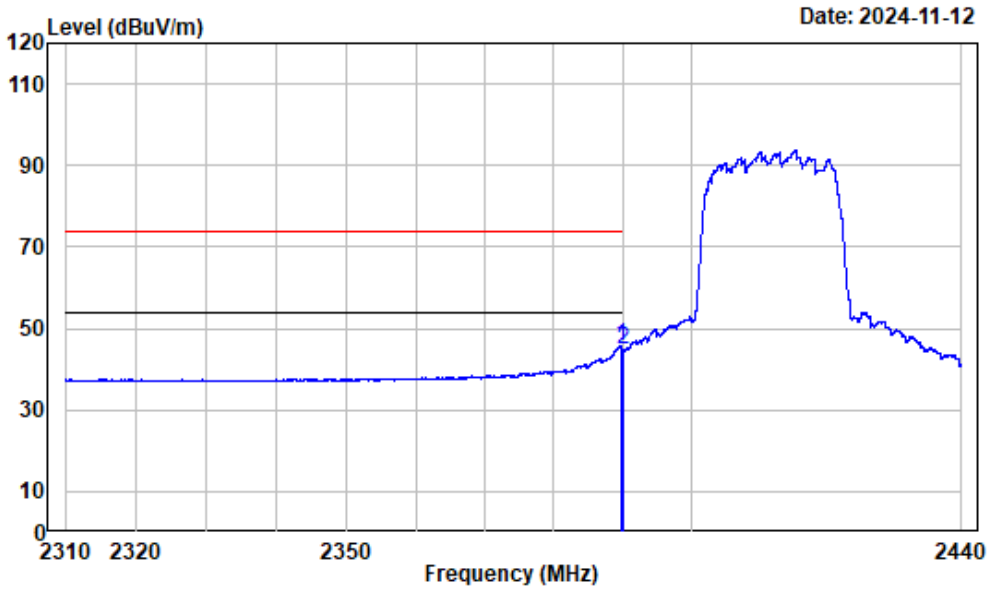
802.11ax20, Left band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.716	-3.20	72.72	69.52	74.00	-4.48	Peak
2	2390.000	-3.20	65.41	62.21	74.00	-11.79	Peak

802.11ax20, Left band edge, Horizontal-Average

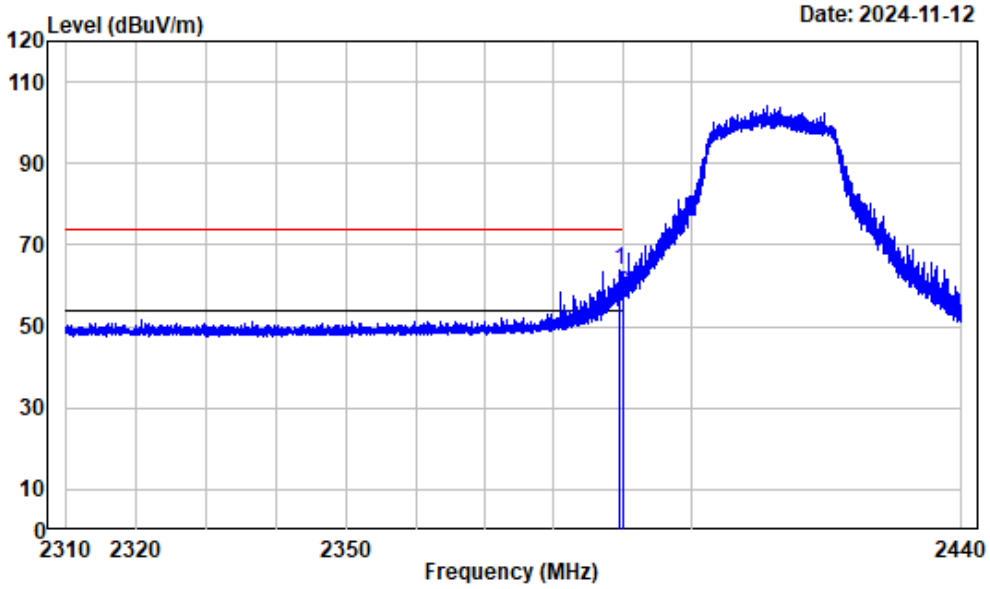


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.700	-3.20	48.90	45.70	54.00	-8.30	Average
2	2390.000	-3.20	47.90	44.70	54.00	-9.30	Average

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

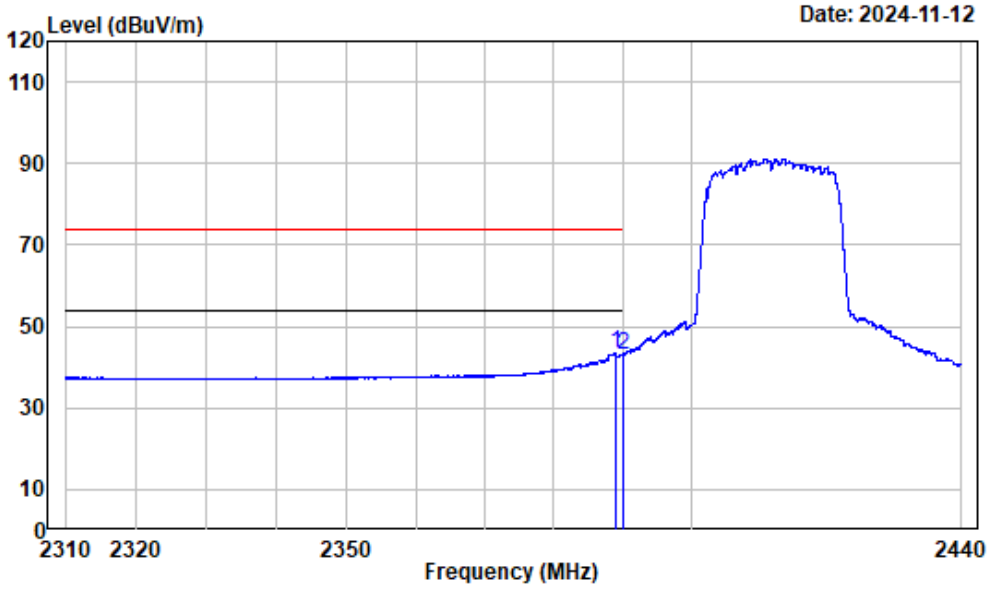
802.11ax20, Left band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.619	-3.20	66.82	63.62	74.00	-10.38	Peak
2	2390.000	-3.20	61.17	57.97	74.00	-16.03	Peak

802.11ax20, Left band edge, Vertical-Average

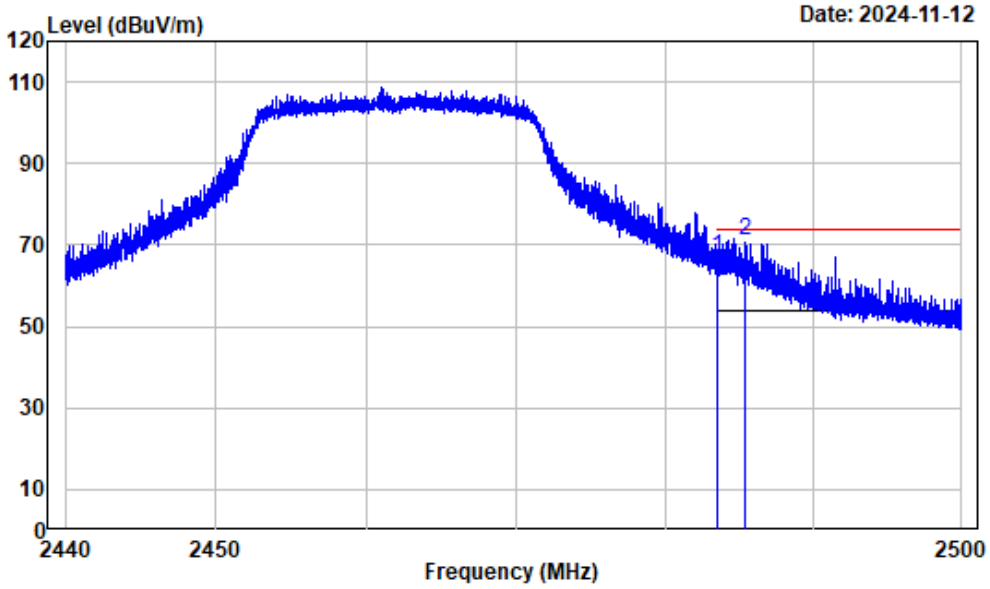


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2388.936	-3.20	46.76	43.56	54.00	-10.44	Average
2	2390.000	-3.20	46.35	43.15	54.00	-10.85	Average

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

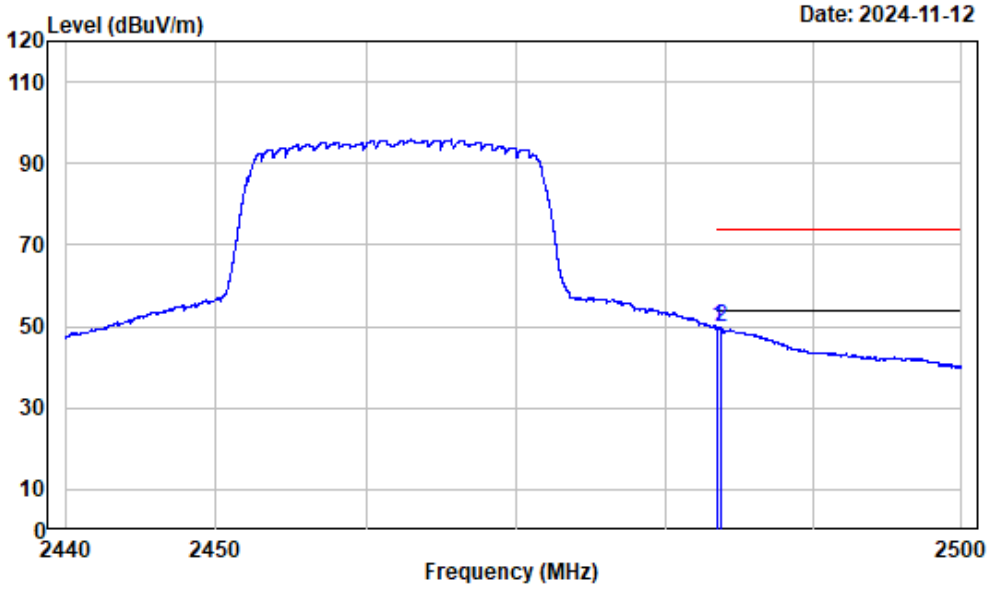
802.11ax20, Right band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	70.33	67.16	74.00	-6.84	Peak
2	2485.366	-3.17	74.10	70.93	74.00	-3.07	Peak

802.11ax20, Right band edge, Horizontal-Average

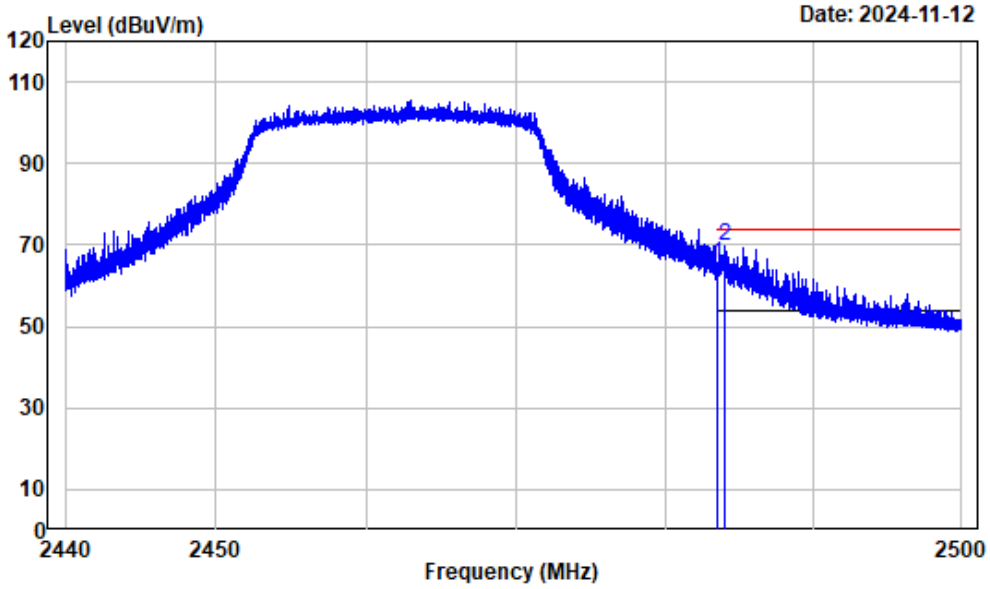


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	52.79	49.62	54.00	-4.38	Average
2	2483.738	-3.17	52.87	49.70	54.00	-4.30	Average

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

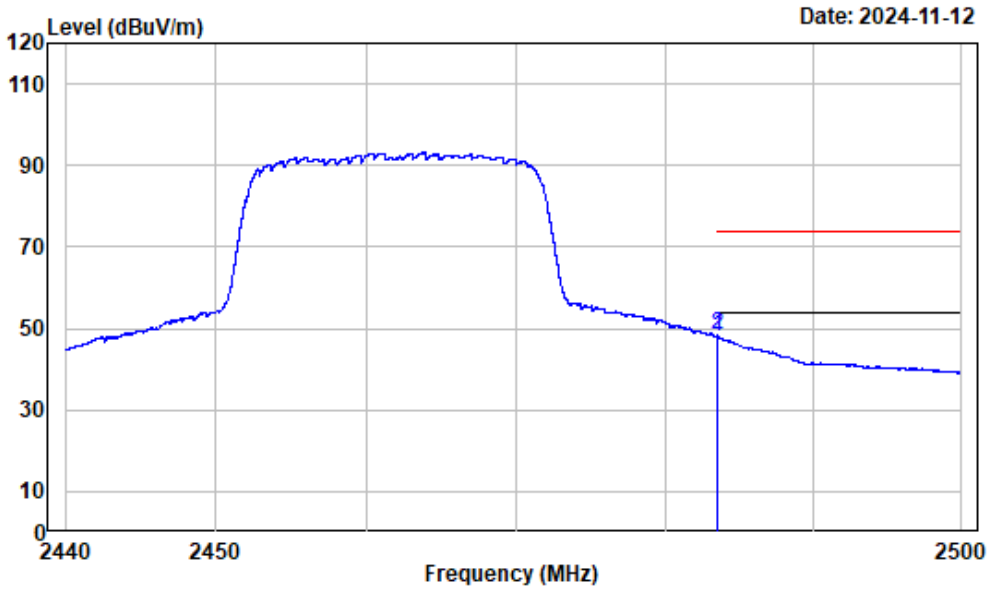
802.11ax20, Right band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	68.47	65.30	74.00	-8.70	Peak
2	2484.015	-3.17	72.70	69.53	74.00	-4.47	Peak

802.11ax20, Right band edge, Vertical-Average

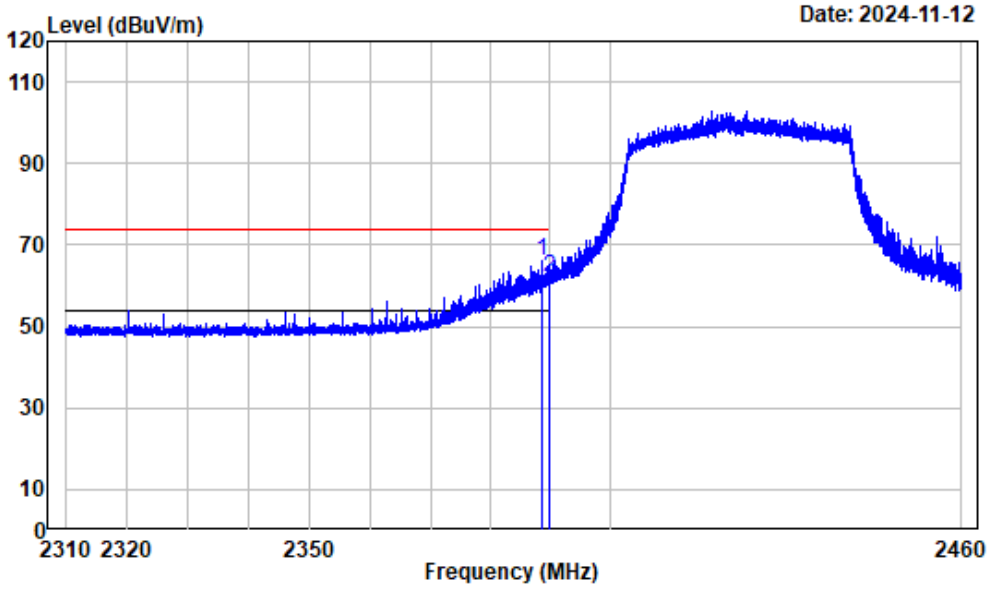


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2462

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	51.36	48.19	54.00	-5.81	Average
2	2483.525	-3.17	51.49	48.32	54.00	-5.68	Average

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

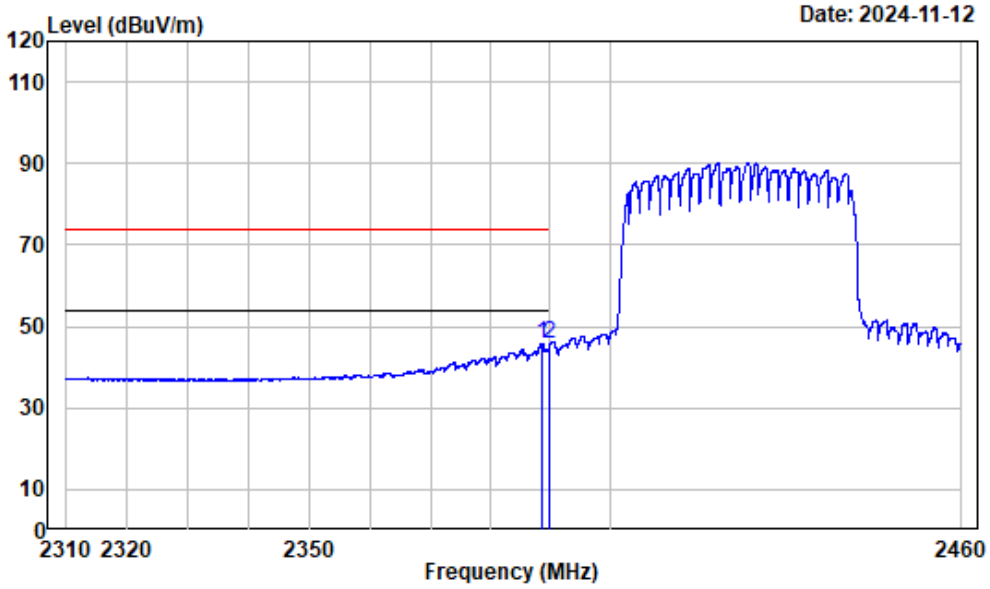
802.11ax40, Left band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2388.610	-3.20	69.46	66.26	74.00	-7.74	Peak
2	2390.000	-3.20	65.45	62.25	74.00	-11.75	Peak

802.11ax40, Left band edge, Horizontal-Average

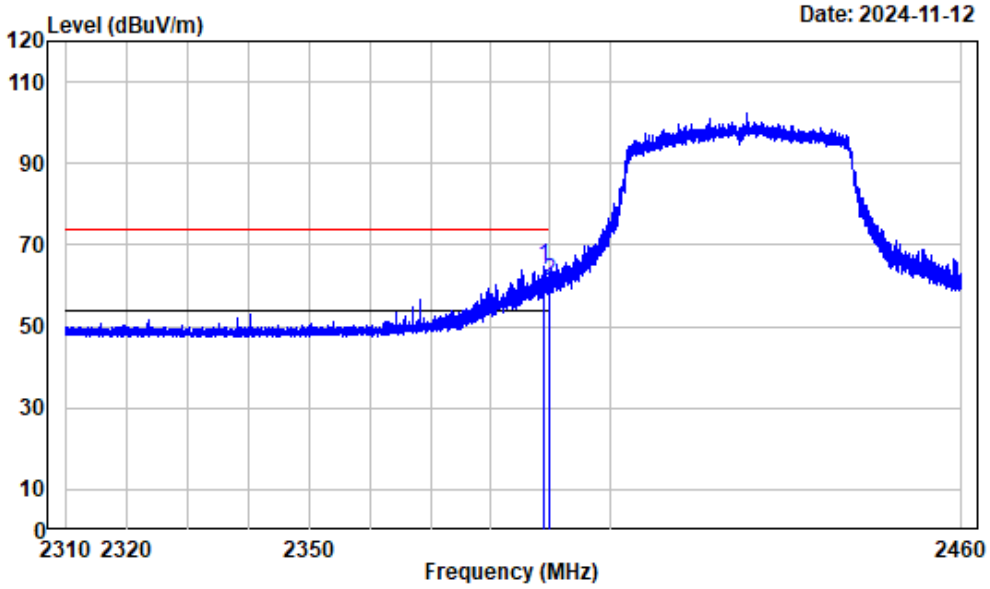


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2388.666	-3.20	48.99	45.79	54.00	-8.21	Average
2	2390.000	-3.20	48.87	45.67	54.00	-8.33	Average

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

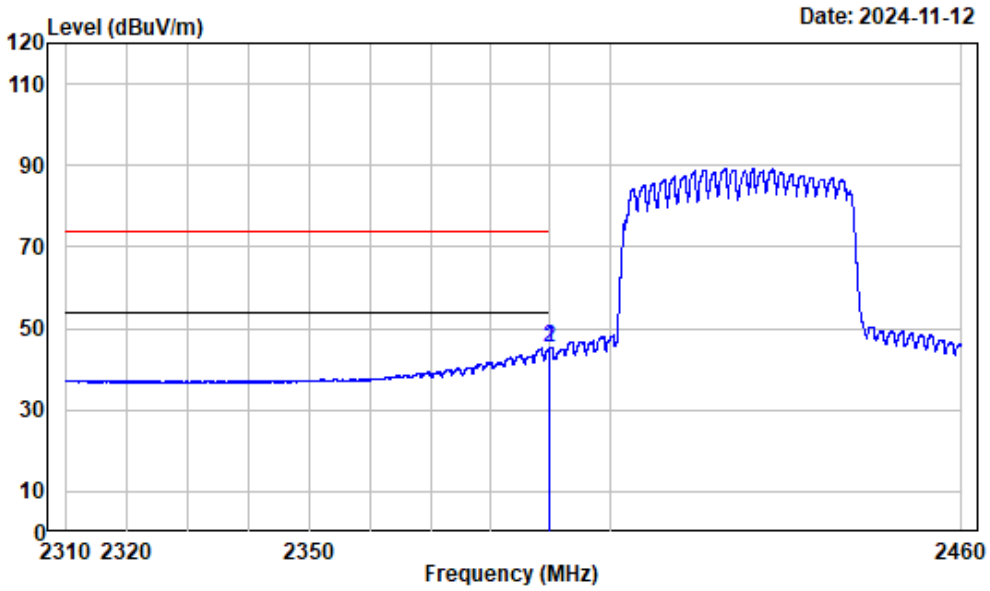
802.11ax40, Left band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2388.797	-3.20	68.01	64.81	74.00	-9.19	Peak
2	2390.000	-3.20	64.17	60.97	74.00	-13.03	Peak

802.11ax40, Left band edge, Vertical-Average

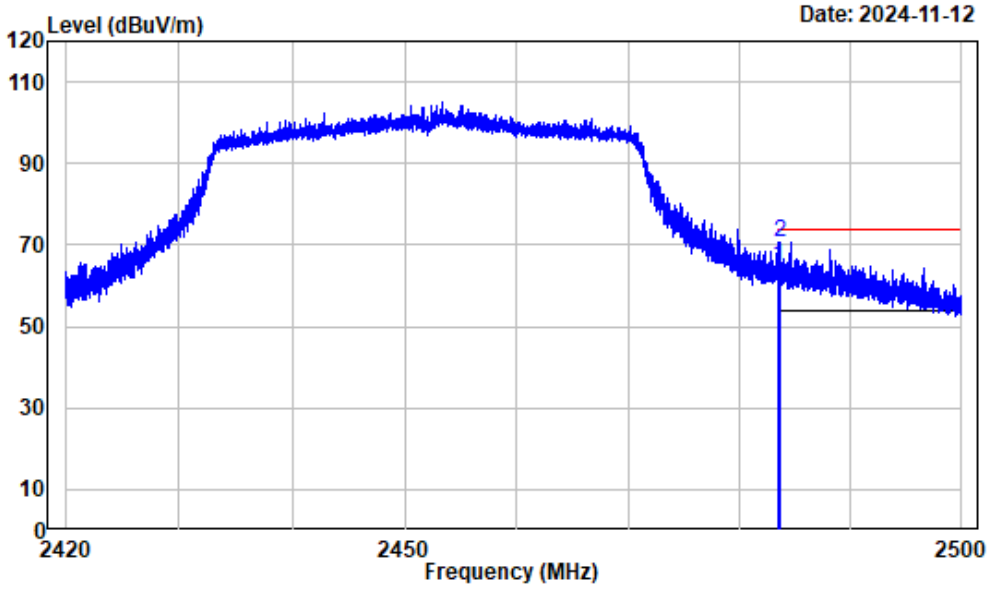


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2422

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2389.829	-3.20	48.51	45.31	54.00	-8.69	Average
2	2390.000	-3.20	48.40	45.20	54.00	-8.80	Average

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

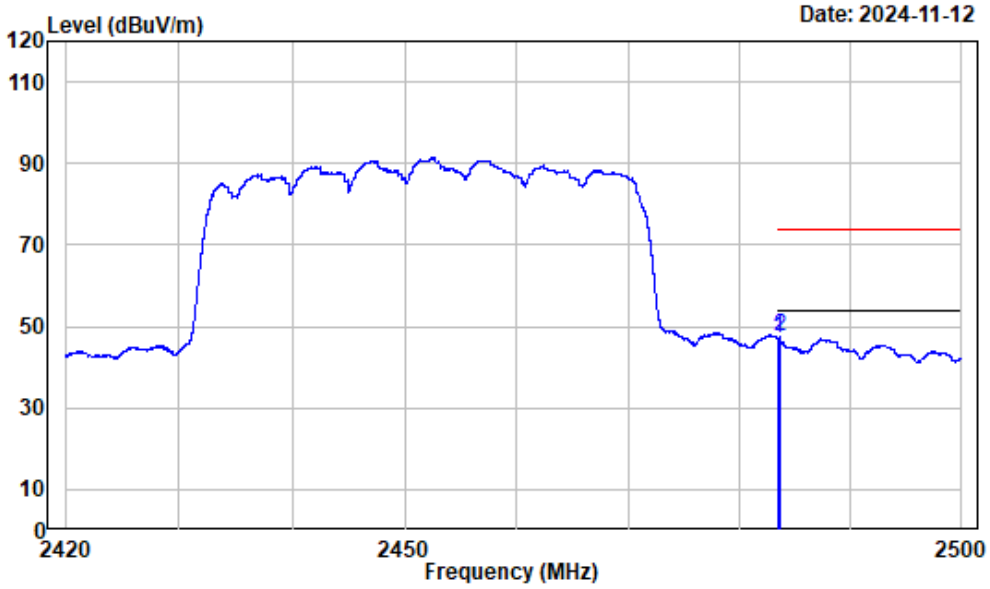
802.11ax40, Right band edge, Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	68.06	64.89	74.00	-9.11	Peak
2	2483.528	-3.17	73.76	70.59	74.00	-3.41	Peak

802.11ax40, Right band edge, Horizontal-Average

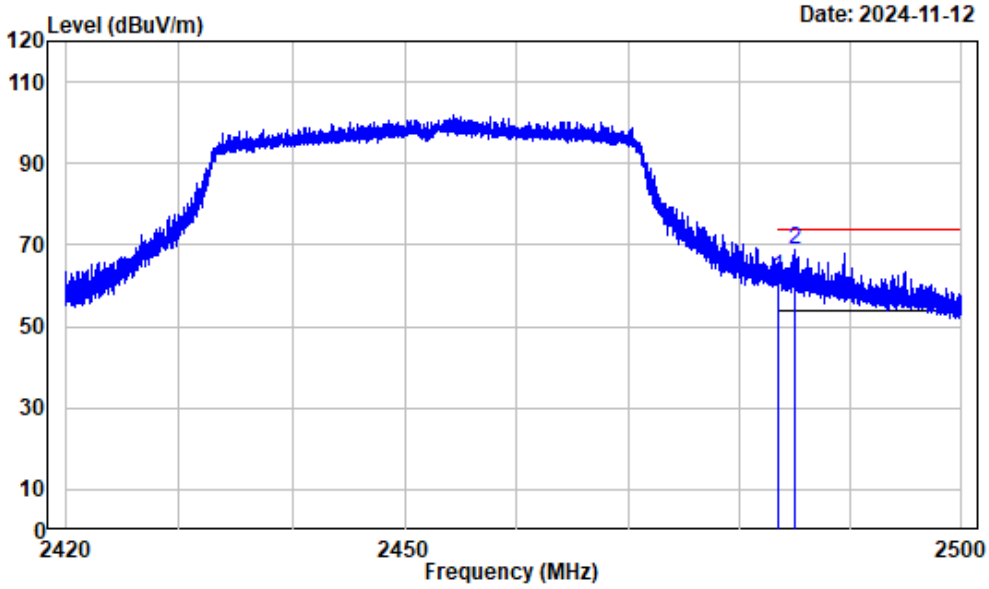


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	50.11	46.94	54.00	-7.06	Average
2	2483.558	-3.17	50.49	47.32	54.00	-6.68	Average

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

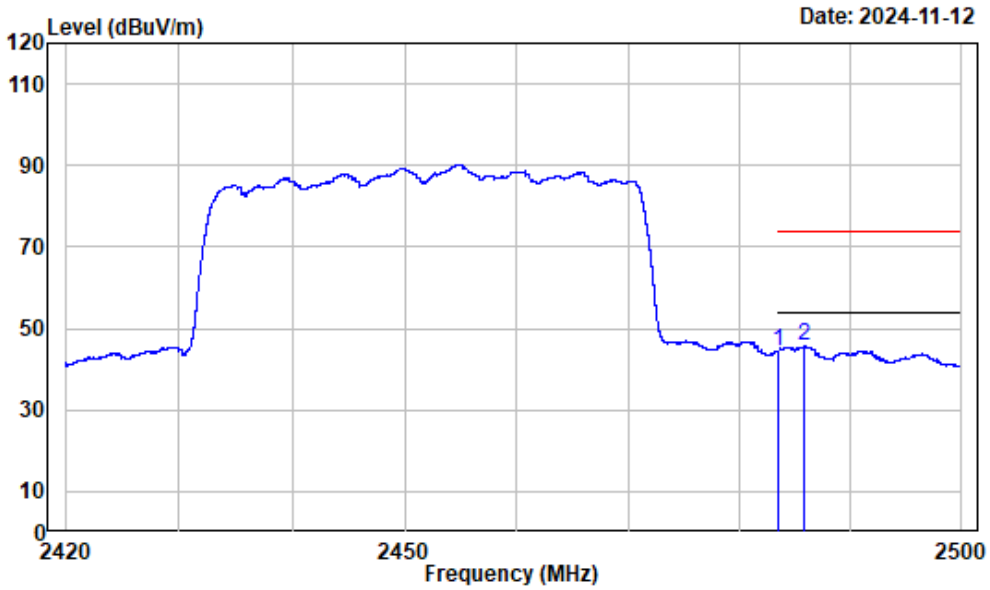
802.11ax40, Right band edge, Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	65.33	62.16	68.20	-6.04	Peak
2	2484.938	-3.17	71.87	68.70	74.00	-5.30	Peak

802.11ax40, Right band edge, Vertical-Average

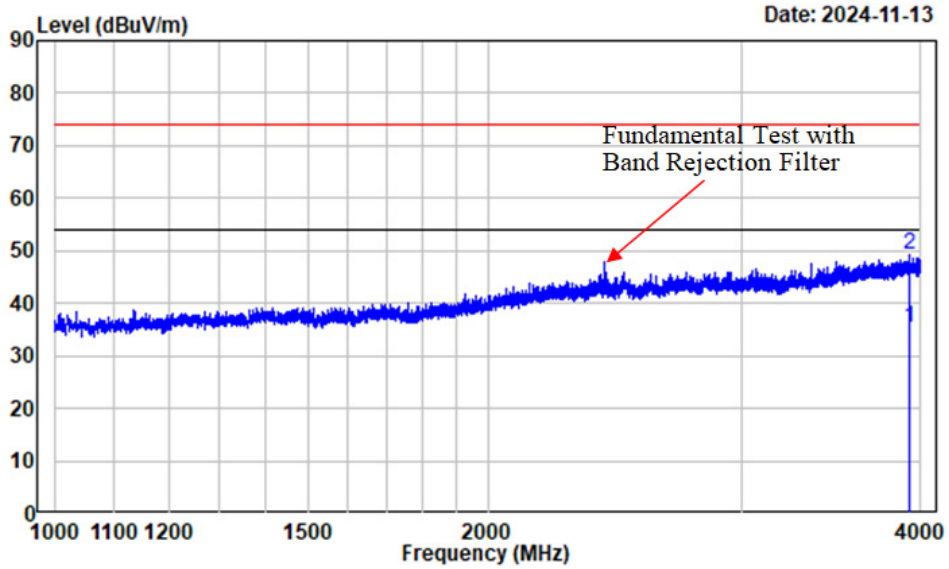


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2452

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	2483.500	-3.17	47.74	44.57	54.00	-9.43	Average
2	2485.758	-3.17	48.90	45.73	54.00	-8.27	Average

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

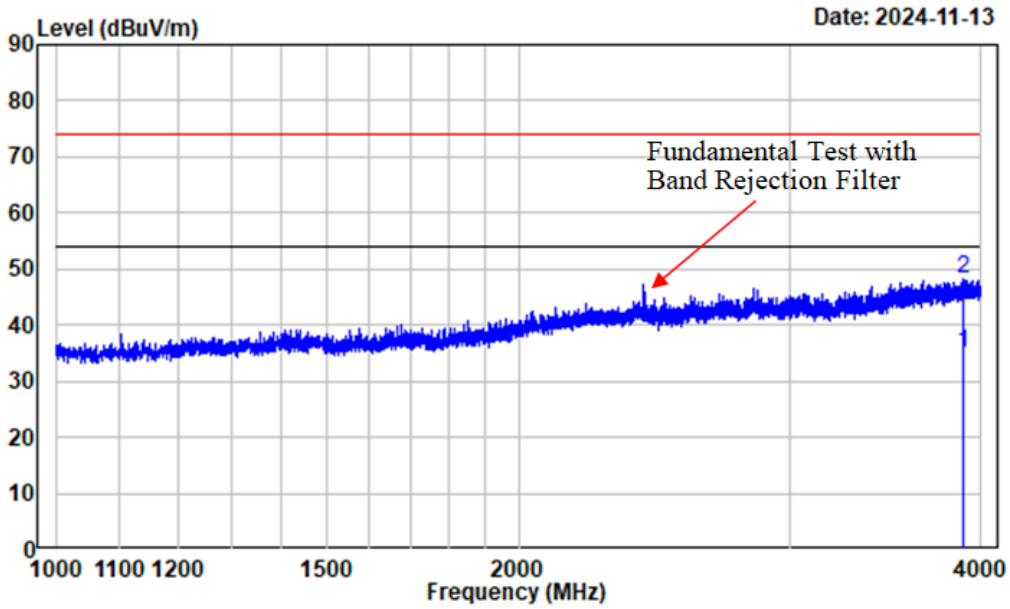
802.11b,1-4GHz-Horizontal



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3929.116	-0.32	35.78	35.46	54.00	-18.54	Average
2	3929.116	-0.32	49.41	49.09	74.00	-24.91	Peak

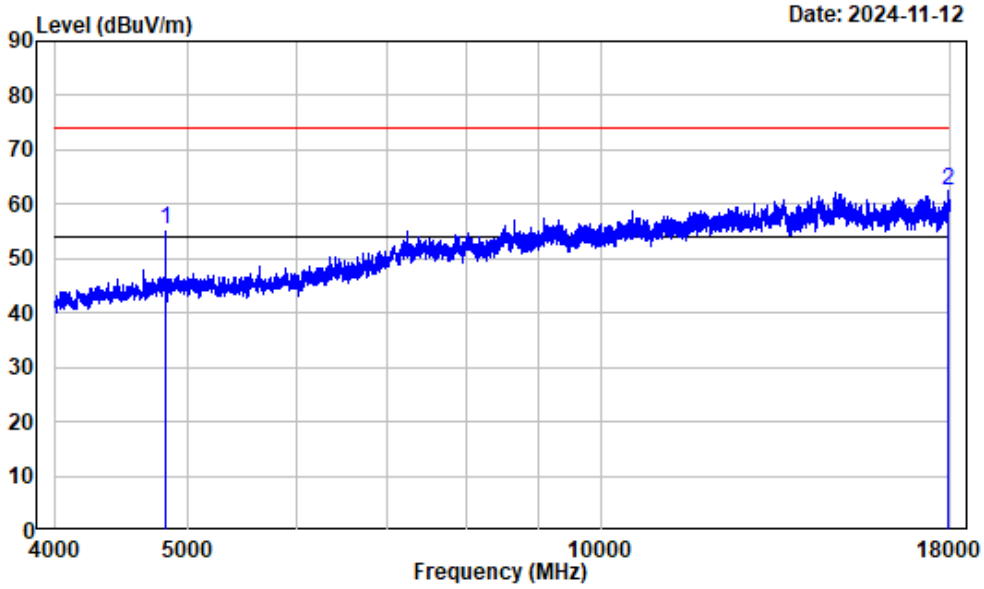
802.11b, 1-4GHz-Vertical



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3899.488	-0.53	35.56	35.03	54.00	-18.97	Average
2	3899.488	-0.53	48.64	48.11	74.00	-25.89	Peak

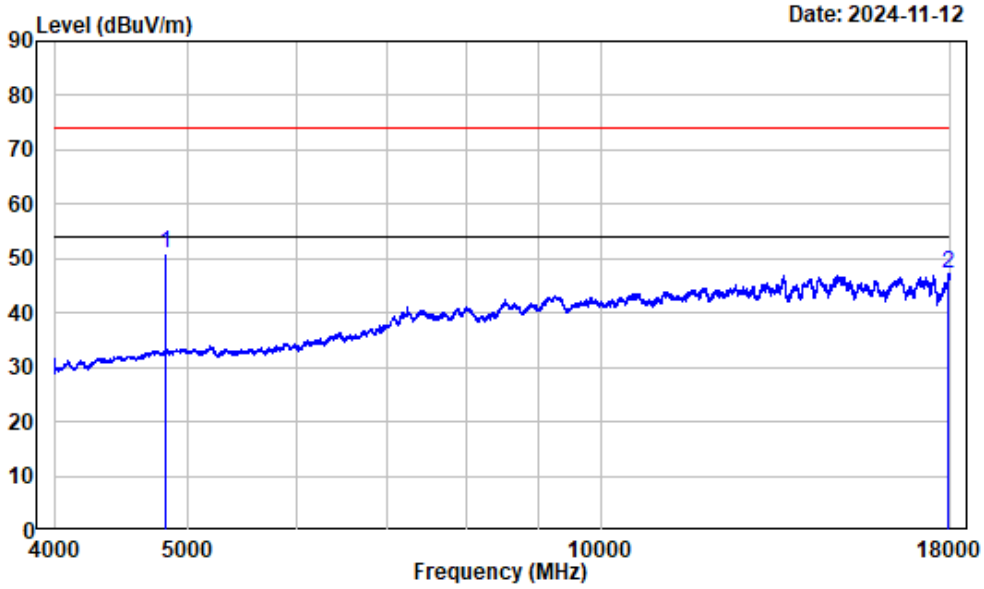
802.11b, 4-18GHz-Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-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	52.85	55.30	74.00	-18.70	Peak
2	17952.740	24.29	38.13	62.42	74.00	-11.58	Peak

802.11b, 4-18GHz-Horizontal-Average

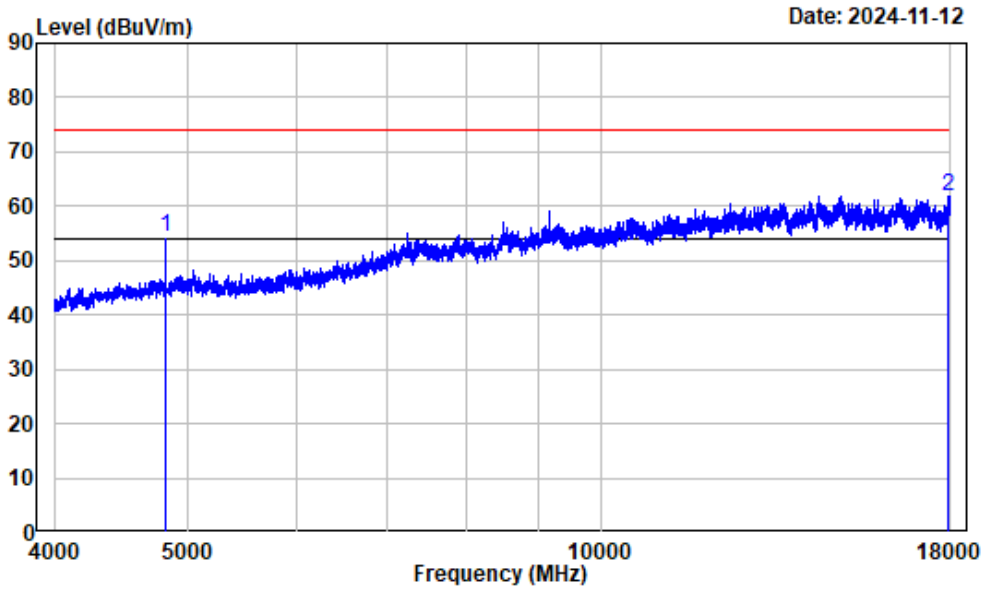


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	48.54	50.99	54.00	-3.01	Average
2	17954.490	24.30	22.86	47.16	54.00	-6.84	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5 kHz

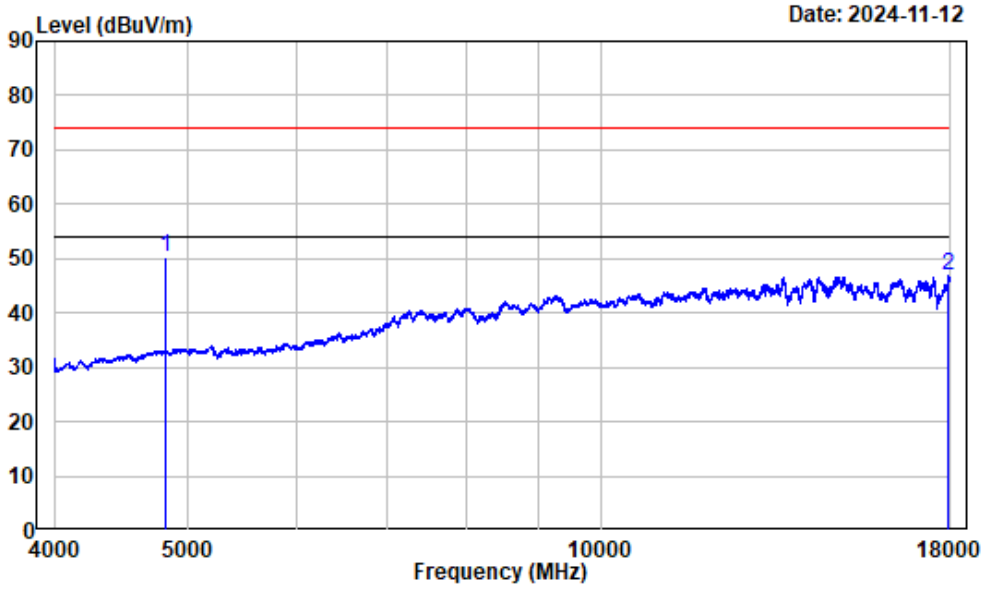
802.11b, 4-18GHz-Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-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	51.80	54.25	74.00	-19.75	Peak
2	17938.740	24.18	37.61	61.79	74.00	-12.21	Peak

802.11b, 4-18GHz-Vertical-Average

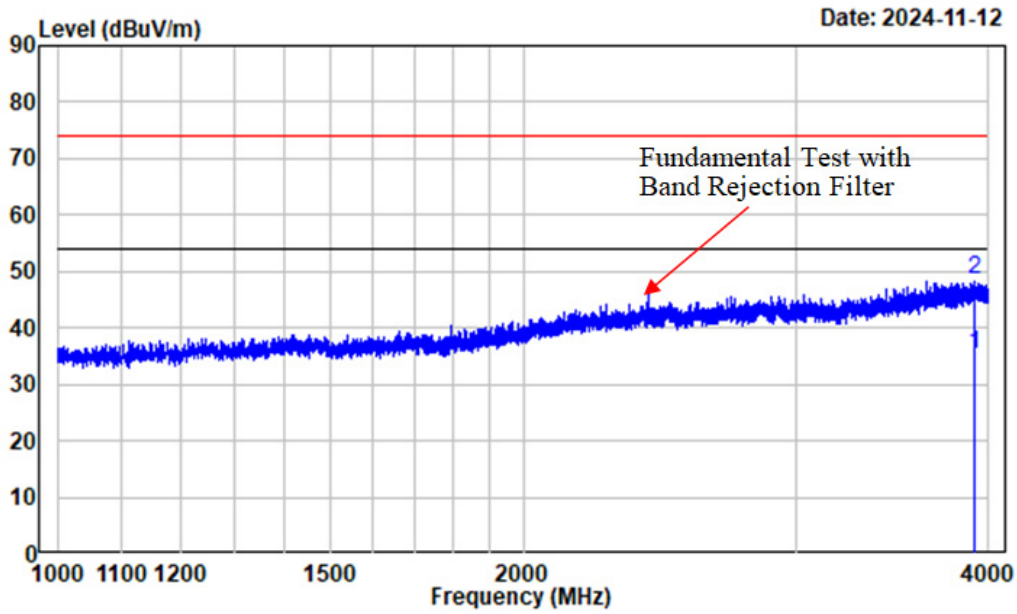


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	47.73	50.18	54.00	-3.82	Average
2	17933.490	24.14	22.63	46.77	54.00	-7.23	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW= 5kHz

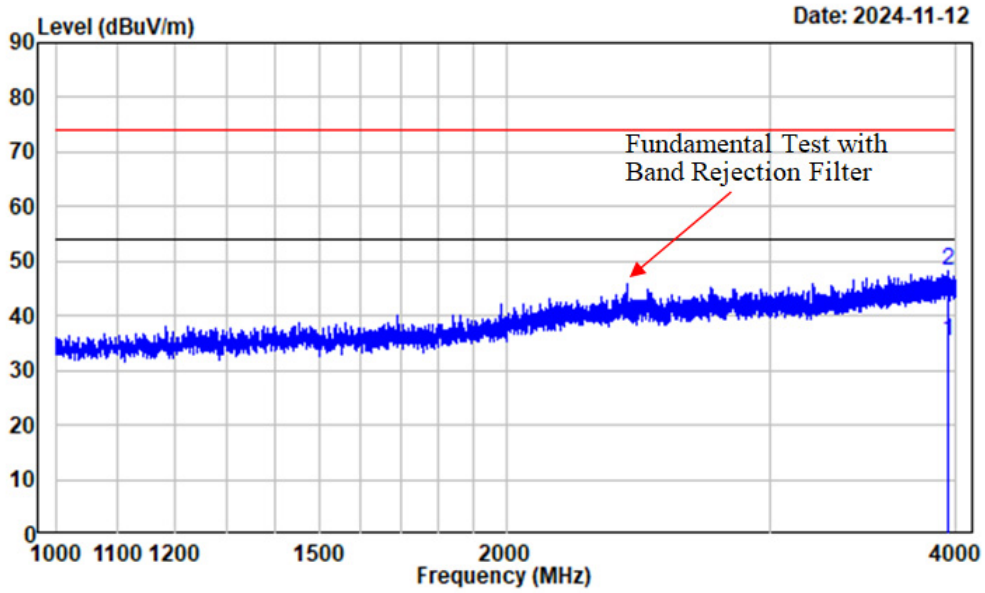
802.11g, 1-4GHz-Horizontal



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3918.240	-0.39	35.85	35.46	54.00	-18.54	Average
2	3918.240	-0.39	48.99	48.60	74.00	-25.40	Peak

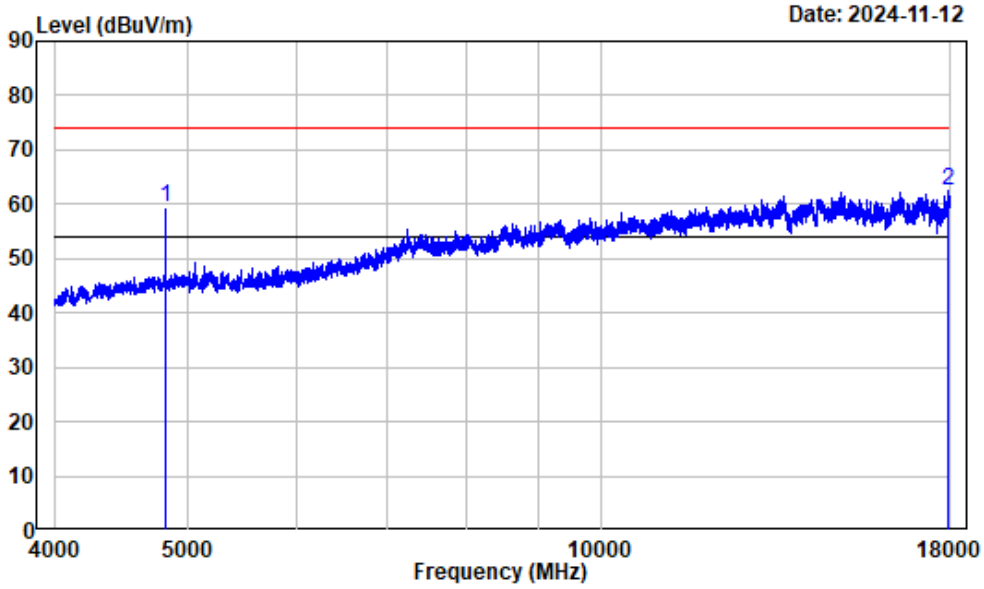
802.11g, 1-4GHz-Vertical



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3956.120	-0.17	35.48	35.31	54.00	-18.69	Average
2	3956.120	-0.17	48.41	48.24	74.00	-25.76	Peak

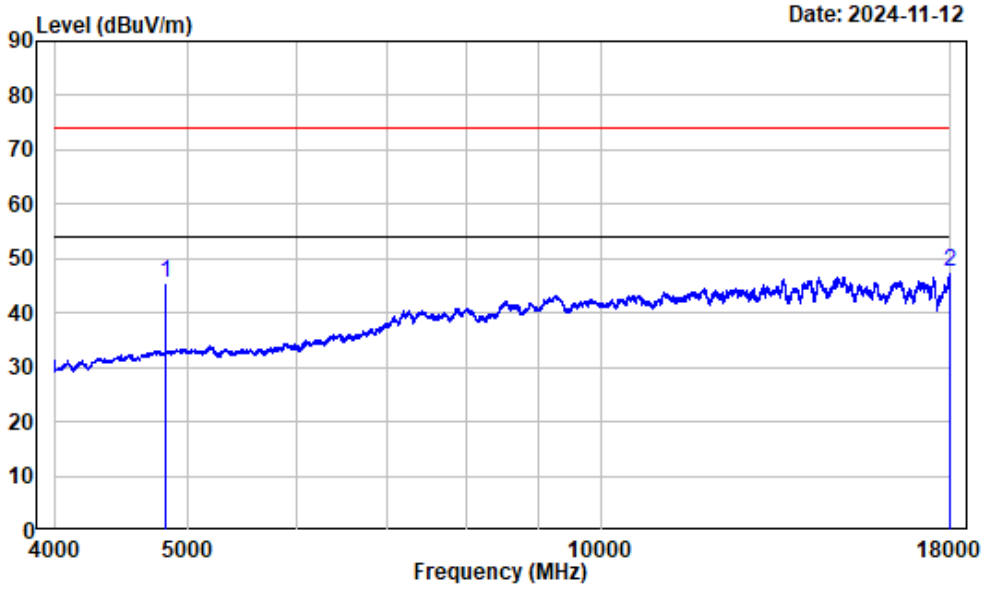
802.11g, 4-18GHz-Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-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	56.86	59.31	74.00	-14.69	Peak
2	17917.740	24.04	38.58	62.62	74.00	-11.38	Peak

802.11g, 4-18GHz-Horizontal-Average

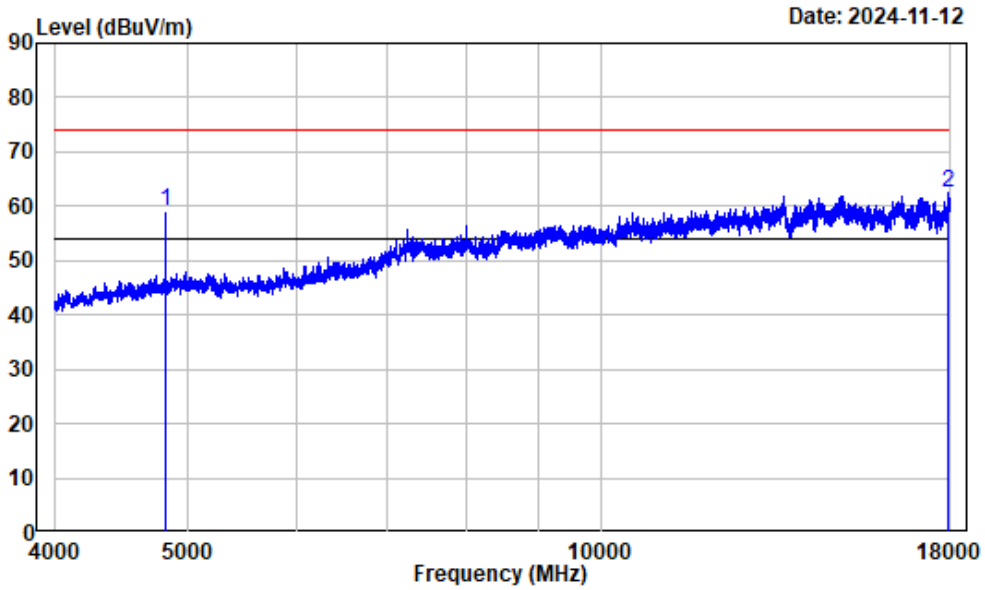


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	42.93	45.38	54.00	-8.62	Average
2	17991.250	24.56	22.95	47.51	54.00	-6.49	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

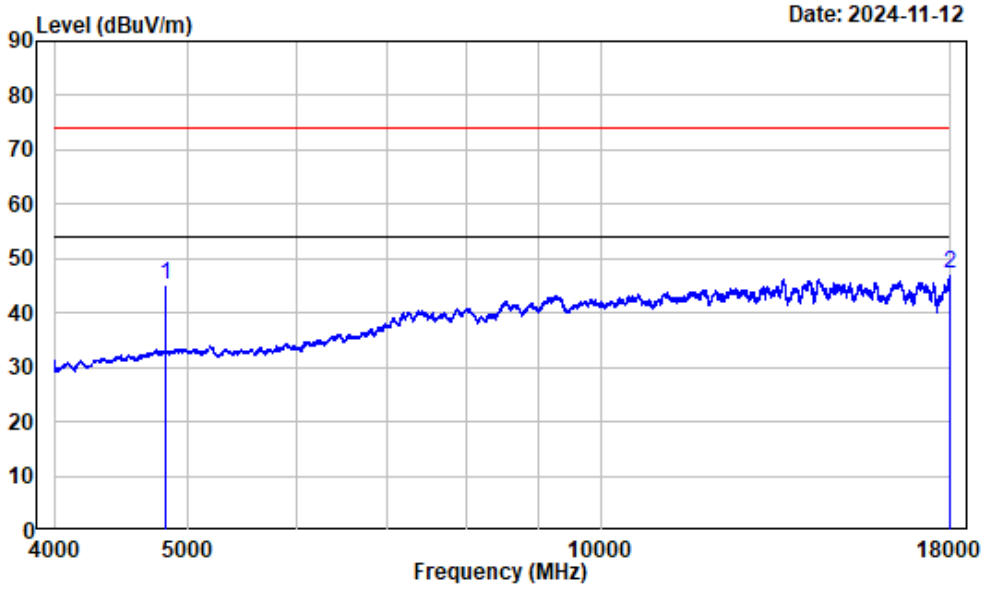
802.11g, 4-18GHz-Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-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	56.55	59.00	74.00	-15.00	Peak
2	17940.490	24.19	38.29	62.48	74.00	-11.52	Peak

802.11g, 4-18GHz-Vertical-Average

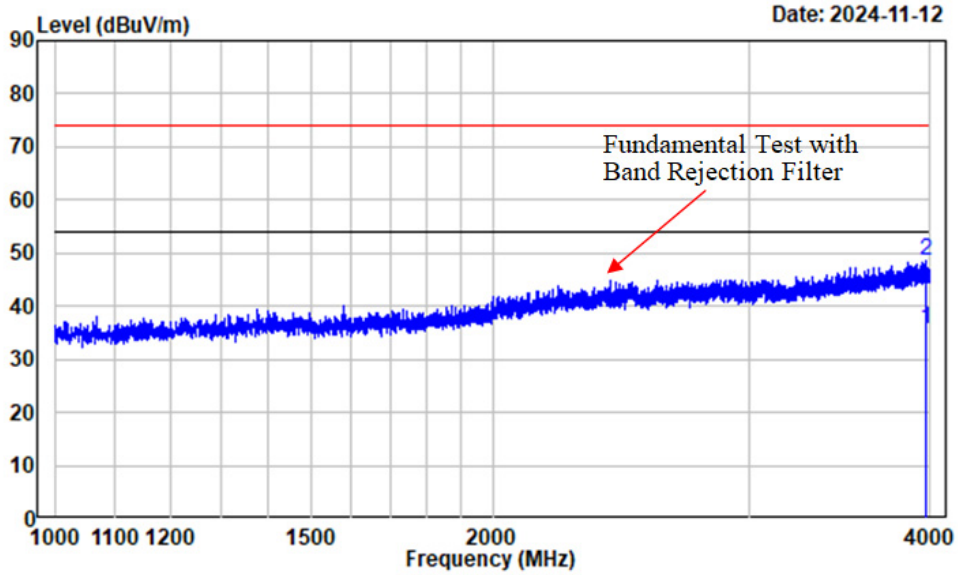


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-g-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	42.69	45.14	54.00	-8.86	Average
2	18000.000	24.62	22.67	47.29	54.00	-6.71	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

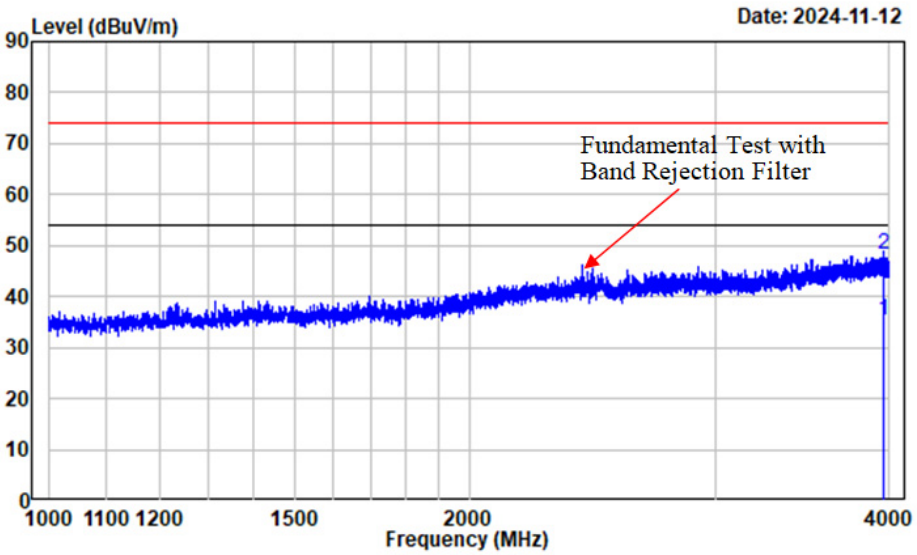
802.11n-HT20, 1-4GHz-Horizontal



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3976.372	-0.19	35.69	35.50	54.00	-18.50	Average
2	3976.372	-0.19	48.89	48.70	74.00	-25.30	Peak

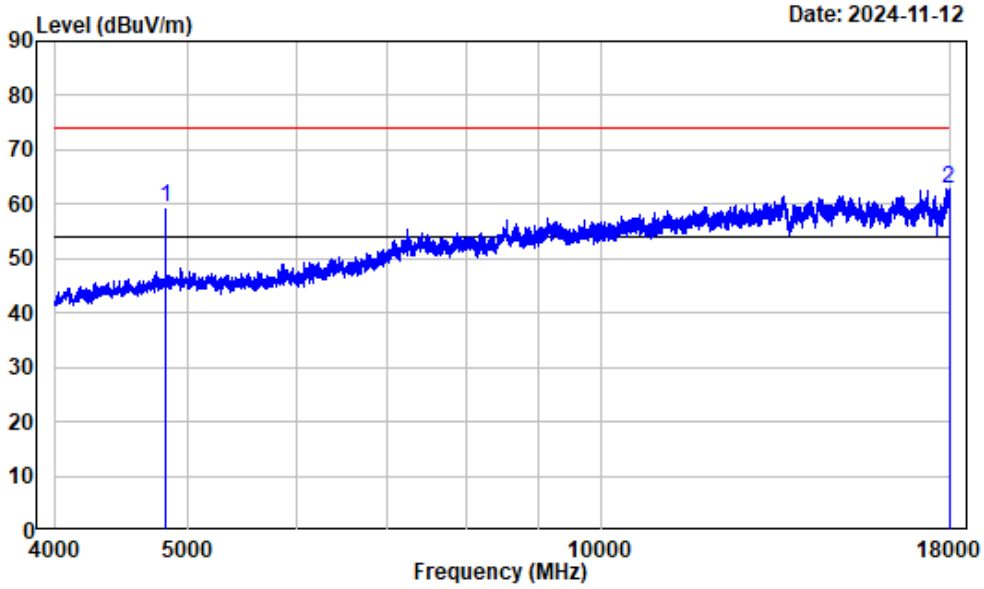
802.11n-HT20, 1-4GHz-Vertical



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3960.245	-0.17	35.44	35.27	54.00	-18.73	Average
2	3960.245	-0.17	48.48	48.31	74.00	-25.69	Peak

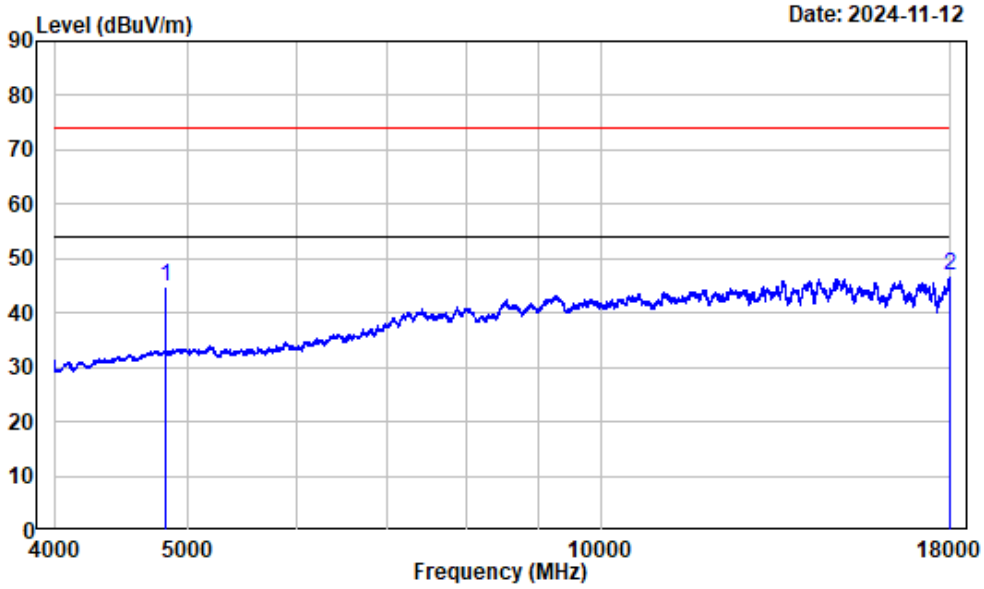
802.11n-HT20, 4-18GHz-Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	56.99	59.44	74.00	-14.56	Peak
2	17956.240	24.31	38.67	62.98	74.00	-11.02	Peak

802.11n-HT20, 4-18GHz-Horizontal-Average

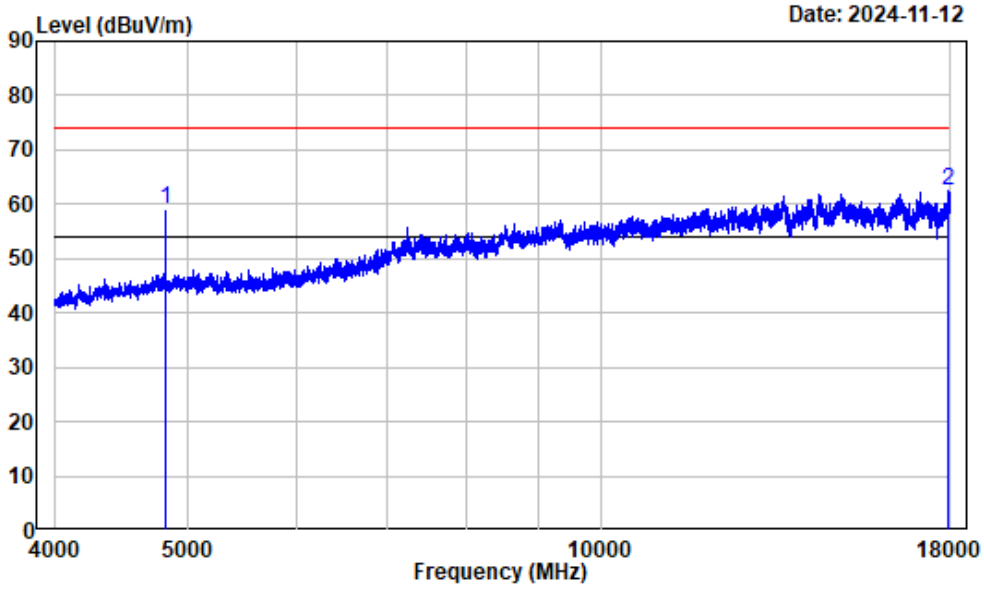


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	42.54	44.99	54.00	-9.01	Average
2	17998.250	24.61	22.37	46.98	54.00	-7.02	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

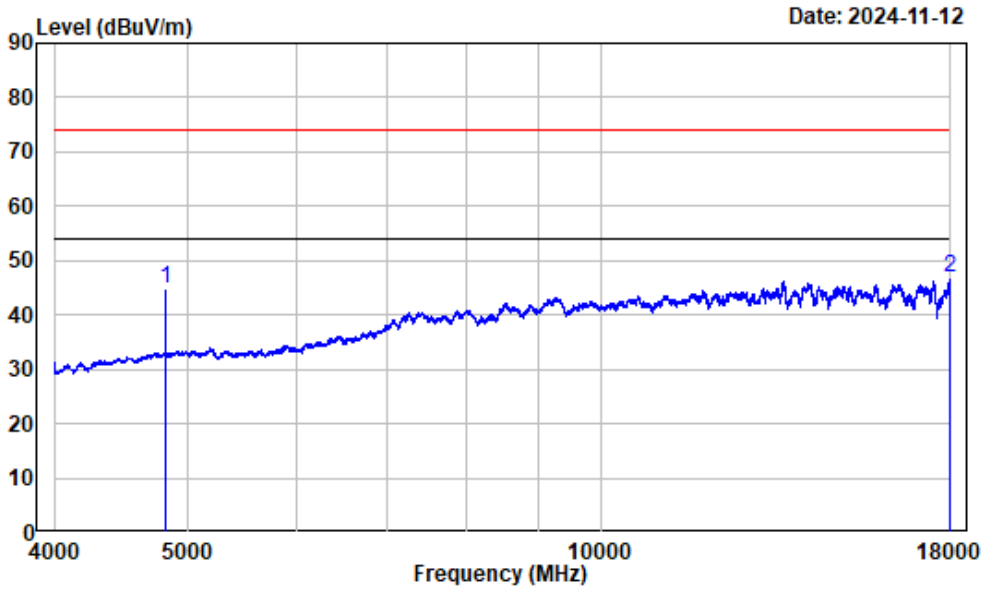
802.11n-HT20, 4-18GHz-Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	56.67	59.12	74.00	-14.88	Peak
2	17945.740	24.23	38.14	62.37	74.00	-11.63	Peak

802.11n-HT20, 4-18GHz-Vertical-Average

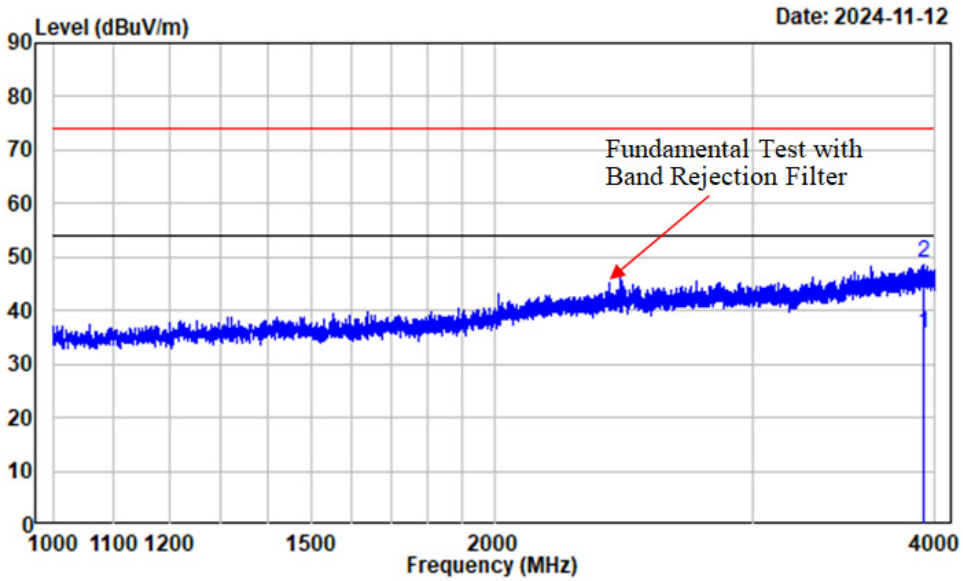


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	42.30	44.75	54.00	-9.25	Average
2	17989.520	24.62	22.16	46.78	54.00	-7.22	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

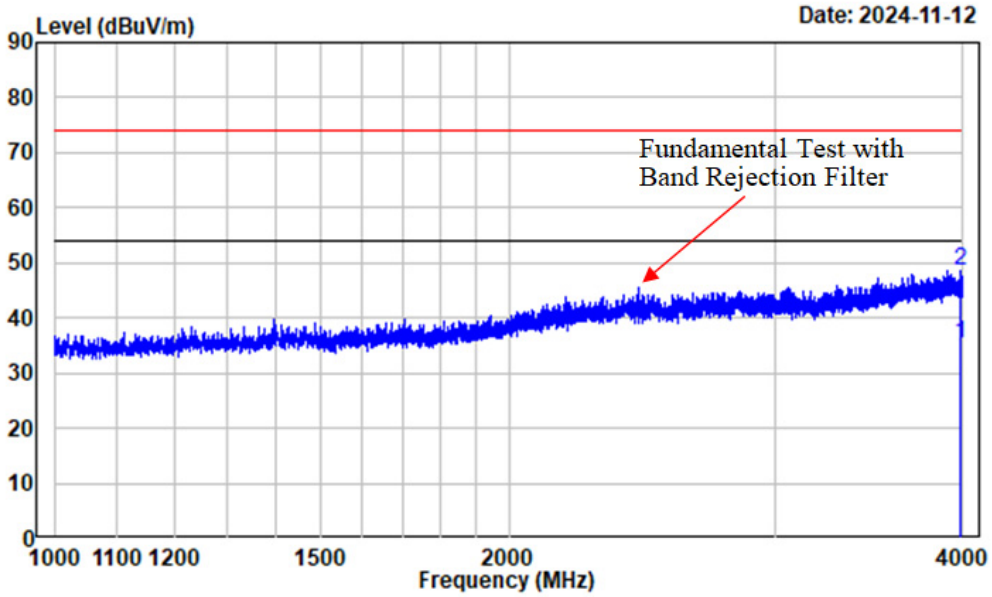
802.11n-HT40, 1-4GHz-Horizontal



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3933.617	-0.29	35.81	35.52	54.00	-18.48	Average
2	3933.617	-0.29	49.27	48.98	74.00	-25.02	Peak

802.11n-HT40, 1-4GHz-Vertical

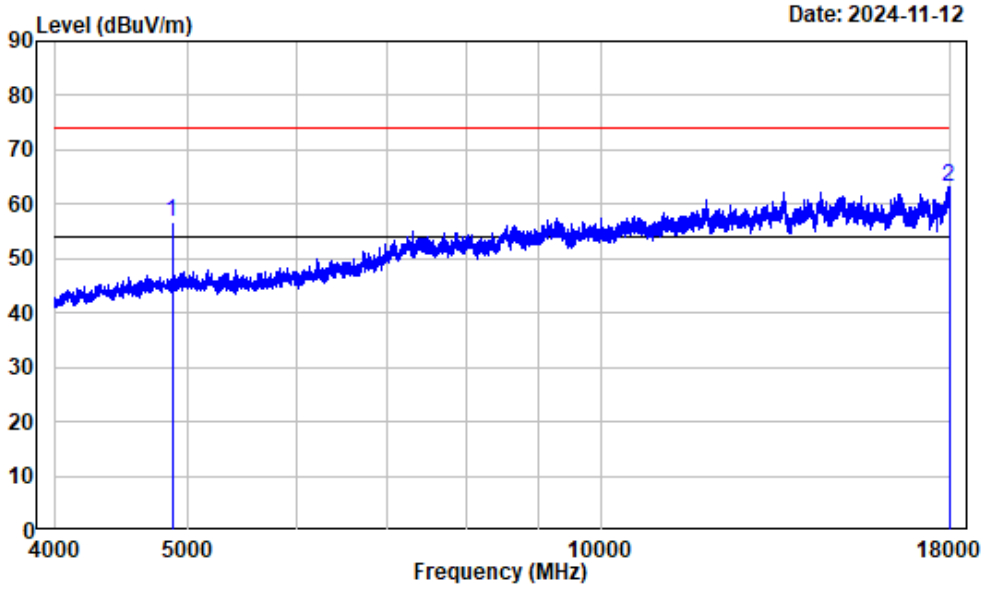


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3981.248	-0.20	35.40	35.20	54.00	-18.80	Average
2	3981.248	-0.20	48.83	48.63	74.00	-25.37	Peak

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

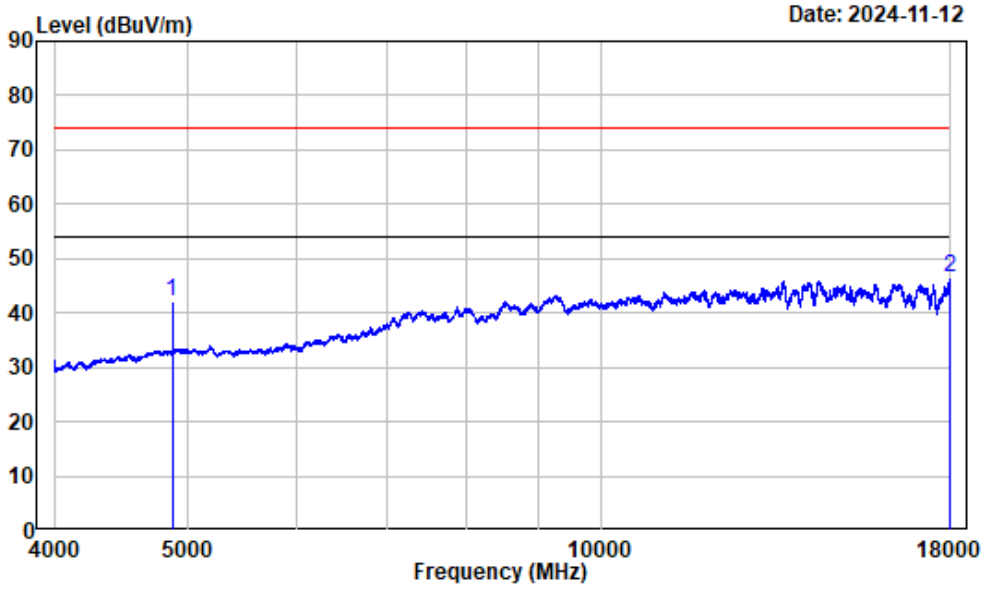
802.11n-HT40, 4-18GHz-Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4874.000	2.56	54.19	56.75	74.00	-17.25	Peak
2	17956.240	24.31	38.74	63.05	74.00	-10.95	Peak

802.11n-HT40, 4-18GHz-Horizontal-Average

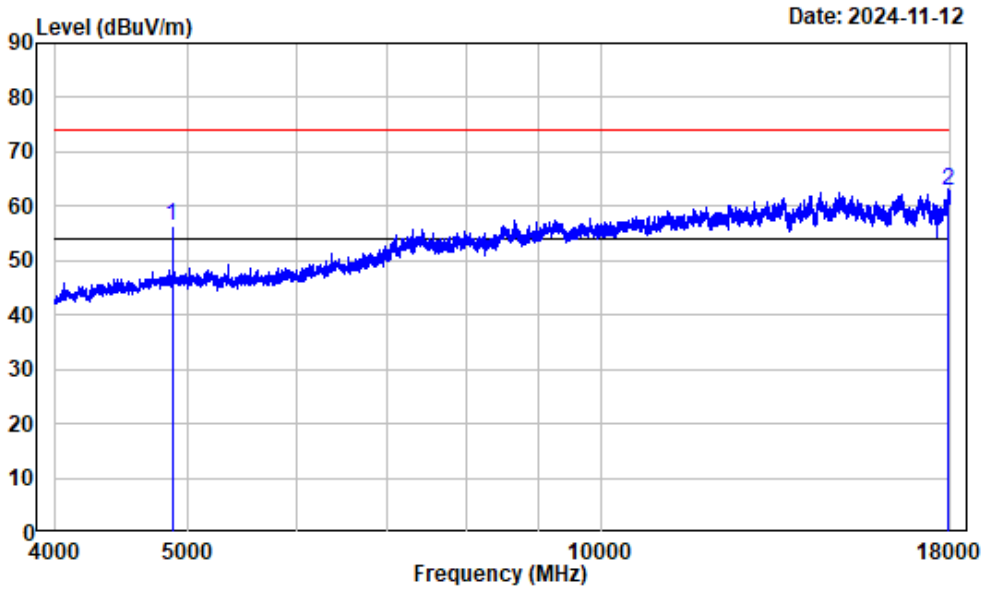


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4874.000	2.56	39.61	42.17	54.00	-11.83	Average
2	17998.250	24.61	21.95	46.56	54.00	-7.44	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

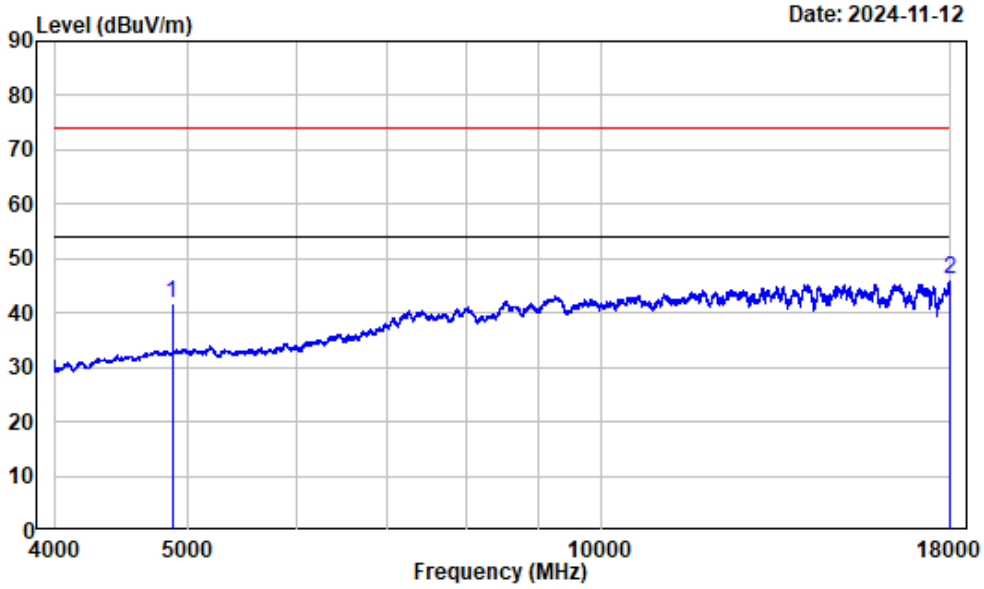
802.11n-HT40, 4-18GHz-Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4874.000	2.56	53.87	56.43	74.00	-17.57	Peak
2	17947.490	24.24	38.66	62.90	74.00	-11.10	Peak

802.11n-HT40, 4-18GHz-Vertical-Average

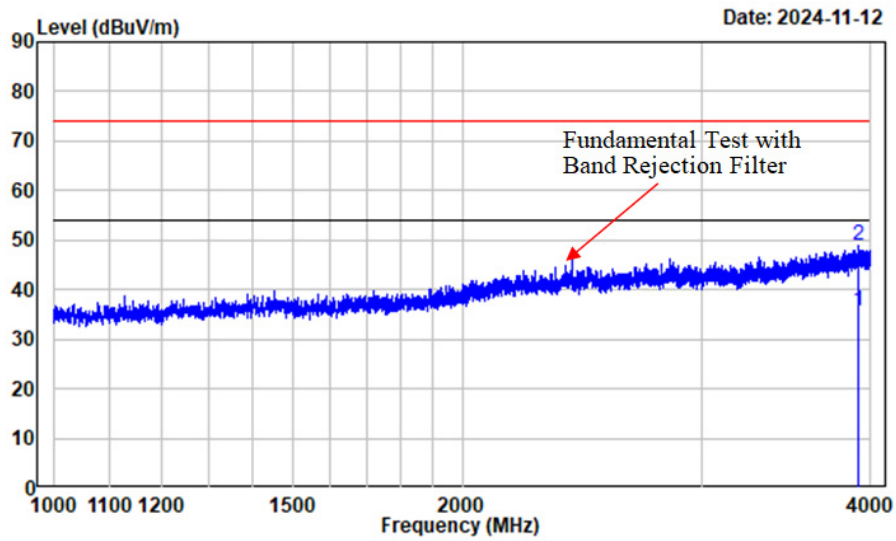


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-n40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4874.000	2.56	39.36	41.92	54.00	-12.08	Average
2	17996.500	24.60	21.71	46.31	54.00	-7.69	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

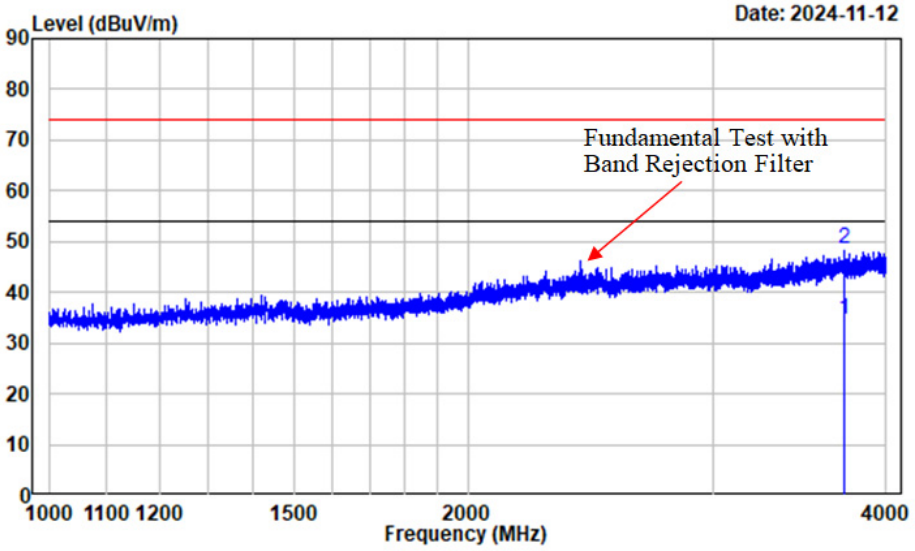
802.11ax20, 1-4GHz-Horizontal



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3919.740	-0.38	35.95	35.57	54.00	-18.43	Average
2	3919.740	-0.38	49.28	48.90	74.00	-25.10	Peak

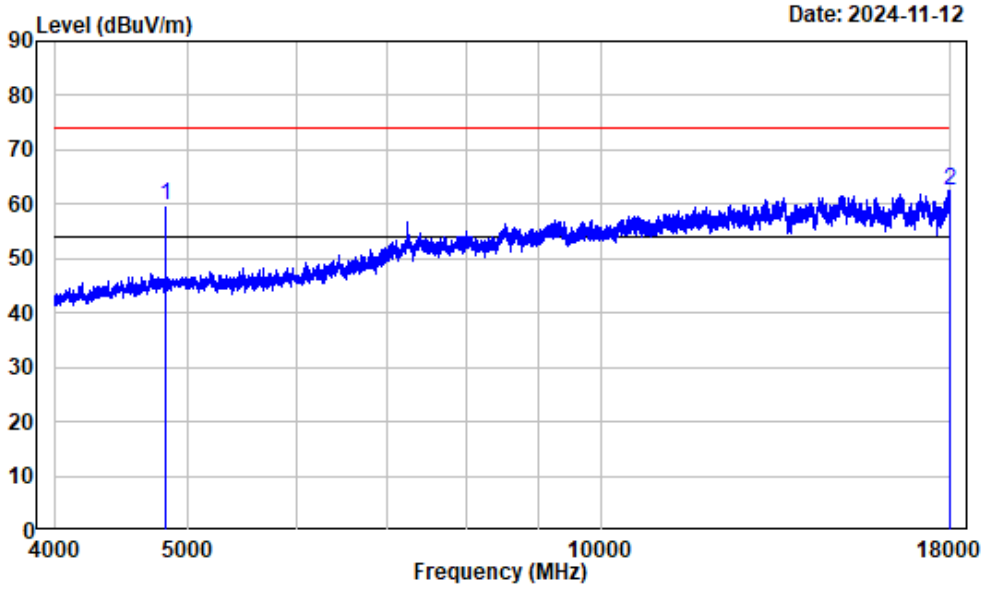
802.11ax20, 1-4GHz-Vertical



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3732.967	-0.99	35.64	34.65	54.00	-19.35	Average
2	3732.967	-0.99	49.49	48.50	74.00	-25.50	Peak

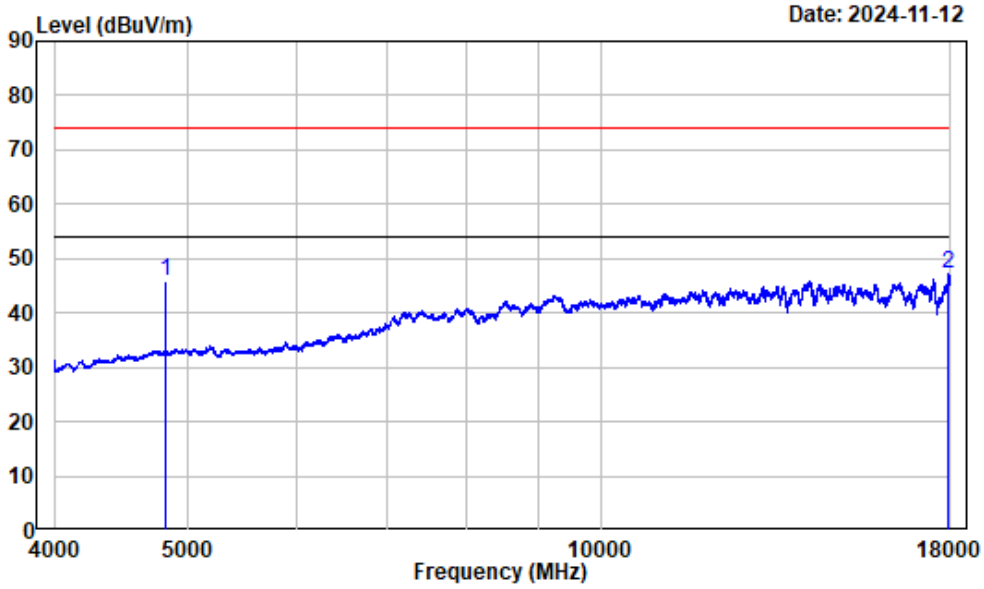
802.11n-HT40, 4-18GHz-Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	57.45	59.90	74.00	-14.10	Peak
2	17970.250	24.41	38.22	62.63	74.00	-11.37	Peak

802.11n-HT40, 4-18GHz-Horizontal-Average

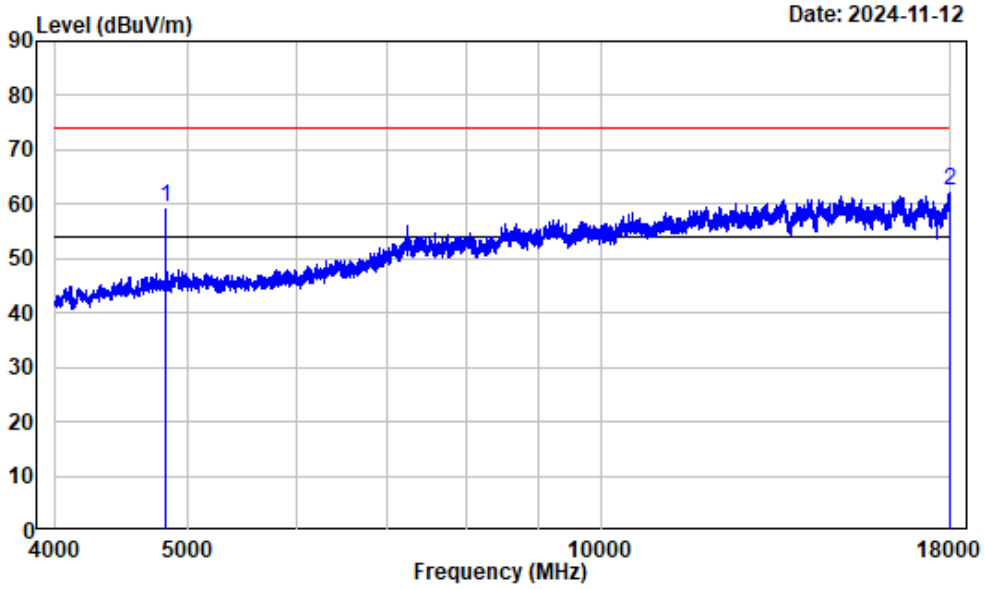


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	43.32	45.77	54.00	-8.23	Average
2	17952.740	24.29	22.78	47.07	54.00	-6.93	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

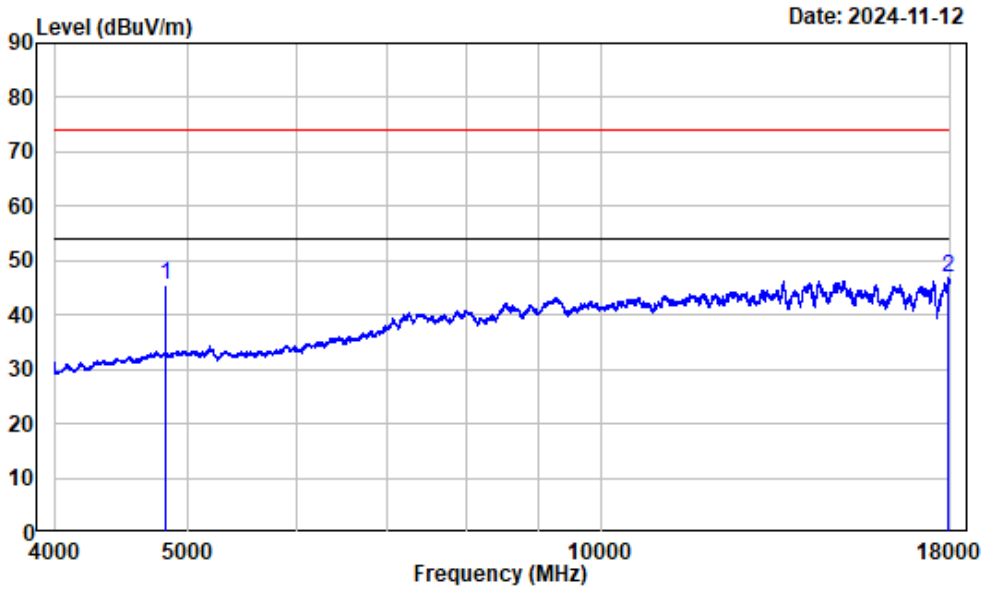
802.11ax20, 4-18GHz-Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	56.87	59.32	74.00	-14.68	Peak
2	17963.250	24.36	38.09	62.45	74.00	-11.55	Peak

802.11ax20, 4-18GHz-Vertical-Average

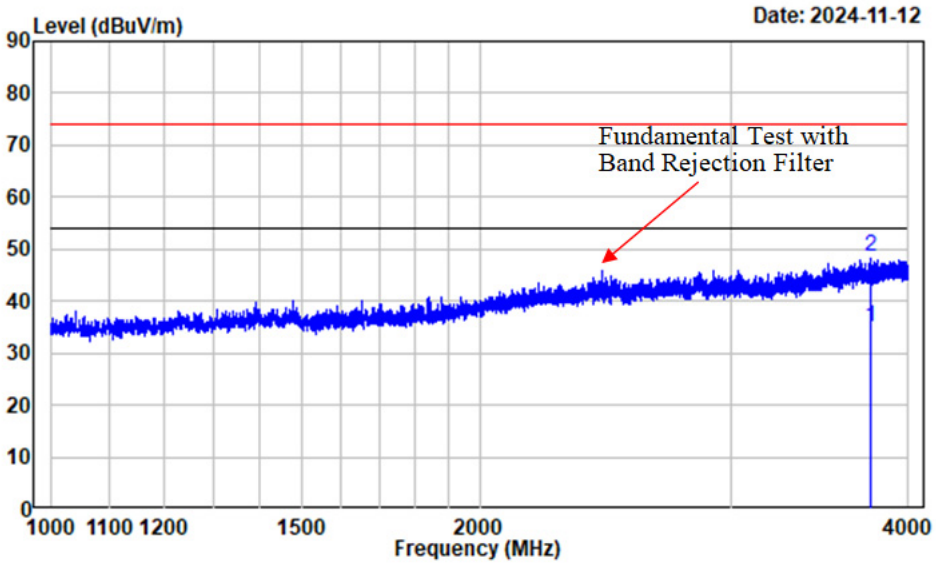


Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax20-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	2.45	42.98	45.43	54.00	-8.57	Average
2	17954.490	24.30	22.58	46.88	54.00	-7.12	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

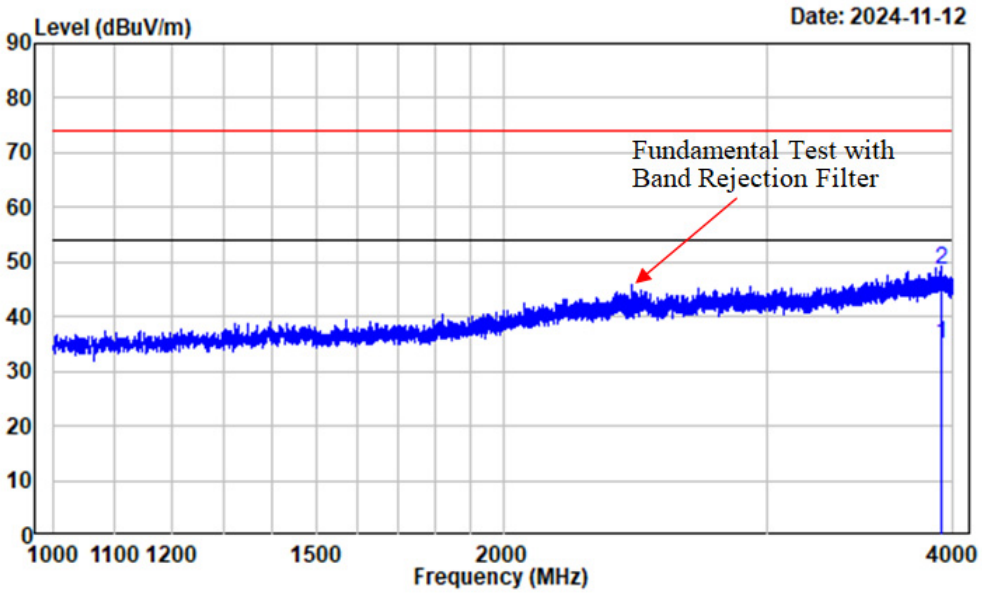
802.11ax40, 1-4GHz-Horizontal



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3767.471	-0.85	35.81	34.96	54.00	-19.04	Average
2	3767.471	-0.85	49.56	48.71	74.00	-25.29	Peak

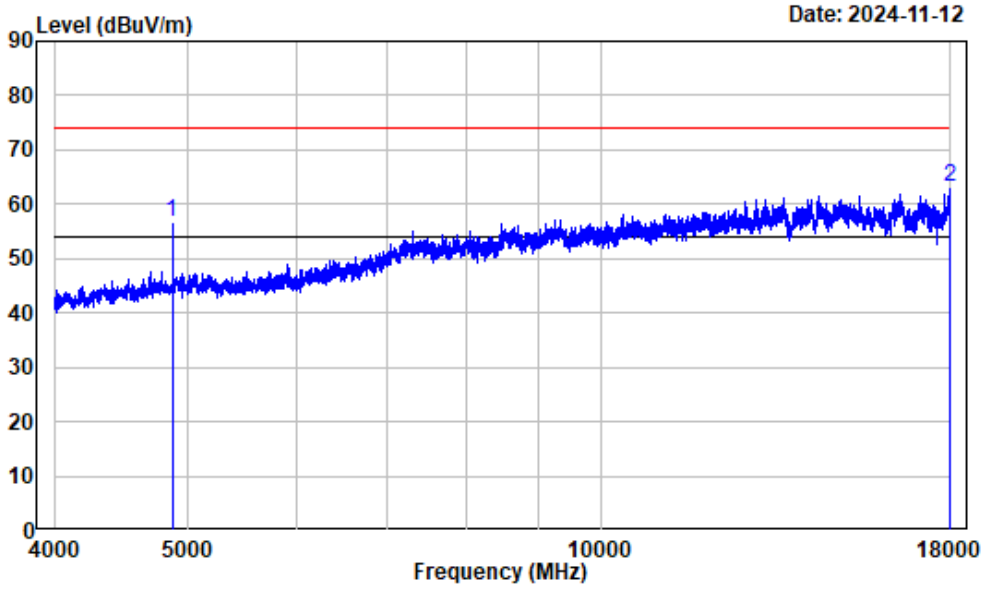
802.11ax40, 1-4GHz-Vertical



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	3930.991	-0.30	35.17	34.87	54.00	-19.13	Average
2	3930.991	-0.30	48.78	48.48	74.00	-25.52	Peak

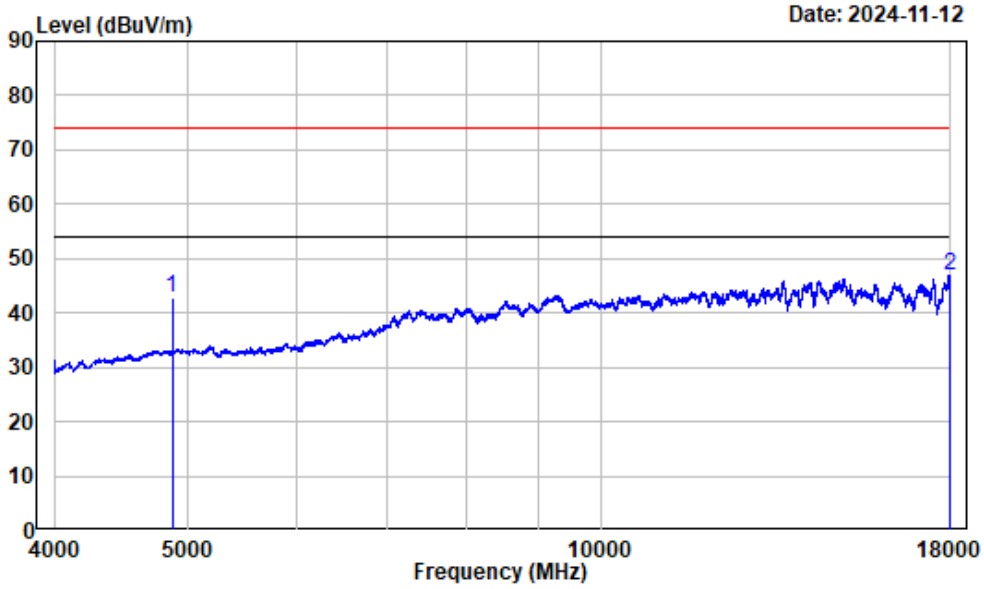
802.11ax40, 4-18GHz-Horizontal-Peak



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4874.000	2.56	54.28	56.84	74.00	-17.16	Peak
2	17966.750	24.39	38.61	63.00	74.00	-11.00	Peak

802.11ax40, 4-18GHz-Horizontal-Average

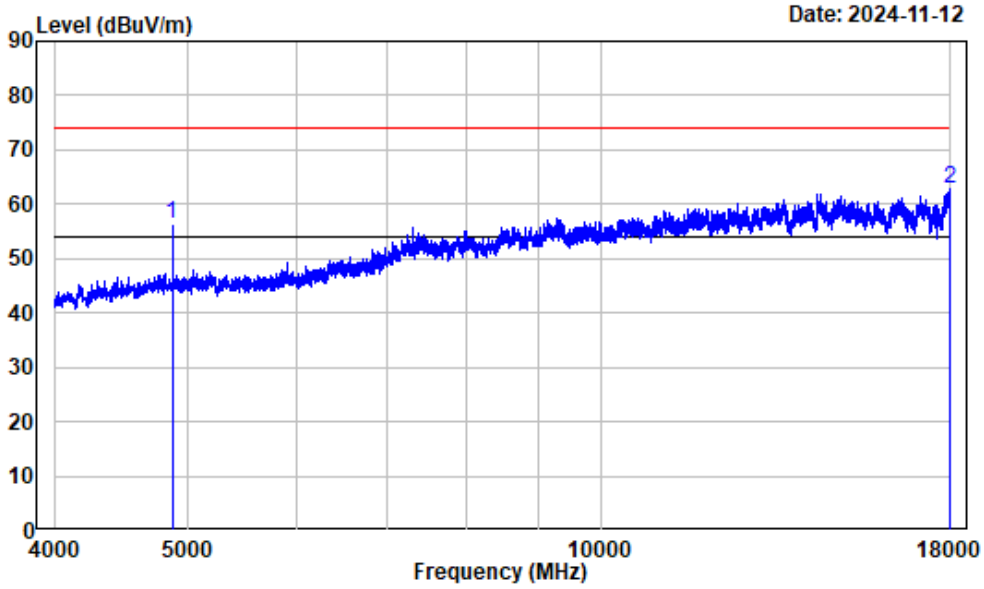


Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4874.000	2.56	40.19	42.75	54.00	-11.25	Average
2	17998.250	24.61	22.19	46.80	54.00	-7.20	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

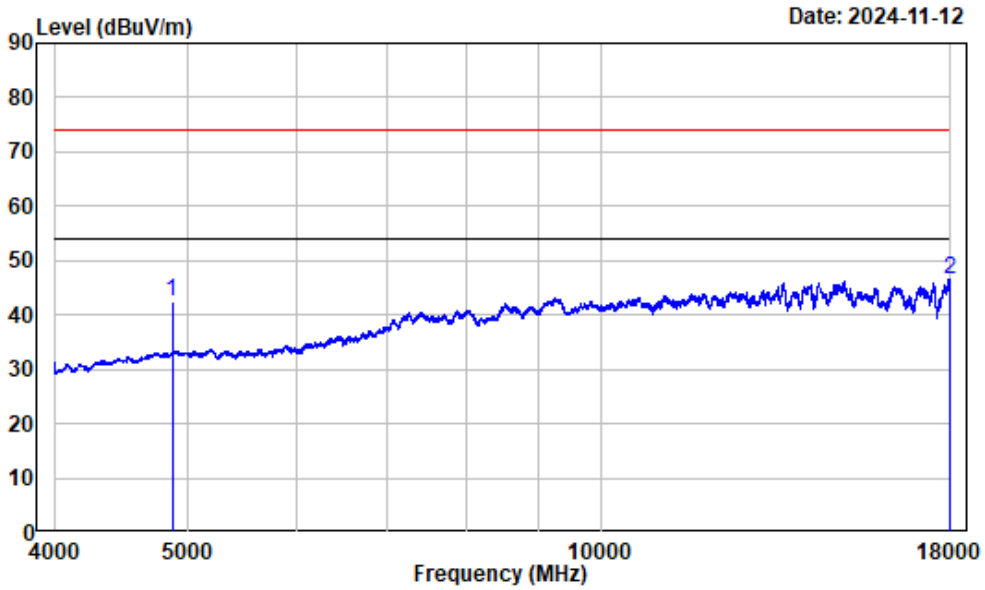
802.11ax40, 4-18GHz-Vertical-Peak



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4874.000	2.56	53.73	56.29	74.00	-17.71	Peak
2	17970.250	24.41	38.28	62.69	74.00	-11.31	Peak

802.11ax40, 4-18GHz-Vertical-Average



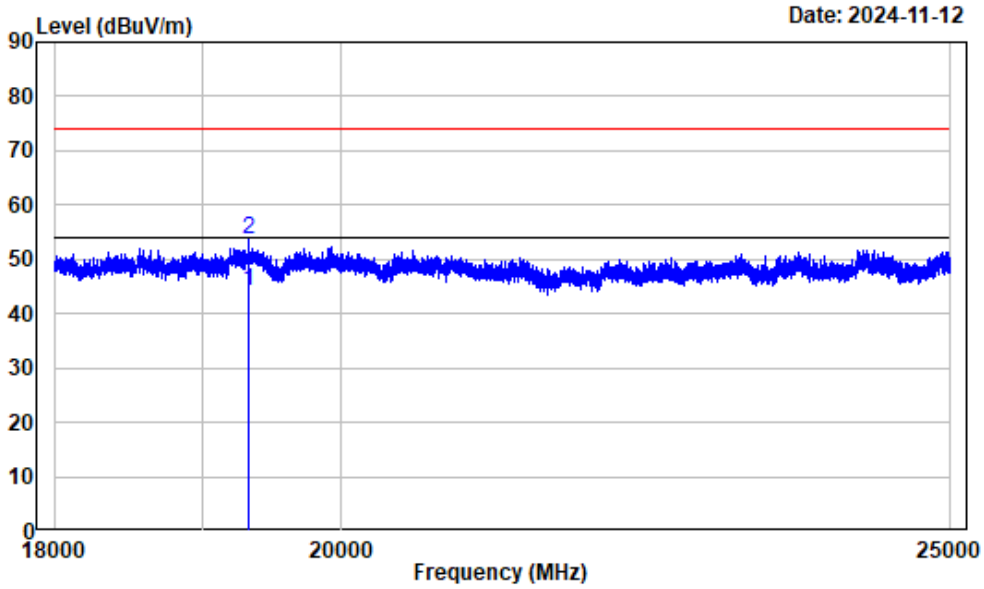
Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-ax40-2437

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4874.000	2.56	39.84	42.40	54.00	-11.60	Average
2	17995.650	24.62	22.03	46.65	54.00	-7.35	Average

Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

For 18-25 GHz test plots, just show the worst case mode (802.11b, low channel)

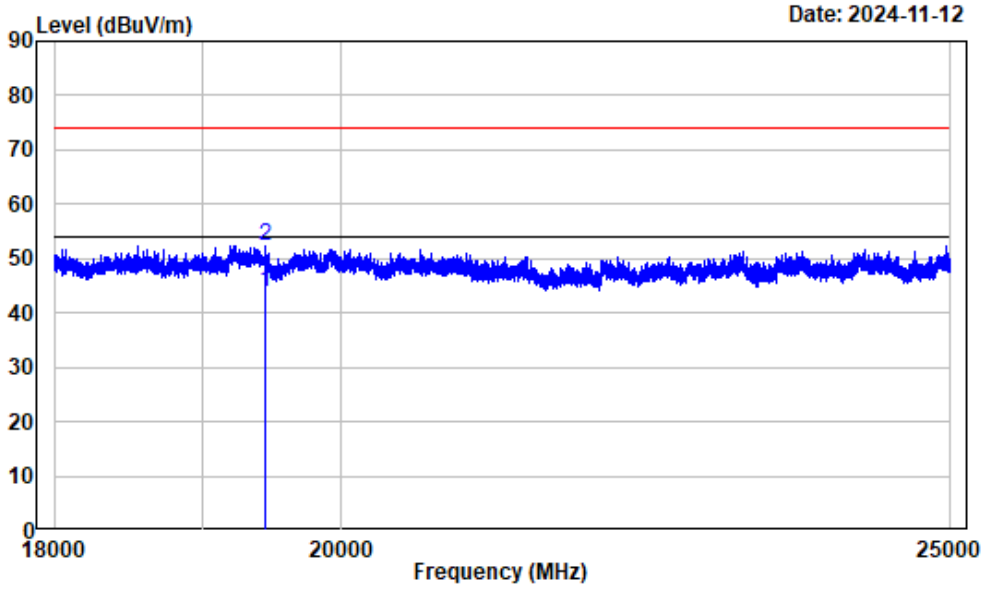
802.11b, 18-25GHz-Horizontal



Condition : Horizontal
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	19331.040	15.17	28.96	44.13	54.00	-9.87	Average
2	19331.040	15.17	38.33	53.50	74.00	-20.50	Peak

802.11b, 18-25GHz-Vertical



Condition : Vertical
Project No.: 2401Y99995E-RF
Tester : Zenos Qiao
Note : 2.4GWiFi-b-2412

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	19445.680	15.17	28.79	43.96	54.00	-10.04	Average
2	19445.680	15.17	37.27	52.44	74.00	-21.56	Peak

6dB Emission Bandwidth

Test Information:

Sample No.:	2T31-1	**Test Date:**	2024/11/16~2025/01/24
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Rainbow Zhu	**Test Result:**	Pass

Environmental Conditions:

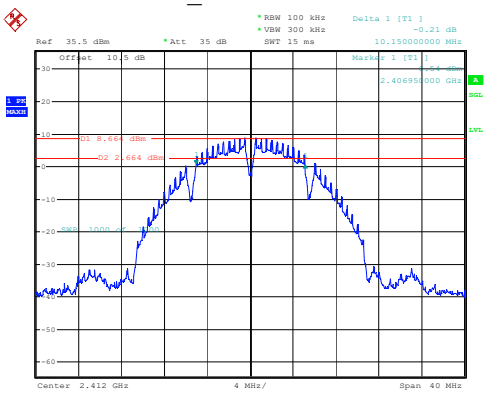
Temperature: (°C):	24.0~25.4	**Relative Humidity: (%)**	45~46	**ATM Pressure: (kPa)**	101

Test Data:

Mode	Antenna	Test Frequency (MHz)	Result (MHz)	Limit (MHz)	Verdict
802.11b	Chain 0	2412	10.150	≥0.5	Pass
		2437	10.150	≥0.5	Pass
		2462	10.150	≥0.5	Pass
802.11g	Chain 0	2412	15.850	≥0.5	Pass
		2437	15.200	≥0.5	Pass
		2462	15.950	≥0.5	Pass
802.11n-HT20	Chain 0	2412	15.800	≥0.5	Pass
		2437	15.200	≥0.5	Pass
		2462	15.900	≥0.5	Pass
802.11n-HT40	Chain 0	2422	35.300	≥0.5	Pass
		2437	34.000	≥0.5	Pass
		2452	35.300	≥0.5	Pass
802.11ax20	Chain 0	2412	18.400	≥0.5	Pass
		2437	18.100	≥0.5	Pass
		2462	18.350	≥0.5	Pass
802.11ax40	Chain 0	2422	**37.500**	≥0.5	Pass
		2437	35.300	≥0.5	Pass
		2452	35.300	≥0.5	Pass

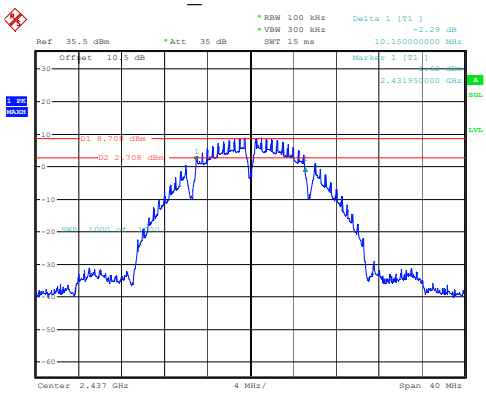
2.4G

802.11b_2412MHz 10.150MHz



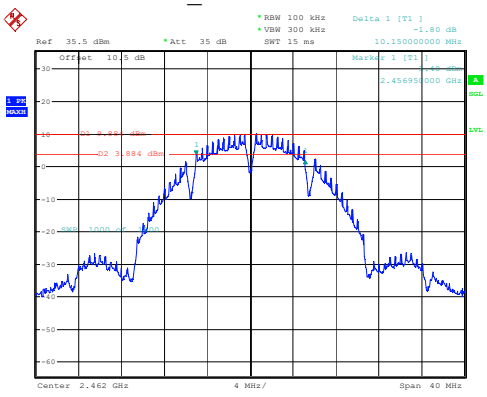
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:35:54

802.11b_2437MHz 10.150MHz



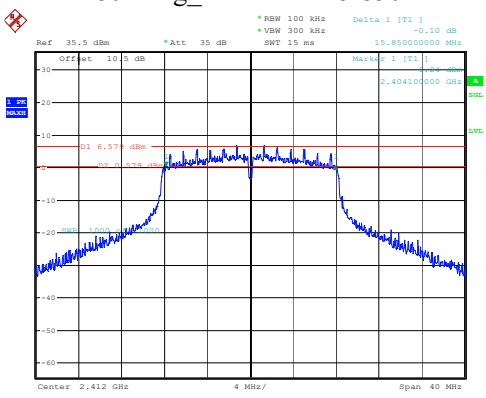
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:38:07

802.11b_2462MHz 10.150MHz



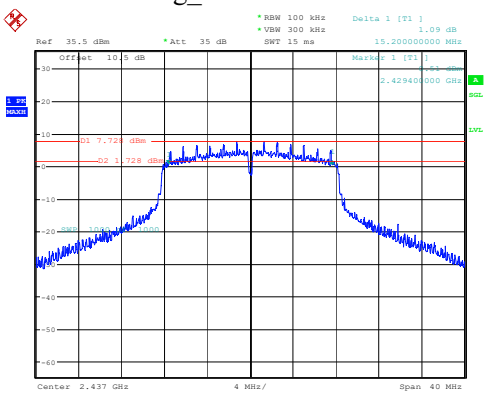
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:40:53

802.11g_2412MHz 15.850MHz



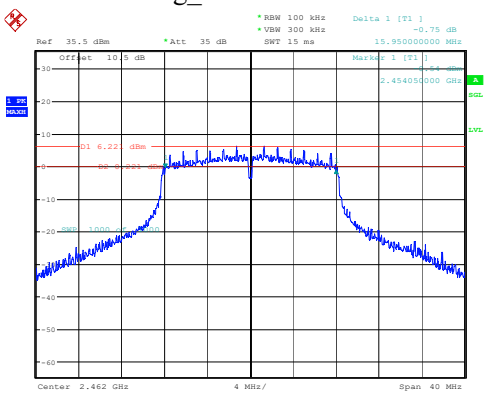
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:43:12

802.11g_2437MHz 15.200MHz



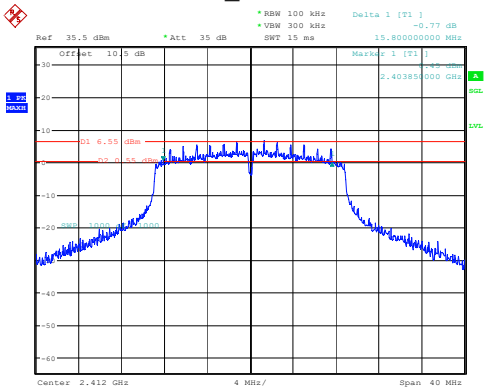
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:45:34

802.11g_2462MHz 15.950MHz



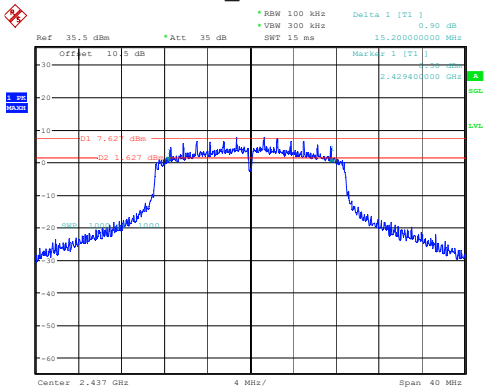
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:47:41

802.11n-HT20_2412MHz 15.800MHz



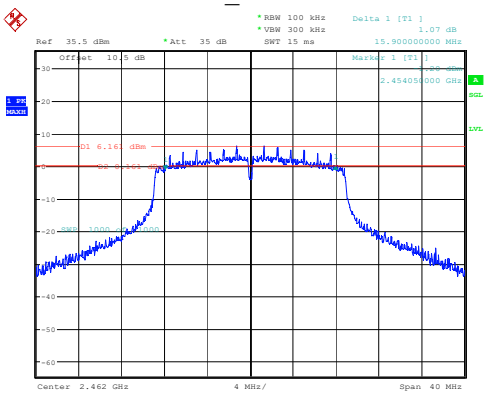
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:50:11

802.11n-HT20_2437MHz 15.200MHz



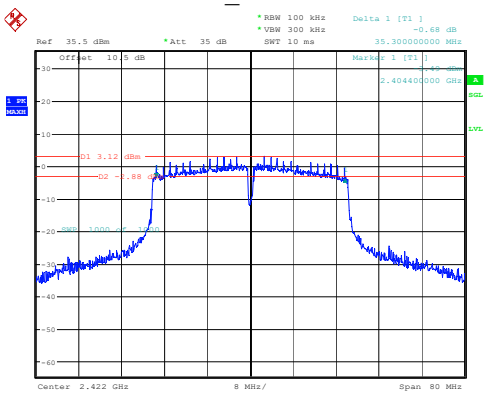
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:52:58

802.11n-HT20_2462MHz 15.900MHz



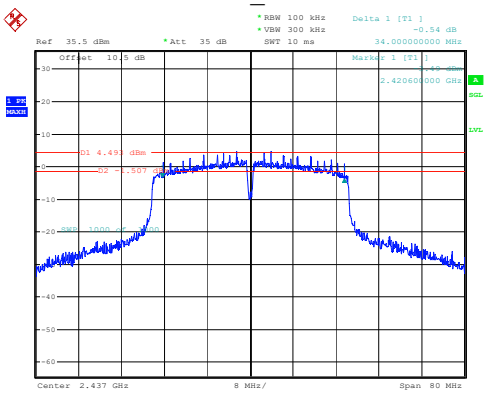
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:55:16

802.11n-HT40_2422MHz 35.300MHz



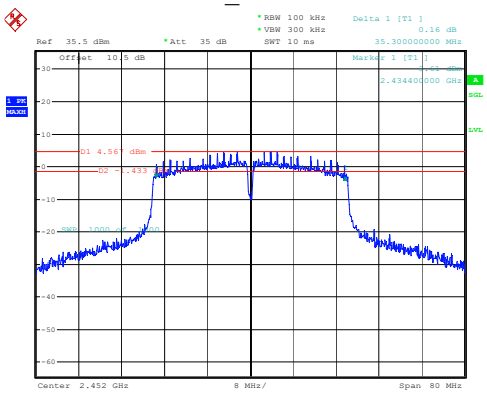
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:57:48

802.11n-HT40_2437MHz 34MHz



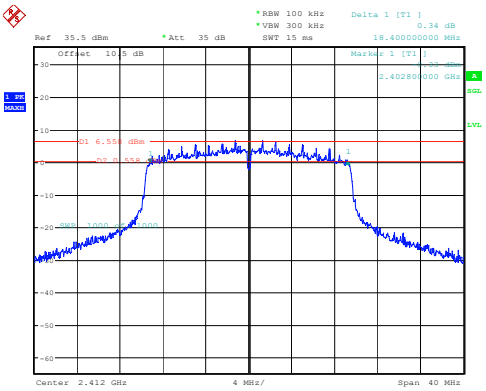
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:59:45

802.11n-HT40_2452MHz 35.300MHz



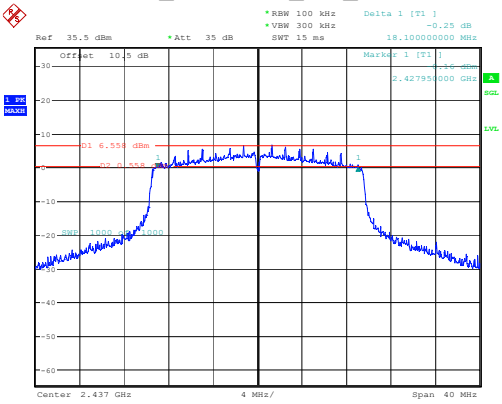
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:01:00

802.11ax20_2412MHz_RU_Full 18.400MHz



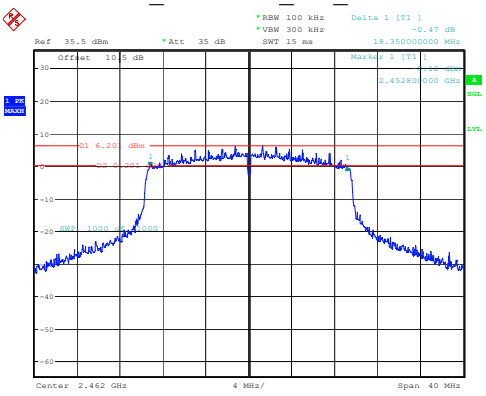
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:03:29

802.11ax20_2437MHz_RU_Full 18.100MHz



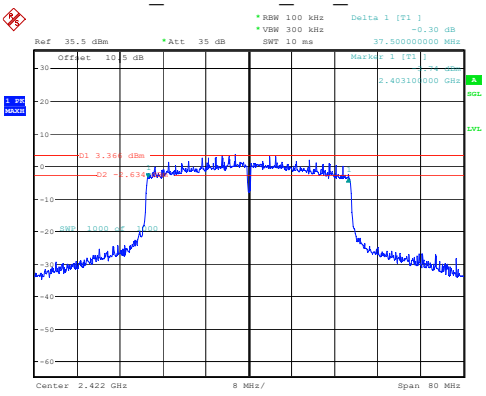
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 24.JAN.2025 02:53:17

802.11ax20_2462MHz_RU_Full 18.350MHz



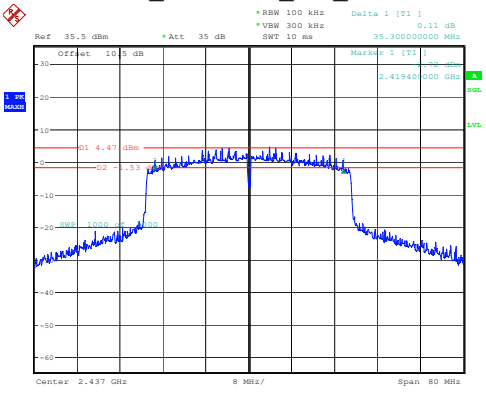
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:09:03

802.11ax40_2422MHz_RU_Full 37.500MHz



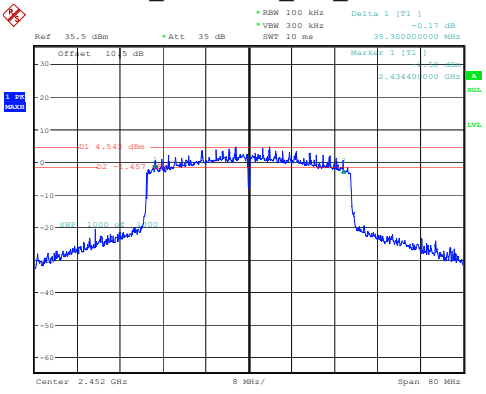
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:11:22

802.11ax40_2437MHz_RU_Full 35.300MHz



ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:13:16

802.11ax40_2452MHz_RU_Full 35.300MHz



ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:14:46

99% Occupied Bandwidth

Test Information:

Sample No.:	2T31-1	**Test Date:**	2024/11/16
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Rainbow Zhu	**Test Result:**	Pass

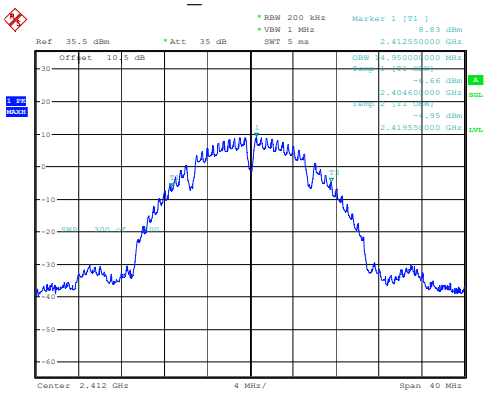
Environmental Conditions:

Temperature: (°C):	24	**Relative Humidity: (%)**	46	**ATM Pressure: (kPa)**	101

Test Data:

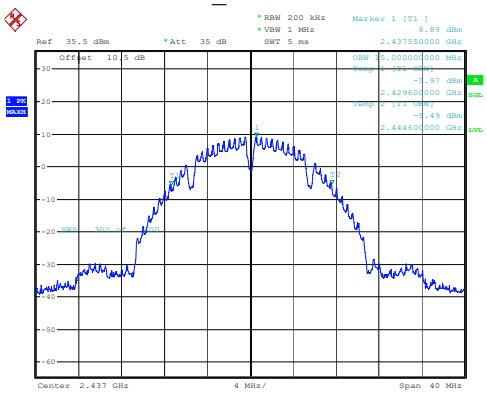
Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
802.11b	Chain 0	2412	14.950
		2437	15.000
		2462	15.050
802.11g	Chain 0	2412	16.850
		2437	16.850
		2462	16.800
802.11n-HT20	Chain 0	2412	18.100
		2437	17.900
		2462	18.000
802.11n-HT40	Chain 0	2422	36.800
		2437	36.900
		2452	36.900
802.11ax20	Chain 0	2412	19.100
		2437	18.950
		2462	19.100
802.11ax40	Chain 0	2422	**38.100**
		2437	37.900
		2452	38.000

802.11b_2412MHz 14.950MHz



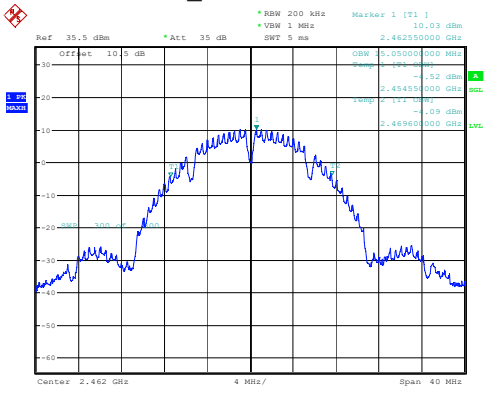
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:36:13

802.11b_2437MHz 15MHz



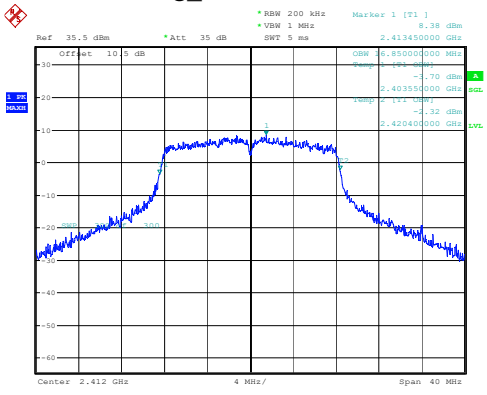
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:38:26

802.11b_2462MHz 15.050MHz



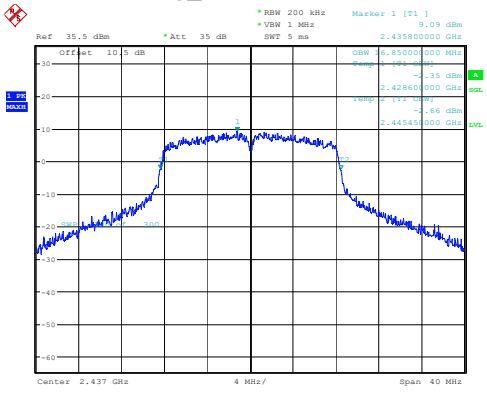
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:41:11

802.11g_2412MHz 16.850MHz



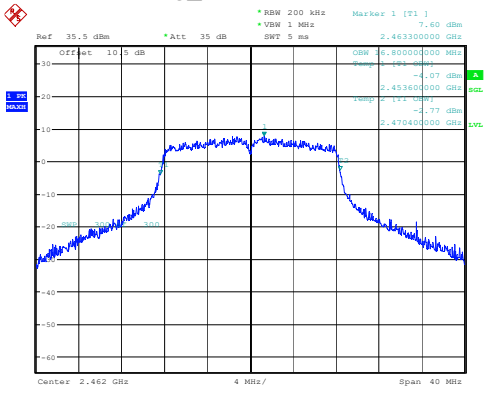
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:43:31

802.11g_2437MHz 16.850MHz



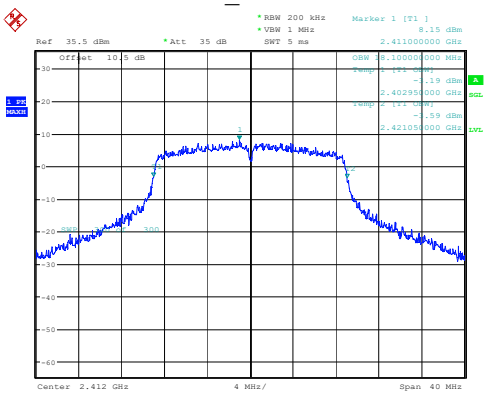
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:45:53

802.11g_2462MHz 16.800MHz



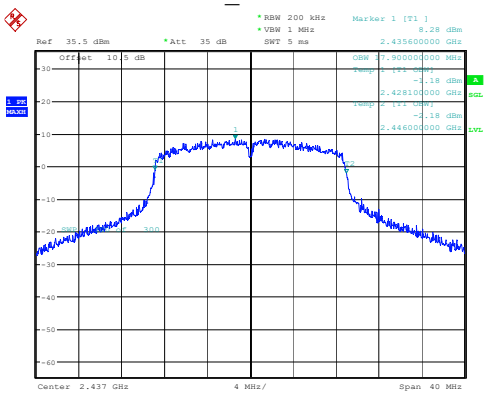
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:48:04

802.11n-HT20_2412MHz 18.100MHz



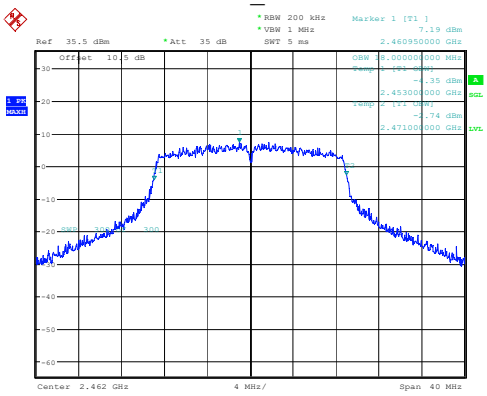
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:50:30

802.11n-HT20_2437MHz 17.900MHz



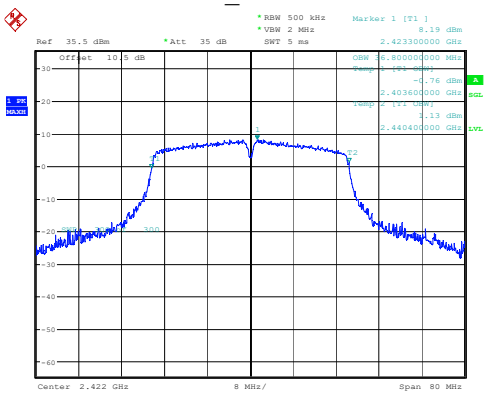
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:53:17

802.11n-HT20_2462MHz 18MHz



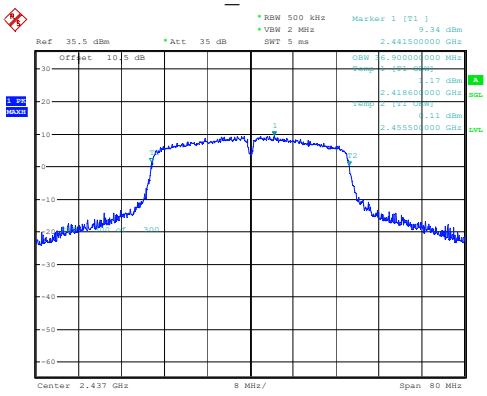
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:55:35

802.11n-HT40_2422MHz 36.800MHz



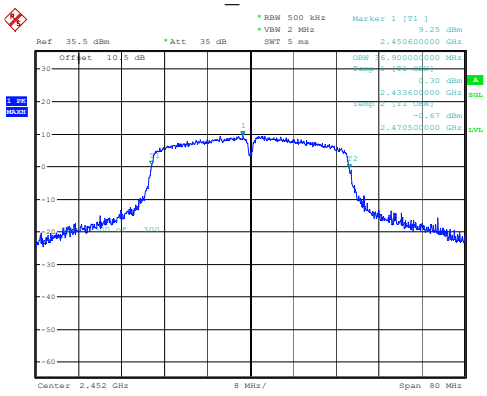
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:58:08

802.11n-HT40_2437MHz 36.900MHz



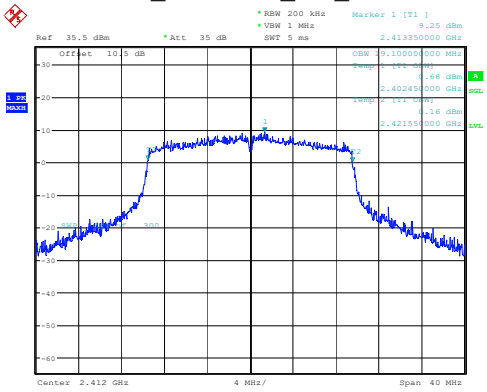
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:00:05

802.11n-HT40_2452MHz 36.900MHz



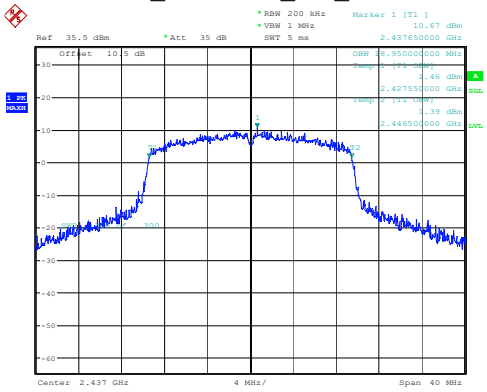
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:01:19

802.11ax20_2412MHz_RU_Full 19.100MHz



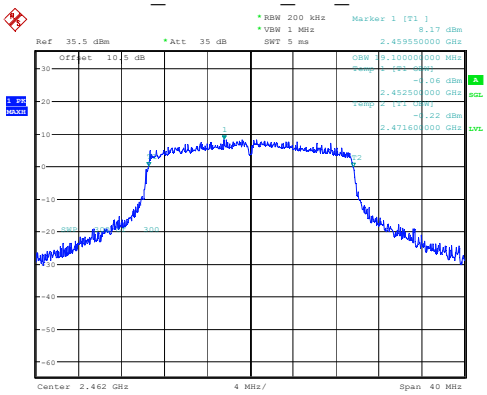
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:03:49

802.11ax20_2437MHz_RU_Full 18.950MHz



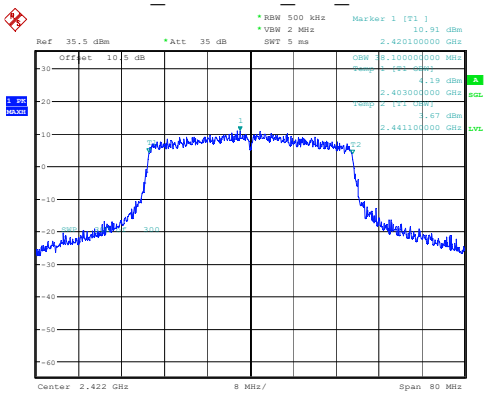
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:06:52

802.11ax20_2462MHz_RU_Full 19.100MHz



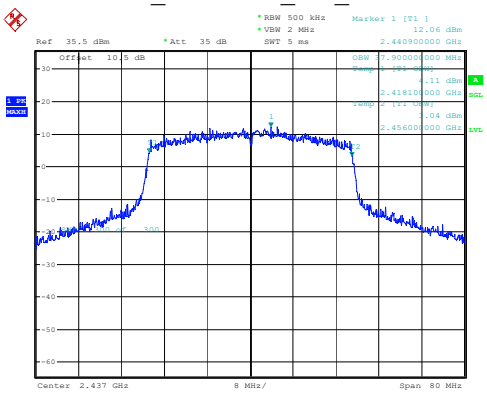
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:09:21

802.11ax40_2422MHz_RU_Full 38.100MHz



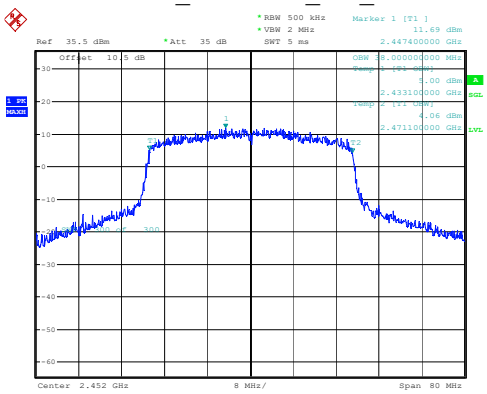
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:11:42

802.11ax40_2437MHz_RU_Full 37.900MHz



ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:13:36

802.11ax40_2452MHz_RU_Full 38MHz



ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:15:05

Maximum Conducted Output Power

Test Information:

Sample No.:	2T31-1	**Test Date:**	2024/12/05
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Rainbow Zhu	**Test Result:**	Pass

Environmental Conditions:

Temperature: (°C):	26	**Relative Humidity: (%)**	52	**ATM Pressure: (kPa)**	101

Test Data:

Mode	Antenna	Test Frequency (MHz)	Peak Output Power(dBm)	Average Output Power(dBm)	Limit (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
802.11b	Chain 0	2412	14.45	11.50	30	4.20	18.65	36	Pass
		2437	13.61	10.63	30	4.20	17.81	36	Pass
		2462	14.42	11.48	30	4.20	18.62	36	Pass
802.11g	Chain 0	2412	20.13	12.83	30	4.20	24.33	36	Pass
		2437	20.78	13.35	30	4.20	24.98	36	Pass
		2462	19.48	12.15	30	4.20	23.68	36	Pass
802.11n20	Chain 0	2412	20.14	12.95	30	4.20	24.34	36	Pass
		2437	21.16	14.00	30	4.20	25.36	36	Pass
		2462	19.43	12.13	30	4.20	23.63	36	Pass
802.11n40	Chain 0	2422	18.13	10.78	30	4.20	22.33	36	Pass
		2437	18.85	11.57	30	4.20	23.05	36	Pass
		2452	18.57	11.29	30	4.20	22.77	36	Pass
802.11ax20	Chain 0	2412	20.71	12.84	30	4.20	24.91	36	Pass
		2437	**21.74**	13.79	30	4.20	25.94	36	Pass
		2462	20.43	12.47	30	4.20	24.63	36	Pass
802.11ax40	Chain 0	2422	18.70	10.90	30	4.20	22.90	36	Pass
		2437	19.36	11.57	30	4.20	23.56	36	Pass
		2452	19.11	11.22	30	4.20	23.31	36	Pass

100 kHz Bandwidth of Frequency Band Edge

Test Information:

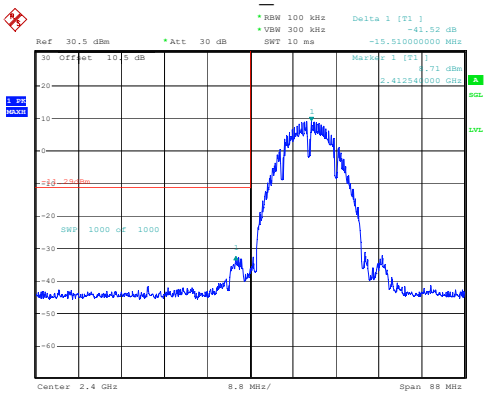
Sample No.:	2T31-1	**Test Date:**	2024/11/16
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Rainbow Zhu	**Test Result:**	Pass

Environmental Conditions:

Temperature: (°C):	24	**Relative Humidity: (%)**	46	**ATM Pressure: (kPa)**	101

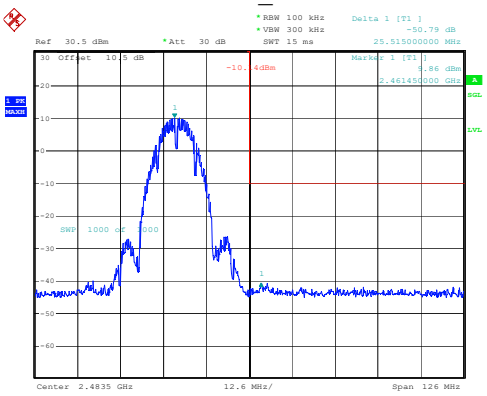
Test Data:

802.11b_2412MHz



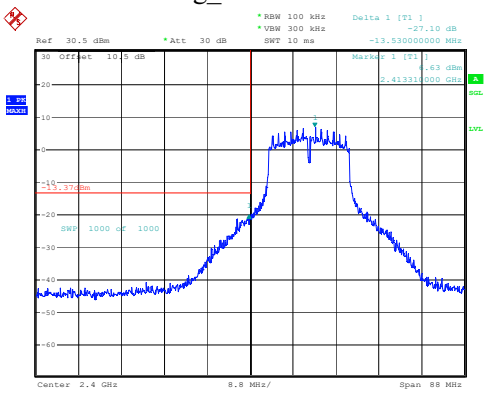
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:36:52

802.11b_2462MHz



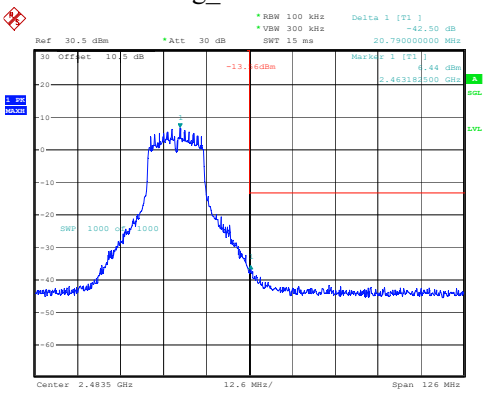
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:41:47

802.11g_2412MHz 27.10dB



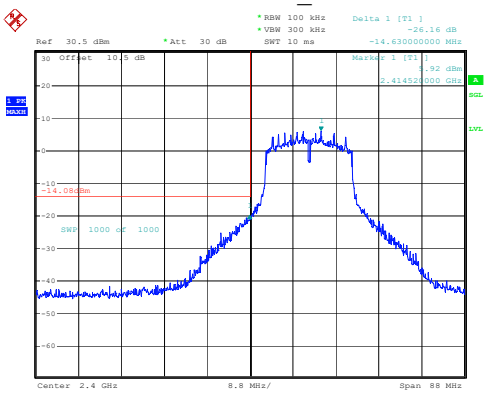
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:44:05

802.11g_2462MHz 42.50dB



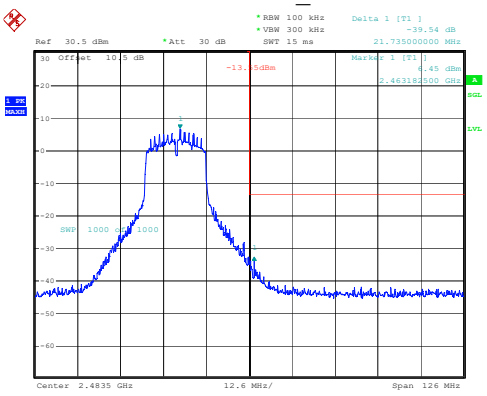
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:48:40

802.11n-HT20_2412MHz



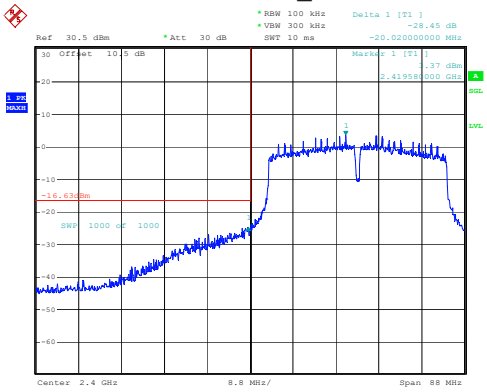
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:51:04

802.11n-HT20_2462MHz



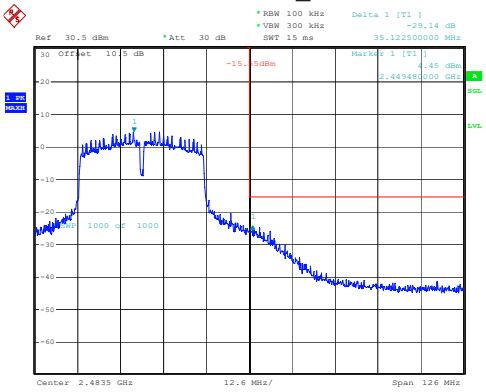
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:56:11

802.11n-HT40_2422MHz



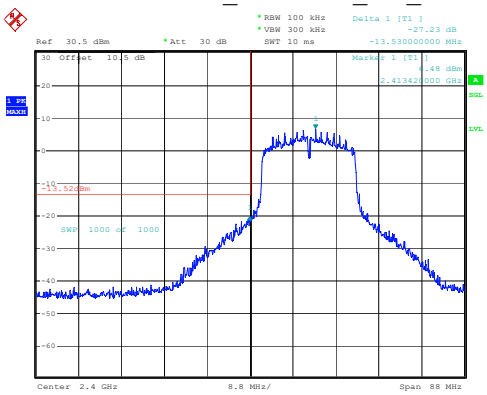
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:58:43

802.11n-HT40_2452MHz



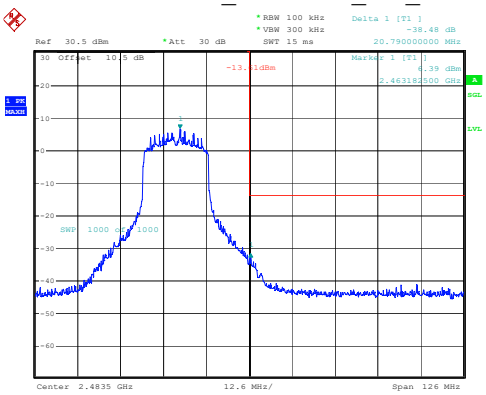
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:01:55

802.11ax20_2412MHz_RU_Full



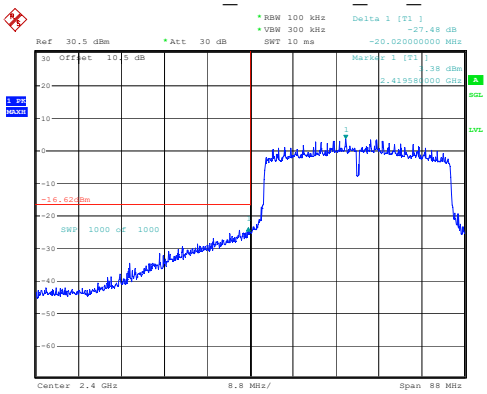
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:04:24

802.11ax20_2462MHz_RU_Full



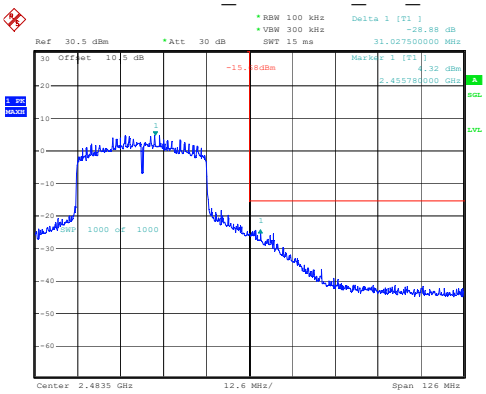
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:09:57

802.11ax40_2422MHz_RU_Full



ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:12:16

802.11ax40_2452MHz_RU_Full



ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 10:15:42

Power Spectral Density

Test Information:

Sample No.:	2T31-1	**Test Date:**	2024/11/19
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Rainbow Zhu	**Test Result:**	Pass

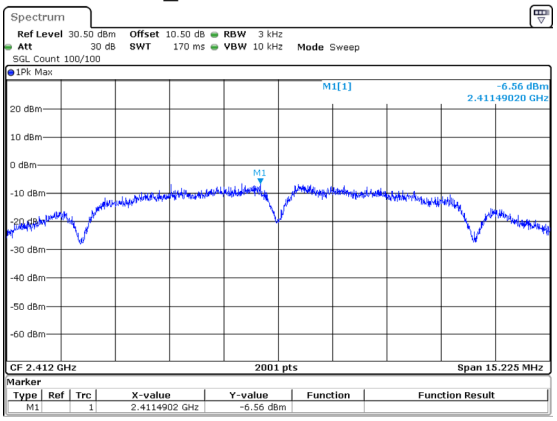
Environmental Conditions:

Temperature: (°C):	24	**Relative Humidity: (%)**	46	**ATM Pressure: (kPa)**	101

Test Data:

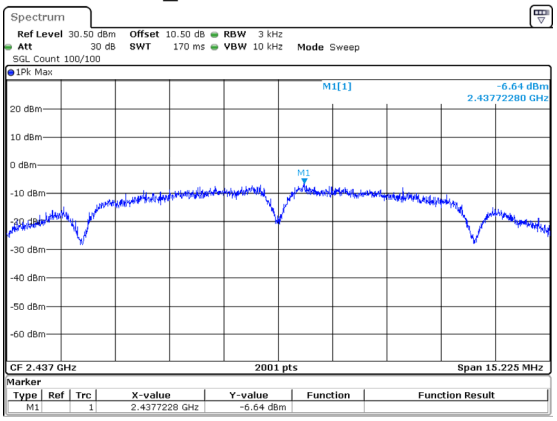
Mode	Antenna	Test Frequency (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
802.11b	Chain 0	2412	-6.56	8	Pass
		2437	-6.64	8	Pass
		2462	**-5.24**	8	Pass
802.11g	Chain 0	2412	-9.26	8	Pass
		2437	-8.38	8	Pass
		2462	-9.40	8	Pass
802.11n-HT20	Chain 0	2412	-8.32	8	Pass
		2437	-6.70	8	Pass
		2462	-8.67	8	Pass
802.11n-HT40	Chain 0	2422	-11.92	8	Pass
		2437	-10.37	8	Pass
		2452	-10.30	8	Pass
802.11ax20	Chain 0	2412	-8.61	8	Pass
		2437	-7.66	8	Pass
		2462	-9.41	8	Pass
802.11ax40	Chain 0	2422	-12.30	8	Pass
		2437	-11.23	8	Pass
		2452	-10.17	8	Pass

802.11b_2412MHz -6.56dBm/3kHz



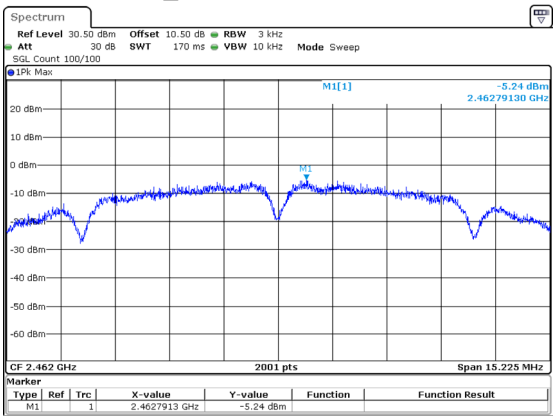
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:07:28

802.11b_2437MHz -6.64dBm/3kHz



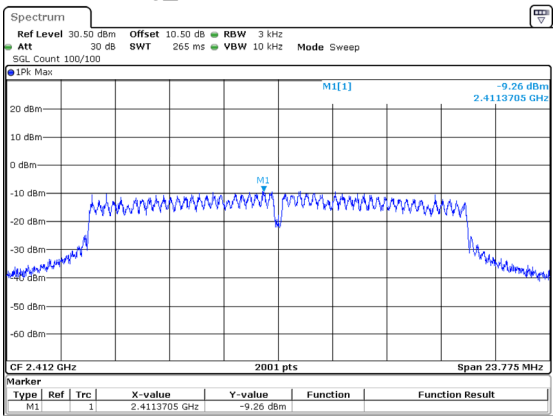
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:08:32

802.11b_2462MHz -5.24dBm/3kHz



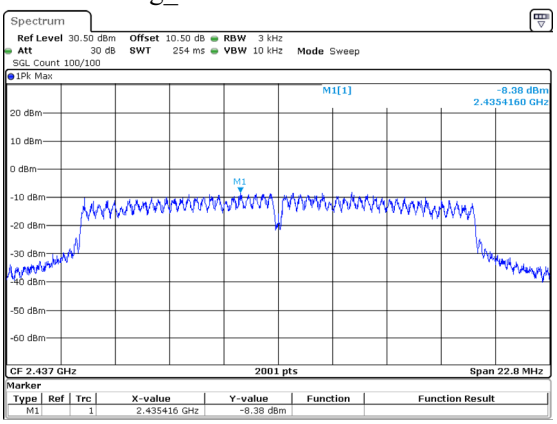
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:09:42

802.11g_2412MHz -9.26dBm/3kHz



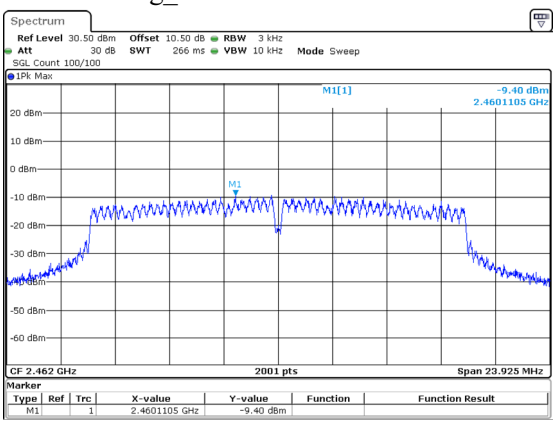
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:11:15

802.11g_2437MHz -8.38dBm/3kHz



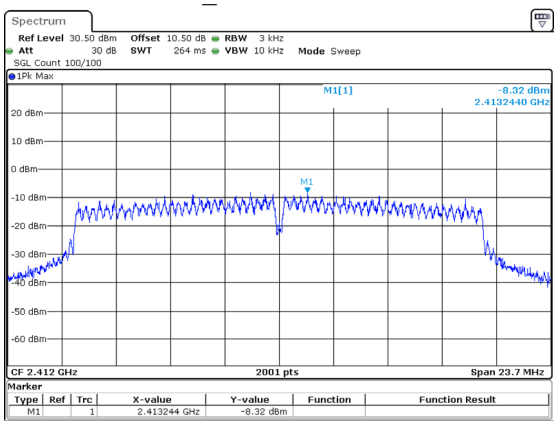
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:12:21

802.11g_2462MHz -9.40dBm/3kHz



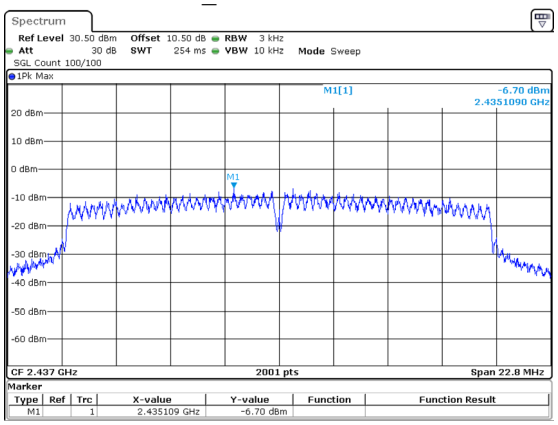
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:13:42

802.11n-HT20_2412MHz -8.32dBm/3kHz



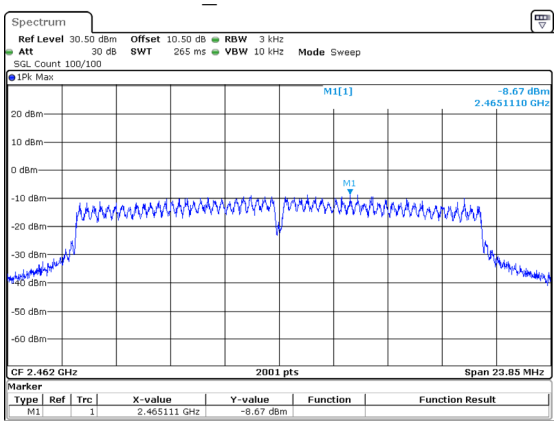
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:14:58

802.11n-HT20_2437MHz -6.70dBm/3kHz



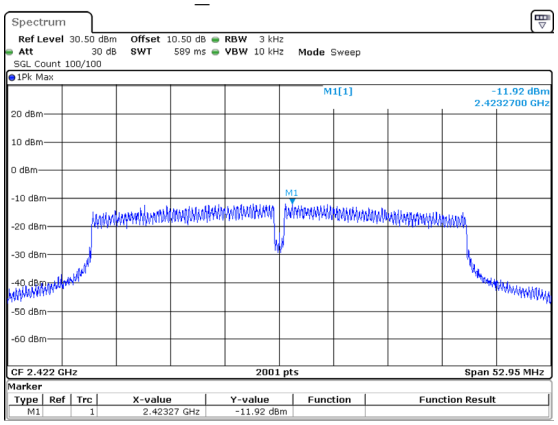
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:16:54

802.11n-HT20_2462MHz -8.67dBm/3kHz



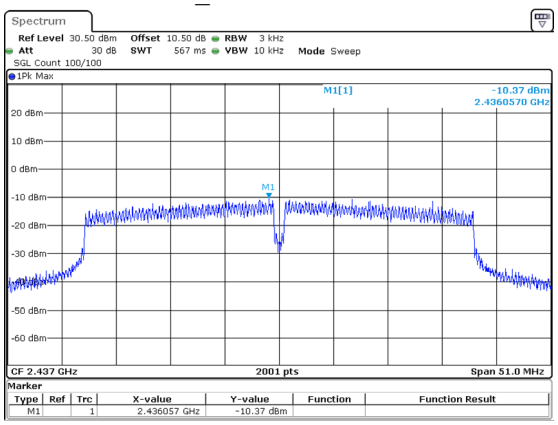
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:18:04

802.11n-HT40_2422MHz -11.92dBm/3kHz



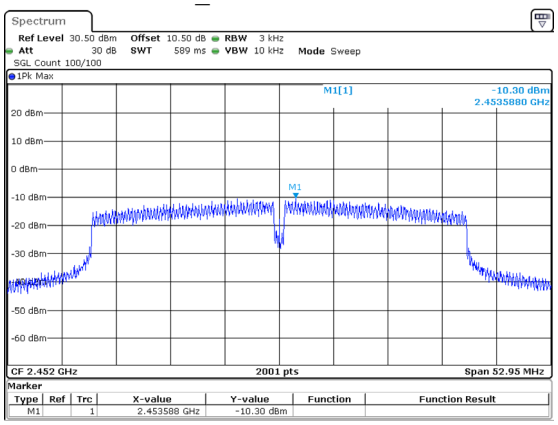
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:20:13

802.11n-HT40_2437MHz -10.37dBm/3kHz



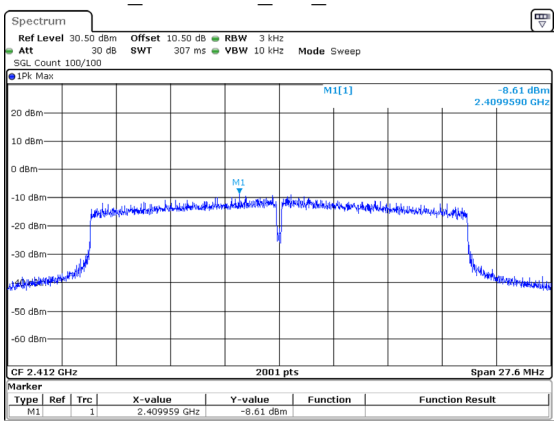
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:22:01

802.11n-HT40_2452MHz -10.30dBm/3kHz

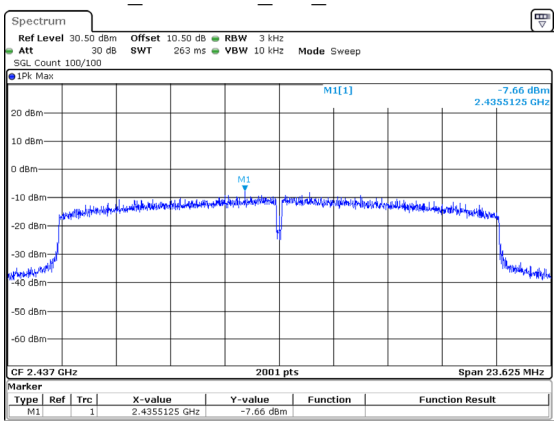


ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 19.NOV.2024 09:24:29

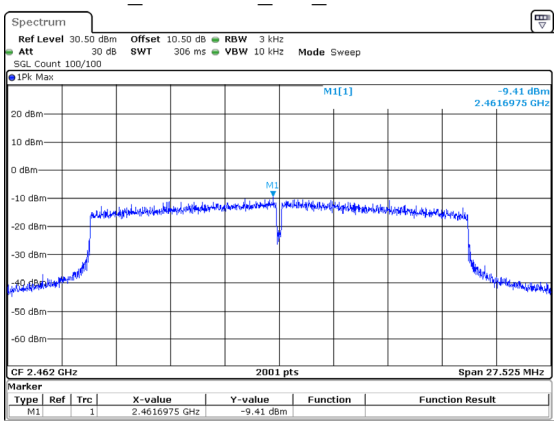
802.11ax20_2412MHz_RU_Full -8.61dBm/3kHz



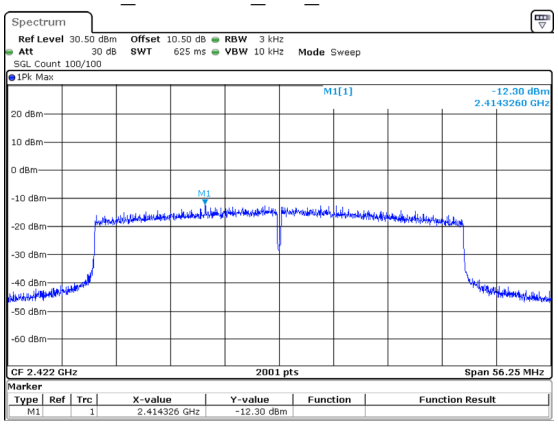
802.11ax20_2437MHz_RU_Full -7.66dBm/3kHz



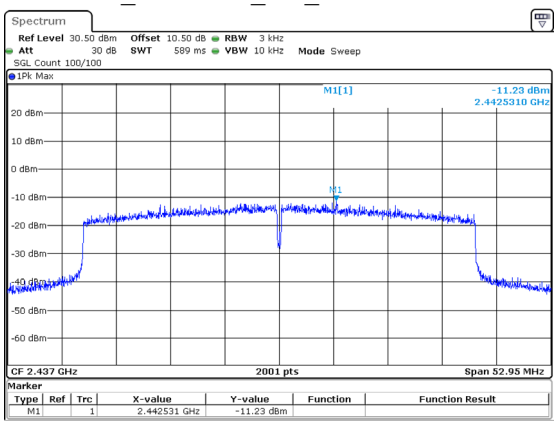
802.11ax20_2462MHz_RU_Full -9.41dBm/3kHz



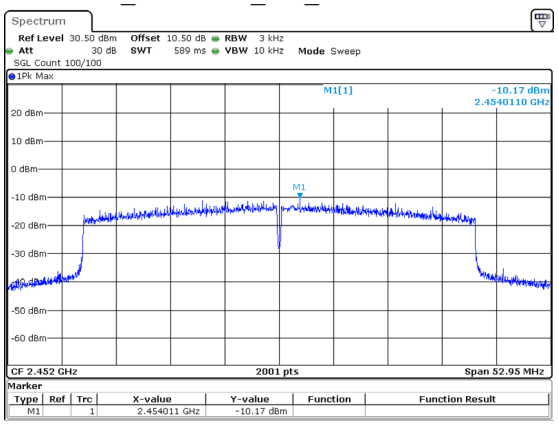
802.11ax40_2422MHz_RU_Full -12.30dBm/3kHz



802.11ax40_2437MHz_RU_Full -11.23dBm/3kHz



802.11ax40_2452MHz_RU_Full -10.17dBm/3kHz



Duty Cycle

Test Information:

Sample No.:	2T31-1	**Test Date:**	2024/11/16
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Rainbow Zhu	**Test Result:**	Pass

Environmental Conditions:

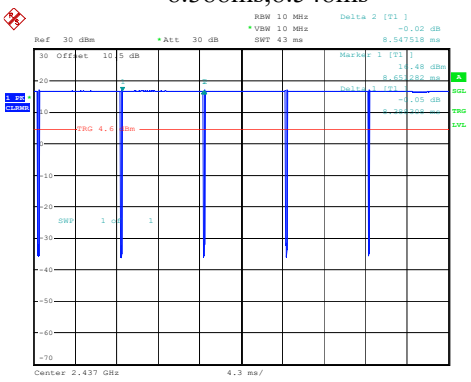
Temperature: (°C):	24	**Relative Humidity: (%)**	46	**ATM Pressure: (kPa)**	101

Test Data:

Mode	Antenna	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11b	Chain 0	2437	**8.388**	8.548	98.13	/	/	0.01
802.11g	Chain 0	2437	1.397	1.504	92.89	0.32	716	1
802.11n-HT20	Chain 0	2437	5.072	5.265	96.33	0.16	197	0.2
802.11n-HT40	Chain 0	2437	4.885	5.047	96.79	0.14	205	0.3
802.11ax20	Chain 0	2437	3.873	3.958	97.85	0.09	258	0.3
802.11ax40	Chain 0	2437	3.848	4.050	95.01	0.22	260	0.3

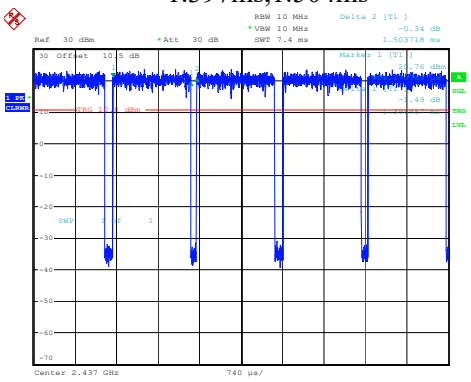
Duty Cycle = Ton/(Ton+Toff)*100%

802.11b_2437MHz
8.388ms,8.548ms



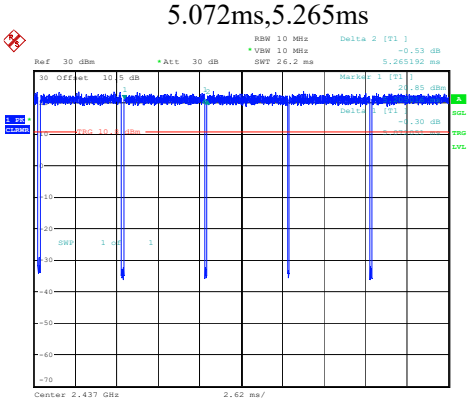
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:05:19

802.11g_2437MHz
1.397ms,1.504ms



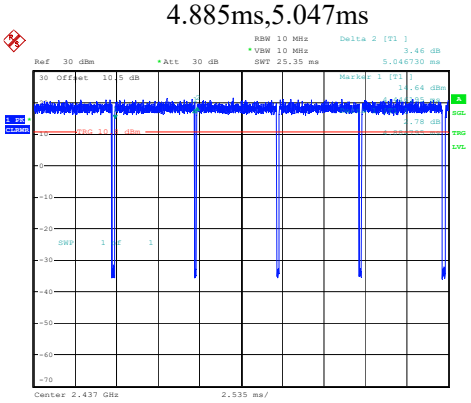
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:07:52

802.11n-HT20_2437MHz
5.072ms,5.265ms



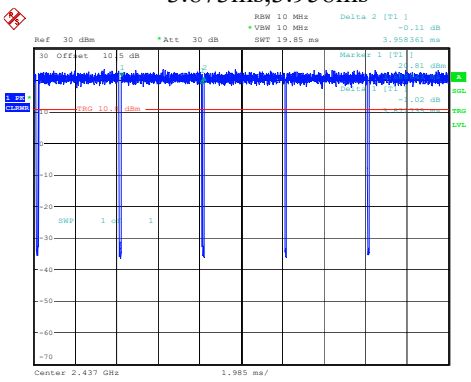
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:09:43

802.11n-HT40_2437MHz
4.885ms,5.047ms



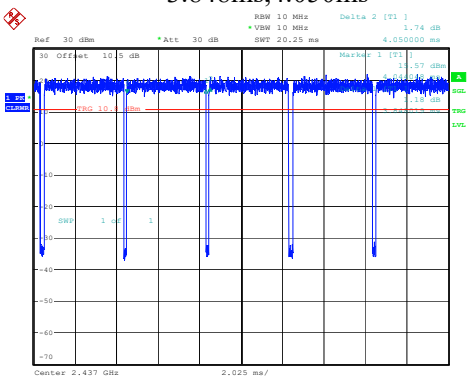
ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:11:32

802.11ax20_2437MHz_RU_Full
3.873ms,3.958ms



ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:31:04

802.11ax40_2437MHz_RU_Full
3.848ms,4.050ms



ProjectNo.:2401Y99995E-RF Tester:Rainbow Zhu
Date: 16.NOV.2024 09:32:57

RF EXPOSURE EVALUATION

MPE-Based Exemption

Applicable Standard

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

According to KDB 447498 D04 Interim General RF Exposure Guidance V01

MPE-Based Exemption:

General frequency and separation-distance dependent MPE-based effective radiated power(ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(3)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

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

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

R is the minimum separation distance in meters
f = frequency in MHz

Result

Mode	Frequency (MHz)	Tune up conducted power# (dBm)	Antenna Gain#		ERP		Evaluation Distance (m)	ERP Limit (W)
			(dBi)	(dBd)	(dBm)	(W)		
Bluetooth	2402-2480	6.5	4.2	2.05	8.55	0.007	0.2	0.768
BLE	2402-2480	1	4.2	2.05	3.05	0.002	0.2	0.768
2.4G Wi-Fi	2412-2462	22	4.2	2.05	24.05	0.254	0.2	0.768
5.2G Wi-Fi	5180-5240	14	5.2	3.05	17.05	0.051	0.2	0.768
5.8G Wi-Fi	5745-5825	13.5	5.2	3.05	16.55	0.045	0.2	0.768

Note: 1. The tune up conducted power and antenna gain was declared by the applicant.
2. The BT, 2.4G Wi-Fi and 5G Wi-Fi cannot transmit at same time.
3. 0dBd=2.15dBi

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

Result: Compliant.

EUT PHOTOGRAPHS

Please refer to the attachment 2401Y99995E-RF External photo and 2401Y99995E-RF Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2401Y99995E-RFA Test Setup photo.

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