TEST REPORT

Applicant Name:	Shenzhen Youmi Intelligent Technology Co., Ltd.
Address:	406-407 Jinqi Zhigu Building, 4/F, 1 Tangling Road, Nanshan District, Shenzhen City, China
Report Number:	2401Y99438E-RF-00A
FCC ID:	2ATZ4-GA20N2

Test Standard (s)

FCC PART 15.407

Sample Description

Product Type:	Smart phone
Model No.:	PG4RBG100
Multiple Model(s) No.:	PG4RB100A
Trade Mark:	UMIDIGI
Date Received:	2024-10-17
Issue Date:	2024-12-05

Test Result:	Pass▲

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

Prepared and Checked By:

Jim Cheng

RF Engineer

Approved By:

Nancy Wang

RF Supervisor

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

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

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2401Y99438E-RF-00A	Original Report	2024-12-05

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Smart phone
Tested Model	PG4RBG100
Multiple Model(s) No.	PG4RB100A
Frequency Range	5150-5250MHz; 5725-5850MHz
Mode	802.11a/ac20/n20/ac40/n40
Maximum Conducted Average Output Power	5150-5250MHz: 8.52dBm; 5725-5850MHz: 8.97dBm
Modulation Technique	OFDM
Antenna Specification#	0.84dBi (provided by the applicant)
Voltage Range	DC 5V/9V/12V charging from Adapter or DC 3.89V from battery
Sample serial number	2SY1-4 for Conducted and Radiated Emissions Test 2SY1-1 for RF Conducted Test (Assigned by BACL, Shenzhen)
Sample/EUT Status	Good condition
Adapter Information	Model: QZ-02002AC00 Input: AC100-240V, 50/60Hz, 0.5A Output: DC 5.0V, 3.0A(15.0W) or DC 9.0V, 2.22A or DC 12.0V, 1.67A(20.0W Max.)
Note: The Multiple models are electrically identical with the test model except for model name and sales channels. Please refer to the declaration letter# for more detail, which was provided by manufacturer.	

Objective

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

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 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 KDB789033 D02 General U-NII Test Procedures New Rules v02r01.

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

Each test item follows test standards and with no deviation.

Measurement Uncertainty

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

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

Test Facility

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

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

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in an engineering mode, which was provided by manufacturer.

The device supports 802.11a/n20/n40/ac20/ac40, the 802.11n20/n40 were reduced since the identical parameters with 802.11ac20 and 802.11ac40.

For 5150-5250MHz Band, 6 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
38	5190	46	5230
40	5200	48	5240

For 802.11a/ac20 mode: channel 36, 40, 48 were tested;
For 802.11ac40 mode: channel 38, 46 were tested;

For 5725-5850MHz Band, 7 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	159	5795
151	5755	161	5805
153	5765	165	5825
157	5785	/	/

For 802.11a/ac20 mode: channel 149, 157, 165 were tested;
For 802.11ac40 mode: channel 151, 159 were tested;

EUT Exercise Software

Exercise Software#	N/A		
5150-5250 MHz Band			
Mode	Test Channels	Data rate	**Power Level#**
802.11a	Low	6Mbps	8
	Middle	6Mbps	8
	High	6Mbps	8
802.11ac-VHT20	Low	MCS0	8
	Middle	MCS0	8
	High	MCS0	8
802.11ac-VHT40	Low	MCS0	6
	High	MCS0	6
5725-5850 MHz Band			
Mode	Test Channels	Data rate	**Power Level#**
802.11a	Low	6Mbps	8
	Middle	6Mbps	8
	High	6Mbps	8
802.11ac-VHT20	Low	MCS0	8
	Middle	MCS0	8
	High	MCS0	8
802.11ac-VHT40	Low	MCS0	8
	High	MCS0	8
Note: The worst-case data rates are determined to be as follows for each mode based upon inverstigation by measuring the power and PSD across all data rates bandwidths, and modulations.			

Special Accessories

No special accessory.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

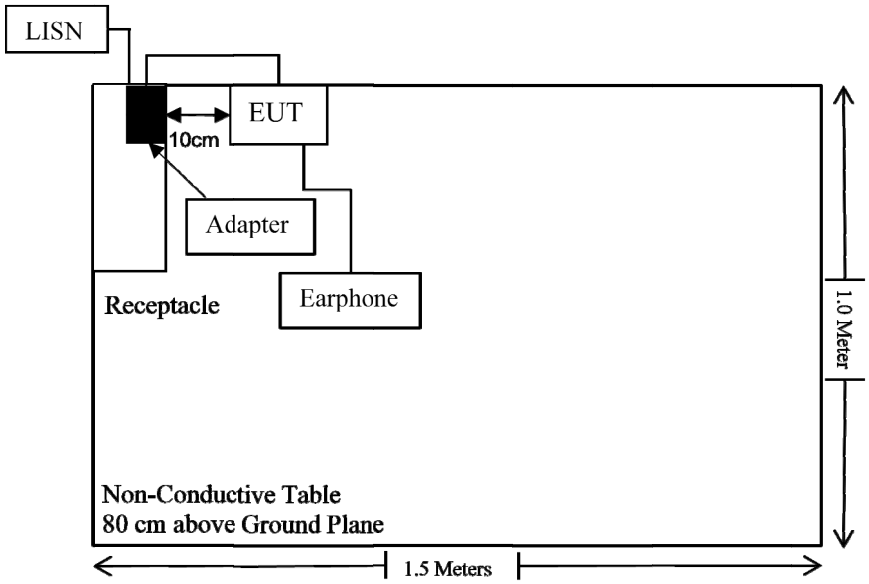
Manufacturer	Description	Model	Serial Number
unknown	Earphone	unknown	unknown
unknown	Receptacle	unknown	unknown

External I/O Cable

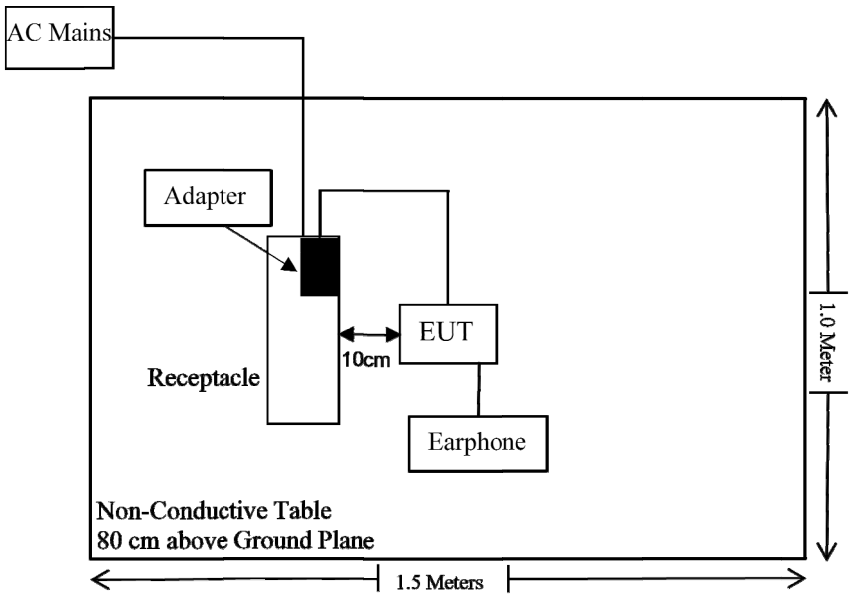
Cable Description	Length (m)	From Port	To
Un-shielding Detachable USB Cable	0.8	EUT	Adapter
Shielded Un-detachable AC Cable	1.5	Receptacle	LISN/AC Mains
Un-shielding Detachable Audio Cable	1.0	Earphone	EUT

Block Diagram of Test Setup

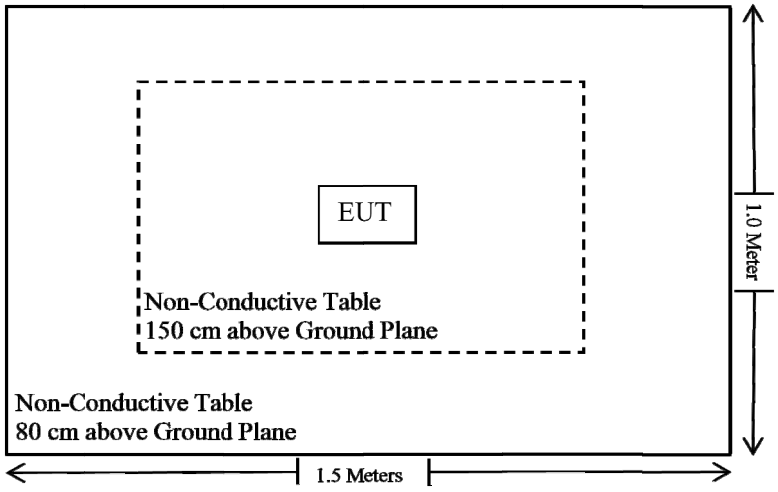
For Conducted Emissions:



For Radiated Emissions below 1GHz:



For Radiated Emissions above 1GHz:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.407(b)(9)& §15.207(a)	Conducted Emissions	Compliant
§15.205& §15.209 &§15.407(b)	Undesirable Emission& Restricted Bands	Compliant
§15.407(a) (e)	26 dB Emission Bandwidth & 6dB Bandwidth	Compliant
§15.407(a)	Conducted Transmitter Output Power	Compliant
§15.407 (a)	Power Spectral Density	Compliant
§15.407 (h)	Transmit Power Control (TPC)	Not Applicable
§15.407 (h)	Dynamic Frequency Selection (DFS)	Not Applicable
C63.10 §11.6	Duty Cycle	/

Not Applicable: The device cannot operate at 5250-5350MHz/5470-5725MHz.

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	Transient Limiter	ESH3Z2	DE25985	2024/05/21	2025/05/20
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
Audix	EMI Test software	E3	191218(V9)	NCR	NCR

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
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
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2023/07/20	2026/07/19
Unknown	Cable	Chamber Cable 1	F-03-EM236	2024/06/18	2025/06/17
Unknown	Cable	XH500C	J-10M-A	2024/06/18	2025/06/17
BACL	Active Loop Antenna	1313-1A	4031911	2024/05/14	2027/05/13
Unknown	Cable	2Y194	0735	2024/05/21	2025/05/20
Unknown	Cable	PNG214	1354	2024/05/21	2025/05/20
Audix	EMI Test software	E3	19821b(V9)	NCR	NCR
Rohde&Schwarz	Spectrum Analyzer	FSV40	101605	2024/03/27	2025/03/26
COM-POWER	Pre-amplifier	PA-122	181919	2024/06/18	2025/06/17
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	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
Audix	EMI Test software	E3	191218(V9)	NCR	NCR
RF Conducted Test					
Rohde&Schwarz	Spectrum Analyzer	FSV40-N	102259	2024/01/16	2025/01/15
Unknown	10dB Attenuator	Unknown	F-03-EM190	2024/06/27	2025/06/26
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).

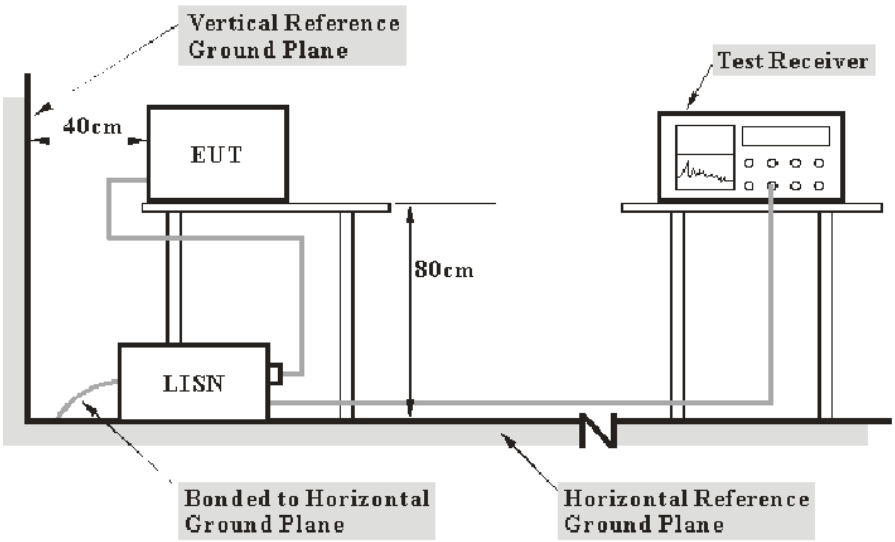
REQUIREMENTS AND TEST PROCEDURES

Conducted Emissions

Applicable Standard

FCC §15.207, §15.407(b) (6)

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

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

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

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

Factor & Over Limit Calculation

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

Factor = LISN VDF + Cable Loss

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

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

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

Undesirable Emission

Applicable Standard

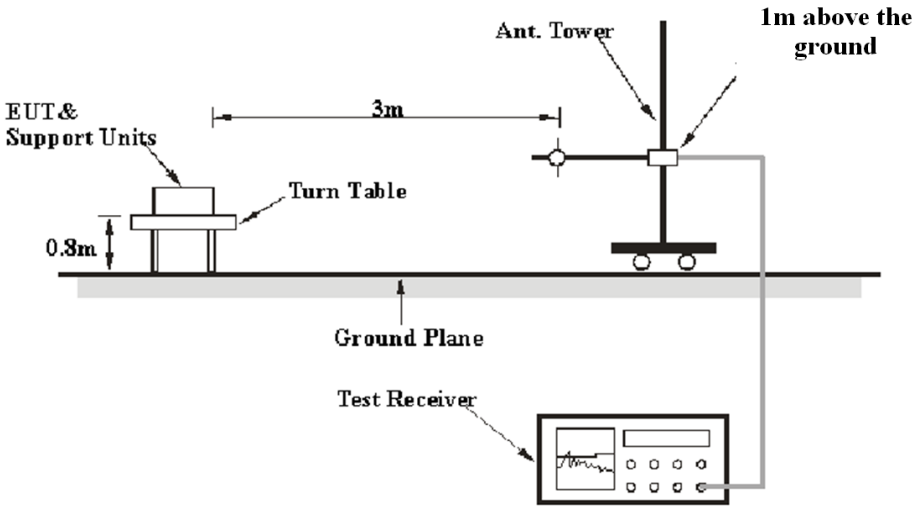
FCC §15.407 (b); §15.209; §15.205;

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band:
(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

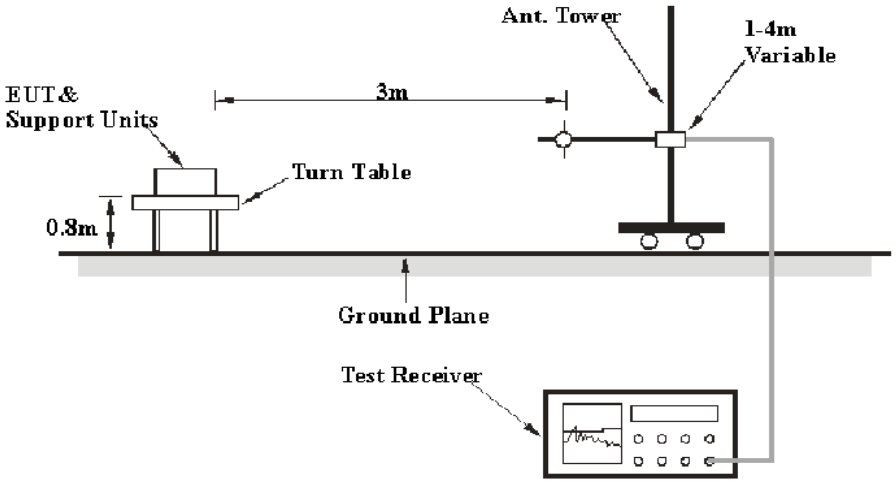
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

EUT Setup

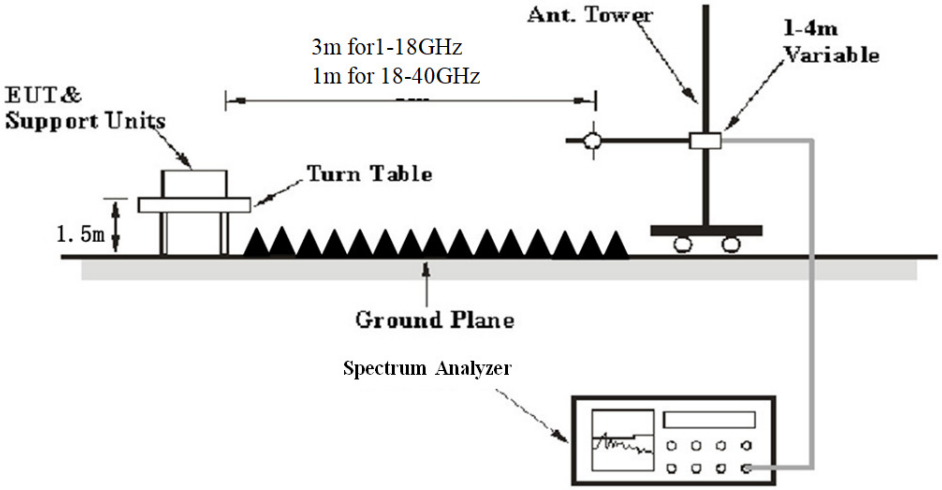
9 kHz-30MHz:



30MHz-1GHz:



Above 1 GHz:



The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC 15.209 and FCC 15.407 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 40 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

1-40GHz:

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

Radiated Spurious Emission

During the radiated emission test, the adapter was connected to the AC floor outlet.

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

According to ANSI C63.10-2013,9.4: For field strength measurements made at other than the distance at which the applicable limit is specified, extrapolate the measured field strength to the field strength at the distance specified by the limit using an inverse distance correction factor (20 dB/decade of distance). In some cases, a different distance correction factor may be required;

$$E_{\mathrm{SpecLimit}} = E_{\mathrm{Meas}} + 20\log\left(\frac{d_{\mathrm{Meas}}}{d_{\mathrm{SpecLimit}}}\right)$$

where

$E_{\mathrm{SpecLimit}}$	is the field strength of the emission at the distance specified by the limit, in dBμV/m
E_{Meas}	is the field strength of the emission at the measurement distance, in dBμV/m
d_{Meas}	is the measurement distance, in m
$d_{\mathrm{SpecLimit}}$	is the distance specified by the limit, in m

So the extrapolation factor of 1m is 20*log(1/3)= -9.5 dB, for 18-40GHz range, the limit of 1m distance was added by 9.5dB from limit of 3m to compared with the result measurement at 1m distance.

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

26 dB & 6dB Emission Bandwidth

Applicable Standard

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Procedure

According to KDB789033 D02 section II.C and section II.D

1. Emission Bandwidth (EBW)
a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

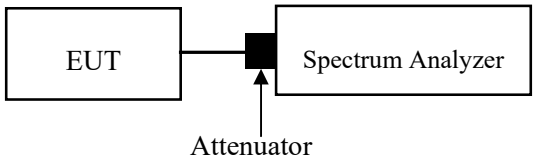
2. Minimum Emission Bandwidth for the band 5.725-5.85 GHz
Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth:
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
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 by 6 dB relative to the maximum level measured in the fundamental emission.

3. 99% Occupied Bandwidth:

According to ANSI C63.10-2013 Section 12.4.2&6.9.3

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. The following procedure shall be used for measuring 99% power bandwidth:
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, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.
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 may be reported in addition to the plot(s).



Conducted Transmitter Output Power

Applicable Standard

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

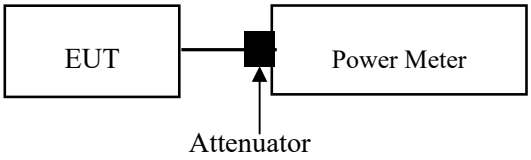
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method PM-G should be applied

a. Place the EUT on a bench and set it in transmitting mode.
b. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.



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

Power Spectral Density

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Duty cycle ≥98%

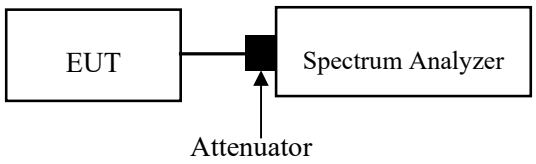
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-1 should be applied.

Duty cycle <98%, duty cycle variations are less than ±2%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 should be applied.

Duty cycle <98%, duty cycle variations exceed ±2%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-3 should be applied.



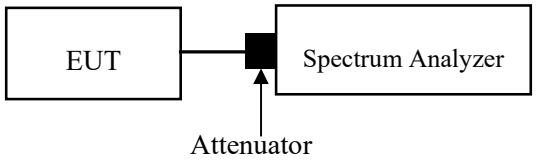
Note: A short RF cable with low cable loss connected to the EUT antenna port, which was provided by client or lab, the cable loss was add with offset into test equipment, the total offset consists of attenuator and/or RF cable and/or power splitter loss

Duty Cycle

Test Procedure

According to ANSI C63.10-2013 Section 12.2

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 0.84dBi, fulfill the requirement of this section. Please refer to the EUT photos.

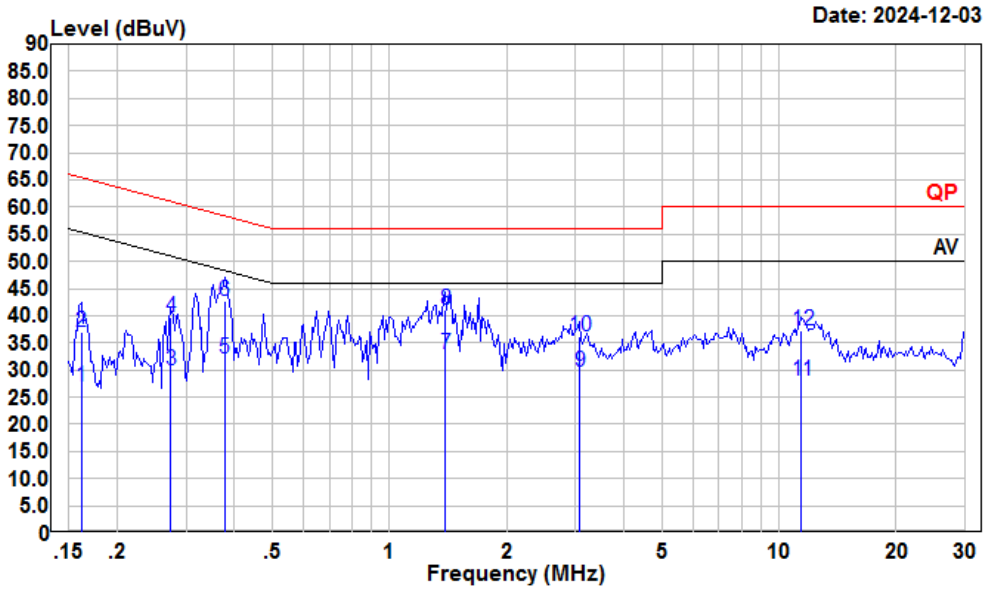
Result: Compliant

TEST DATA AND RESULTS

Conducted Emissions

Temperature (℃)	24	**Relative Humidity (%)**	55
ATM Pressure (kPa)	101	**Test engineer**	Macy.shi
Test date	2024.12.03		
EUT operation mode	Transmitting (Maximum output power mode, 802.11a Mode 5745MHz)		

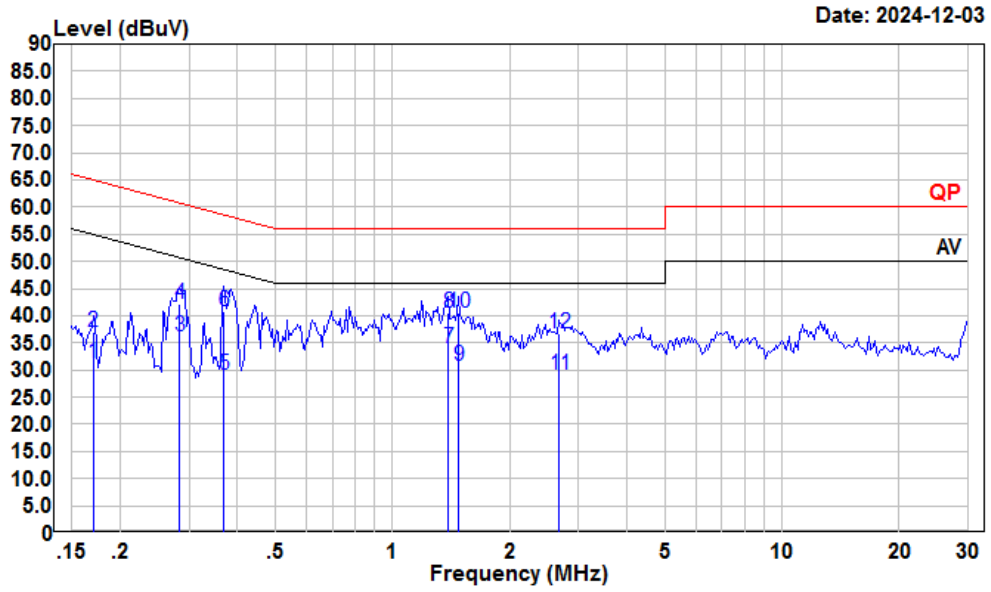
AC 120V 60 Hz, Line



Condition: Line
Project : 2401Y99438E-RF
tester : Macy.shi
Note : Transmitting
Detector : RBW:9KHz VBW:Auto SWT:Auto

	Freq	Read Level	LISN Level	Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.162	6.05	27.03	10.87	10.11	55.38	-28.35	Average
2	0.162	16.00	36.98	10.87	10.11	65.38	-28.40	QP
3	0.274	9.17	29.96	10.70	10.09	50.98	-21.02	Average
4	0.274	18.98	39.77	10.70	10.09	60.98	-21.21	QP
5	0.377	11.41	32.11	10.59	10.11	48.34	-16.23	Average
6	0.377	21.91	42.61	10.59	10.11	58.34	-15.73	QP
7	1.388	12.26	32.90	10.49	10.15	46.00	-13.10	Average
8	1.388	20.32	40.96	10.49	10.15	56.00	-15.04	QP
9	3.074	8.92	29.51	10.41	10.18	46.00	-16.49	Average
10	3.074	15.48	36.07	10.41	10.18	56.00	-19.93	QP
11	11.438	7.31	28.12	10.60	10.21	50.00	-21.88	Average
12	11.438	16.45	37.26	10.60	10.21	60.00	-22.74	QP

AC 120V 60 Hz, Neutral



Condition: Neutral
Project : 2401Y99438E-RF
tester : Macy.shi
Note : Transmitting
Detector : RBW:9KHz VBW:Auto SWT:Auto

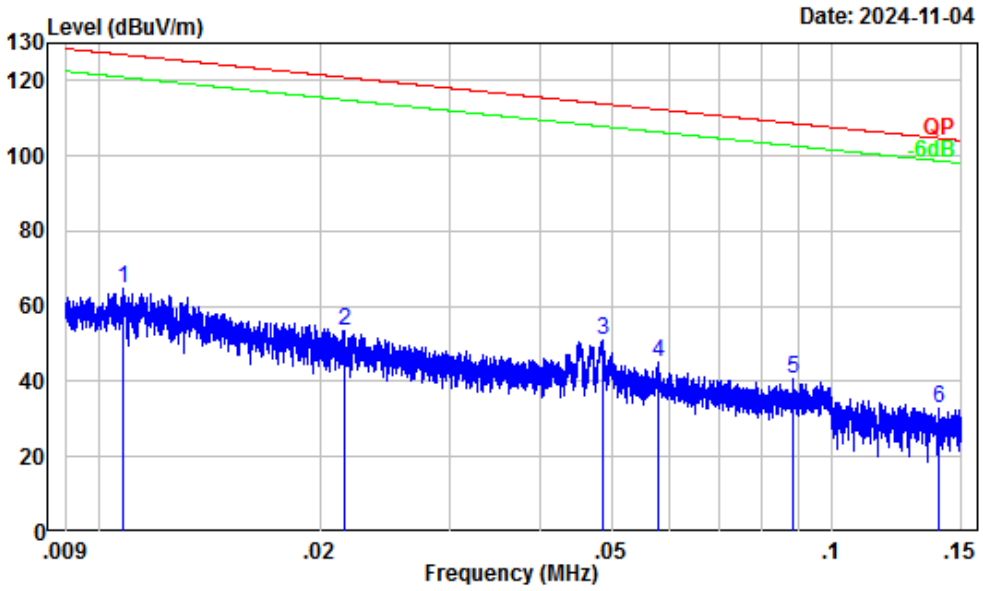
	Freq	Read Level	Level	LISN Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.170	10.60	31.21	10.51	10.10	54.94	-23.73	Average
2	0.170	16.33	36.94	10.51	10.10	64.94	-28.00	QP
3	0.283	15.64	36.25	10.51	10.10	50.72	-14.47	Average
4	0.283	21.65	42.26	10.51	10.10	60.72	-18.46	QP
5	0.369	8.51	29.22	10.60	10.11	48.52	-19.30	Average
6	0.369	20.18	40.89	10.60	10.11	58.52	-17.63	QP
7	1.388	13.26	34.07	10.66	10.15	46.00	-11.93	Average
8	1.388	19.73	40.54	10.66	10.15	56.00	-15.46	QP
9	1.480	10.05	30.83	10.62	10.16	46.00	-15.17	Average
10	1.480	19.78	40.56	10.62	10.16	56.00	-15.44	QP
11	2.678	8.64	29.21	10.40	10.17	46.00	-16.79	Average
12	2.678	16.02	36.59	10.40	10.17	56.00	-19.41	QP

Undesirable Emission

Temperature (℃)	24-25	**Relative Humidity (%)**	50-55
ATM Pressure (kPa):	101	**Test engineer:**	Anson Su&Karl Xu
Test date:	2024/11/04~2024/11/21		
EUT operation mode:	Below 1GHz: Transmitting(Maximum output power mode, 802.11a Mode 5745MHz) Above 1GHz: Transmitting		
Note:	After pre-scan in the X, Y and Z axes of orientation, the worst case z-axis of orientation were recorded. For the radiated spurious emission below 30MHz, only the worst case (perpendicular) was recorded.		

Below 1GHz:

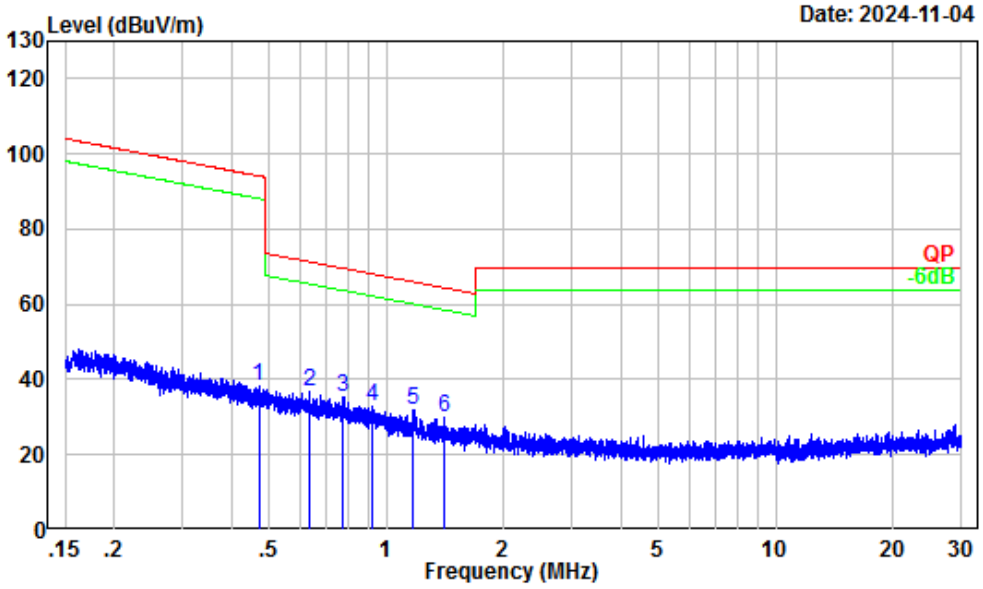
9kHz-150kHz



Site : Chamber A
Condition : 3m
Project Number: 2401Y99438E-RF
Test Mode : 5G WIFI Transmitting
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.01	37.28	27.40	64.68	126.94	-62.26	Peak
2	0.02	31.79	21.91	53.70	120.93	-67.23	Peak
3	0.05	23.39	27.41	50.80	113.88	-63.08	Peak
4	0.06	22.02	23.06	45.08	112.37	-67.29	Peak
5	0.09	18.20	22.50	40.70	108.67	-67.97	Peak
6	0.14	15.20	17.91	33.11	104.70	-71.59	Peak

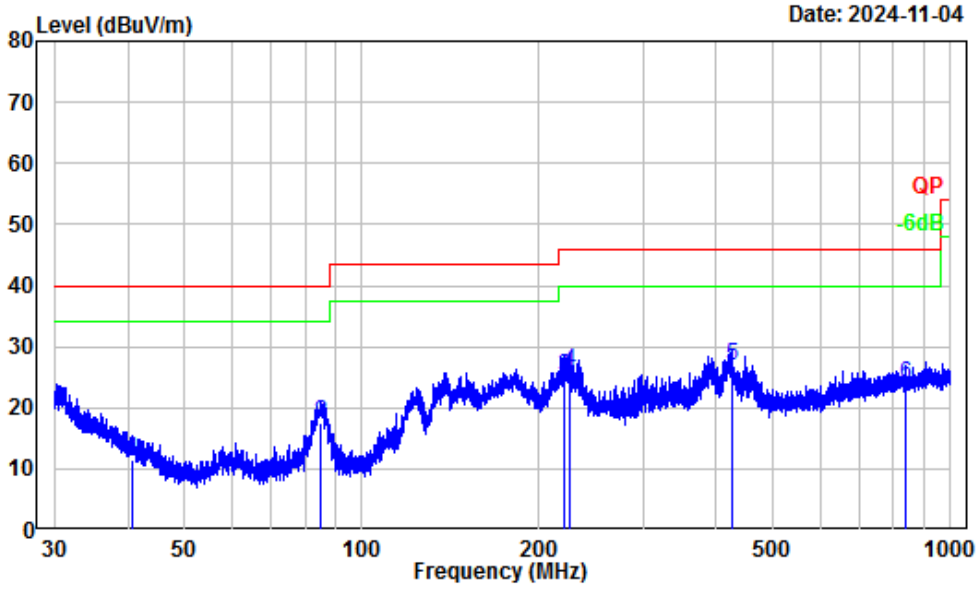
150kHz-30MHz



Site : Chamber A
Condition : 3m
Project Number: 2401Y99438E-RF
Test Mode : 5G Transmitting
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	0.47	4.10	34.17	38.27	94.15	-55.88	Peak
2	0.64	1.85	34.94	36.79	71.49	-34.70	Peak
3	0.78	0.16	35.28	35.44	69.71	-34.27	Peak
4	0.92	-1.00	33.67	32.67	68.20	-35.53	Peak
5	1.18	-2.20	34.28	32.08	66.03	-33.95	Peak
6	1.41	-3.03	32.71	29.68	64.40	-34.72	Peak

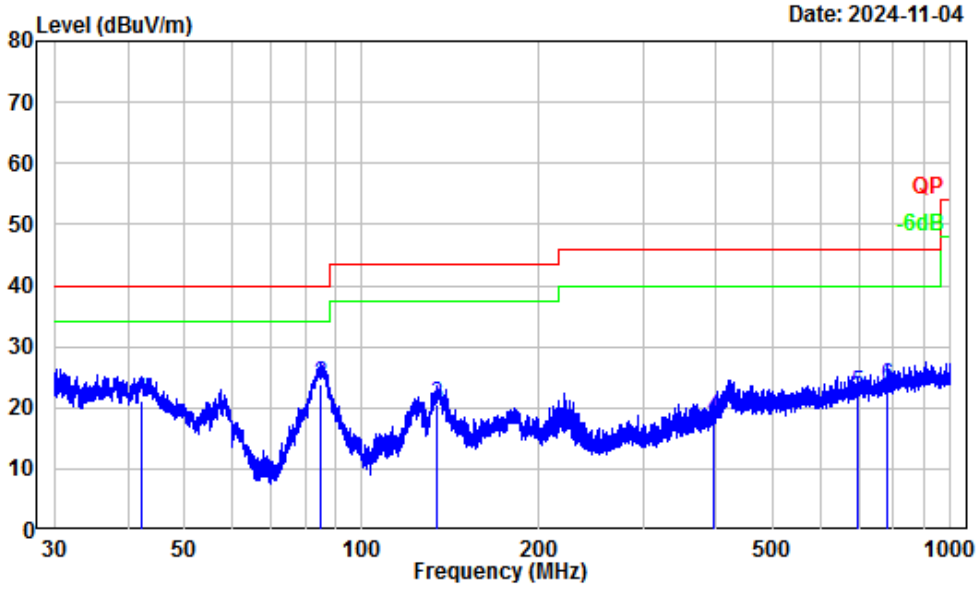
30MHz-1GHz_Horizontal



Site : Chamber A
Condition : 3m Horizontal
Project Number: 2401Y99438E-RF
Test Mode : 5G WIFI Transmitting
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	40.81	-12.94	24.27	11.33	40.00	-28.67	QP
2	85.00	-18.09	35.51	17.42	40.00	-22.58	QP
3	220.52	-14.18	39.30	25.12	46.00	-20.88	QP
4	226.00	-14.03	40.10	26.07	46.00	-19.93	QP
5	425.40	-7.87	34.63	26.76	46.00	-19.24	QP
6	841.76	-1.79	25.56	23.77	46.00	-22.23	QP

30MHz-1GHz_Vertical



Site : Chamber A
Condition : 3m Vertical
Project Number: 2401Y99438E-RF
Test Mode : 5G WIFI Transmitting
Tester : Anson Su

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	42.14	-13.96	35.08	21.12	40.00	-18.88	QP
2	85.04	-18.08	41.79	23.71	40.00	-16.29	QP
3	133.85	-11.40	31.89	20.49	43.50	-23.01	QP
4	396.76	-8.57	26.93	18.36	46.00	-27.64	QP
5	693.50	-3.58	25.91	22.33	46.00	-23.67	QP
6	779.95	-2.36	26.05	23.69	46.00	-22.31	QP

Above 1GHz:

5150-5250 MHz

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	PK/Ave					
802.11a							
Low Channel							
10360.00	45.91	PK	H	12.88	58.79	68.2	-9.41
10360.00	45.21	PK	V	12.88	58.09	68.2	-10.11
Middle Channel							
10400.00	45.63	PK	H	12.98	58.61	68.2	-9.59
10400.00	45.25	PK	V	12.98	58.23	68.2	-9.97
High Channel							
10480.00	45.44	PK	H	13.07	58.51	68.2	-9.69
10480.00	46.03	PK	V	13.07	59.10	68.2	-9.10
802.11ac20							
Low Channel							
10360.00	45.34	PK	H	12.88	58.22	68.2	-9.98
10360.00	45.54	PK	V	12.88	58.42	68.2	-9.78
Middle Channel							
10400.00	45.38	PK	H	12.98	58.36	68.2	-9.84
10400.00	45.53	PK	V	12.98	58.51	68.2	-9.69
High Channel							
10480.00	45.41	PK	H	13.07	58.48	68.2	-9.72
10480.00	45.64	PK	V	13.07	58.71	68.2	-9.49
802.11ac40							
Low Channel							
10380.00	45.57	PK	H	13.09	58.66	68.2	-9.54
10380.00	44.66	PK	V	13.09	57.75	68.2	-10.45
High Channel							
10460.00	45.28	PK	H	13.09	58.37	68.2	-9.83
10460.00	45.25	PK	V	13.09	58.34	68.2	-9.86

5725-5850MHz

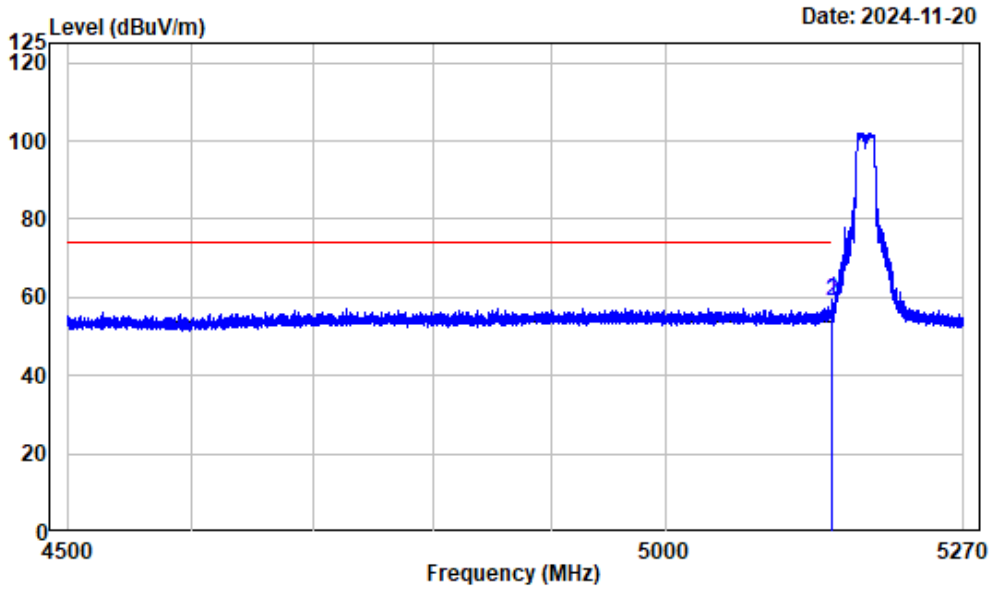
Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave					
802.11a							
Low Channel							
11490.00	45.39	PK	H	14.03	59.42	74	-14.58
11490.00	31.92	AV	H	14.03	45.95	54	-8.05
11490.00	45.43	PK	V	14.03	59.46	74	-14.54
11490.00	31.86	AV	V	14.03	45.89	54	-8.11
Middle Channel							
11570.00	45.82	PK	H	14.13	59.95	74	-14.05
11570.00	32.08	AV	H	14.13	46.21	54	-7.79
11570.00	46.14	PK	V	14.13	60.27	74	-13.73
11570.00	31.95	AV	V	14.13	46.08	54	-7.92
High Channel							
11650.00	46.47	PK	H	13.83	60.30	74	-13.70
11650.00	32.58	AV	H	13.83	46.41	54	-7.59
11650.00	47.04	PK	V	13.83	60.87	74	-13.13
11650.00	32.34	AV	V	13.83	46.17	54	-7.83
802.11ac20							
Low Channel							
11490.00	47.99	PK	H	14.03	62.02	74	-11.98
11490.00	34.27	AV	H	14.03	48.30	54	-5.70
11490.00	47.50	PK	V	14.03	61.53	74	-12.47
11490.00	34.25	AV	V	14.03	48.28	54	-5.72
Middle Channel							
11570.00	48.27	PK	H	14.13	62.40	74	-11.60
11570.00	34.59	AV	H	14.13	48.72	54	-5.28
11570.00	48.08	PK	V	14.13	62.21	74	-11.79
11570.00	34.35	AV	V	14.13	48.48	54	-5.52
High Channel							
11650.00	50.02	PK	H	13.83	63.85	74	-10.15
11650.00	36.38	AV	H	13.83	50.21	54	-3.79
11650.00	49.68	PK	V	13.83	63.51	74	-10.49
11650.00	36.52	AV	V	13.83	50.35	54	-3.65

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	PK/Ave					
802.11ac40							
Low Channel							
11510.00	45.07	PK	H	14.23	59.30	74	-14.70
11510.00	31.90	AV	H	14.23	46.13	54	-7.87
11510.00	45.24	PK	V	14.23	59.47	74	-14.53
11510.00	31.86	AV	V	14.23	46.09	54	-7.91
High Channel							
11590.00	47.97	PK	H	13.97	61.94	74	-12.06
11590.00	35.30	AV	H	13.97	49.27	54	-4.73
11590.00	48.02	PK	V	13.97	61.99	74	-12.01
11590.00	35.22	AV	V	13.97	49.19	54	-4.81

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

Test plots:

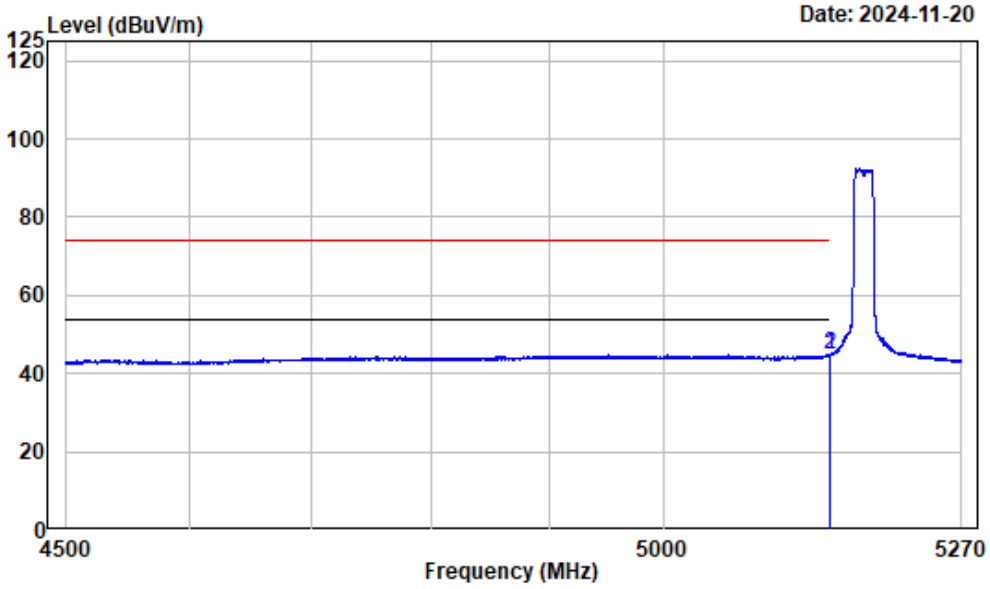
Left Band edge_Horizontal_Peak_802.11a_5180MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5180

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5149.288	2.71	56.61	59.32	74.00	-14.68	peak
2	5150.000	2.71	56.02	58.73	74.00	-15.27	Peak

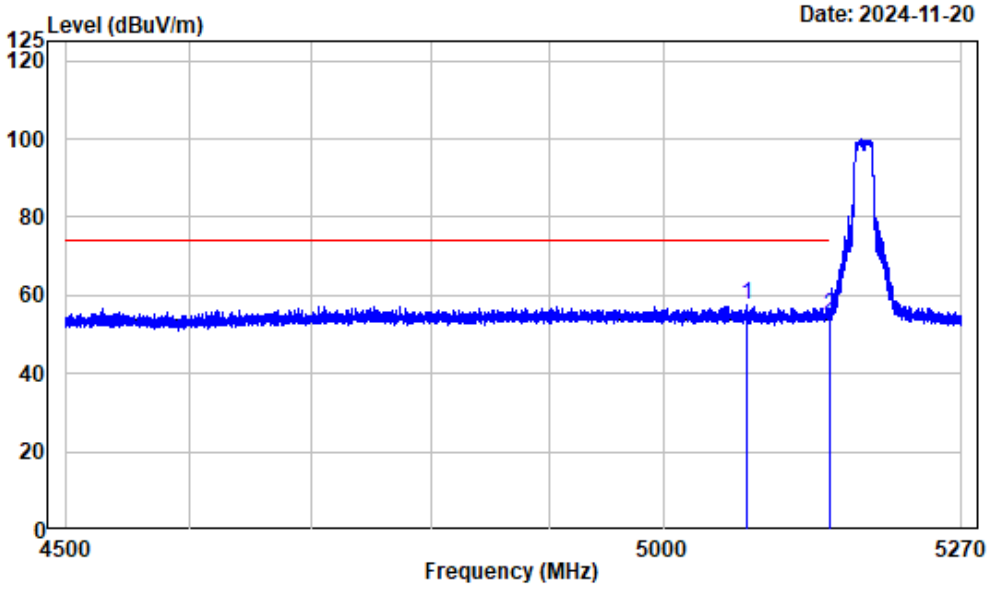
Left Band edge_Horizontal_Average_802.11a_5180MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5180

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5149.865	2.71	42.22	44.93	54.00	-9.07	Average
2	5150.000	2.71	42.05	44.76	54.00	-9.24	Average

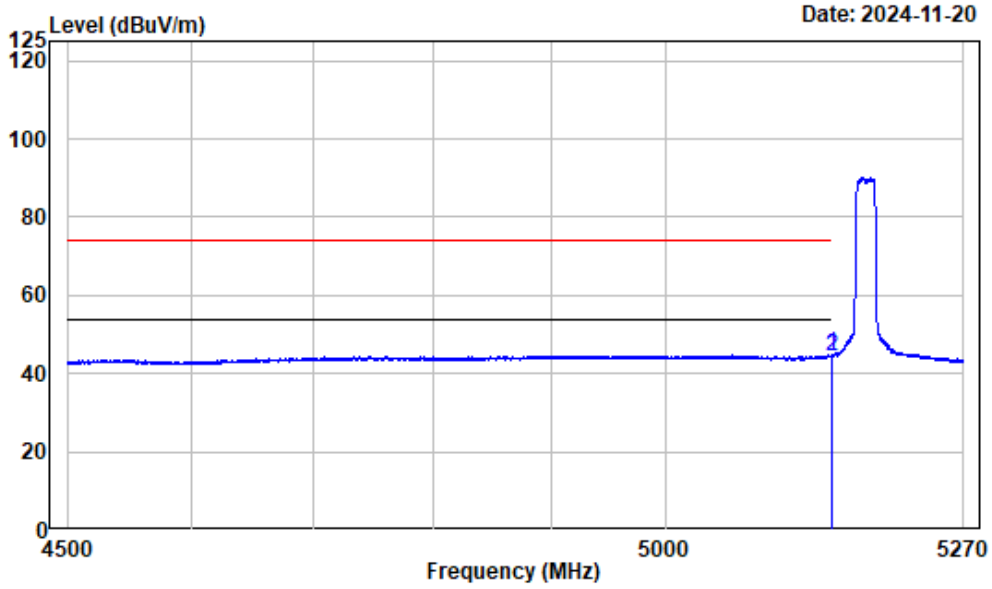
Left Band edge_Vertical_Peak_802.11a_5180MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5180

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5074.011	2.84	54.54	57.38	74.00	-16.62	peak
2	5150.000	2.71	51.91	54.62	74.00	-19.38	Peak

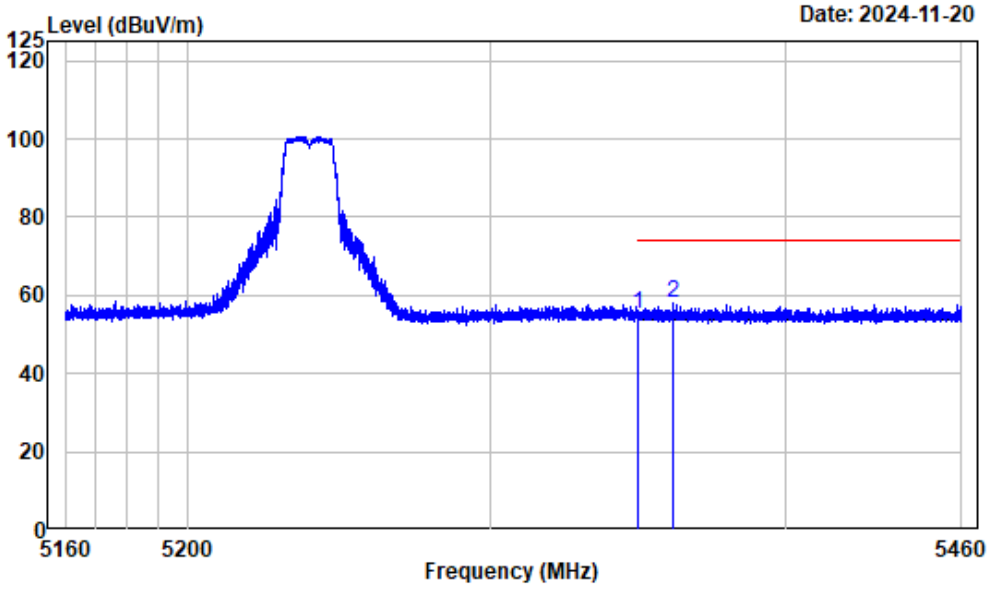
Left Band edge_Vertical_Average_802.11a_5180MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5180

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5148.999	2.71	42.03	44.74	54.00	-9.26	Average
2	5150.000	2.71	41.76	44.47	54.00	-9.53	Average

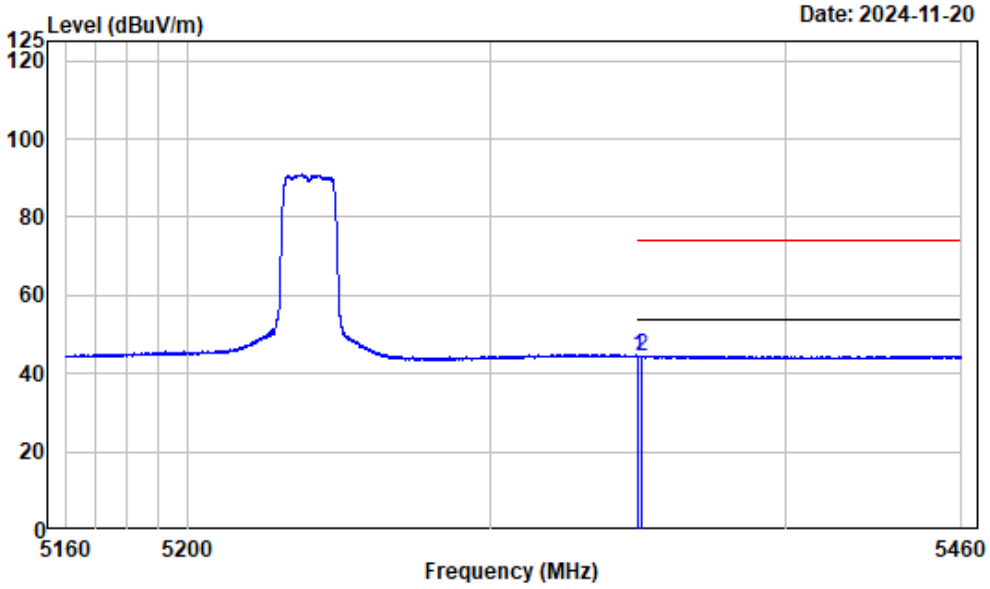
Right Band edge_Horizontal_Peak_802.11a_5240MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.000	2.90	52.37	55.27	74.00	-18.73	Peak
2	5361.700	2.92	55.04	57.96	74.00	-16.04	peak

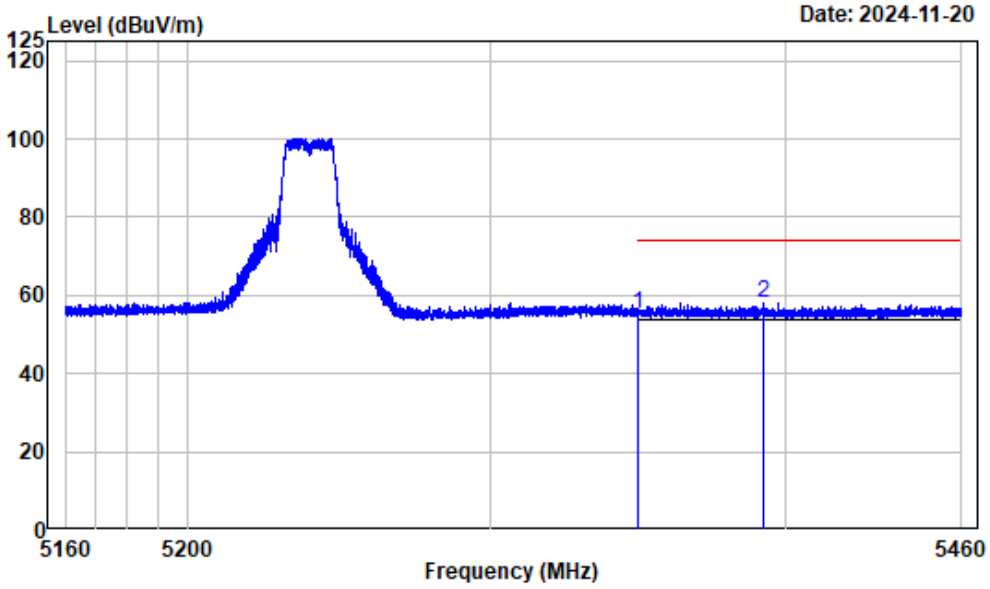
Right Band edge_Horizontal_Average_802.11a_5240MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.000	2.90	41.38	44.28	54.00	-9.72	Average
2	5350.937	2.90	41.67	44.57	54.00	-9.43	Average

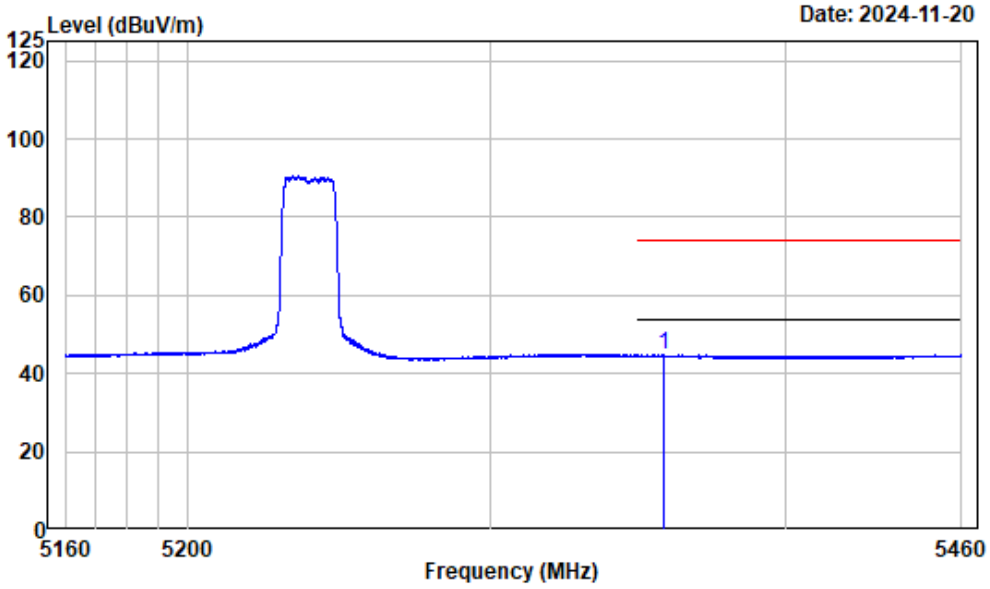
Right Band edge_Vertical_Peak_802.11a_5240MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.000	2.90	52.45	55.35	74.00	-18.65	Peak
2	5392.079	2.97	55.15	58.12	74.00	-15.88	Peak

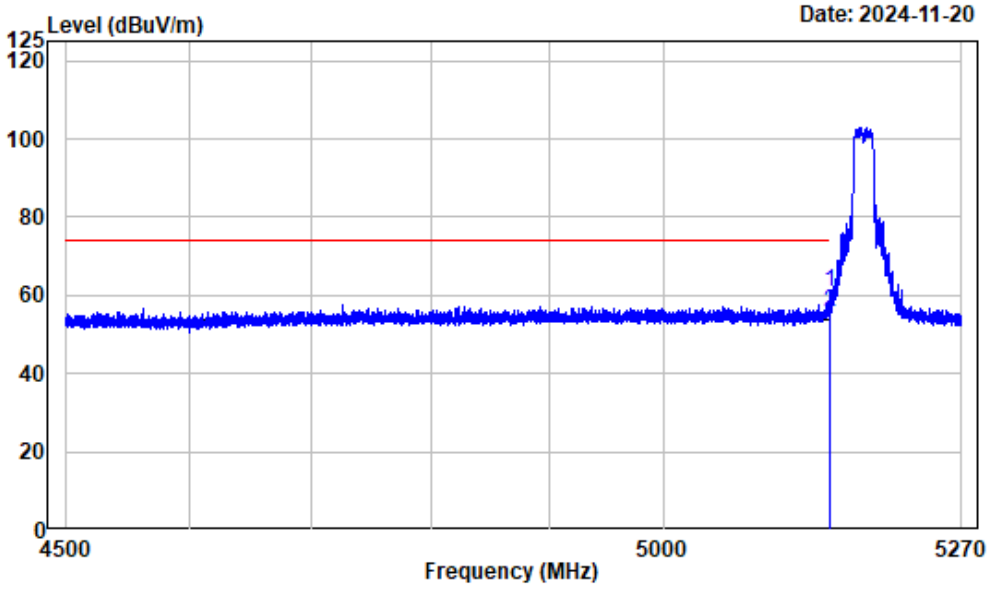
Right Band edge_Vertical_Average_802.11a_5240MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5358.625	2.93	41.76	44.69	54.00	-9.31	Average

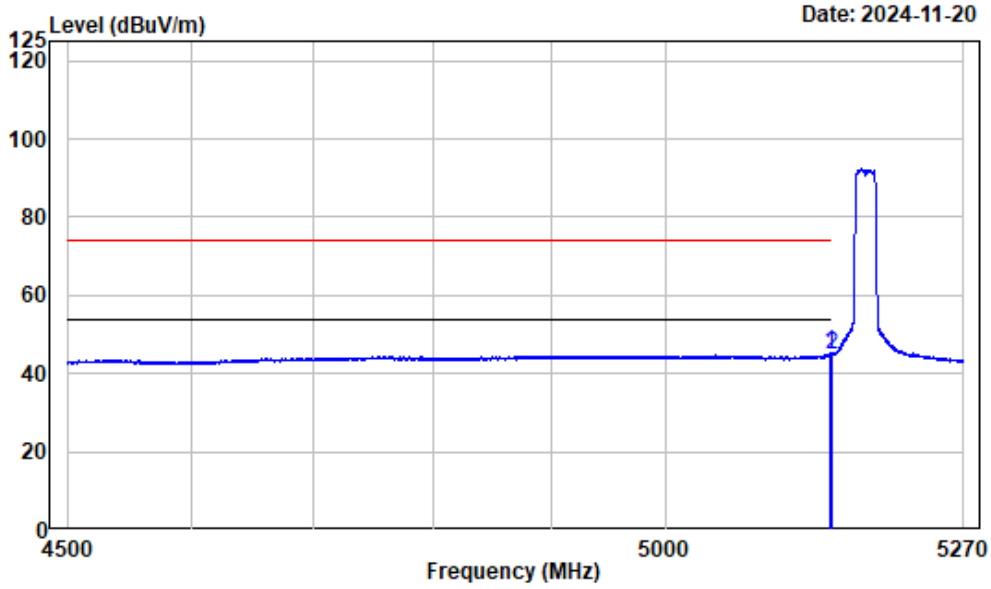
Left Band edge_Horizontal_Peak_802.11ac-VHT20_5180MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5180

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5149.769	2.71	58.02	60.73	74.00	-13.27	peak
2	5150.000	2.71	52.73	55.44	74.00	-18.56	Peak

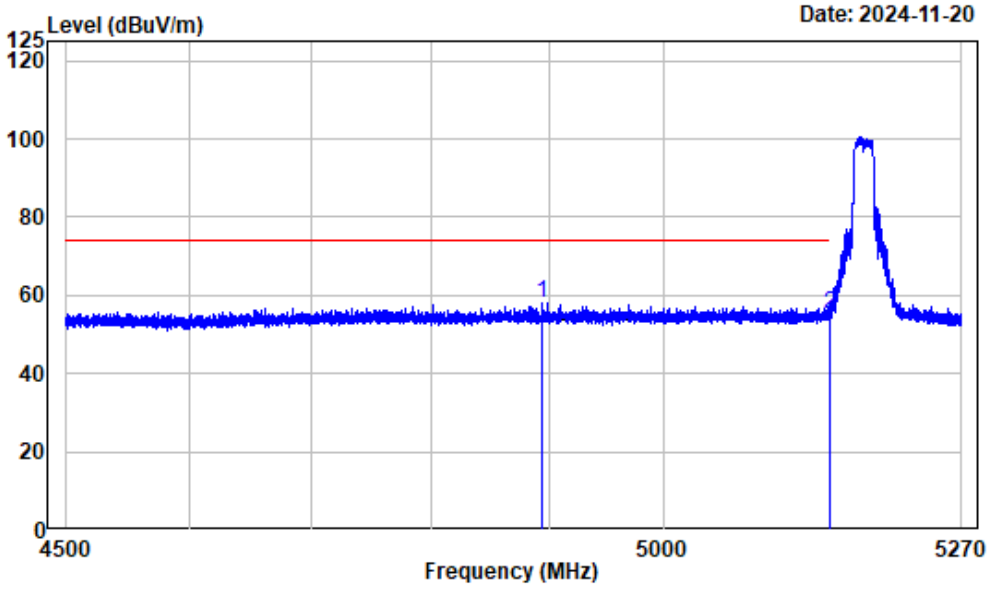
Left Band edge_Horizontal_Average_802.11ac-VHT20_5180MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5180

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5148.325	2.70	42.45	45.15	54.00	-8.85	Average
2	5150.000	2.71	42.21	44.92	54.00	-9.08	Average

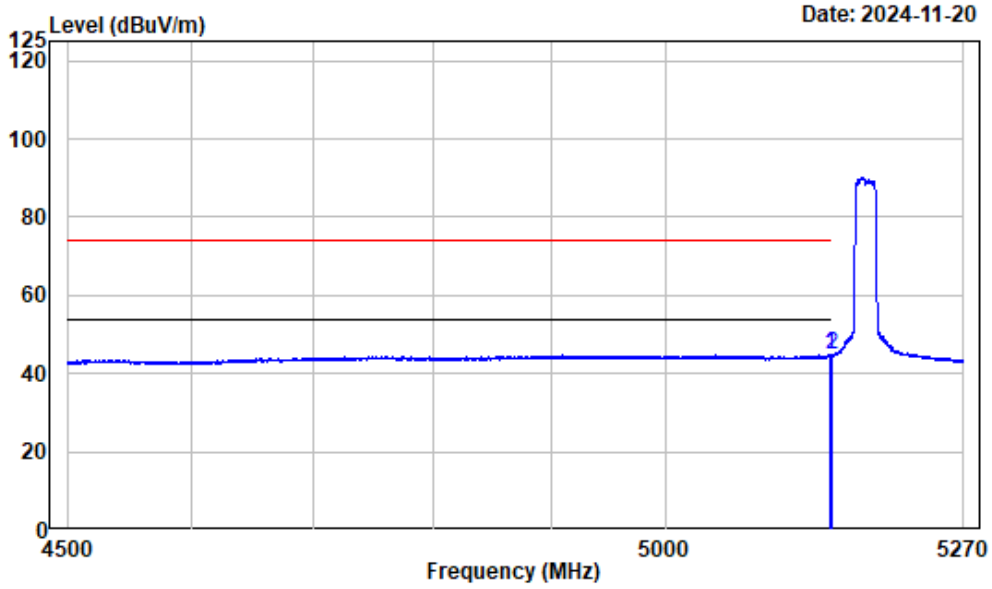
Left Band edge_Vertical_Peak_802.11ac-VHT20_5180MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5180

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4893.808	2.63	55.57	58.20	74.00	-15.80	Peak
2	5150.000	2.71	52.52	55.23	74.00	-18.77	Peak

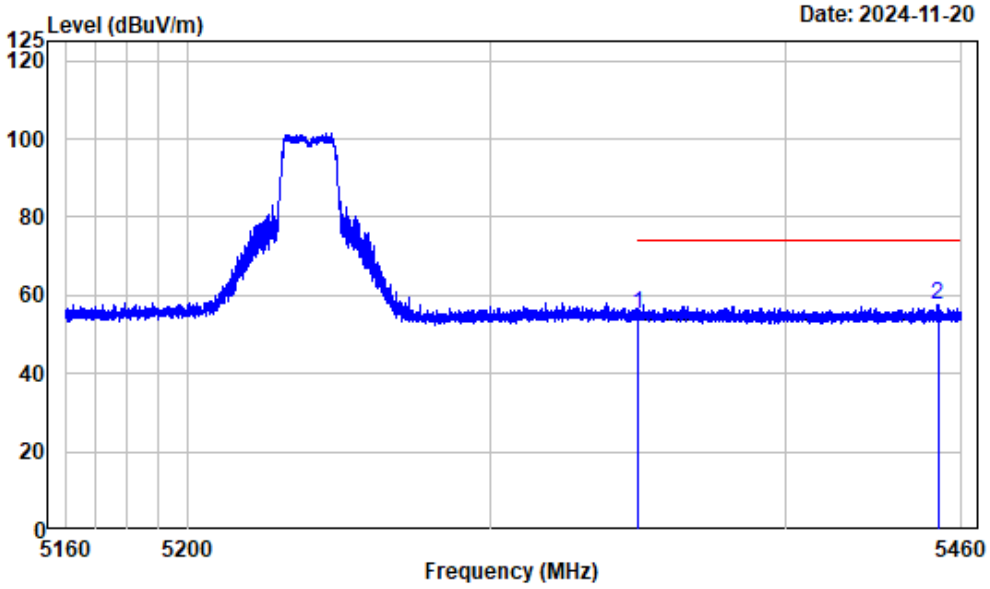
Left Band edge_Vertical_Average_802.11ac-VHT20_5180MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5180

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5148.229	2.70	42.08	44.78	54.00	-9.22	Average
2	5150.000	2.71	41.90	44.61	54.00	-9.39	Average

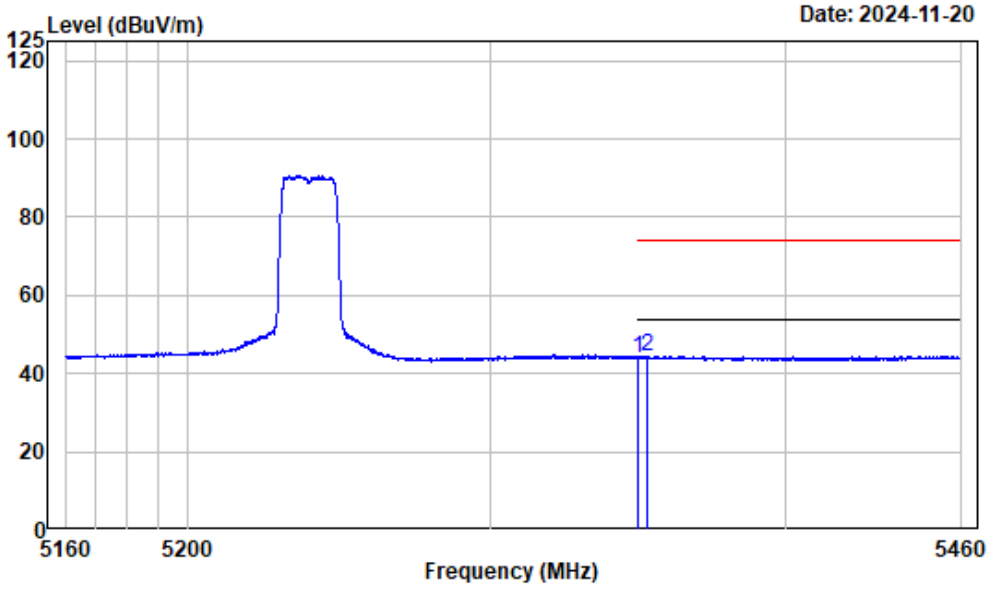
Right Band edge_Horizontal_Peak_802.11ac-VHT20_5240MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.000	2.90	52.11	55.01	74.00	-18.99	Peak
2	5451.899	3.06	54.31	57.37	74.00	-16.63	peak

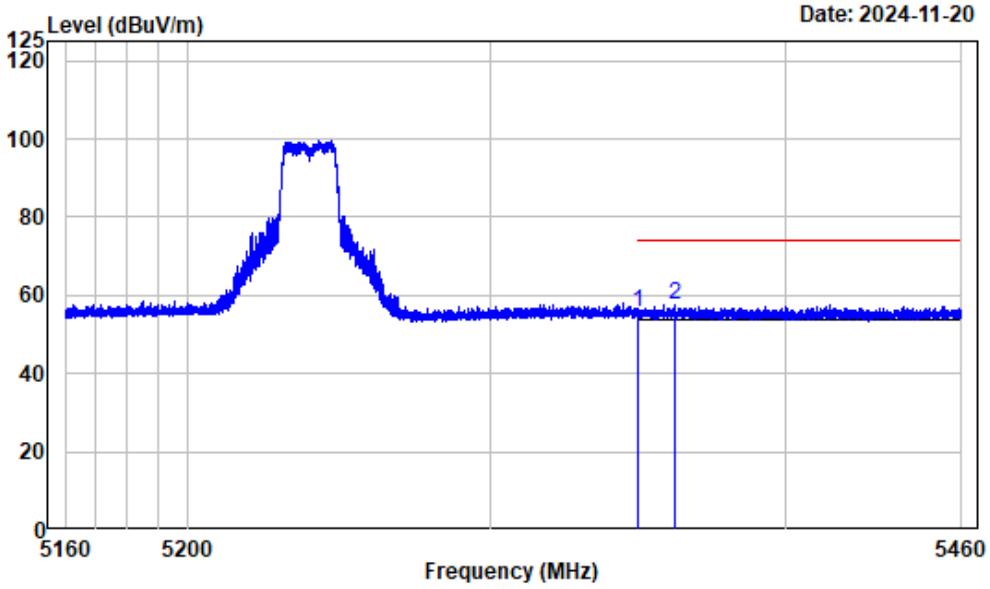
Right Band edge_Horizontal_Average_802.11ac-VHT20_5240MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.000	2.90	41.06	43.96	54.00	-10.04	Average
2	5352.662	2.92	41.43	44.35	54.00	-9.65	Average

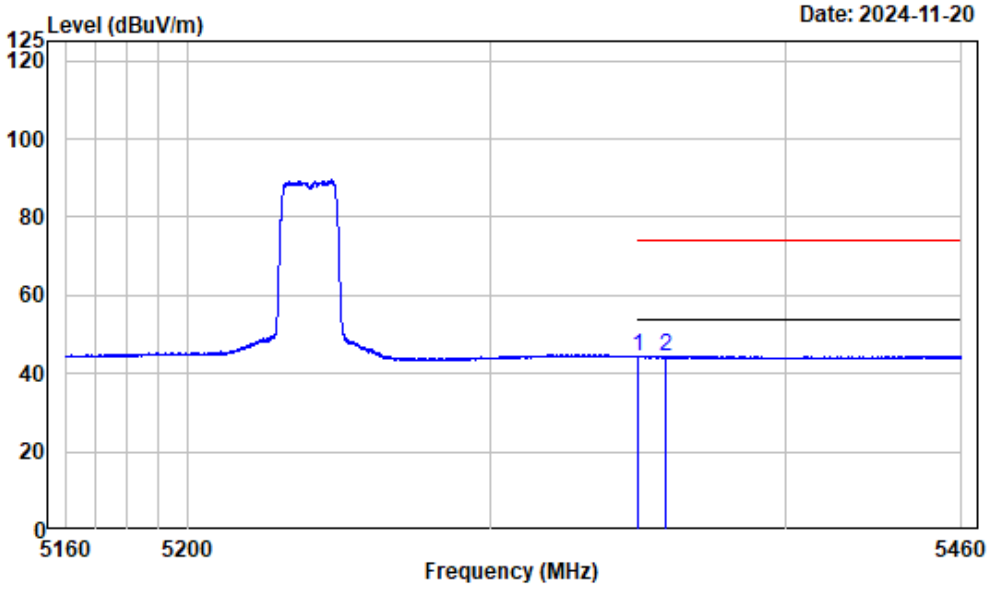
Right Band edge_Vertical_Peak_802.11ac-VHT20_5240MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.000	2.90	52.78	55.68	74.00	-18.32	Peak
2	5362.113	2.92	54.63	57.55	74.00	-16.45	Peak

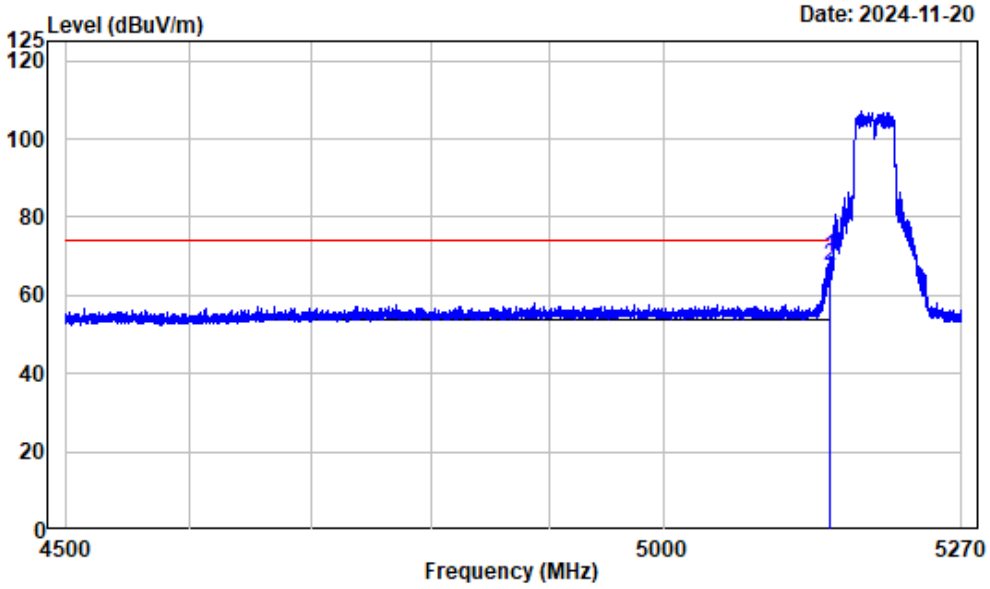
Right Band edge_Vertical_Average_802.11ac-VHT20_5240MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.000	2.90	41.23	44.13	54.00	-9.87	Average
2	5359.262	2.92	41.57	44.49	54.00	-9.51	Average

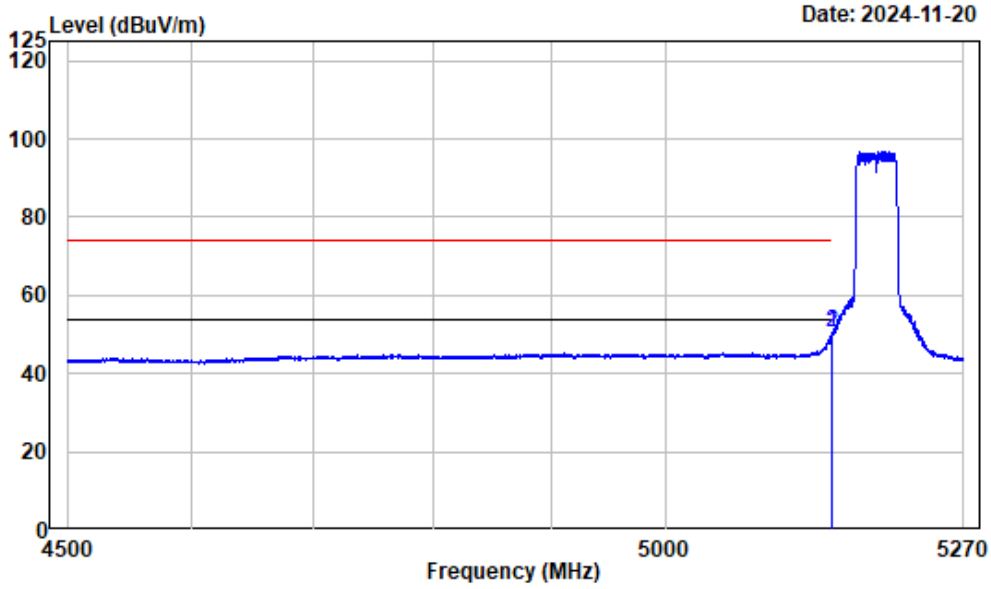
Left Band edge_Horizontal_Peak_802.11ac-VHT40_5190MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5149.769	2.71	67.02	69.73	74.00	-4.27	Peak
2	5150.000	2.71	64.95	67.66	74.00	-6.34	Peak

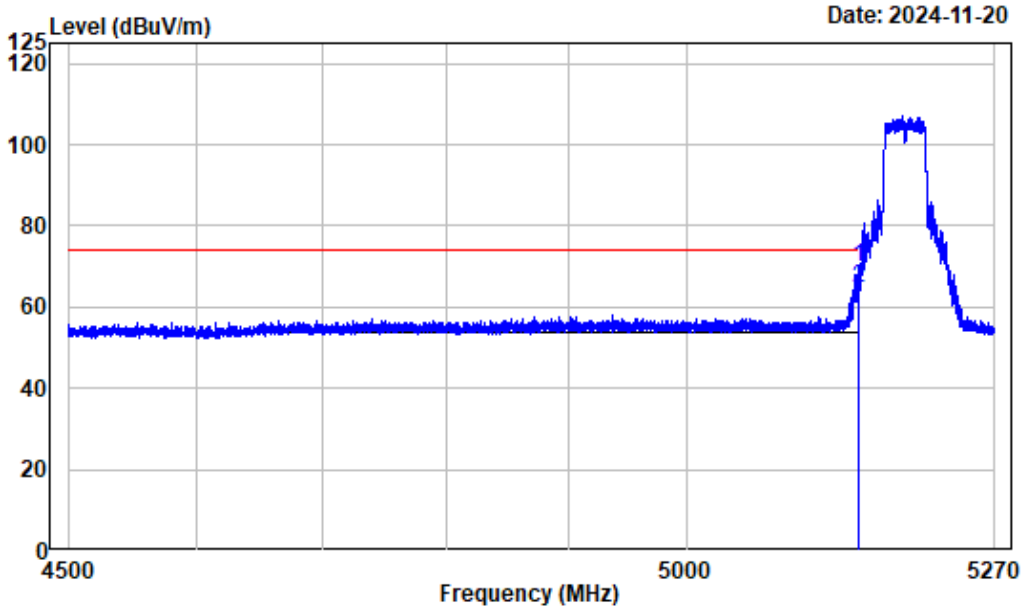
Left Band edge_Horizontal_Average_802.11ac-VHT40_5190MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5149.769	2.71	47.57	50.28	54.00	-3.72	Average
2	5150.000	2.71	47.56	50.27	54.00	-3.73	Average

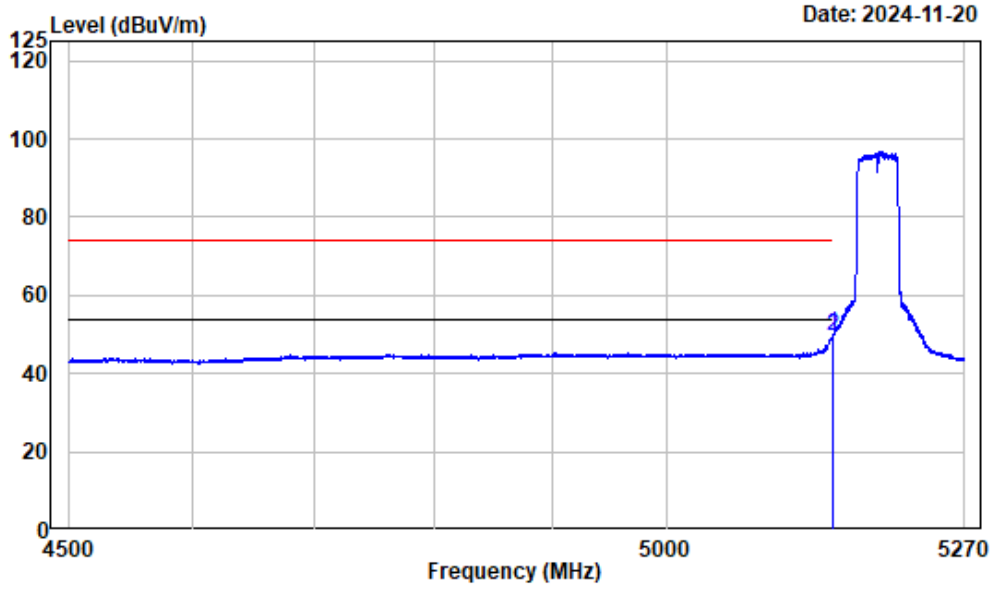
Left Band edge_Vertical_Peak_802.11ac-VHT40_5190MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5149.480	2.71	66.97	69.68	74.00	-4.32	Peak
2	5150.000	2.71	62.13	64.84	74.00	-9.16	Peak

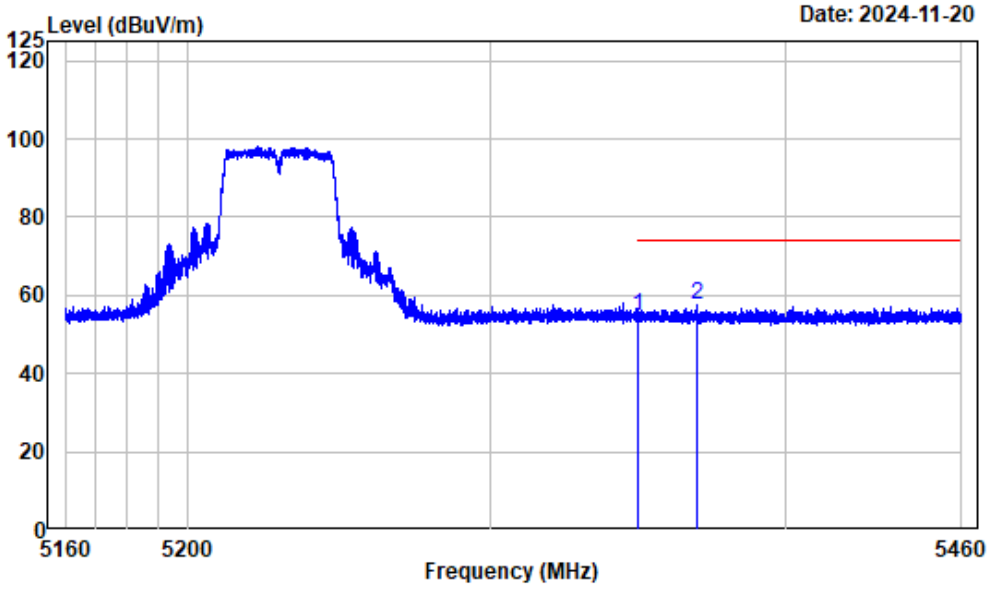
Left Band edge_Vertical_Average_802.11ac-VHT40_5190MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5149.865	2.71	47.15	49.86	54.00	-4.14	Average
2	5150.000	2.71	46.91	49.62	54.00	-4.38	Average

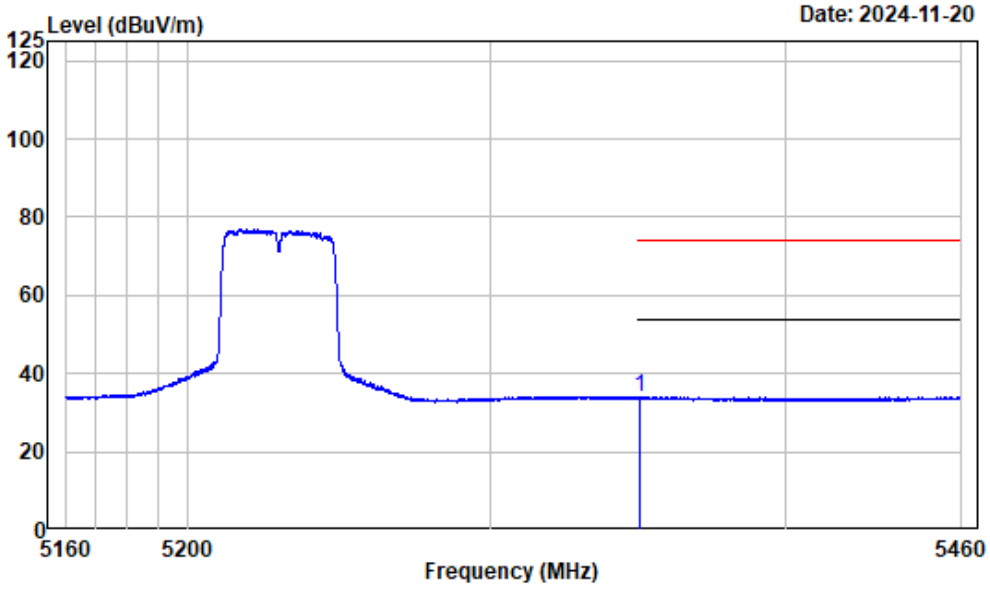
Right Band edge_Horizontal_Peak_802.11ac-VHT40_5230MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5230

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.000	2.90	51.62	54.52	74.00	-19.48	Peak
2	5369.464	2.94	54.60	57.54	74.00	-16.46	peak

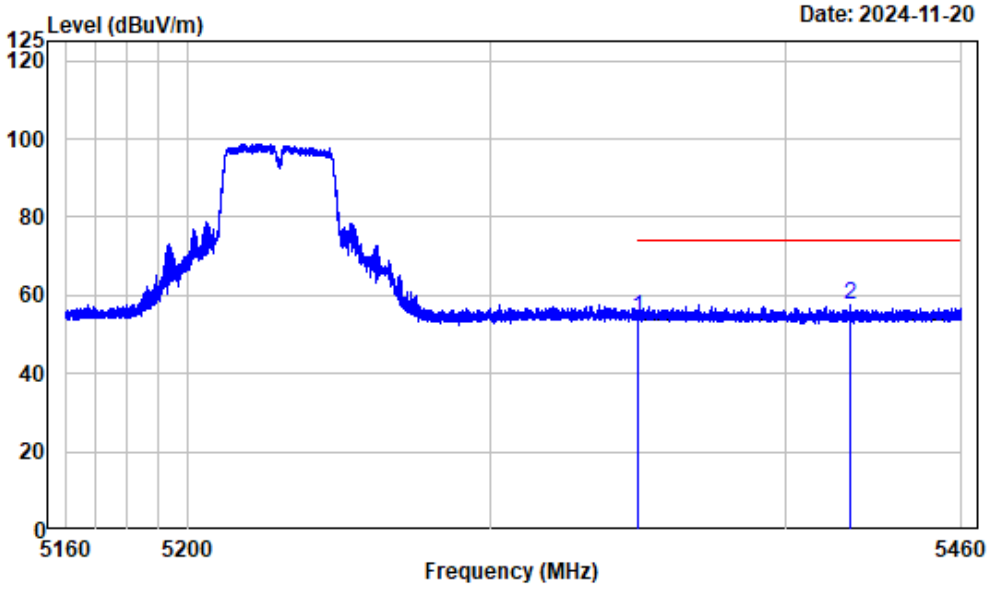
Right Band edge_Horizontal_Average_802.11ac-VHT40_5230MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5230

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.486	2.90	31.20	34.10	54.00	-19.90	Average

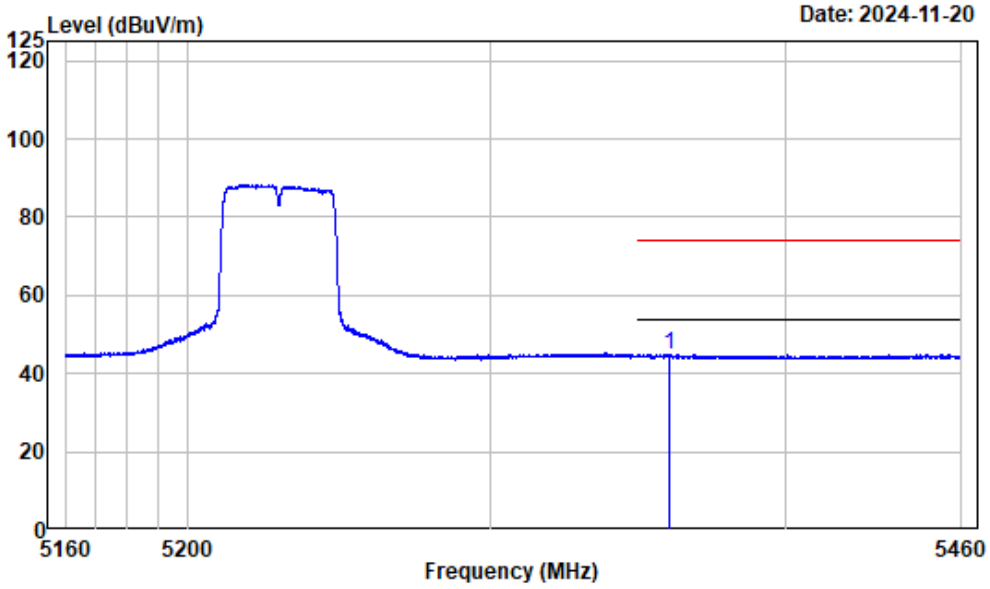
Right Band edge_Vertical_Peak_802.11ac-VHT40_5230MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5230

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5350.000	2.90	51.53	54.43	74.00	-19.57	Peak
2	5421.858	3.02	54.50	57.52	74.00	-16.48	Peak

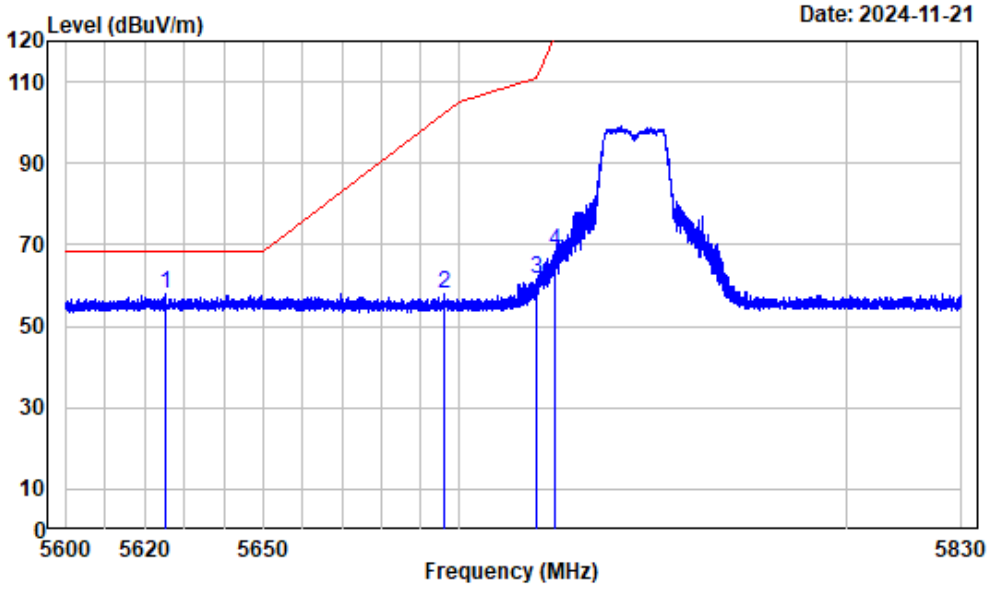
Right Band edge_Vertical_Average_802.11ac-VHT40_5230MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5230

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5360.500	2.92	41.86	44.78	54.00	-9.22	Average

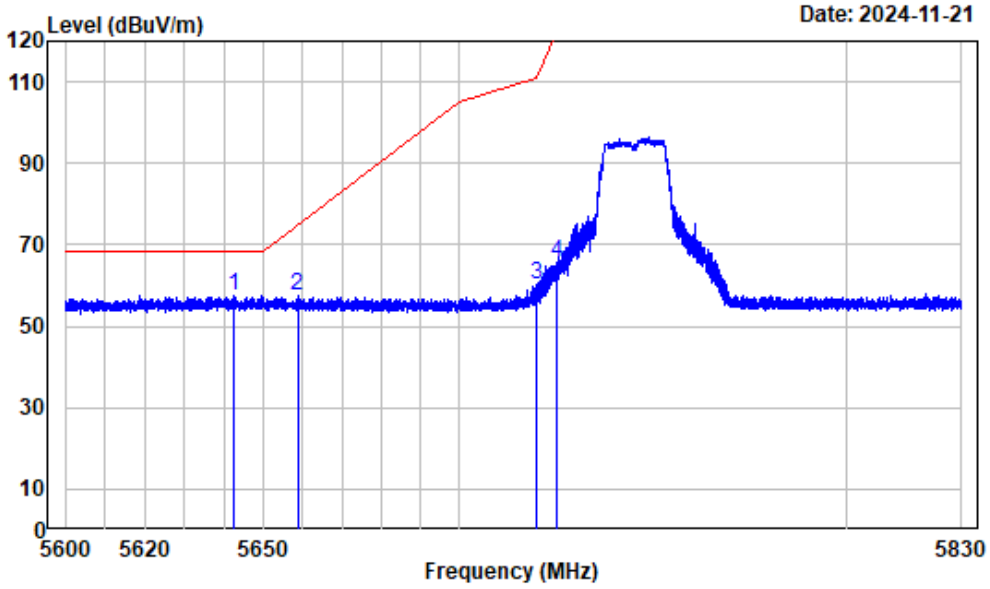
Left Band edge_Horizontal_802.11a_5745MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5745

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5625.303	3.08	54.69	57.77	68.20	-10.43	peak
2	5696.325	3.44	54.48	57.92	102.49	-44.57	peak
3	5719.558	3.48	58.25	61.73	110.68	-48.95	peak
4	5724.647	3.48	65.08	68.56	121.40	-52.84	peak

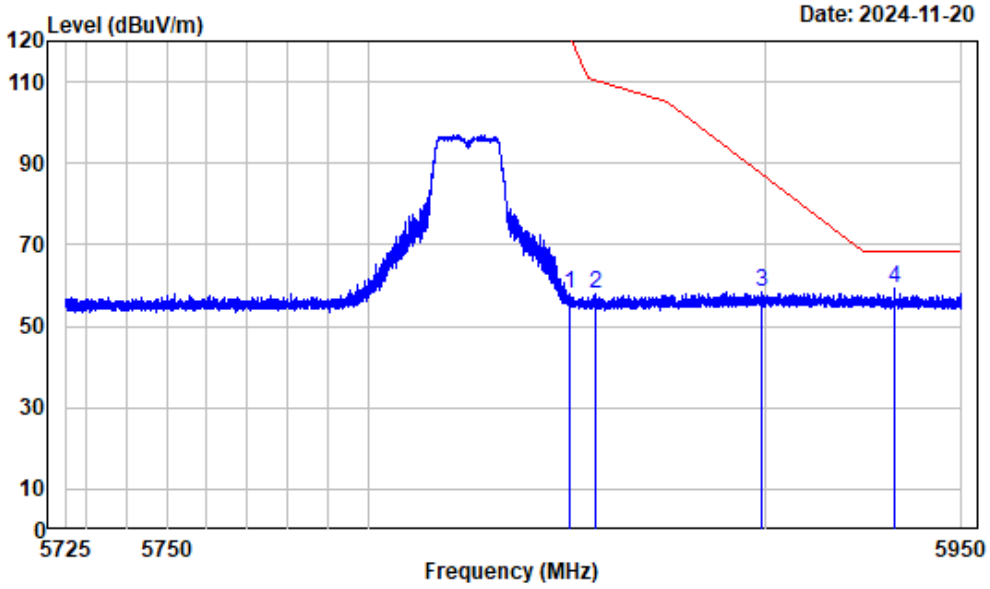
Left Band edge_Vertical_802.11a_5745MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5745

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5642.670	3.21	54.51	57.72	68.20	-10.48	peak
2	5658.715	3.30	54.06	57.36	74.67	-17.31	peak
3	5719.701	3.48	56.55	60.03	110.72	-50.69	peak
4	5724.877	3.48	62.05	65.53	121.92	-56.39	peak

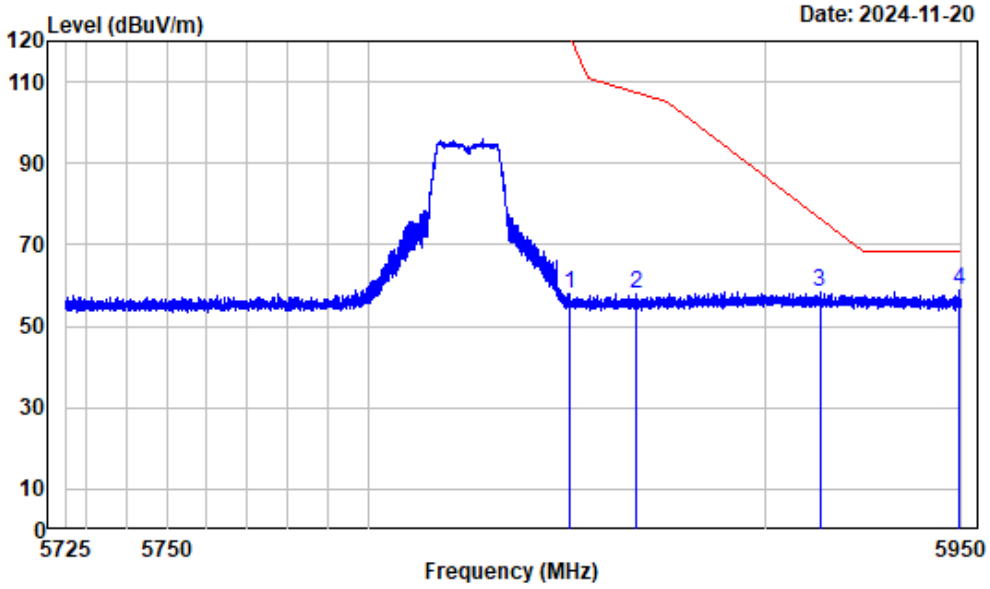
Right Band edge_Horizontal_802.11a_5825MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5850.707	3.67	54.14	57.81	120.59	-62.78	peak
2	5856.867	3.71	54.13	57.84	110.28	-52.44	peak
3	5899.087	3.86	54.64	58.50	87.34	-28.84	peak
4	5932.898	3.77	55.46	59.23	68.20	-8.97	peak

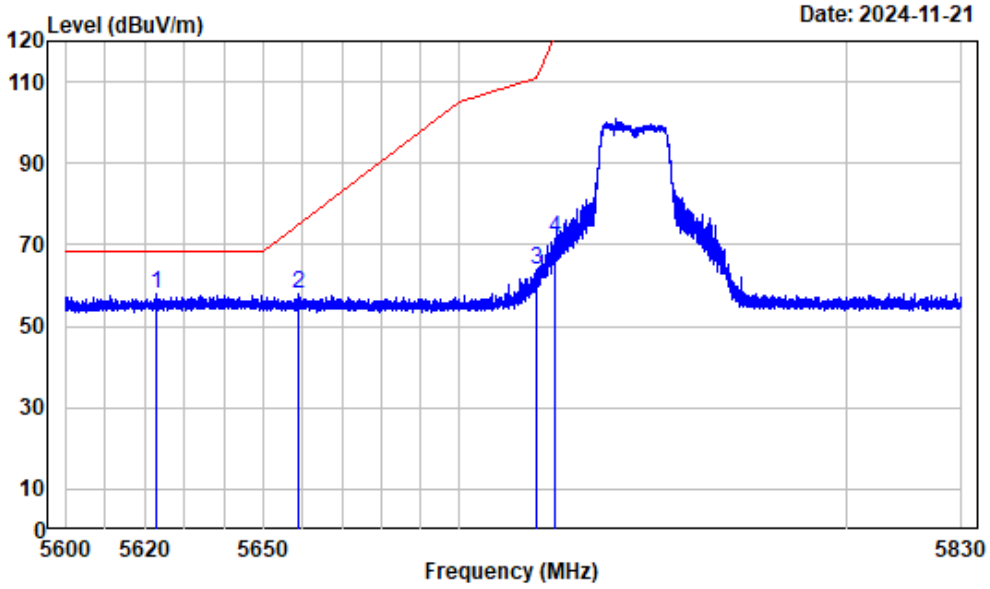
Right Band edge_Vertical_802.11a_5825MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5850.538	3.67	54.28	57.95	120.97	-63.02	peak
2	5867.330	3.75	54.22	57.97	107.35	-49.38	peak
3	5913.855	3.81	54.66	58.47	76.42	-17.95	peak
4	5949.353	3.74	55.33	59.07	68.20	-9.13	peak

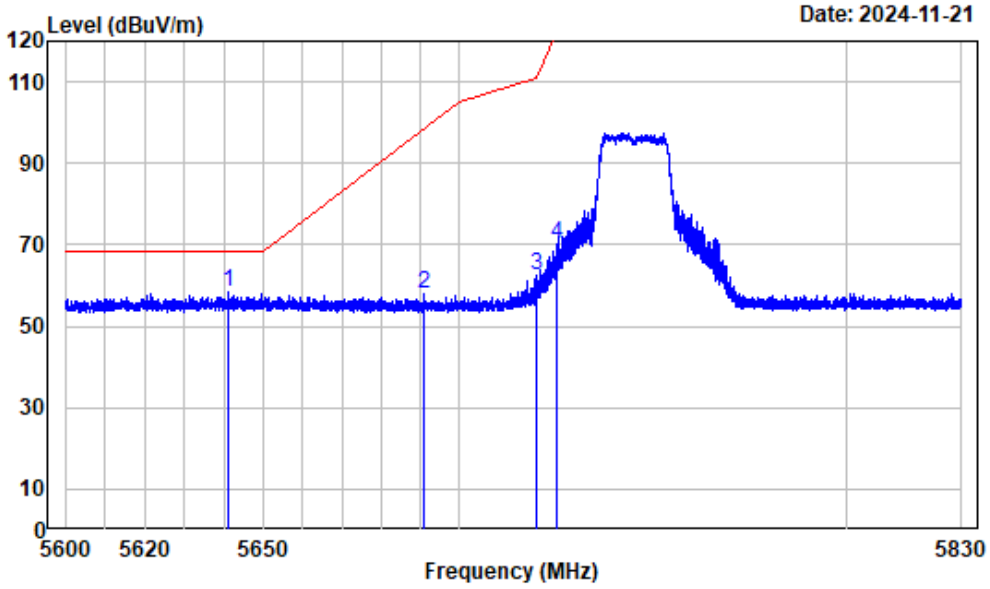
Left Band edge_Horizontal_802.11ac-VHT20_5745MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5745

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5622.802	3.06	54.76	57.82	68.20	-10.38	peak
2	5658.830	3.31	54.74	58.05	74.76	-16.71	peak
3	5719.672	3.48	60.55	64.03	110.71	-46.68	peak
4	5724.532	3.48	68.21	71.69	121.13	-49.44	peak

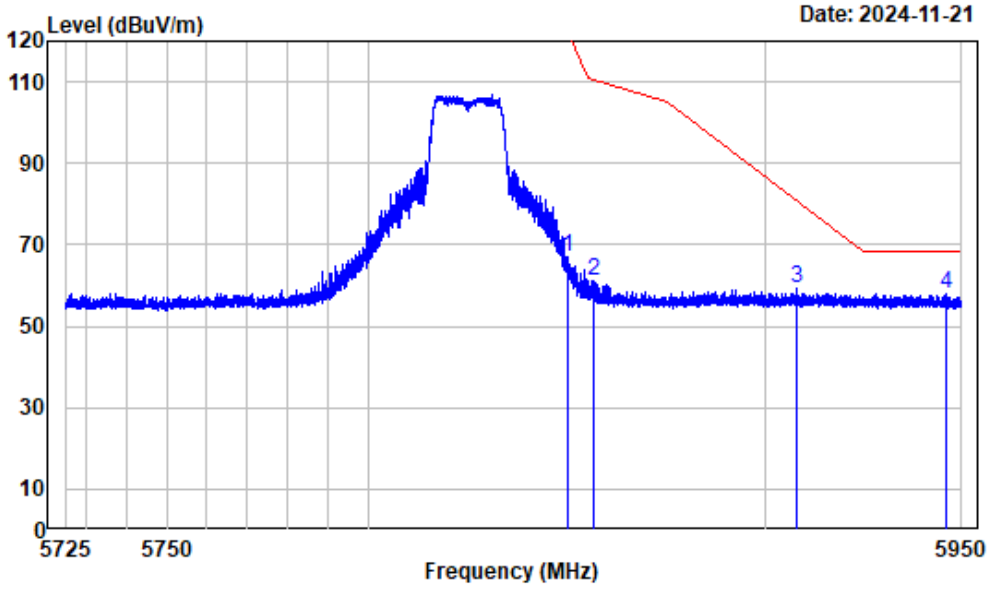
Left Band edge_Vertical_802.11ac-VHT20_5745MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5745

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5641.089	3.20	55.00	58.20	68.20	-10.00	peak
2	5690.747	3.41	54.59	58.00	98.38	-40.38	peak
3	5719.558	3.48	59.19	62.67	110.68	-48.01	peak
4	5724.935	3.48	66.84	70.32	122.05	-51.73	peak

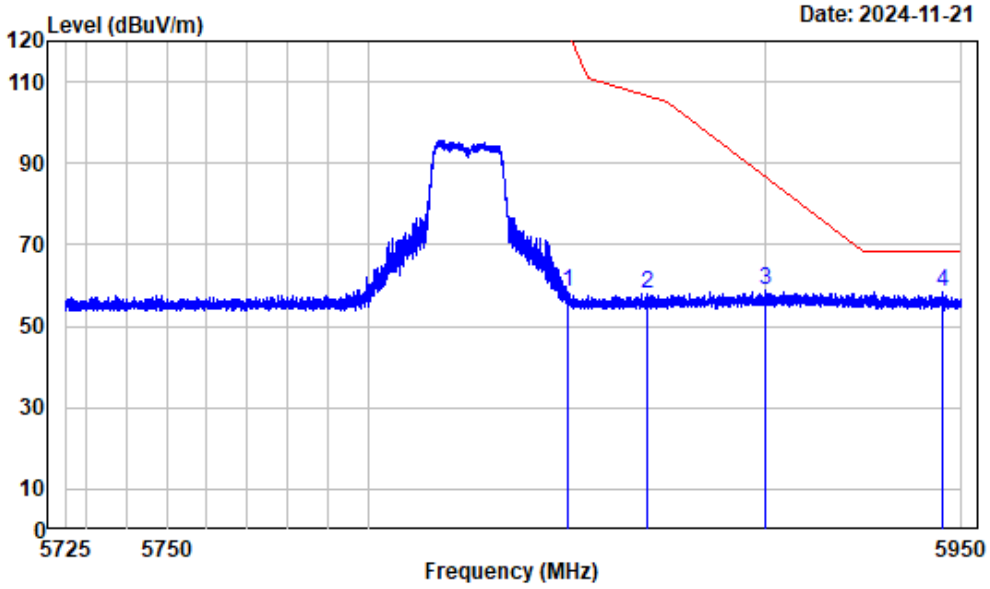
Right Band edge_Horizontal_802.11ac-VHT20_5825MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5850.256	3.67	63.39	67.06	121.62	-54.56	peak
2	5856.642	3.71	57.33	61.04	110.34	-49.30	peak
3	5908.173	3.83	55.45	59.28	80.62	-21.34	peak
4	5945.893	3.75	54.05	57.80	68.20	-10.40	peak

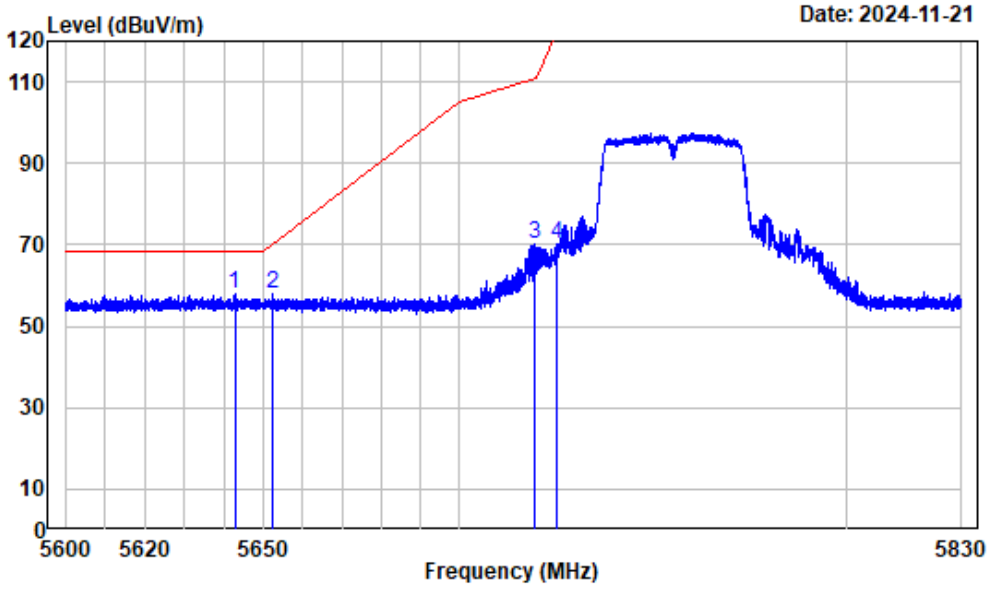
Right Band edge_Vertical_802.11ac-VHT20_5825MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5850.228	3.67	54.85	58.52	121.68	-63.16	peak
2	5870.031	3.75	54.13	57.88	106.59	-48.71	peak
3	5900.128	3.86	54.99	58.85	86.57	-27.72	peak
4	5944.965	3.74	54.61	58.35	68.20	-9.85	peak

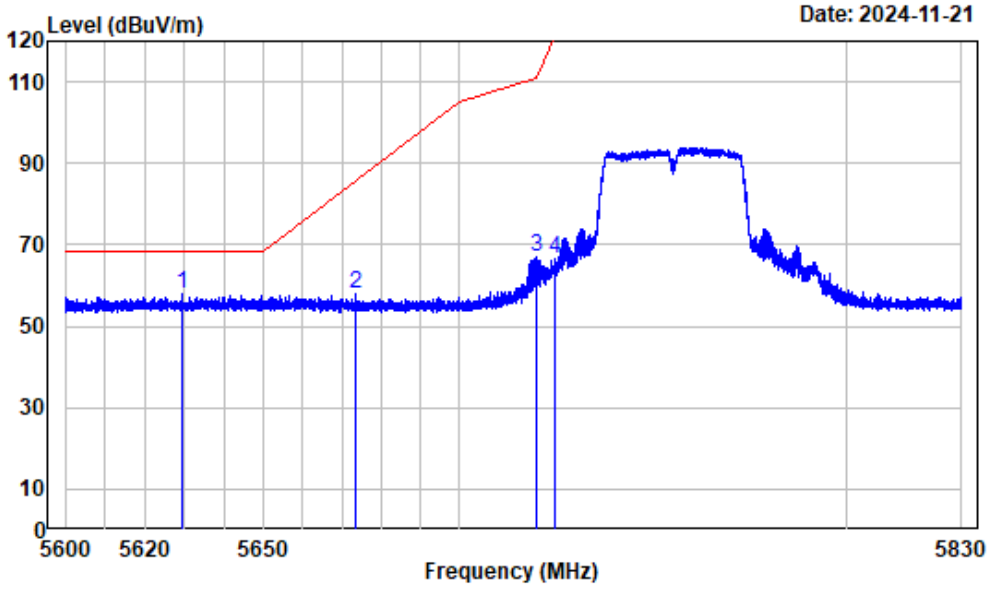
Left Band edge_Horizontal_802.11ac-VHT40_5755MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5755

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5642.785	3.21	54.71	57.92	68.20	-10.28	peak
2	5652.159	3.28	54.63	57.91	69.80	-11.89	peak
3	5719.097	3.48	66.53	70.01	110.55	-40.54	peak
4	5724.906	3.48	66.93	70.41	121.99	-51.58	peak

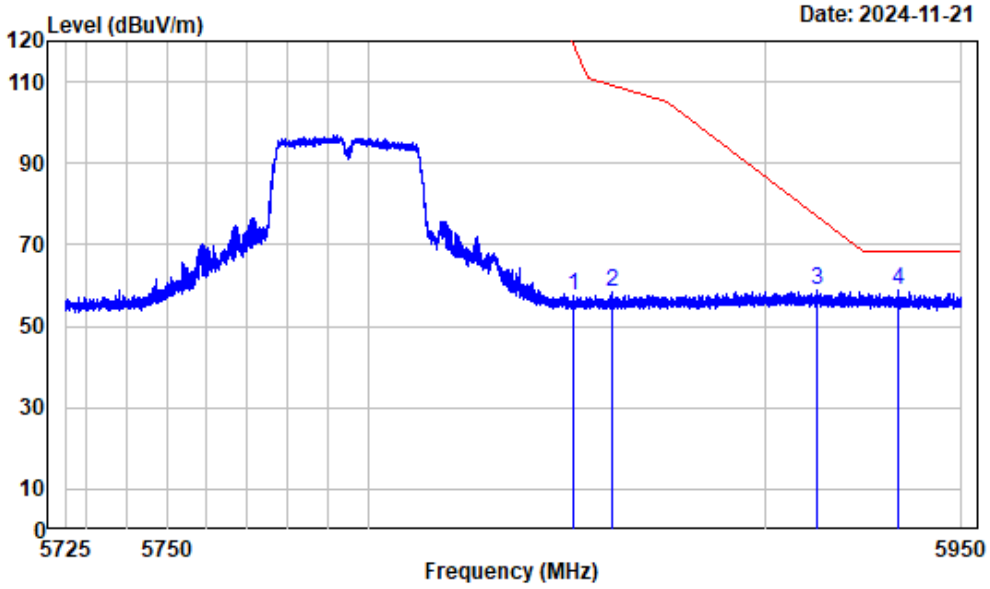
Left Band edge_Vertical_802.11ac-VHT40_5755MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5755

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5629.616	3.12	54.79	57.91	68.20	-10.29	peak
2	5673.437	3.35	54.43	57.78	85.58	-27.80	peak
3	5719.759	3.48	63.36	66.84	110.73	-43.89	peak
4	5724.704	3.48	62.96	66.44	121.53	-55.09	peak

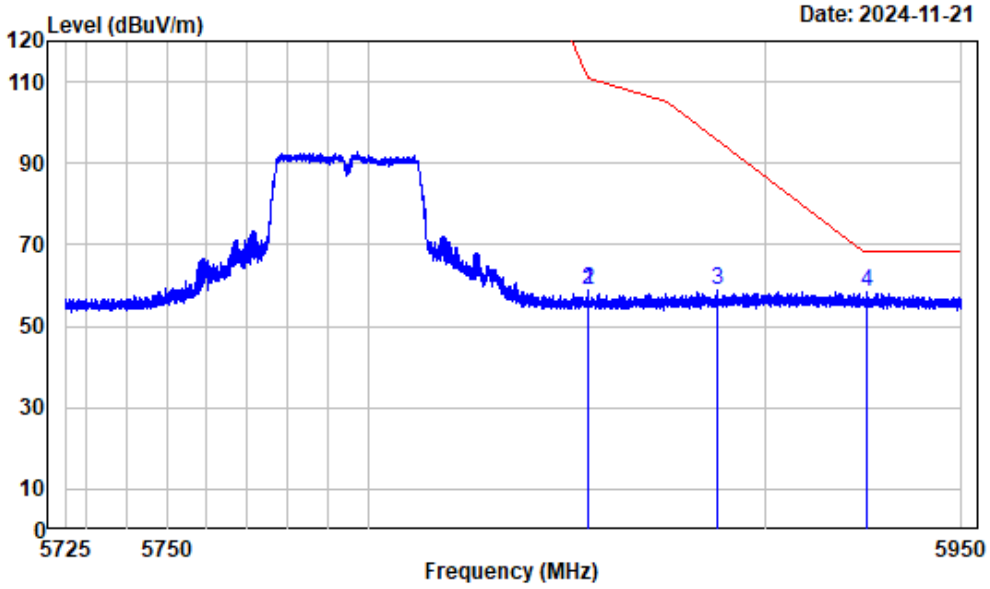
Right Band edge_Horizontal_802.11ac-VHT40_5795MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5795

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5851.606	3.69	53.80	57.49	118.54	-61.05	peak
2	5861.086	3.71	54.52	58.23	109.09	-50.86	peak
3	5913.067	3.82	54.87	58.69	77.00	-18.31	peak
4	5933.854	3.77	54.94	58.71	68.20	-9.49	peak

Right Band edge_Vertical_802.11ac-VHT40_5795MHz

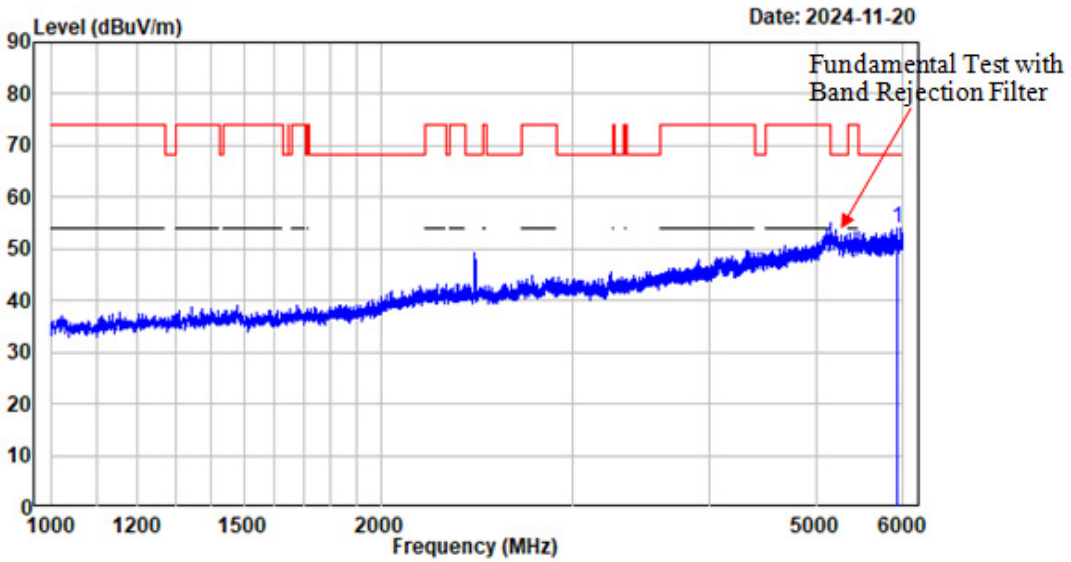


Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5795

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5855.010	3.70	54.97	58.67	110.80	-52.13	peak
2	5855.010	3.70	54.97	58.67	110.80	-52.13	peak
3	5887.751	3.81	55.24	59.05	95.73	-36.68	peak
4	5925.725	3.79	54.55	58.34	68.20	-9.86	peak

Listed with the worst harmonic margin test plot:

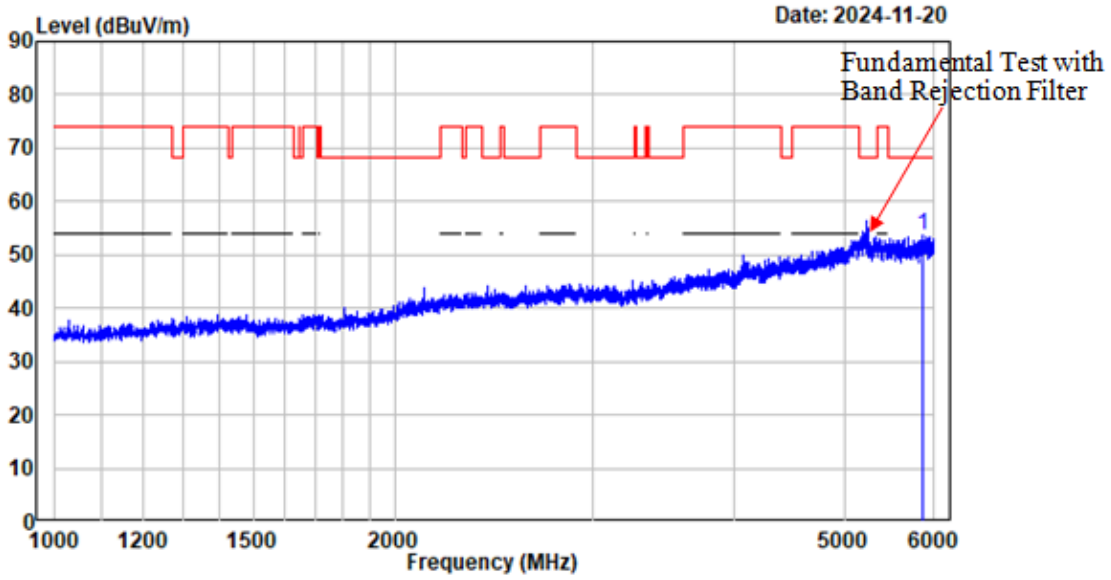
1-6GHz_Horizontal_802.11a_5240MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5919.990	3.81	50.09	53.90	68.20	-14.30	Peak

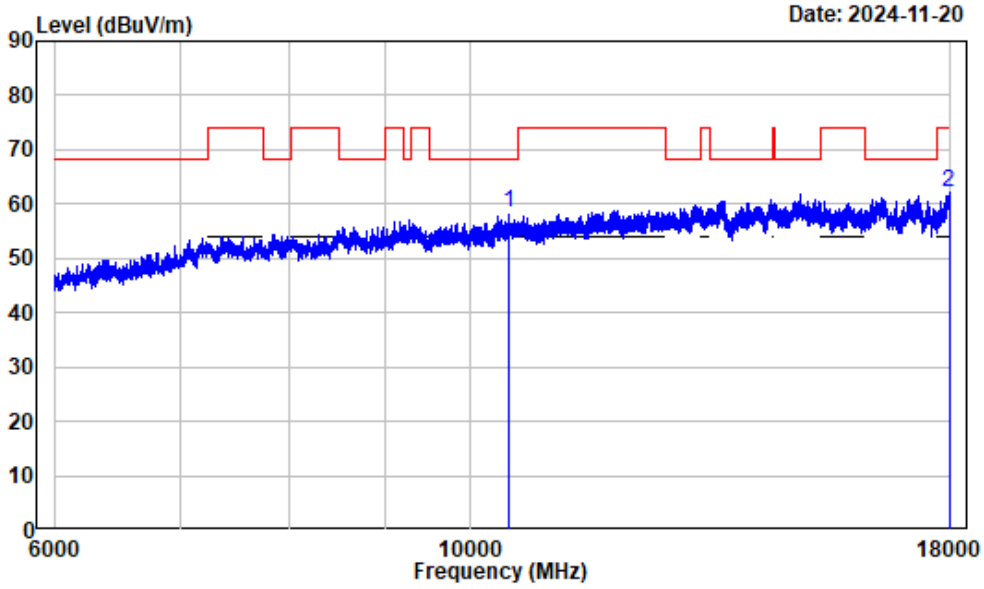
1-6GHz_Vertical_802.11a_5240MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5861.232	3.71	49.88	53.59	68.20	-14.61	Peak

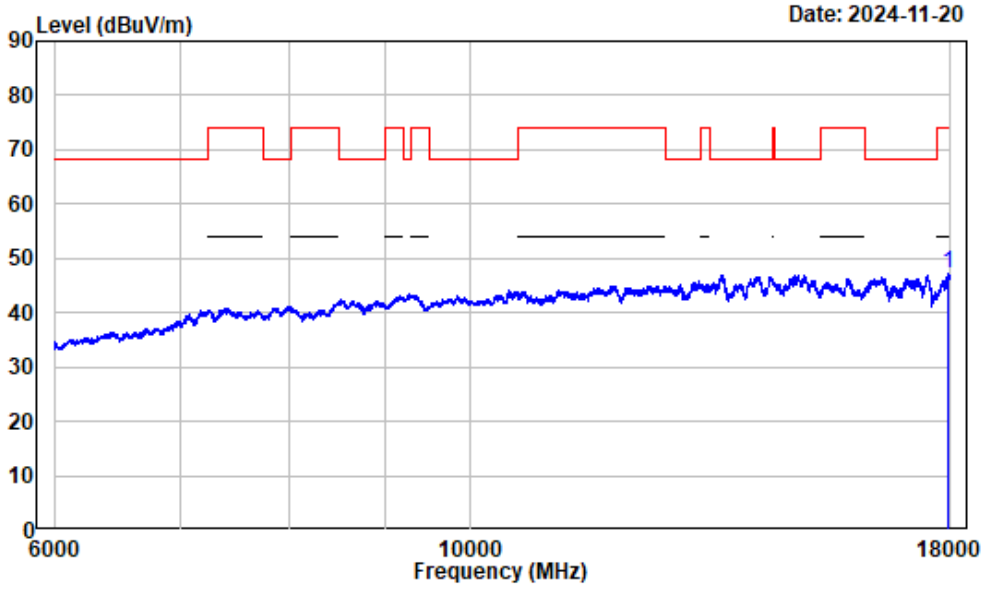
6-18GHz_Horizontal_Peak_802.11a_5240MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	10480.000	13.07	45.44	58.51	68.20	-9.69	Peak
2	17968.500	24.40	37.59	61.99	74.00	-12.01	Peak

6-18GHz_Horizontal_Average_802.11a_5240MHz

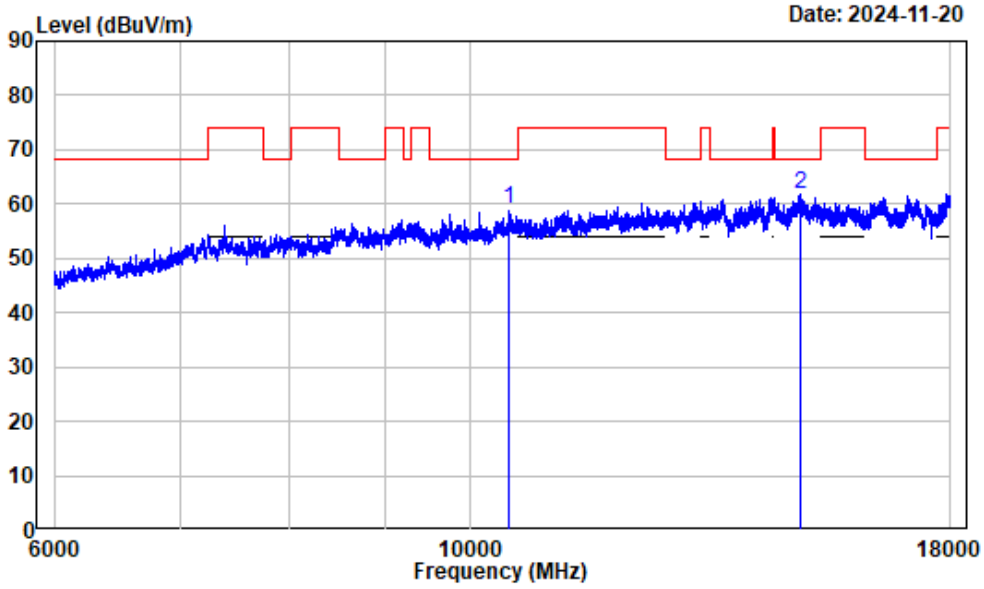


Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	17945.990	24.23	23.06	47.29	54.00	-6.71	Average

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

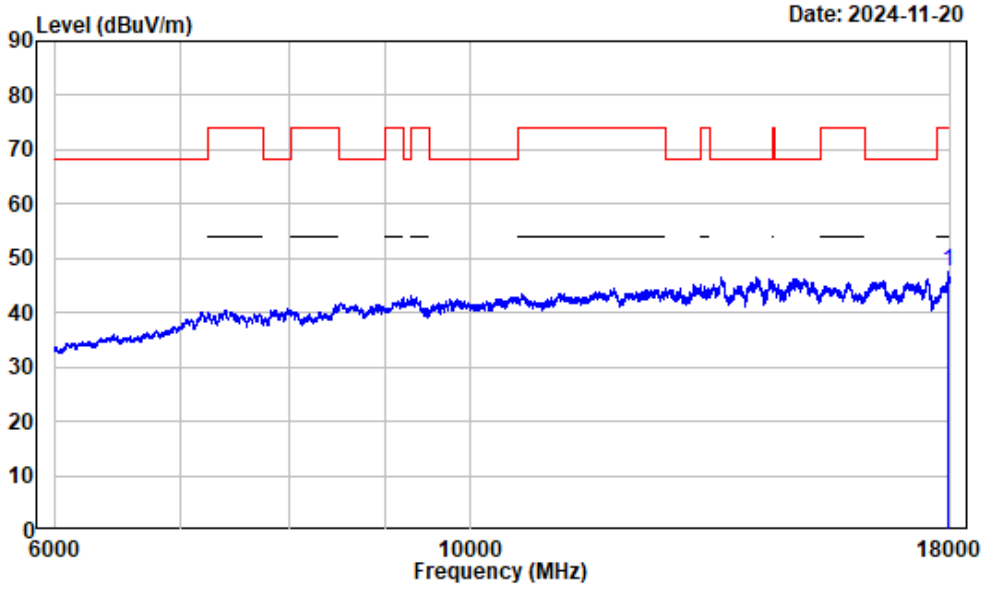
6-18GHz_Vertical_Peak_802.11a_5240MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	10480.000	13.07	46.03	59.10	68.20	-9.10	Peak
2	14962.120	16.41	45.45	61.86	68.20	-6.34	Peak

6-18GHz_Vertical_Average_802.11a_5240MHz

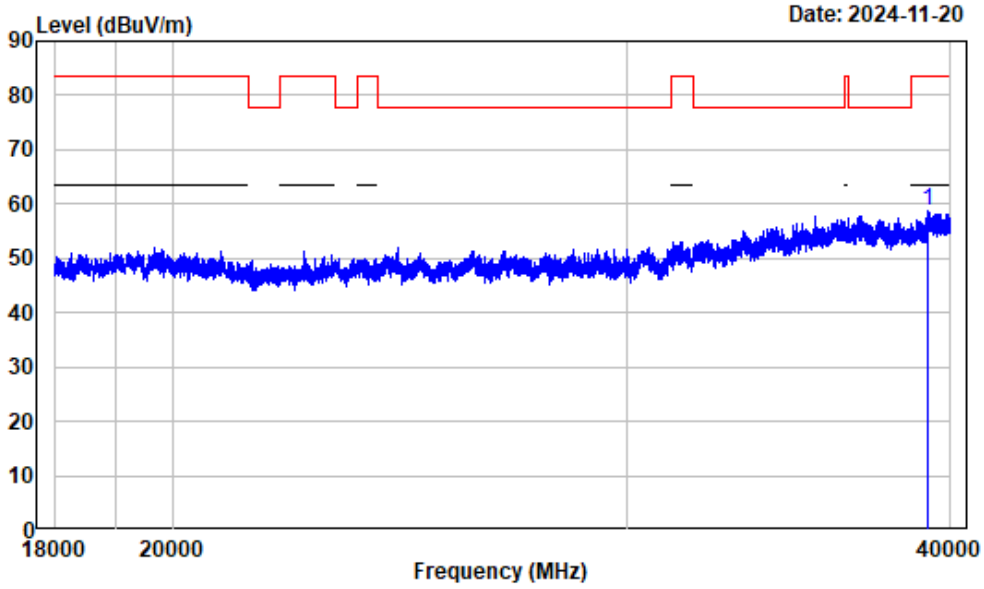


Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	17959.490	24.34	23.08	47.42	54.00	-6.58	Average

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

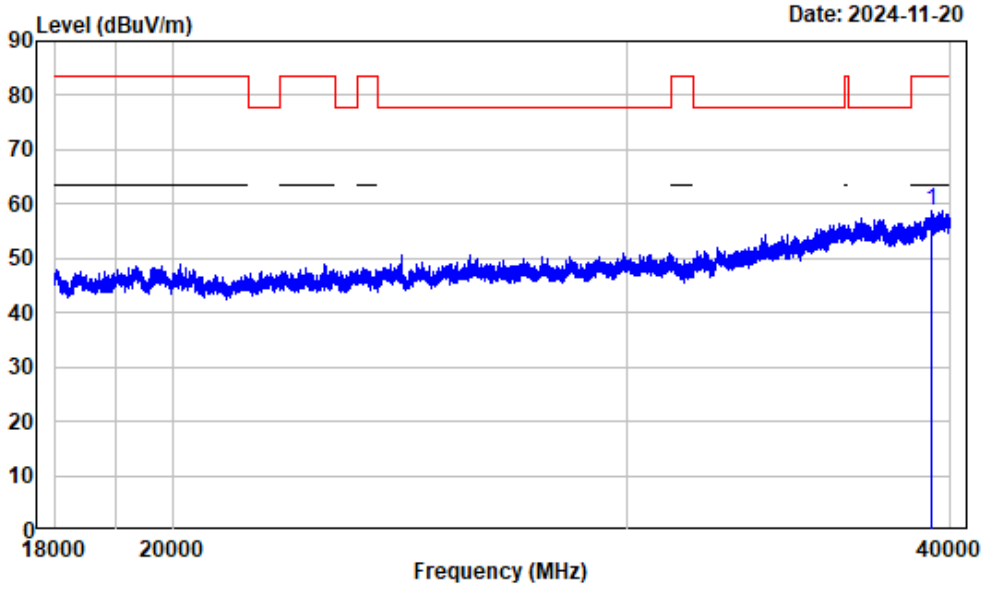
18-40GHz_Horizontal_Peak_802.11a_5240MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	39207.900	22.91	35.68	58.59	83.50	-24.91	Peak

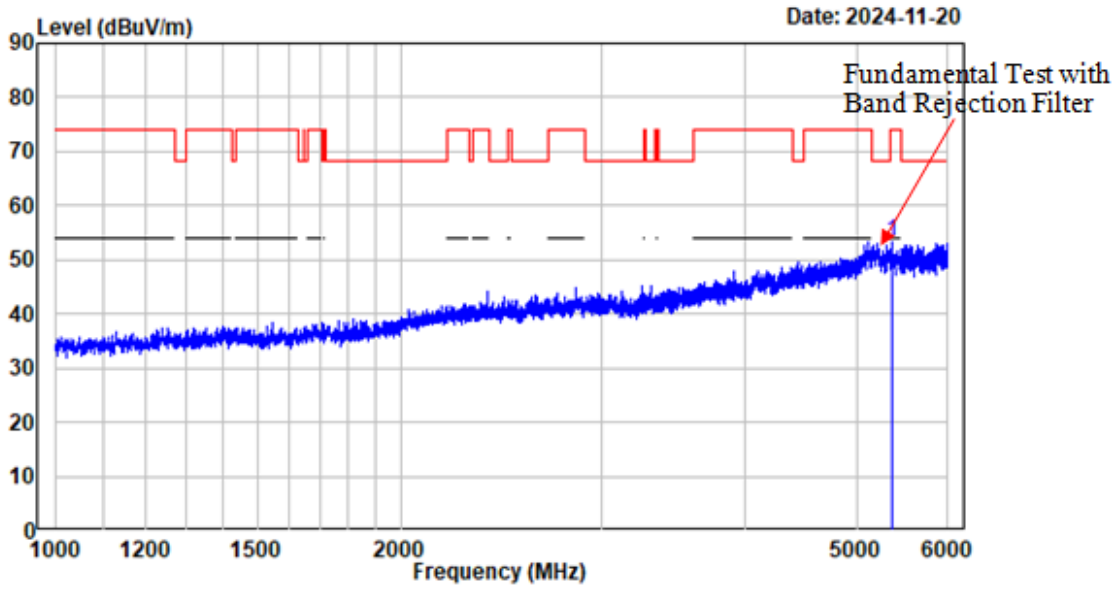
18-40G_Vertical_Peak_802.11a_5240MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_A_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	39301.410	22.70	36.14	58.84	83.50	-24.66	Peak

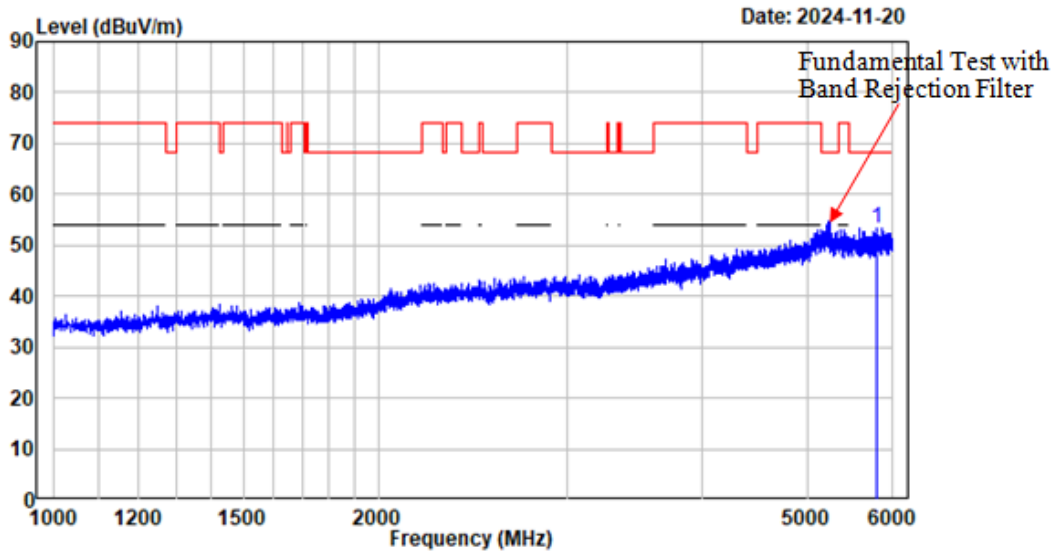
1-6GHz_Horizontal_802.11ac-VHT20_5240MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5364.295	2.93	50.53	53.46	74.00	-20.54	Peak

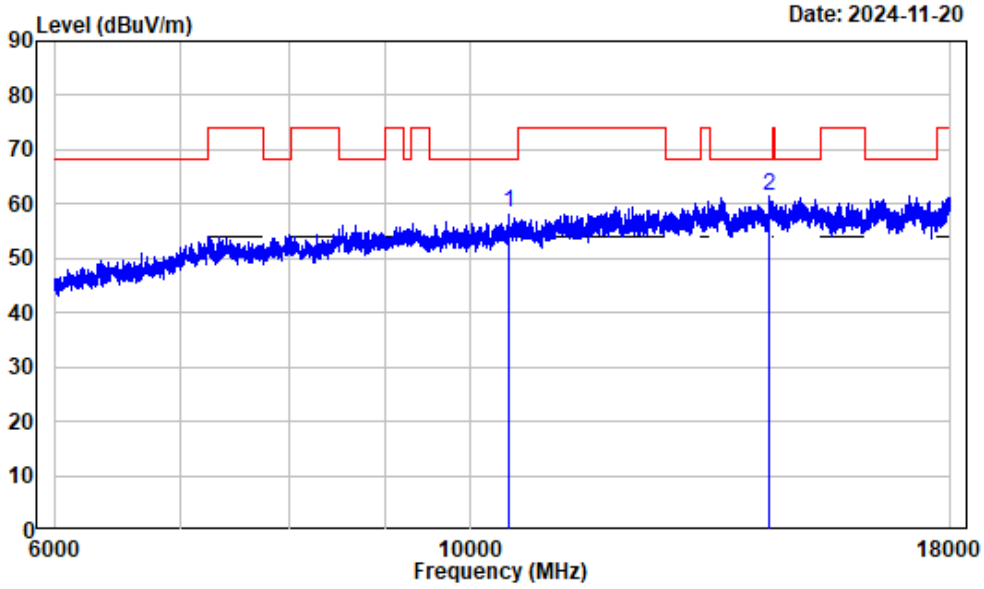
1-6GHz_Vertical_802.11ac-VHT20_5240MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5788.099	3.35	50.05	53.40	68.20	-14.80	Peak

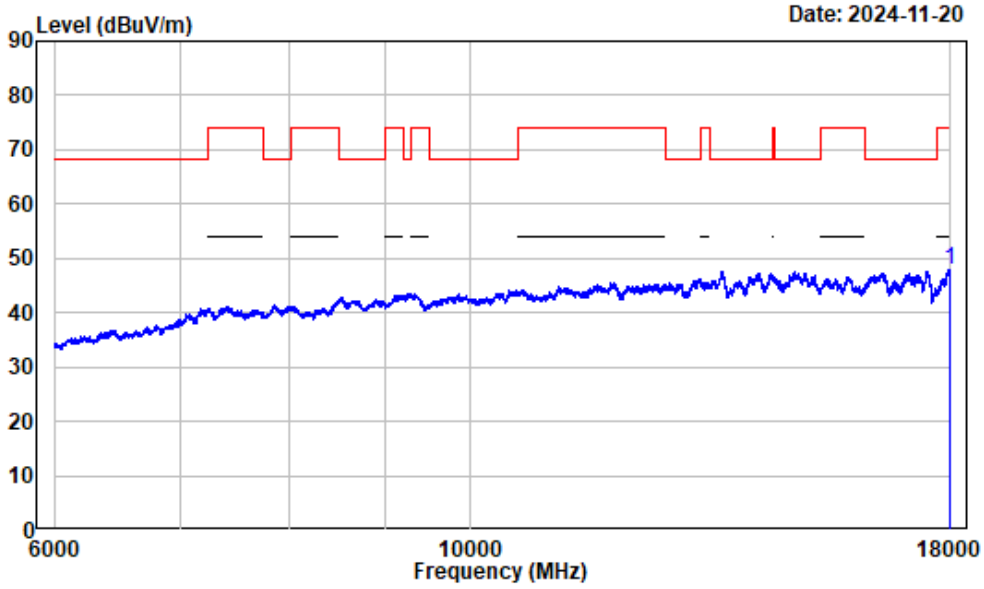
6-18GHz_Horizontal_Peak_802.11ac-VHT20_5240MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	10480.000	13.07	45.41	58.48	68.20	-9.72	Peak
2	14420.550	17.28	44.29	61.57	68.20	-6.63	Peak

6-18GHz_Horizontal_Average_802.11ac-VHT20_5240MHz

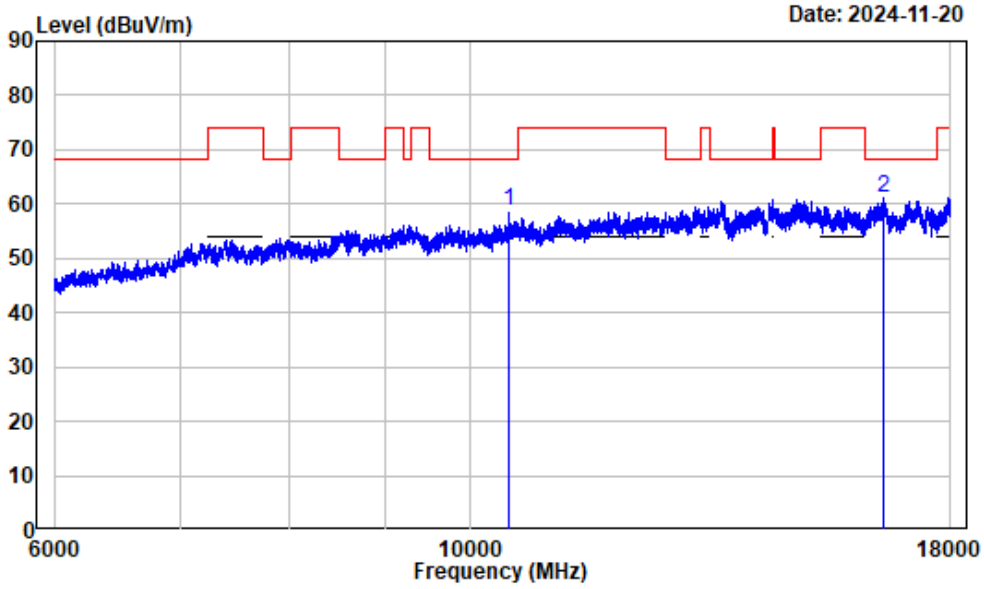


Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	17986.500	24.53	23.41	47.94	54.00	-6.06	Average

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

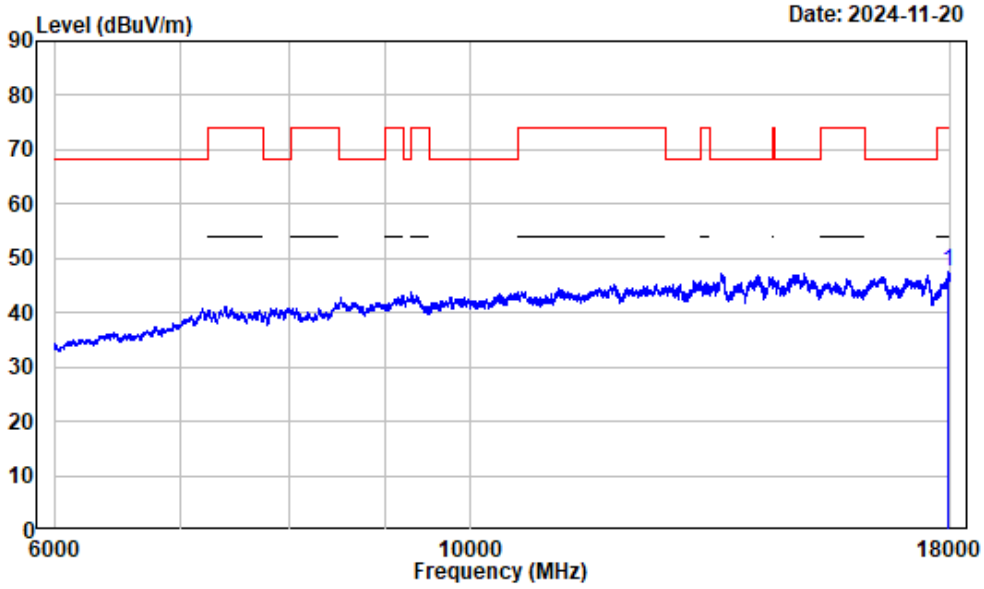
6-18GHz_Vertical_Peak_802.11ac-VHT20_5240MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	10480.000	13.07	45.64	58.71	68.20	-9.49	Peak
2	16576.320	15.93	45.27	61.20	68.20	-7.00	Peak

6-18GHz_Vertical_Average_802.11ac-VHT20_5240MHz

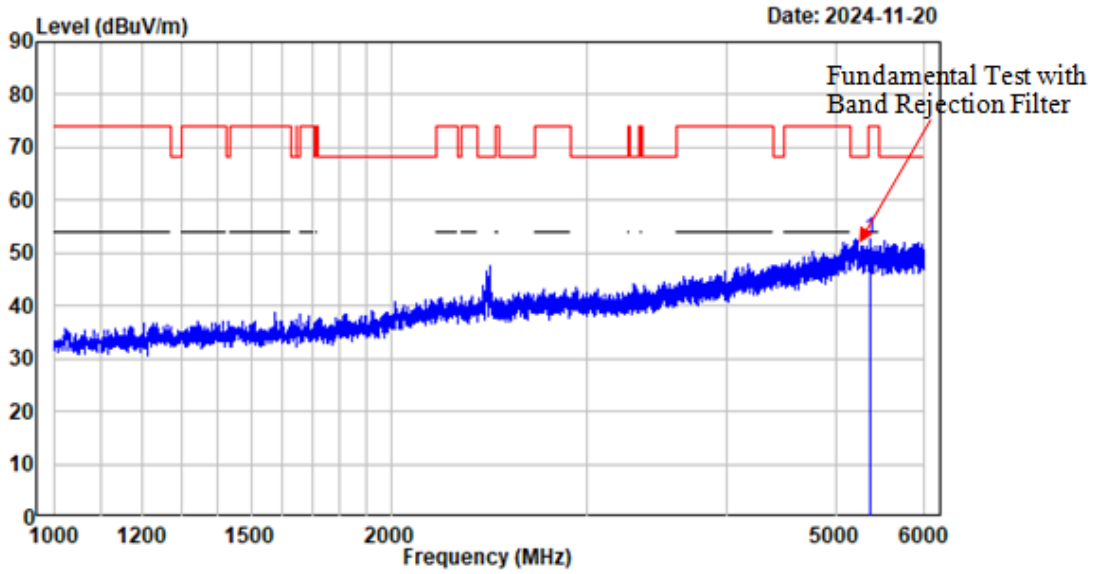


Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC20_5240

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	17959.490	24.34	23.14	47.48	54.00	-6.52	Average

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

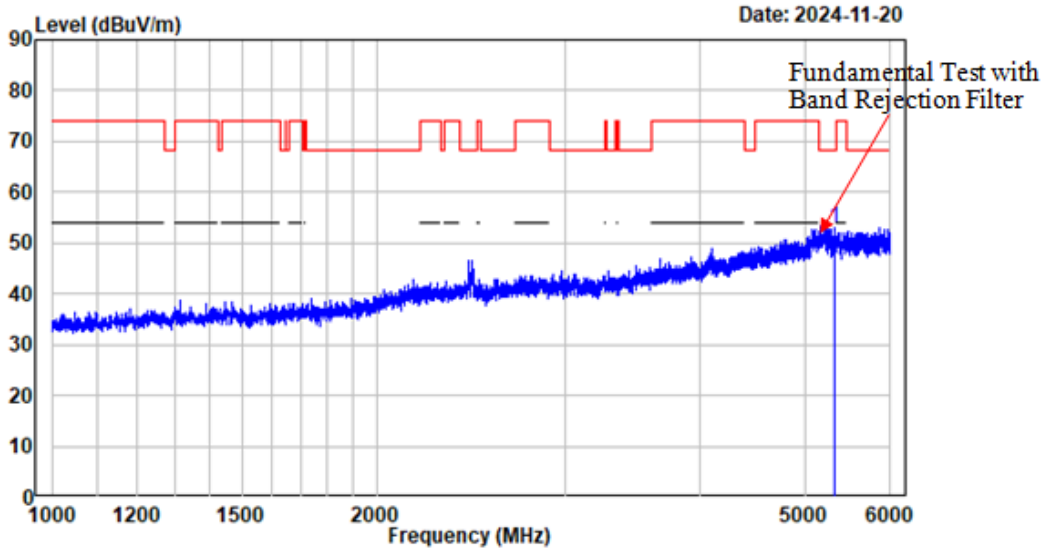
1-6GHz_Horizontal_802.11ac-VHT40_5190MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5369.296	2.94	49.63	52.57	74.00	-21.43	Peak

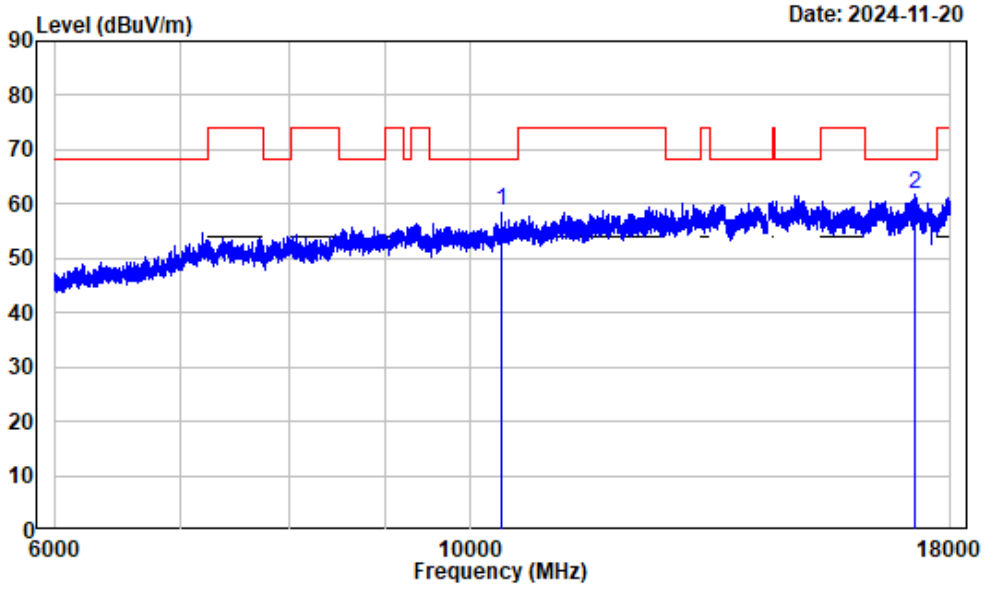
1-6GHz_Vertical_802.11ac-VHT40_5190MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5321.165	2.87	50.07	52.94	68.20	-15.26	Peak

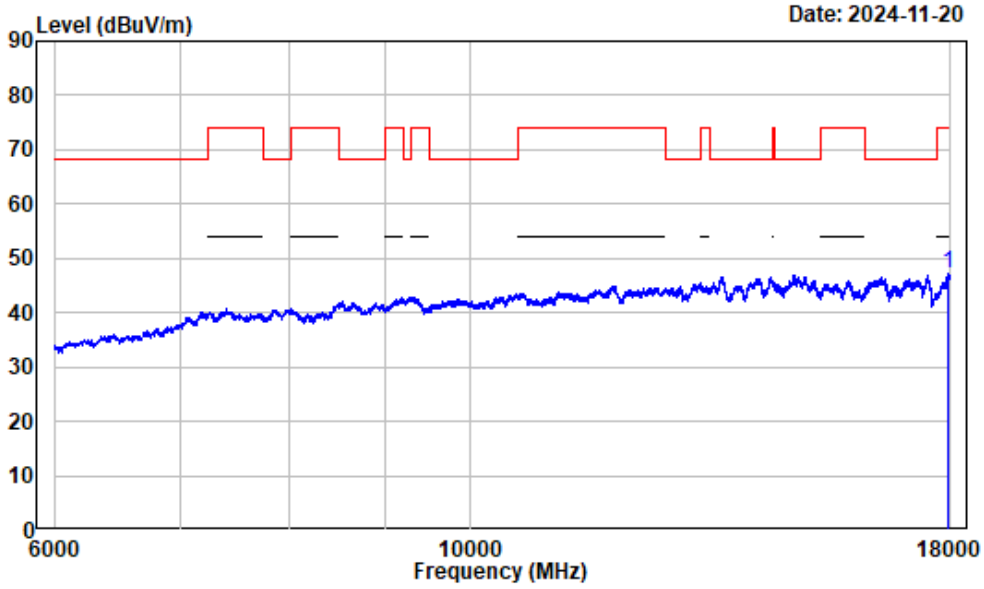
6-18GHz_Horizontal_Peak_802.11ac-VHT40_5190MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	10380.000	13.09	45.57	58.66	68.20	-9.54	Peak
2	17246.910	18.96	42.89	61.85	68.20	-6.35	Peak

6-18GHz_Horizontal_Average_802.11ac-VHT40_5190MHz

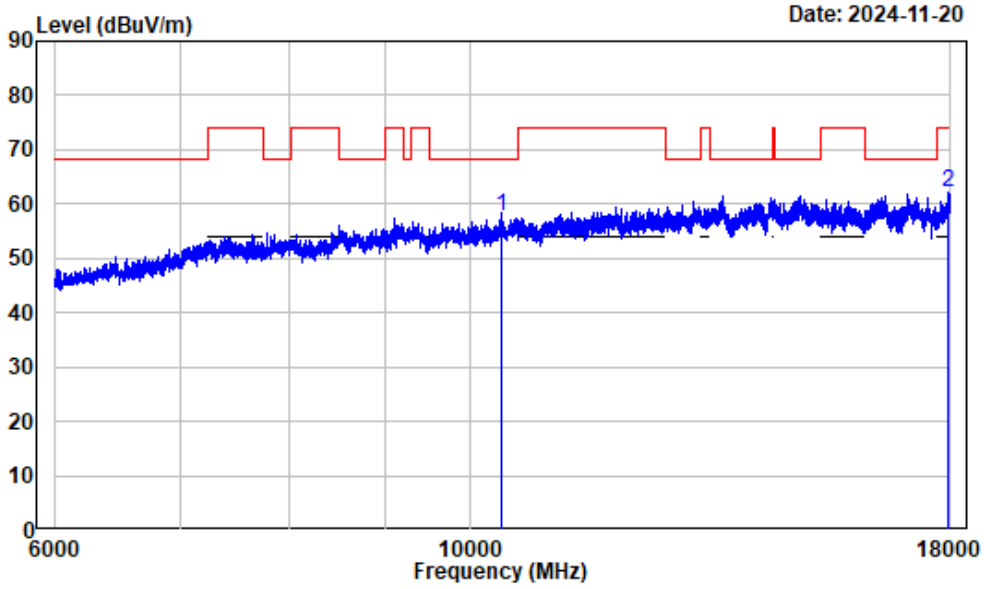


Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	17959.490	24.34	23.01	47.35	54.00	-6.65	Average

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

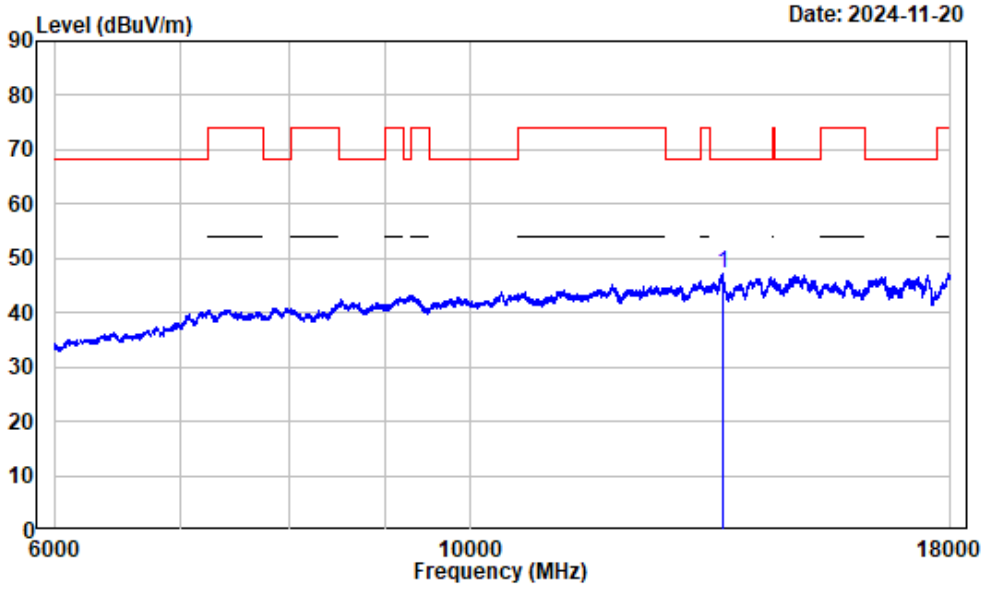
6-18GHz_Vertical_Peak_802.11ac-VHT40_5190MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	10380.000	13.09	44.66	57.75	68.20	-10.45	Peak
2	17942.990	24.21	37.79	62.00	74.00	-12.00	Peak

6-18GHz_Vertical_Average_802.11ac-VHT40_5190MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B1_AC40_5190

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	13608.950	15.26	32.00	47.26	54.00	-6.74	Average

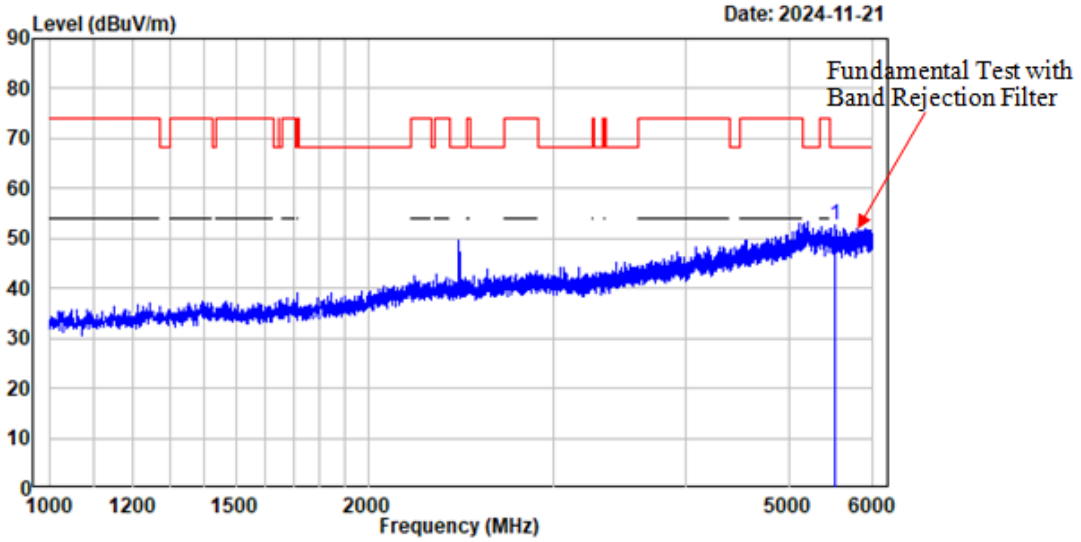
Note: Spectrum Analyzer Setting: RBW=1MHz, VBW=5kHz

1-6GHz_Horizontal_802.11a_5825MHz

Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5921.240	3.81	49.14	52.95	68.20	-15.25	Peak

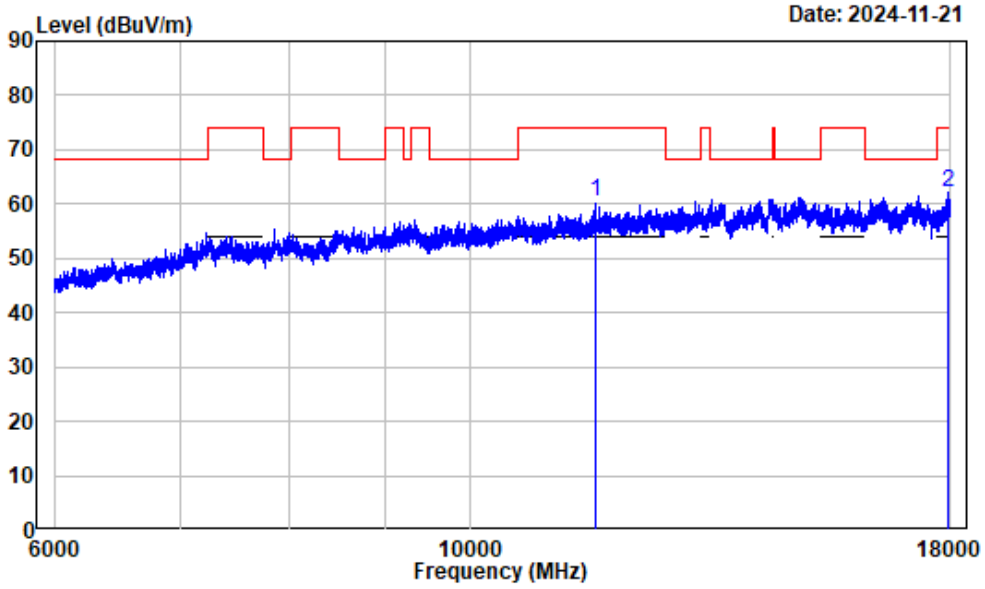
1-6GHz_Vertical_802.11a_5825MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5517.439	3.00	49.80	52.80	68.20	-15.40	Peak

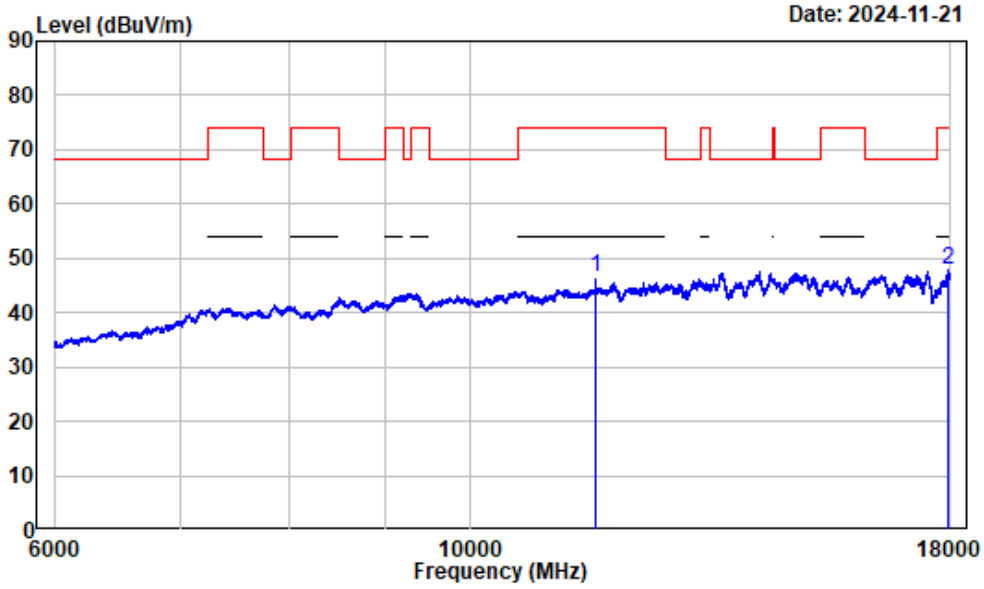
6-18GHz_Horizontal_Peak_802.11a_5825MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11650.000	13.83	46.47	60.30	74.00	-13.70	Peak
2	17942.990	24.21	37.92	62.13	74.00	-11.87	Peak

6-18GHz_Horizontal_Average_802.11a_5825MHz

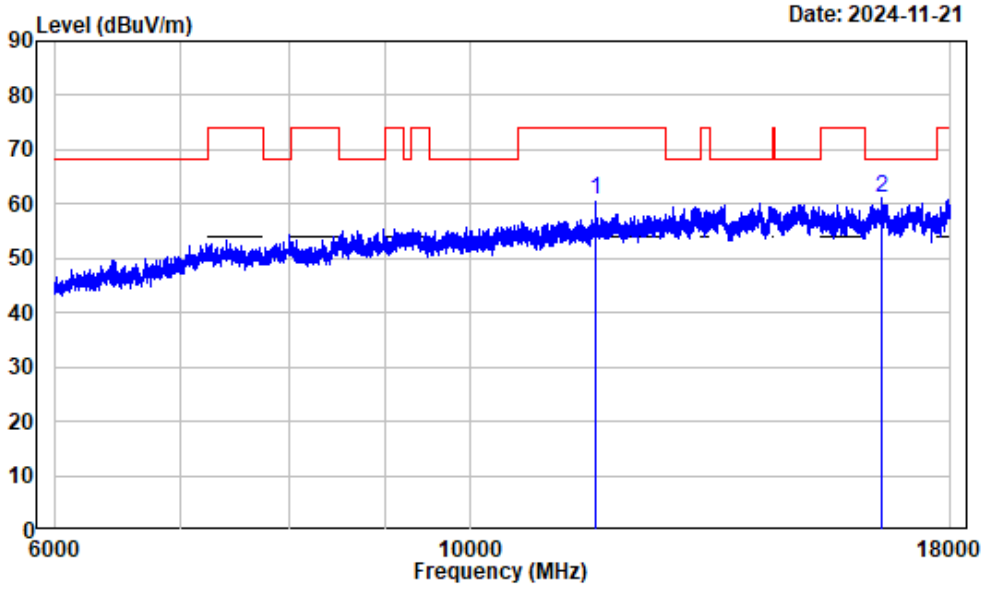


Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11650.000	13.83	32.58	46.41	54.00	-7.59	Average
2	17953.490	24.29	23.48	47.77	54.00	-6.23	Average

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

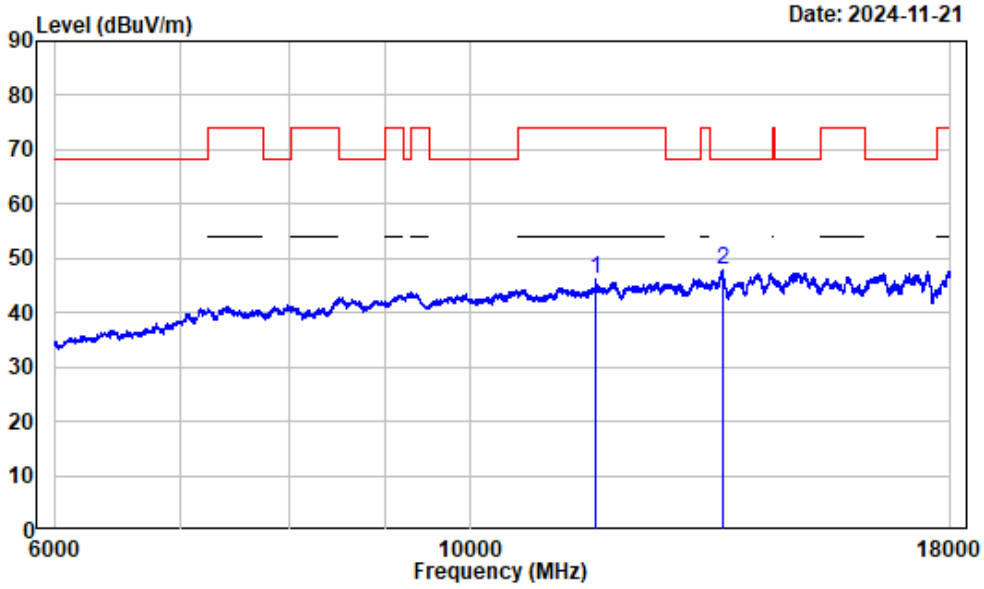
6-18GHz_Vertical_Peak_802.11a_5825MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11650.000	13.83	47.04	60.87	74.00	-13.13	Peak
2	16538.820	15.83	45.38	61.21	68.20	-6.99	Peak

6-18GHz_Vertical_Average_802.11a_5825MHz

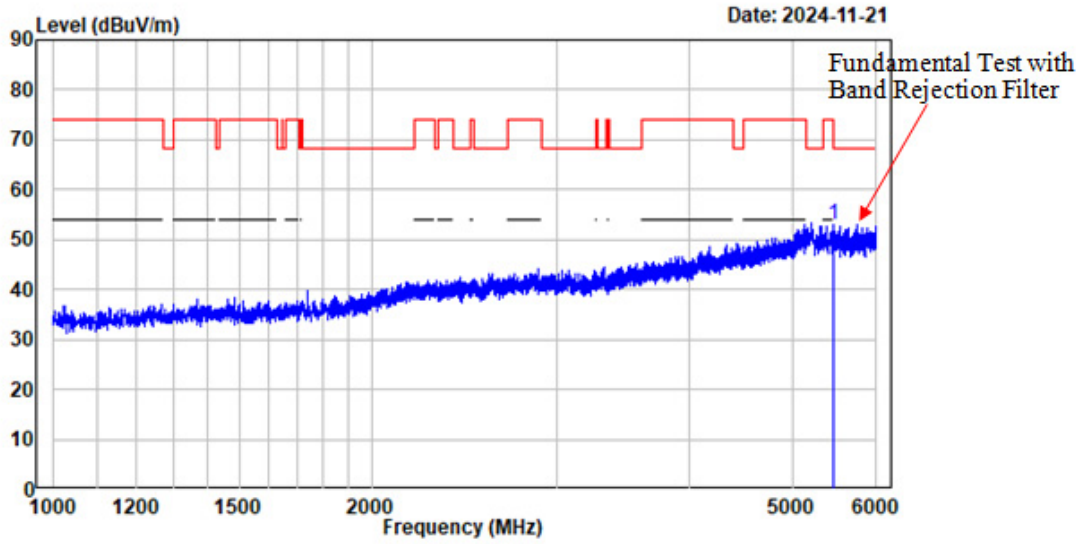


Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_A_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11650.000	13.83	32.34	46.17	54.00	-7.83	Average
2	13608.950	15.26	32.52	47.78	54.00	-6.22	Average

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

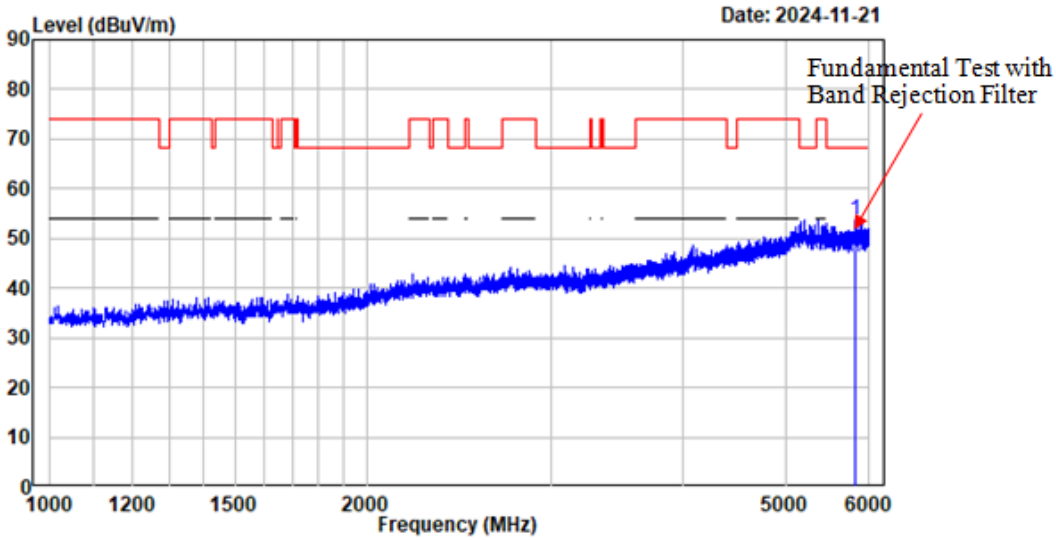
1-6GHz_Horizontal_802.11ac-VHT20_5825MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5461.183	3.06	50.03	53.09	68.20	-15.11	Peak

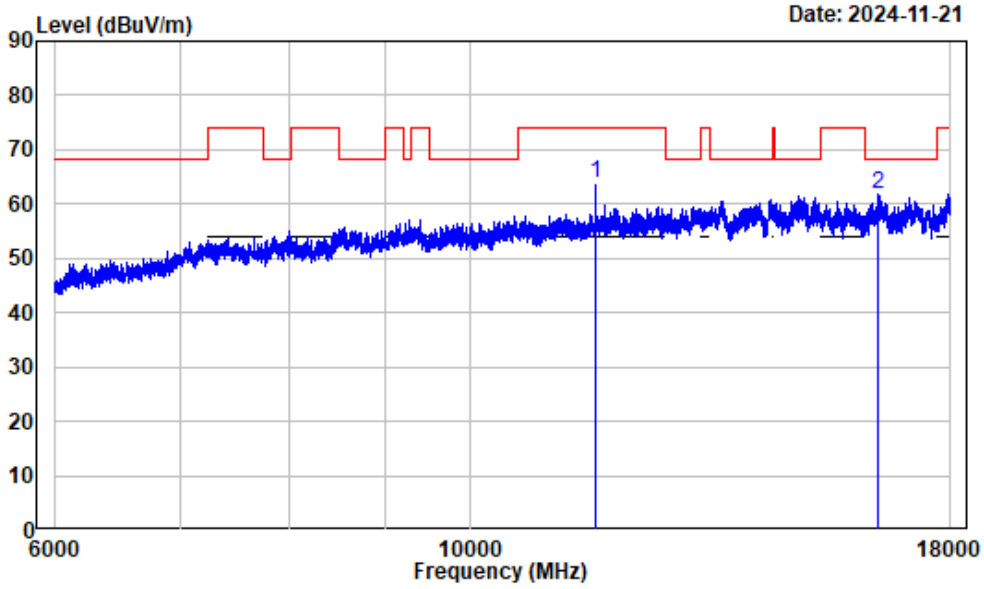
1-6GHz_Vertical_802.11ac-VHT20_5825MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5827.479	3.51	50.31	53.82	68.20	-14.38	Peak

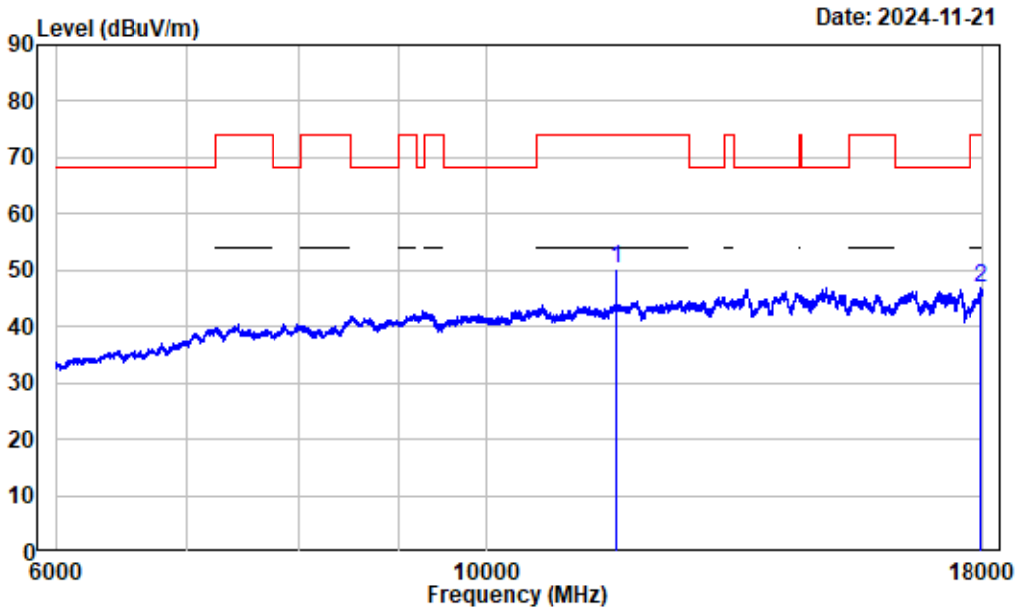
6-18GHz_Horizontal_Peak_802.11ac-VHT20_5825MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11650.000	13.83	50.02	63.85	74.00	-10.15	Peak
2	16475.810	15.66	46.24	61.90	68.20	-6.30	Peak

6-18GHz_Horizontal_Average_802.11ac-VHT20_5825MHz

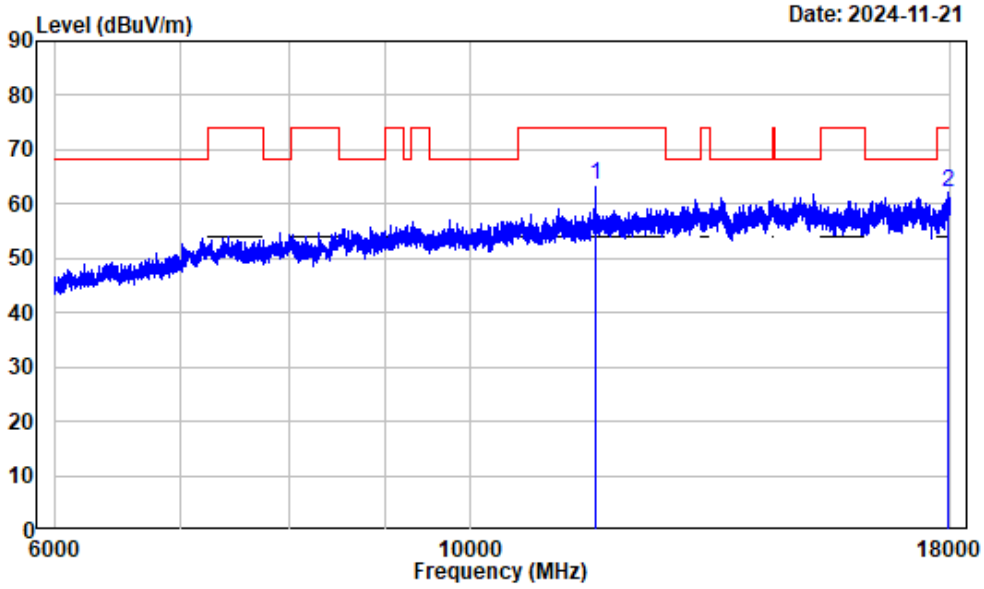


Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11650.000	13.83	36.38	50.21	54.00	-3.79	Average
2	17959.490	24.34	22.56	46.90	54.00	-7.10	Average

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

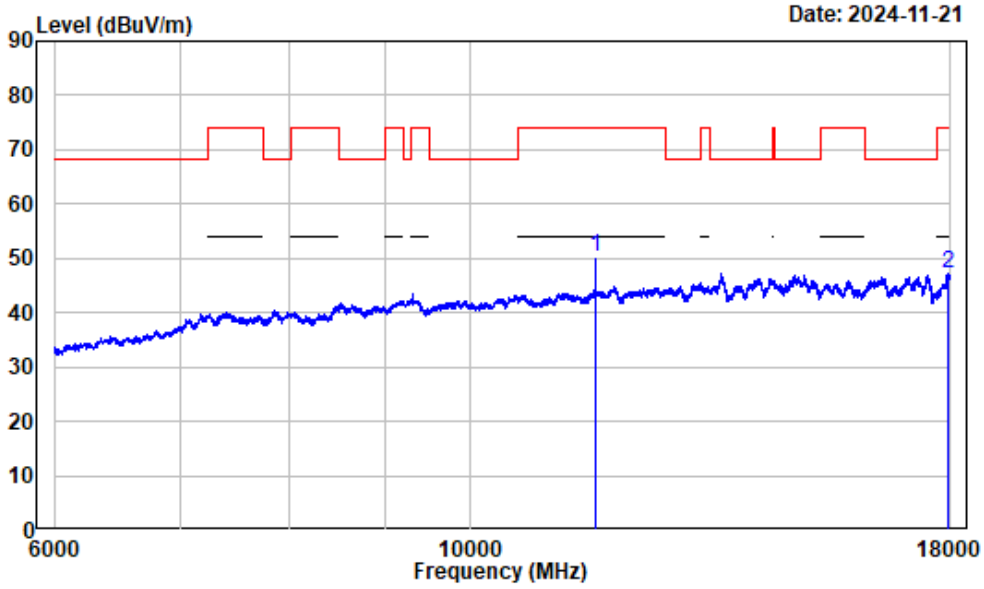
6-18GHz_Vertical_Peak_802.11ac-VHT20_5825MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11650.000	13.83	49.68	63.51	74.00	-10.49	Peak
2	17941.490	24.20	38.00	62.20	74.00	-11.80	Peak

6-18GHz_Vertical_Average_802.11ac-VHT20_5825MHz

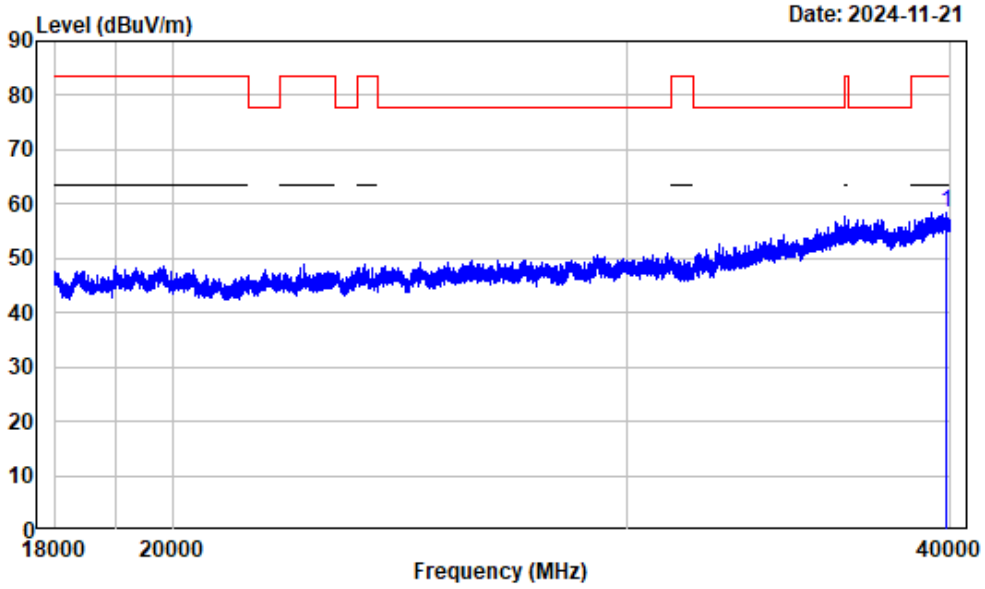


Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11650.000	13.83	36.52	50.35	54.00	-3.65	Average
2	17944.490	24.22	23.10	47.32	54.00	-6.68	Average

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

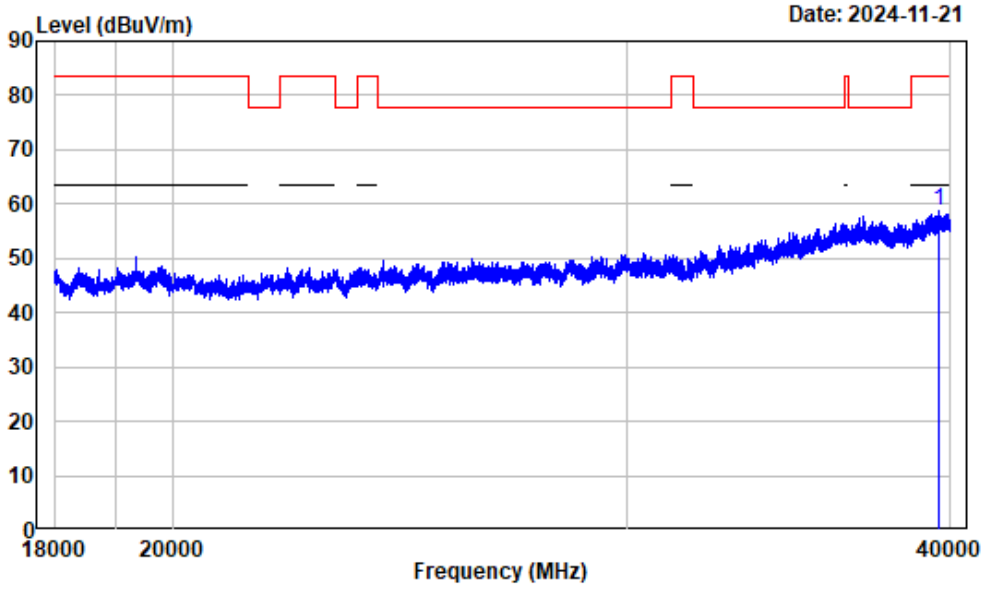
18-40G_Horizontal_Peak_802.11ac-VHT20_5825MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	39862.480	22.53	35.94	58.47	83.50	-25.03	Peak

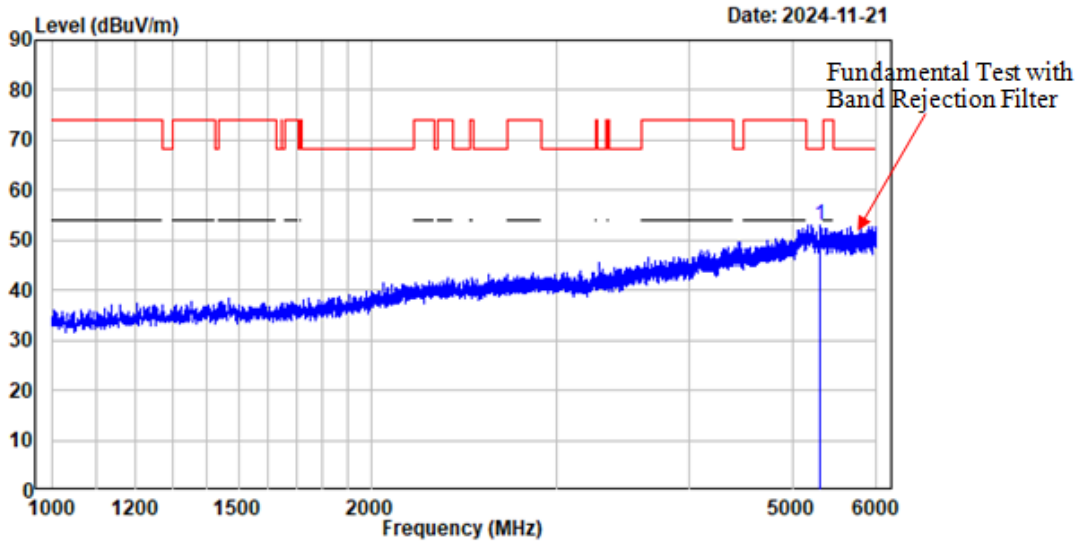
18-40G_Vertical_Peak_802.11ac-VHT20_5825MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC20_5825

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	39559.950	22.73	35.94	58.67	83.50	-24.83	Peak

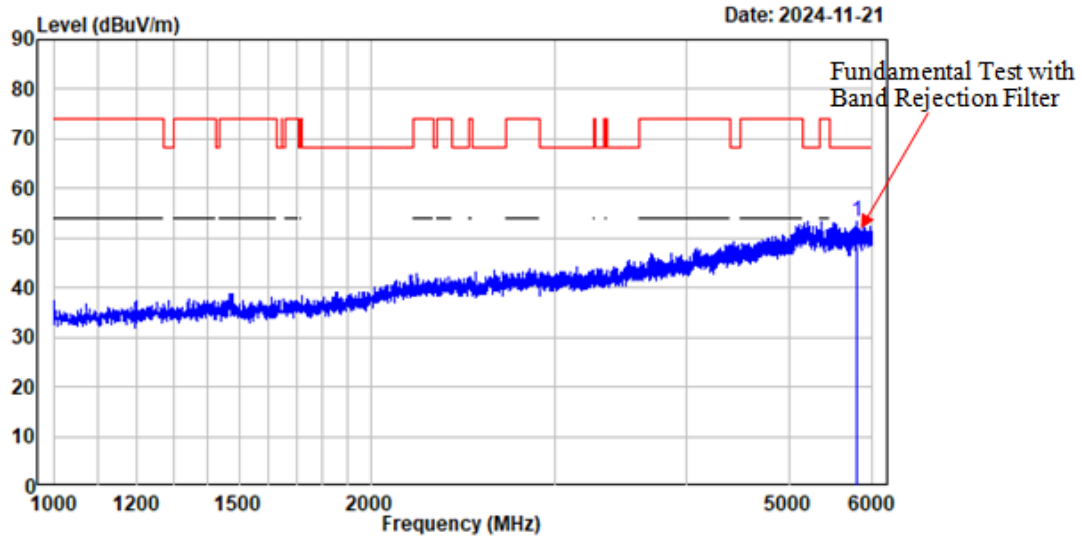
1-6GHz_Horizontal_802.11ac-VHT40_5795MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5795

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5313.664	2.85	50.17	53.02	68.20	-15.18	Peak

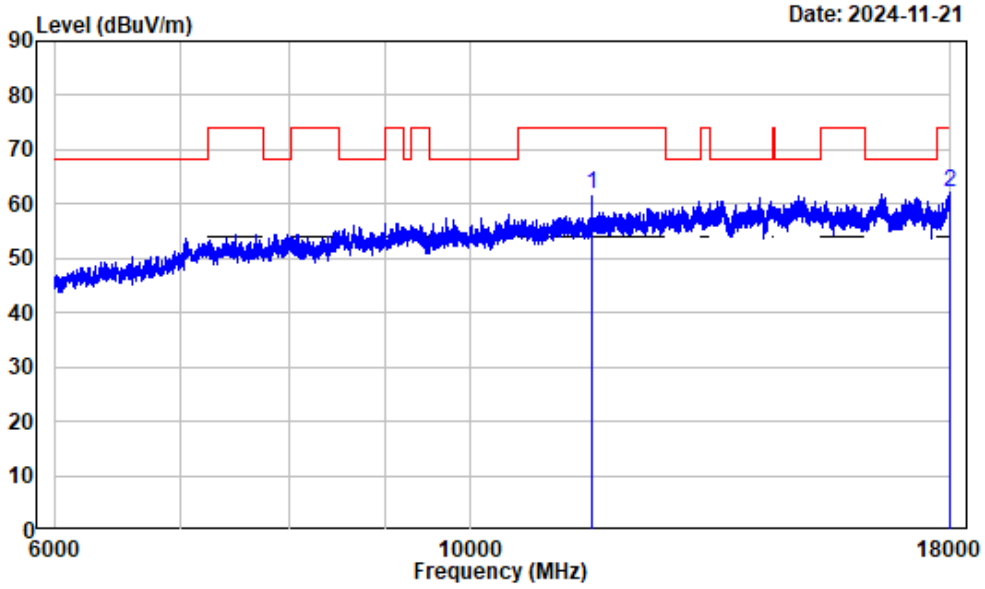
1-6GHz_Vertical_802.11ac-VHT40_5795MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5795

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	5793.099	3.34	49.95	53.29	68.20	-14.91	Peak

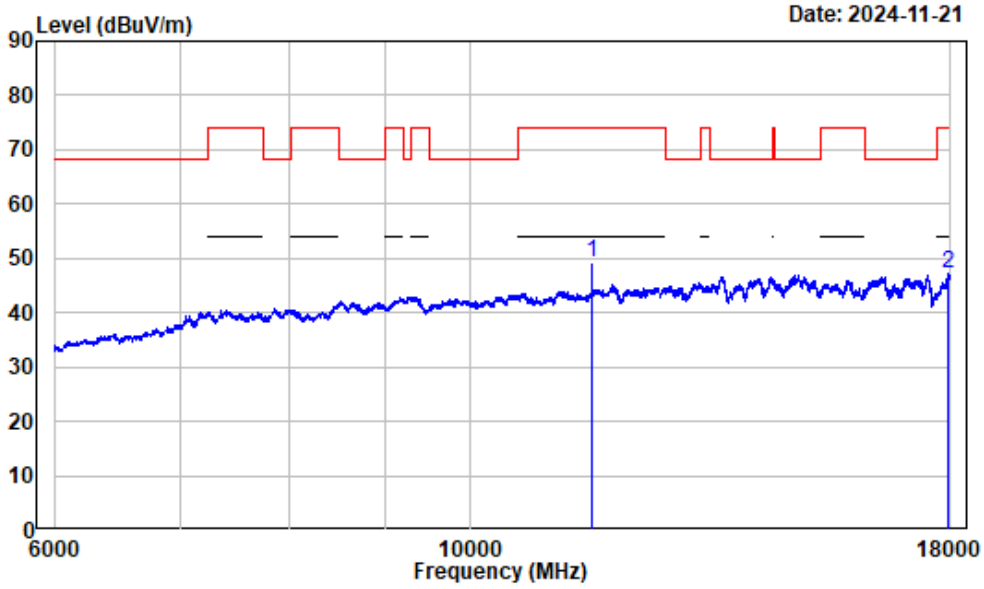
6-18G_Horizontal_Peak_802.11ac-VHT40_5795MHz



Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5795

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11590.000	13.97	47.97	61.94	74.00	-12.06	Peak
2	17976.000	24.44	37.68	62.12	74.00	-11.88	Peak

6-18G_Horizontal_Average_802.11ac-VHT40_5795MHz

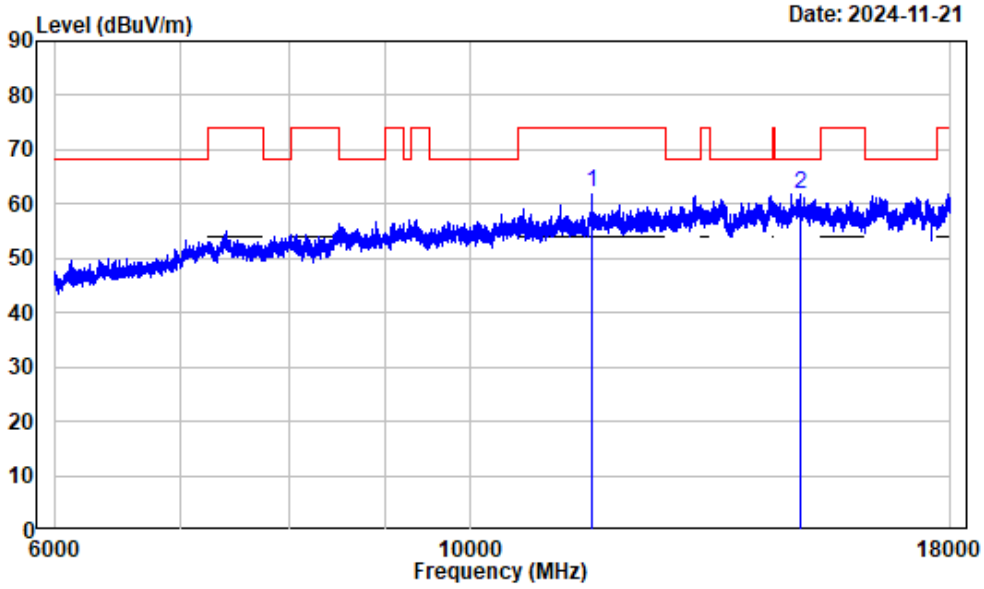


Condition : Horizontal
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5795

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11590.000	13.97	35.30	49.27	54.00	-4.73	Average
2	17959.490	24.34	22.76	47.10	54.00	-6.90	Average

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

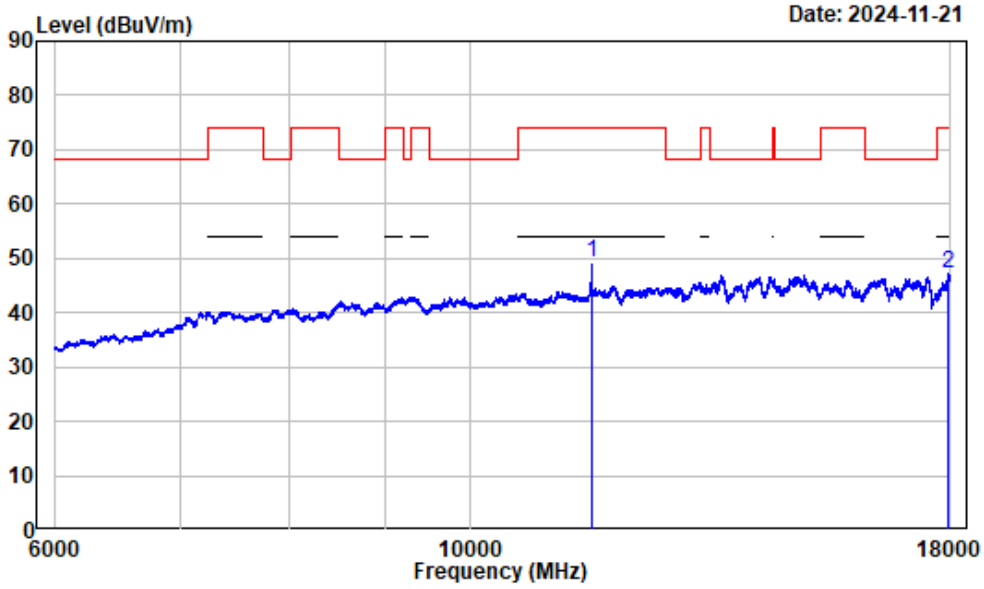
6-18G_Vertical_Peak_802.11ac-VHT40_5795MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5795

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11590.000	13.97	48.02	61.99	74.00	-12.01	Peak
2	14983.120	16.37	45.54	61.91	68.20	-6.29	Peak

6-18G_Vertical_Average_802.11ac-VHT40_5795MHz



Condition : Vertical
Project Number: 2401Y99438E-RF
Tester : Karl Xu
Note : 5G_B4_AC40_5795

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	11590.000	13.97	35.22	49.19	54.00	-4.81	Average
2	17956.490	24.32	22.88	47.20	54.00	-6.80	Average

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

RF Conducted data

Please refer to Annex "Appendix C" for detail test data.

EUT PHOTOGRAPHS

Please refer to the attachment 2401Y99438E-RF External photo and 2401Y99438E-RF Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2401Y99438E-RFE Test Setup photo.

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