

TEST REPORT

Applicant Name : Shenzhen Topwise Communication Co.,Ltd
Address : Floor5, Shengtang Mansion East Block, Tairan 9thRd, Shenzhen, China
Report Number: 2504Q09049E-RF-00C
FCC ID: 2BBKD-T6

Test Standard (s)

FCC PART 15.247

Sample Description

Product Type: Point of Sale Terminal
Model No.: T6
Trade Mark: TOPWISE
Date Received: 2025-02-20
Date of Test: 2025-02-25 to 2025-06-10
Report Date: 2025-06-16

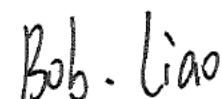
Test Result:	The EUT complied with the standards above.
--------------	--

Prepared and Checked By:



Roger Ling
EMC Engineer

Approved By:



Bob Liao
EMC Engineer

Note: This report must not be used by the customer to claim product certification, approval, or endorsement by A2LA, or any agency of the Federal Government. 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 but no need marked.

This report cannot be reproduced except in full, without prior written approval of the Company. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

Shenzhen Accurate Technology Co., Ltd.

Floor 1, KuMaKe Building, Dongzhou Community, Guangming Street, Guangming District, Shenzhen, Guangdong, China.

Tel: +86 755-26503290

Web: www.atc-lab.com

TABLE OF CONTENTS

DOCUMENT REVISION HISTORY	4
GENERAL INFORMATION	5
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	5
OBJECTIVE	6
TEST METHODOLOGY	6
TEST FACILITY	6
MEASUREMENT UNCERTAINTY	6
SYSTEM TEST CONFIGURATION	7
DESCRIPTION OF TEST CONFIGURATION.....	7
EUT EXERCISE SOFTWARE AND POWER LEVEL [#]	7
SPECIAL ACCESSORIES	7
EQUIPMENT MODIFICATIONS	7
SUPPORT EQUIPMENT LIST AND DETAILS	8
EXTERNAL I/O CABLE	8
BLOCK DIAGRAM OF TEST SETUP	8
SUMMARY OF TEST RESULTS	10
TEST EQUIPMENT LIST	11
RF EXPOSURE	13
APPLICABLE STANDARD.....	13
TEST RESULT	13
FCC §15.203-ANTENNA REQUIREMENT	14
APPLICABLE STANDARD.....	14
ANTENNA CONNECTOR CONSTRUCTION	14
FCC §15.207 (a) - AC LINE CONDUCTED EMISSIONS	15
APPLICABLE STANDARD.....	15
EUT SETUP	15
EMI TEST RECEIVER SETUP.....	15
TEST PROCEDURE	15
CALCULATION	16
TEST DATA	16
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS	19
APPLICABLE STANDARD.....	19
EUT SETUP	19
EMI TEST RECEIVER& SPECTRUM ANALYZER SETUP	21
TEST PROCEDURE	21
CALCULATION	22
TEST DATA	22
FCC §15.247(a) (2)-6 dB EMISSION BANDWIDTH & OCCUPIED BANDWIDTH	94
APPLICABLE STANDARD.....	94
TEST PROCEDURE	94
TEST DATA	94
FCC §15.247(b) (3)-MAXIMUM CONDUCTED OUTPUT POWER	95
APPLICABLE STANDARD.....	95
TEST PROCEDURE	95
TEST DATA	95
FCC §15.247(d)-100 kHz BANDWIDTH OF FREQUENCY BAND EDGE	96
APPLICABLE STANDARD.....	96
TEST PROCEDURE	96
TEST DATA	96

FCC §15.247(e)-POWER SPECTRAL DENSITY	97
APPLICABLE STANDARD.....	97
TEST PROCEDURE	97
TEST DATA	98
APPENDIX (RF TEST RESULTS)	99
6dB EMISSION BANDWIDTH	99
99% OCCUPIED BANDWIDTH	103
MAXIMUM CONDUCTED OUTPUT POWER	107
POWER SPECTRAL DENSITY	109
100 kHz BANDWIDTH OF FREQUENCY BAND EDGE	113
DUTY CYCLE.....	117
EXHIBIT A - EUT PHOTOGRAPHS	121
EXHIBIT B - TEST SETUP PHOTOGRAPHS	122

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
Rev.00	2504Q09049E-RF-00C	Original Report	2025-06-16

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Point of Sale Terminal
Tested Model	T6
Voltage Range [#]	DC 7.2V from battery DC 5V from adapter or desktop charger
Adapter 1 Information [#]	Model:TPA-141A050200UU01 Input:100-240V~,50/60Hz,0.3A Output:5.0V === 2.0A
Adapter 2 Information [#]	Model:PS10UA050K2000UU Input:100-240V~,50/60Hz,0.35A Max Output:5.0V === 2.0A
Desktop Charger Information [#]	Model: T6-BASE-Extension Power: 5V === 2A Function: Charge + Data
Note: The device comes with two adapters, a desktop charger and an USB cable (1.0m).	

Frequency Range	2.4G Wi-Fi: 2412-2462MHz, 2422-2452MHz
Mode	802.11b/g/n20/n40
Maximum Conducted Output Power	23.55 dBm
Modulation Technique	DSSS, OFDM
Antenna Specification [#]	Internal Antenna: 2.9 dBi (It is provided by the applicant.)
Sample Serial Number	2YOF-1 (CE&RE), 2YOF-2 (RF Conducted Test) (Assigned by ATC, Shenzhen)
Sample/EUT Status	Good condition

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 C63.10-2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

And KDB 558074 D01 15.247 Meas Guidance v05r02.

Unless otherwise stated there are no any additions to, deviations, or exclusions from the method.

Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the Floor 1, KuMaKe Building, Dongzhou Community, Guangming Street, Guangming District, Shenzhen, Guangdong, China.

Accredited by American Association for Laboratory Accreditation (A2LA). The Certificate Number is 4297.01.

Measurement Uncertainty

Parameter	Uncertainty
Occupied Channel Bandwidth	5%
RF Frequency	0.064×10^{-7}
RF output power, conducted	0.3 dB
Unwanted Emission, conducted	1.2 dB
AC Power Lines Conducted Emissions	2.7 dB
Emissions, Radiated	9kHz - 30MHz
	30MHz - 1GHz
	1GHz - 18GHz
	18GHz - 26.5GHz
Temperature	1°C
Humidity	7%
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.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

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

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

802.11b, 802.11g, 802.11n20 mode was tested with Channel 1, 6 and 11.

802.11n40 mode was tested with Channel 3, 6 and 9.

Test Mode
The system was configured for testing in a typical fashion (as normally used by a typical user).
Test Mode 1: Charging by Adapter 1 + Transmitting
Test Mode 4: Charging by Desktop Charger(Adapter 2) + Transmitting + Data transfer
Note: According to BT report test result, tested the worst case(test mode 4) for AC Line Conducted Emissions and the worst case(test mode 1) for Radiated Spurious Emissions(Below 1GHz) in this report.

EUT Exercise Software and Power Level[#]

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

Exercise Software:		Engineering mode		
Mode	Data Rate	Power Level		
		Low Channel	Middle Channel	High Channel
802.11 b	1Mbps	15	15	15
802.11 g	6Mbps	15	15	15
802.11 n20	MCS0	15	15	15
802.11 n40	MCS0	15	15	15

Note 1: The information in the above table is provided by the applicant.

Note 2: The worse-case data rates are determined to be as above for each mode based upon investigations by measuring the output 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
DELL	Laptop	XXJL-2	FKLWV32
Unknown	SIM card	Unknown	Unknown
Kingston	TF card	64G	Unknown

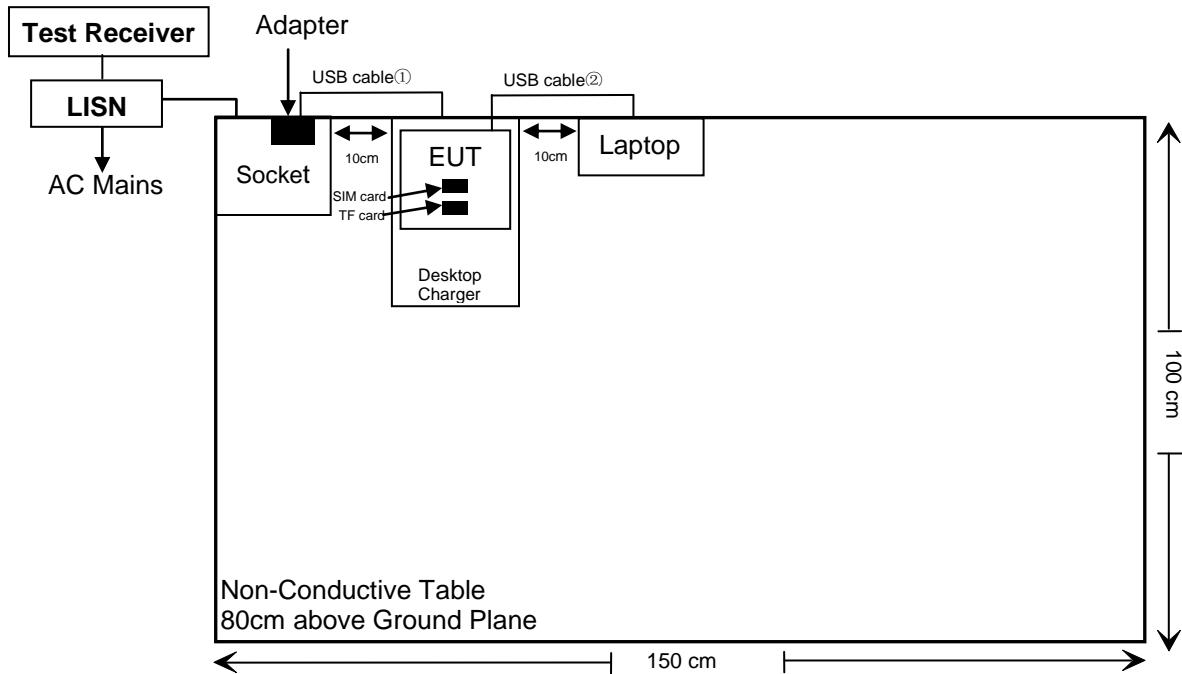
External I/O Cable

Cable Description	Shielding Type	Length (m)	From Port	To
USB Cable①	NO	1.0	Adapter	EUT/Desktop Charger
USB Cable②	NO	1.0	EUT	Laptop EUT

Block Diagram of Test Setup

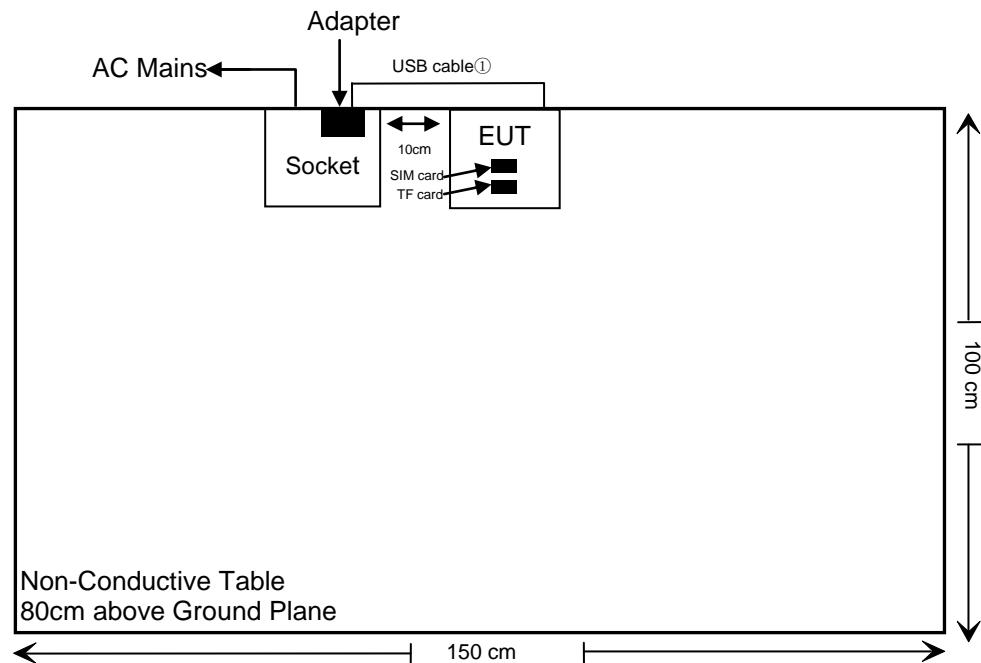
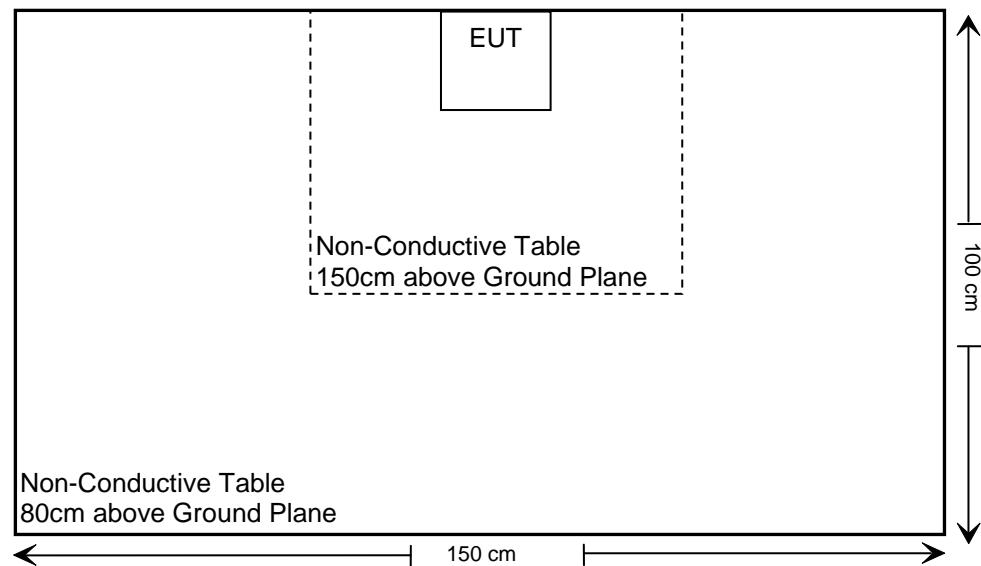
For Conducted Emission:

Test mode 4



For Radiated Emission Below 1GHz:

Test mode 1

**For Radiated Emission Above 1GHz:**

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§2.1093	RF Exposure(SAR)	Compliance
§15.203	Antenna Requirement	Compliance
§15.207(a)	AC Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Radiated Spurious Emissions	Compliance
§15.247(a)(2)	6 dB Emission Bandwidth & Occupied Bandwidth	Compliance
§15.247(b)(3)	Maximum Conducted Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

Note 1: For AC line conducted emissions, the maximum output power mode and channel was tested.

Note 2: For Radiated Spurious Emissions 9kHz~1GHz, the maximum output power mode and channel was tested.

Note 3: For Radiated Spurious Emissions, after pre-scan in the X, Y and Z axes of orientation, the worst case as setup photos was recorded.

Note 4: The cable loss is 0.5dB, which was added into the all RF test results.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde & Schwarz	EMI Test Receiver	ESCI	100784	2024/11/08	2025/11/07
Rohde & Schwarz	L.I.S.N.	ENV216	101314	2024/11/08	2025/11/07
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2024/10/08	2025/10/07
Rohde & Schwarz	Pulse Limiter	ESH3-Z2	100312	2024/10/08	2025/10/07
Unknown	RF Coaxial Cable	No.17	N0350	2024/10/08	2025/10/07
Test Software: e3 191218 (V9)					
Radiated Spurious Emission Test(Below 1GHz)					
Rohde & Schwarz	Test Receiver	ESR	102725	2024/11/08	2025/11/07
SONOMA INSTRUMENT	Amplifier	310N	186131	2024/05/24	2025/05/23
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2024/08/08	2027/08/07
Unknown	RF Coaxial Cable	No.12	N040	2024/10/08	2025/10/07
Unknown	RF Coaxial Cable	No.13	N300	2024/10/08	2025/10/07
Unknown	RF Coaxial Cable	No.14	N800	2024/10/08	2025/10/07
BACL	LOOP ANTENNA	1313-1A	3110711	2024/01/16	2027/01/15
Test Software: e3 191218 (V9)					
Radiated Spurious Emission Test(Above 1GHz)					
Rohde & Schwarz	Spectrum Analyzer	FSV40	101949	2024/10/08	2025/10/07
Decentest	Filter Switch Unit	DT7220FSU	DQ77927	2024/10/08	2025/10/07
Decentest	Multiplex Switch Test Control Set	DT7220CSU	DQ77924	2024/10/08	2025/10/07
A.H. Systems, inc.	Preamplifier	PAM-0118	226	2024/05/24	2025/05/23
Schwarzbeck	Horn Antenna	BBHA9120D	837	2023/02/22	2026/02/21
Unknown	RF Coaxial Cable	No.10	N050	2024/10/08	2025/10/07
Unknown	RF Coaxial Cable	No.11	N1000	2024/10/08	2025/10/07
Unknown	RF Coaxial Cable	No.19	N500	2024/10/08	2025/10/07
Schwarzbeck	HORN ANTENNA	BBHA9170	9170-359	2023/12/12	2026/12/11
BACL	Amplifier	BACL-1313-A1840	4012521	2024/07/05	2025/07/04
Unknown	RF Coaxial Cable	No.15	N600	2024/10/08	2025/10/07
Unknown	RF Coaxial Cable	No.16	N650	2024/10/08	2025/10/07
Test Software: e3 191218 (V9)					

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted test					
Rohde & Schwarz	Spectrum Analyzer	FSV-40	101948	2024/10/08	2025/10/07
Anritsu	Microwave Peak Power Sensor	MA24418A	12619	2024/05/24	2025/05/23
WEINSCHEL	10dB Attenuator	5324	AU 3842	2024/10/08	2025/10/07

Test Software: JDAutoTestSystem V1.0.0

* **Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Please refer to the SAR report number: 2503Q09049E-SA.

FCC §15.203-ANTENNA REQUIREMENT

Applicable Standard

According to § 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

1. Antenna must be permanently attached to the unit.
2. Antenna must use a unique type of connector to attach to the EUT.
3. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has one internal antenna arrangement, which were permanently attached to the EUT, fulfill the requirement of this section. Please refer to the EUT photos.

Frequency Range	Antenna gain
2412-2462MHz	2.9dBi

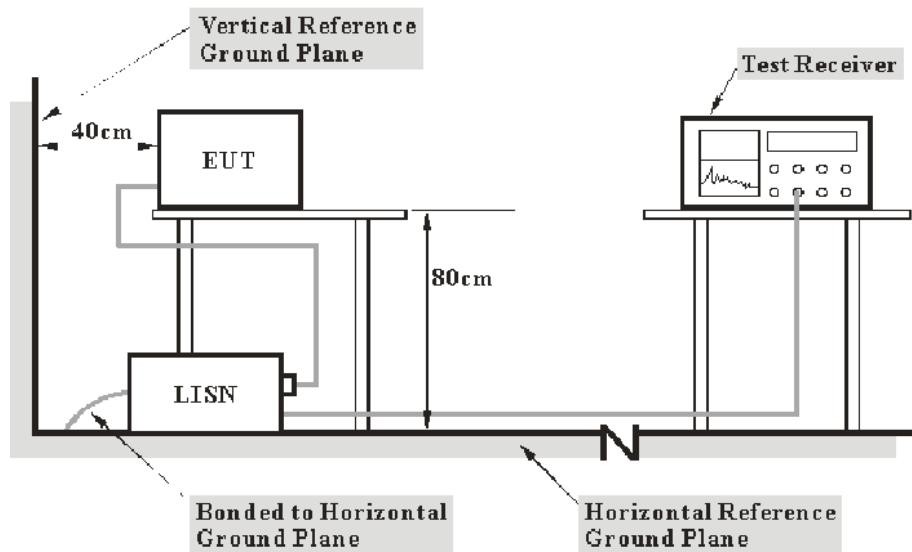
Result: Compliance.

FCC §15.207 (a) - AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a).

EUT Setup



Note:

1. Support units were connected to second LISN.
2. Both of LISNs (AMIN) 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 C63.10-2020 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 outlet of the LISN.

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

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

Calculation

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

$$\text{Factor} = \text{LISN VDF} + \text{Cable Loss} + 10\text{dB Attenuation(Limiter)}$$

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:

$$\text{Over Limit} = \text{Level} - \text{Limit}$$

$$\text{Level} = \text{Read Level} + \text{Factor}$$

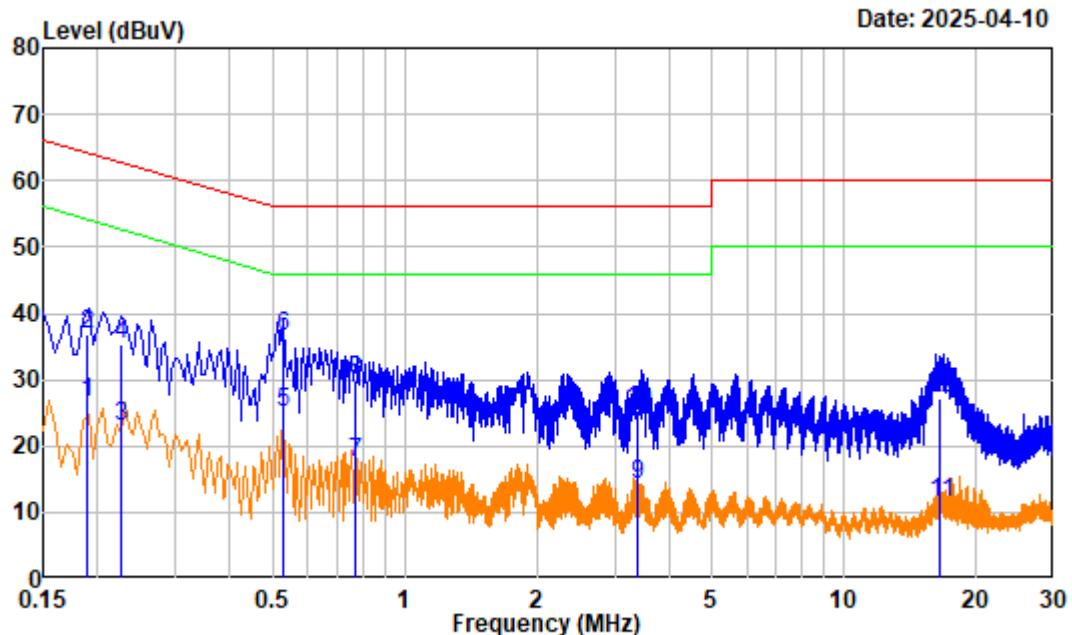
Test Data

Environmental Conditions

Temperature:	23.4 °C
Relative Humidity:	52 %
ATM Pressure:	101.3 kPa
Test Engineer:	Jason Fan
Test Date:	2025-04-10
EUT Operation Mode:	2.4G WIFI Transmitting

Test Result: Compliance, please refer to the below data.

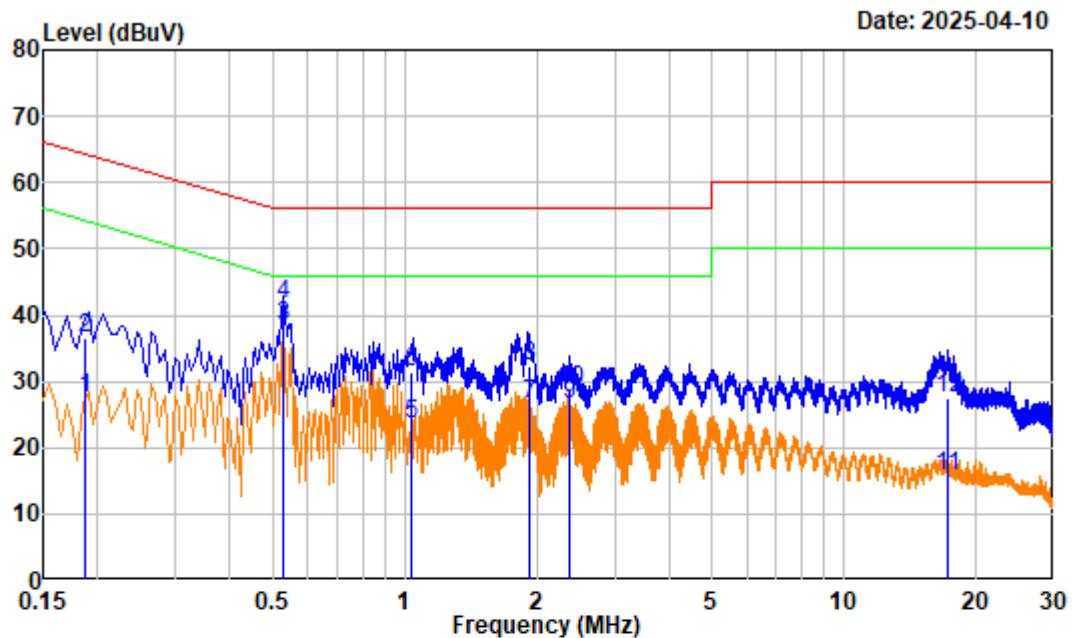
Note: The maximum output power mode and channel: 2.4G WIFI 802.11n40 Low Channel was tested.

For Test Mode 4**AC 120V/60Hz, Line:**

Site : Shielding Room
 Condition: Line
 Job No. : 2504Q09049E-RF
 Test Mode: 2.4G WIFI transmitting
 Tester : Jason Fan Note: mode 4#
 Setting : IF B/W 9kHz PK/AV

Freq	Factor	Read	Limit	Over	Remark
		Level	Level	Line	
1	0.189	20.28	6.34	26.62	54.10 -27.48 Average
2	0.189	20.28	16.56	36.84	64.10 -27.26 QP
3	0.226	20.29	2.62	22.91	52.61 -29.70 Average
4	0.226	20.29	15.09	35.38	62.61 -27.23 QP
5	0.529	20.19	4.73	24.92	46.00 -21.08 Average
6	0.529	20.19	16.40	36.59	56.00 -19.41 QP
7	0.774	20.57	-3.08	17.49	46.00 -28.51 Average
8	0.774	20.57	9.36	29.93	56.00 -26.07 QP
9	3.370	20.72	-6.38	14.34	46.00 -31.66 Average
10	3.370	20.72	4.61	25.33	56.00 -30.67 QP
11	16.583	19.77	-8.23	11.54	50.00 -38.46 Average
12	16.583	19.77	7.49	27.26	60.00 -32.74 QP

AC 120V/60Hz, Neutral:



Site : Shielding Room
 Condition: neutral
 Job No. : 2504Q09049E-RF
 Test Mode: 2.4G WIFI transmitting
 Tester : Jason Fan Note:mode 4#
 Setting : IF B/W 9kHz PK/AV

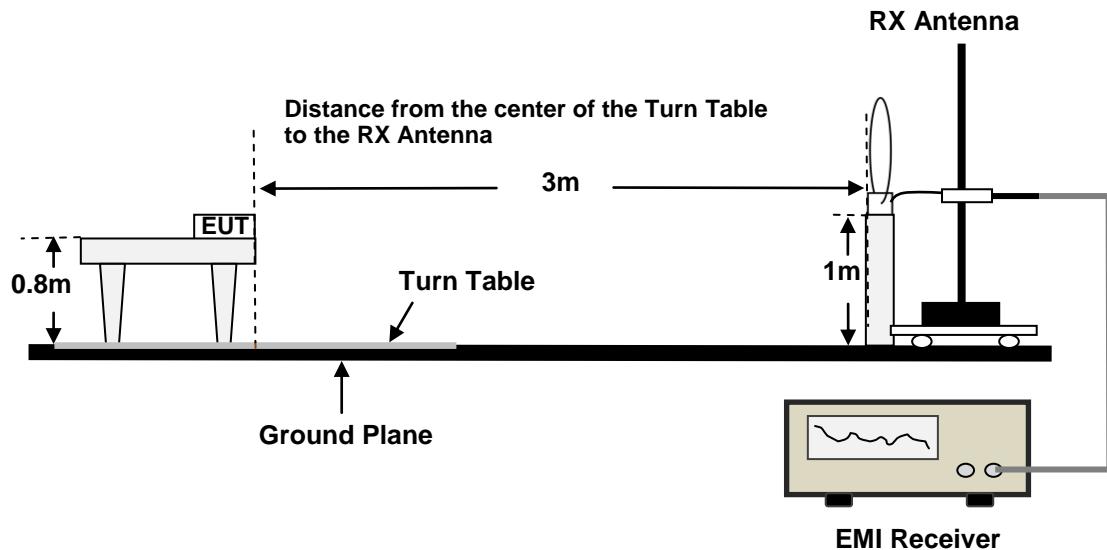
Freq	Factor	Read		Limit		Over	Remark
		MHz	dB	dBuV	dBuV	Line	dB
1	0.188	19.85	7.71	27.56	54.13	-26.57	Average
2	0.188	19.85	16.54	36.39	64.13	-27.74	QP
3	0.529	20.47	17.74	38.21	46.00	-7.79	Average
4	0.529	20.47	21.22	41.69	56.00	-14.31	QP
5	1.039	20.68	2.82	23.50	46.00	-22.50	Average
6	1.039	20.68	10.73	31.41	56.00	-24.59	QP
7	1.915	20.15	6.43	26.58	46.00	-19.42	Average
8	1.915	20.15	12.29	32.44	56.00	-23.56	QP
9	2.368	20.21	6.49	26.70	46.00	-19.30	Average
10	2.368	20.21	8.57	28.78	56.00	-27.22	QP
11	17.172	20.24	-4.67	15.57	50.00	-34.43	Average
12	17.172	20.24	7.32	27.56	60.00	-32.44	QP

FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS**Applicable Standard**

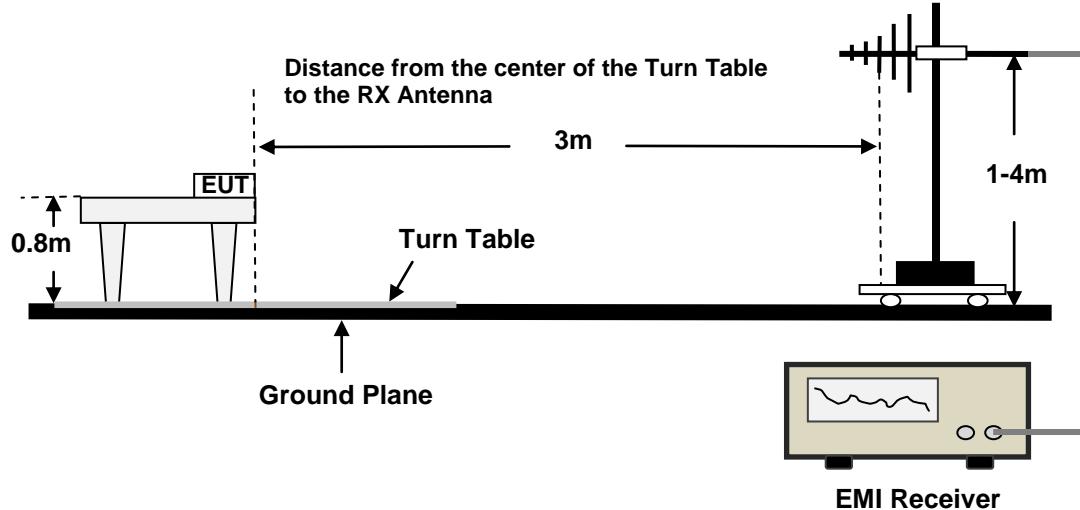
FCC §15.205; §15.209; §15.247(d)

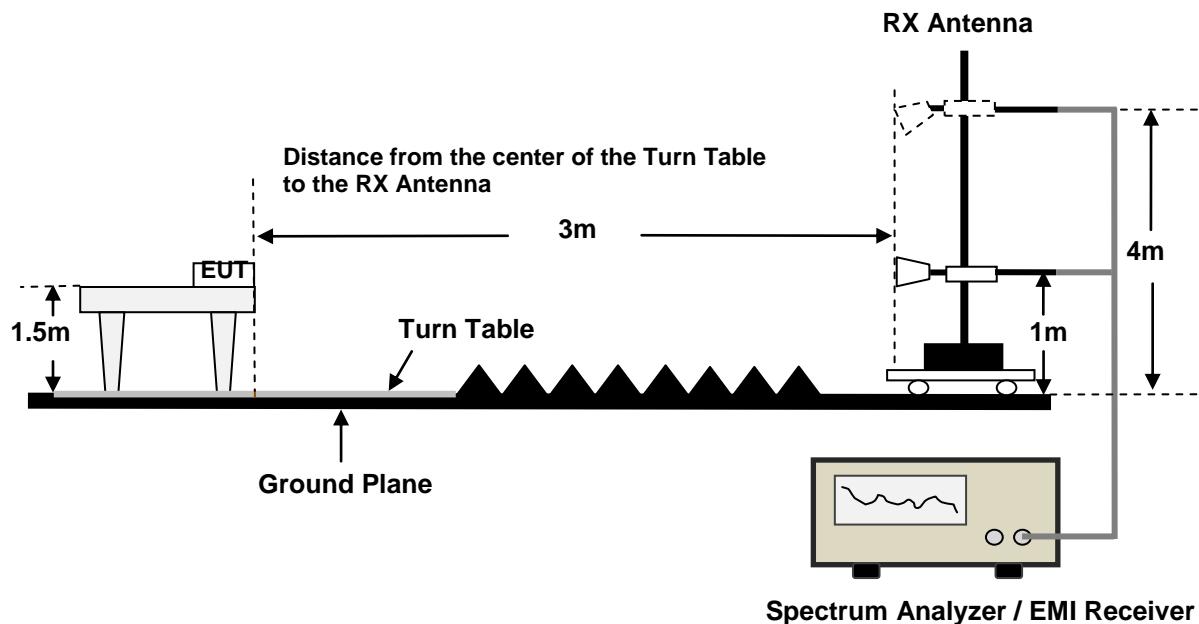
EUT Setup

9kHz - 30MHz:



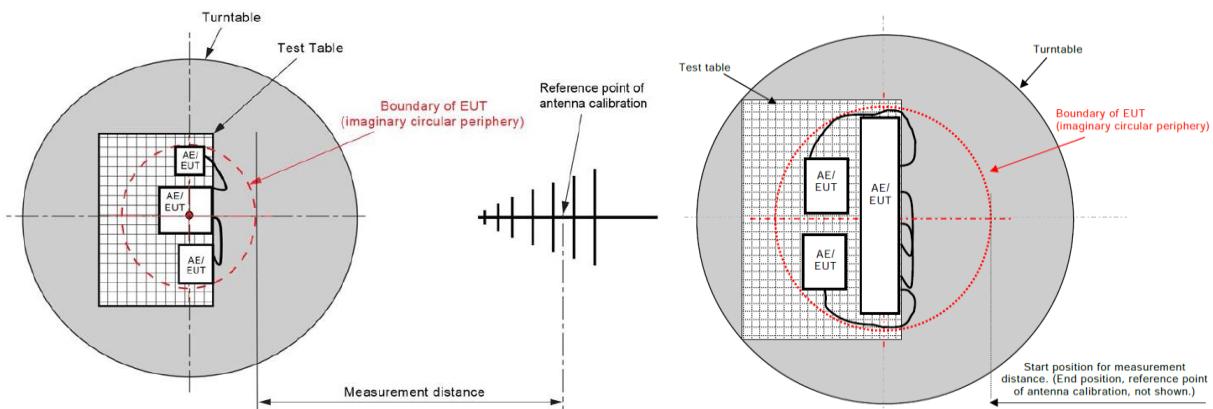
30MHz - 1GHz:



Above 1GHz:

Boundary of the EUT, local AE and associated cabling and measurement distance for radiated emissions measurements:

The central point of the arrangement shall be positioned at the centre of the turntable. The measurement distance is the shortest horizontal distance between an imaginary circular periphery just encompassing this arrangement and the calibration point of the antenna. See as below Figure C.1 and C.2.



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

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9kHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

9kHz - 1000MHz:

Frequency Range	Measurement	RBW	Video B/W	IF B/W	Detector
9kHz - 150kHz	PK	0.3kHz	1kHz	/	PK
	QP/AV	/	/	200Hz	QP/AV
150kHz - 30MHz	PK	10kHz	30kHz	/	PK
	QP/AV	/	/	9kHz	QP/AV
30MHz - 1000MHz	PK	100kHz	300kHz	/	PK
	QP	/	/	120kHz	QP

1GHz-25GHz:

Pre-scan:

Measurement	Detector	Duty cycle	RBW	Video B/W
PK	Peak	Any	1MHz	3MHz
Ave.	Peak	>98%	1MHz	3kHz
		<98%	1MHz	≥1/T, no less than 5 kHz

Final measurement for emission identified during the pre-scan:

Measurement	Detector	Duty cycle	RBW	Video B/W
PK	Peak	Any	1MHz	3MHz
Ave.	Peak	>98%	1MHz	3kHz

Note 1: T is minimum transmission duration

Note 2: Fundamental test with Filter Switch Unit.

Test Procedure

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

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

According to ANSI C63.10-2020,9.2: For field strength measurements made at other than the distance specified by the limit, 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).

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

where

- $E_{\text{SpecLimit}}$ is the field strength of the emission at the distance specified by the limit, in dBuV/m
- E_{Meas} is the field strength of the emission at the measurement distance, in dBuV/m
- D_{Meas} is the measurement distance, in m
- $D_{\text{SpecLimit}}$ is the distance specified by the limit, in m

Note 1: If the maximized peak measured value is under the QP/Average limit by more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Note 2: For above 1GHz, the test result of peak was 20dB below to the limit of peak, which can be compliant to the average limit, so just peak value was recorded.

Calculation

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

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

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

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

Test Data

9kHz-1GHz

Environmental Conditions

Temperature:	22.1 to 24.2 °C
Relative Humidity:	48 to 54 %
ATM Pressure:	100.2 to 101.3 kPa
Test Engineer:	Matt Liang
Test Date:	2025-04-11 to 2025-05-10
EUT Operation Mode:	2.4G WIFI Transmitting

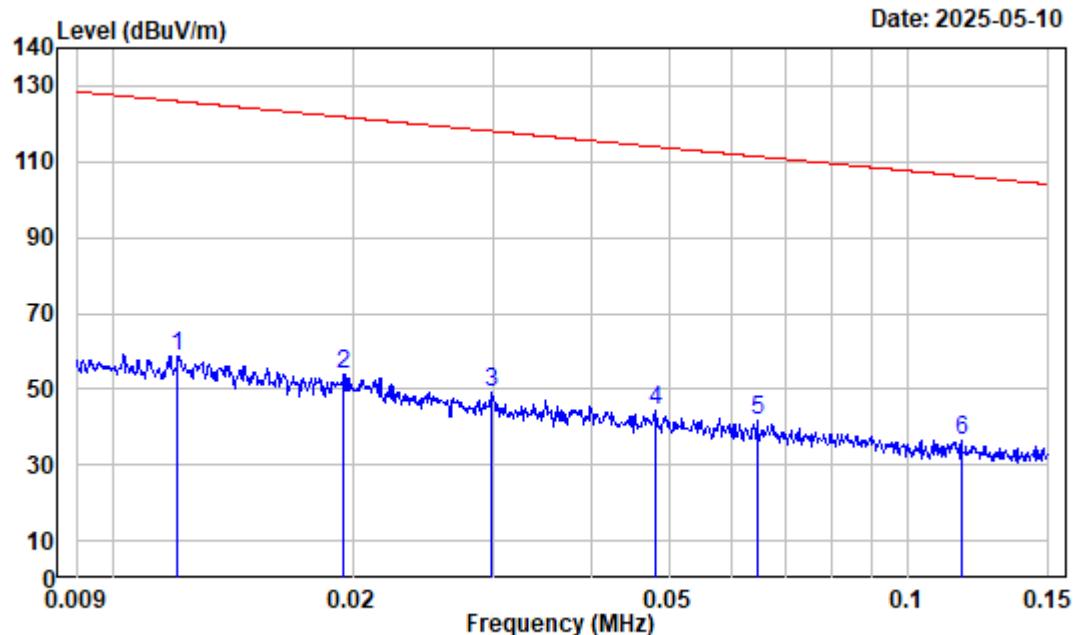
Test Result: Compliance, please refer to the below data.

Note 1: The Loop Antenna were tested in parallel, perpendicular, and ground-parallel. The worst orientation was parallel and the data was recorded in report.

Note 2: The maximum output power mode and channel: 2.4G WIFI 802.11n40 Low Channel was tested.

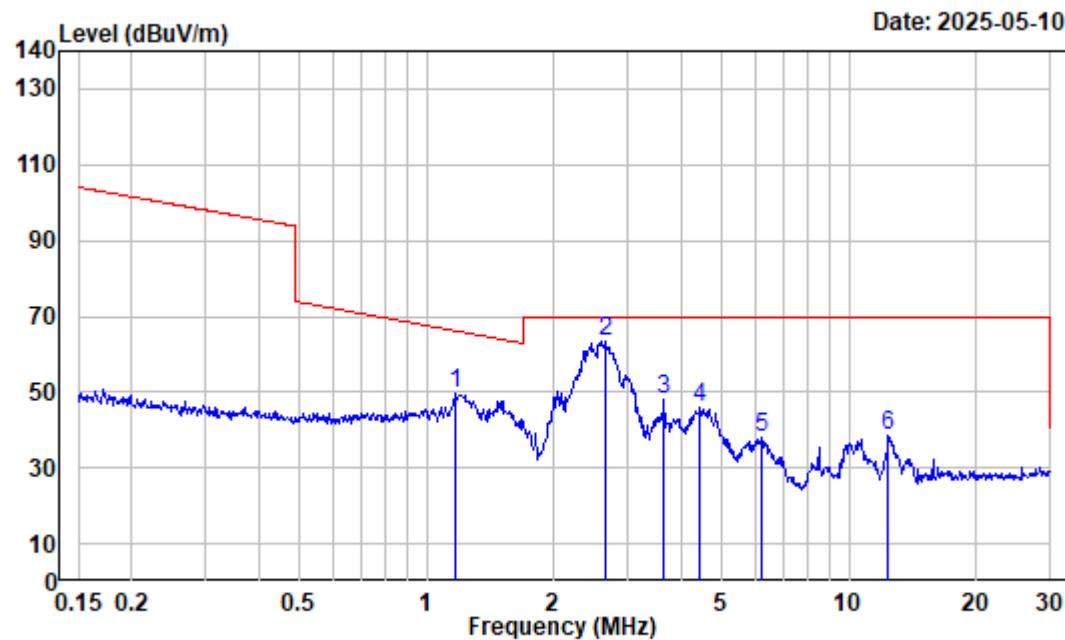
For Test Mode 1

9kHz~30MHz:



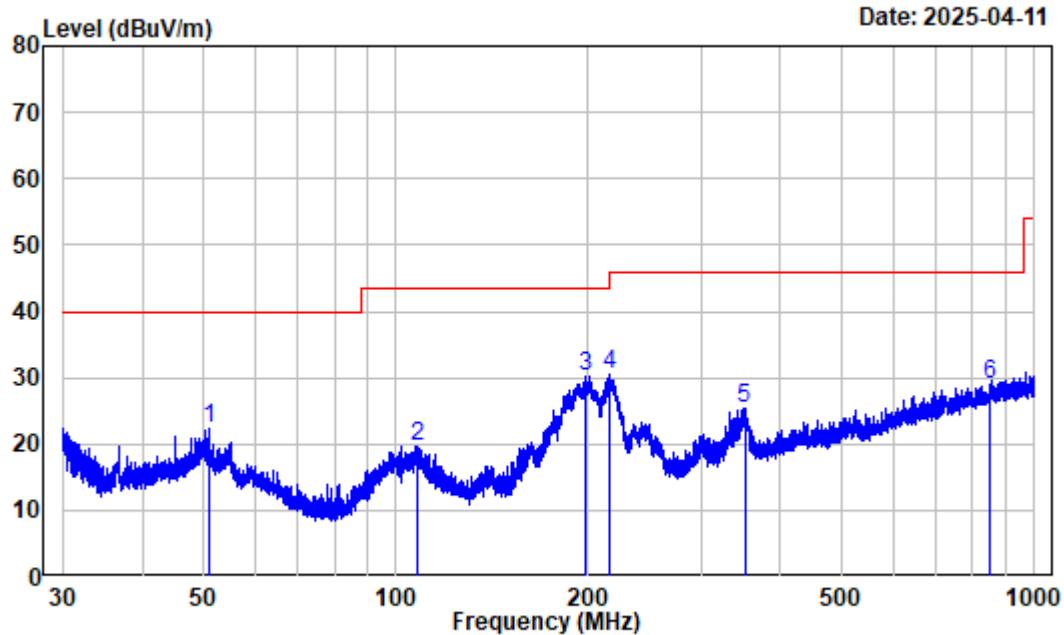
Site : Chamber
Condition : 3m
Project No. : 2504Q09049E-RF Tester: Matt Liang
Test Mode : 2.4G WIFI Transmitting
Polarization : Parallel
Note : Test Mode 1
Receiver Setting: RBW:300Hz VBW:1kHz

Freq	Factor	Read	Limit	Over	Remark
		Level	Level	Line	
1	0.012	34.91	23.79	58.70	125.98 -67.28 Peak
2	0.020	31.61	22.31	53.92	121.80 -67.88 Peak
3	0.030	26.98	22.41	49.39	118.09 -68.70 Peak
4	0.048	23.22	21.10	44.32	113.98 -69.66 Peak
5	0.064	20.74	20.85	41.59	111.41 -69.82 Peak
6	0.116	15.68	20.90	36.58	106.28 -69.70 Peak



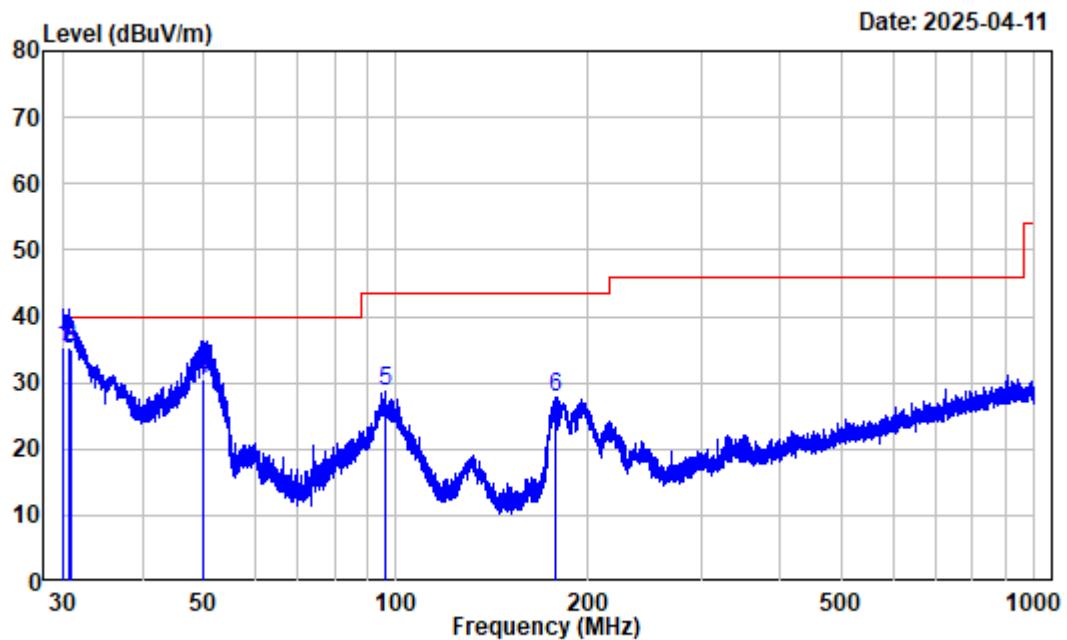
Site : Chamber
Condition : 3m
Project No. : 2504Q09049E-RF Tester: Matt Liang
Test Mode : 2.4G WIFI Transmitting
Polarization : Parallel
Note : Test Mode 1
Receiver Setting: RBW:10kHz VBW:30kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	Level	dBuV	Line	dBuV/m
1	1.172	-2.46	51.93	49.47	66.07	-16.60	Peak
2	2.650	-5.68	68.88	63.20	69.54	-6.34	Peak
3	3.642	-6.14	54.27	48.13	69.54	-21.41	Peak
4	4.430	-6.30	52.31	46.01	69.54	-23.53	Peak
5	6.186	-6.18	44.34	38.16	69.54	-31.38	Peak
6	12.384	-4.77	43.45	38.68	69.54	-30.86	Peak

30MHz~1GHz:

Site : Chamber
Condition : 3m HORIZONTAL
Project No. : 2504Q09049E-RF Tester: Matt Liang
Test Mode : 2.4G WIFI Transmitting
Note : Test Mode 1
Receiver Setting: RBW:100kHz VBW:300kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	dBuV	dBuV/m	dBuV/m	
1	50.764	-10.49	32.70	22.21	40.00	-17.79	Peak
2	108.030	-11.82	31.38	19.56	43.50	-23.94	Peak
3	198.588	-10.89	41.05	30.16	43.50	-13.34	Peak
4	216.308	-11.09	41.48	30.39	46.00	-15.61	Peak
5	351.554	-7.59	32.98	25.39	46.00	-20.61	Peak
6	848.800	0.13	28.81	28.94	46.00	-17.06	Peak



Site : Chamber
Condition : 3m VERTICAL
Project No. : 2504Q09049E-RF Tester: Matt Liang
Test Mode : 2.4G WIFI Transmitting
Note : Test Mode 1
Receiver Setting: RBW:100kHz VBW:300kHz

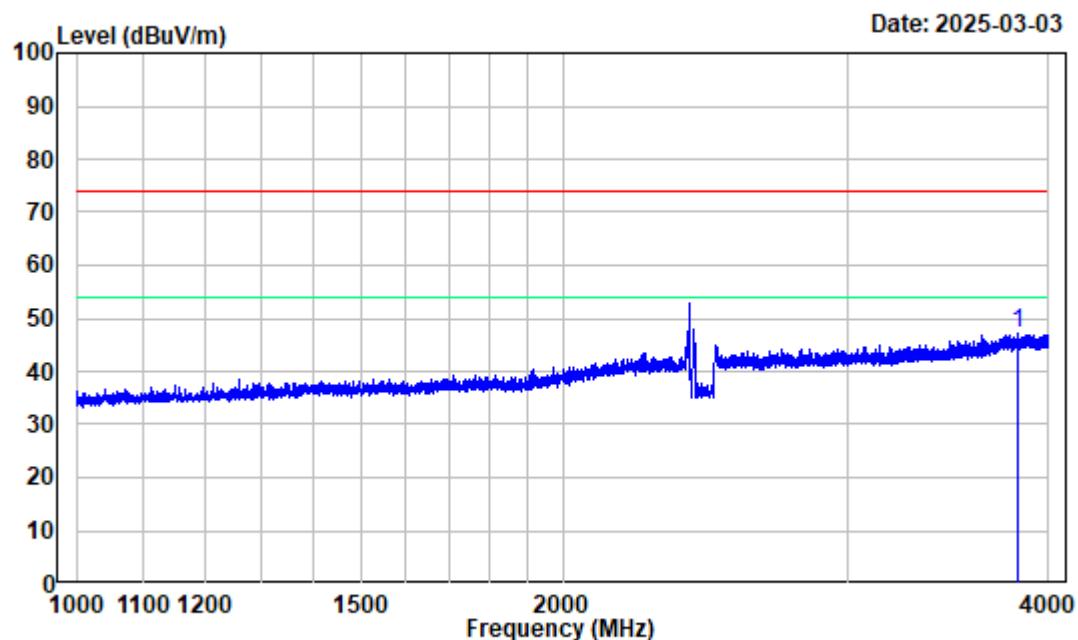
Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	30.066	-12.43	47.82	35.39	40.00	-4.61	QP
2	30.705	-12.55	47.79	35.24	40.00	-4.76	QP
3	30.840	-12.58	47.59	35.01	40.00	-4.99	QP
4	49.947	-10.41	41.00	30.59	40.00	-9.41	QP
5	95.972	-12.61	41.42	28.81	43.50	-14.69	Peak
6	178.211	-13.34	41.14	27.80	43.50	-15.70	Peak

1GHz-25GHz**Environmental Conditions**

Temperature:	22.1 to 23.2 °C
Relative Humidity:	48 to 51 %
ATM Pressure:	100.4 kPa
Test Engineer:	Jimi.zheng
Test Date:	2025-03-03 to 2025-03-13
EUT Operation Mode:	Transmitting

Test Result: Compliance, please refer to the below data.

Note: For 18GHz-25GHz, the maximum output power mode and channel: 802.11n40 Low Channel was tested.

1GHz~4GHz:**For 802.11b mode**

Site : chamber

Condition : 3m HORIZONTAL

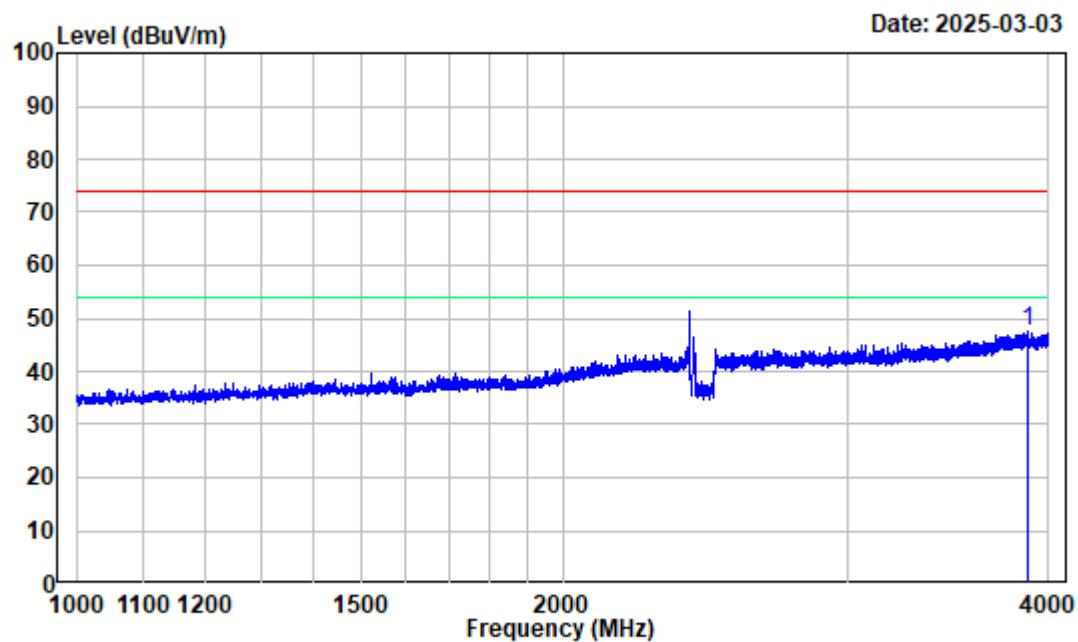
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Low Channel 2412MHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB		
1 3825.625	-8.42	55.73	47.31	74.00	-26.69	Peak	



Site : chamber

Condition : 3m VERTICAL

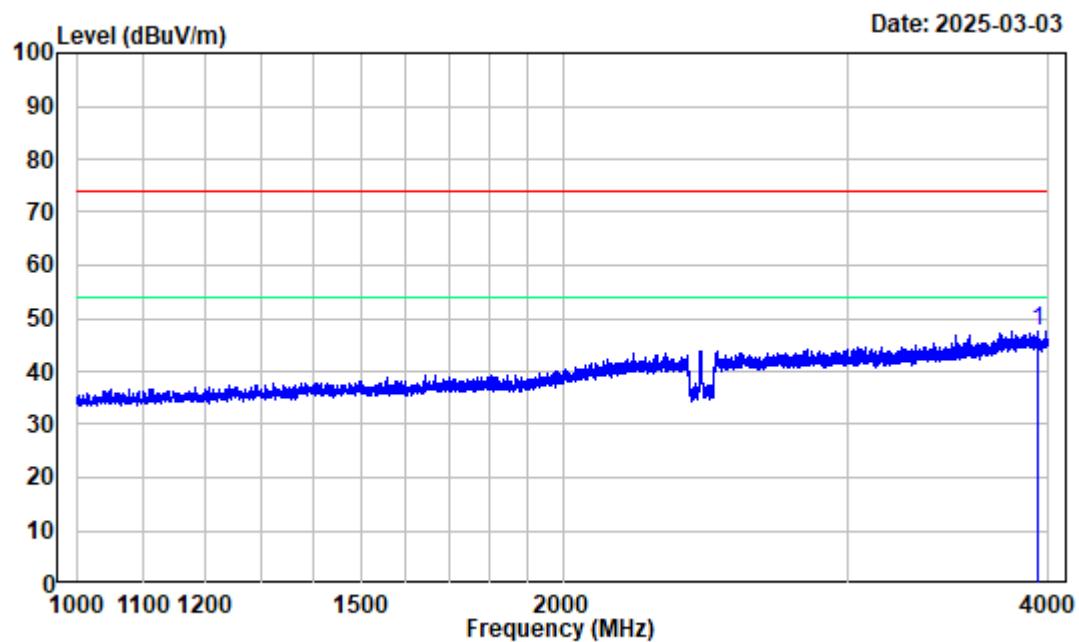
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3886.375	-8.03	55.48	47.45	74.00	-26.55	Peak



Site : chamber

Condition : 3m HORIZONTAL

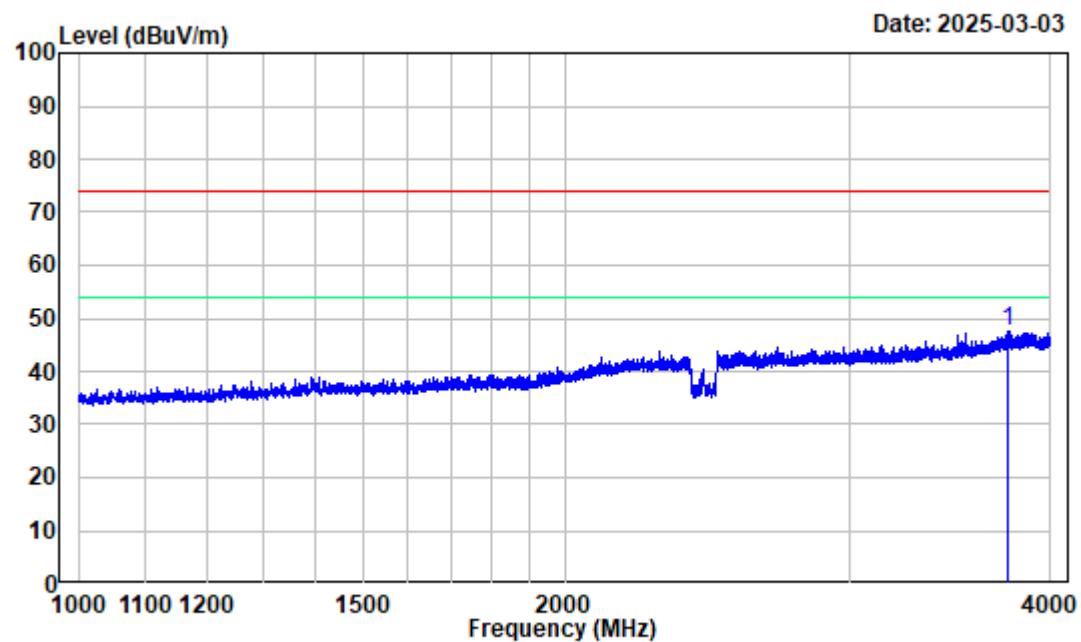
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3937.375	-8.27	55.96	47.69	74.00	-26.31	Peak



Site : chamber

Condition : 3m VERTICAL

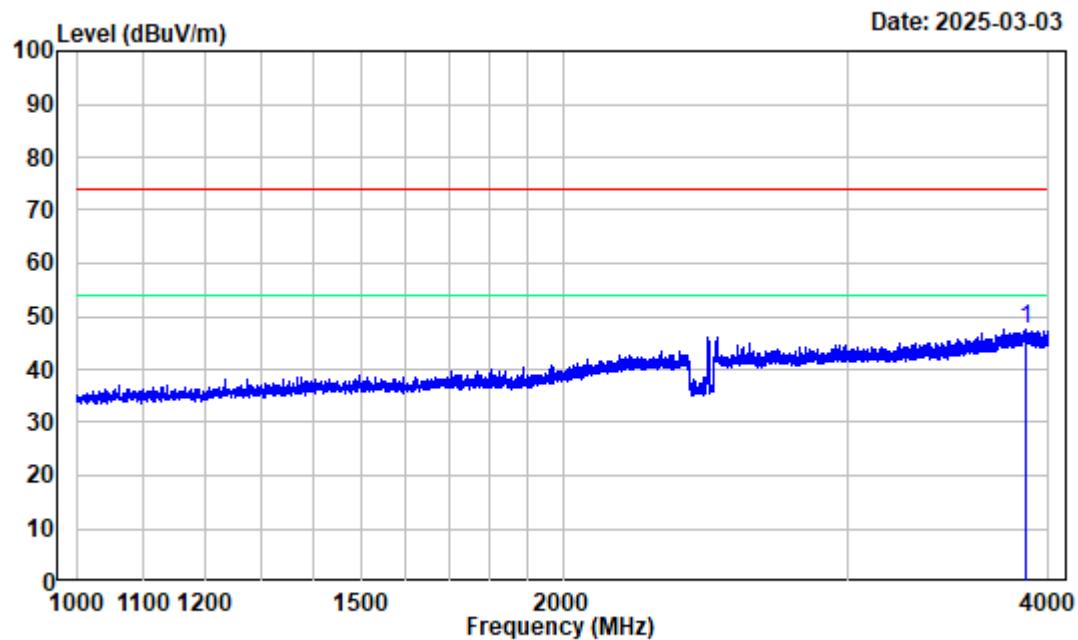
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3766.000	-8.58	56.13	47.55	74.00	-26.45	Peak



Site : chamber

Condition : 3m HORIZONTAL

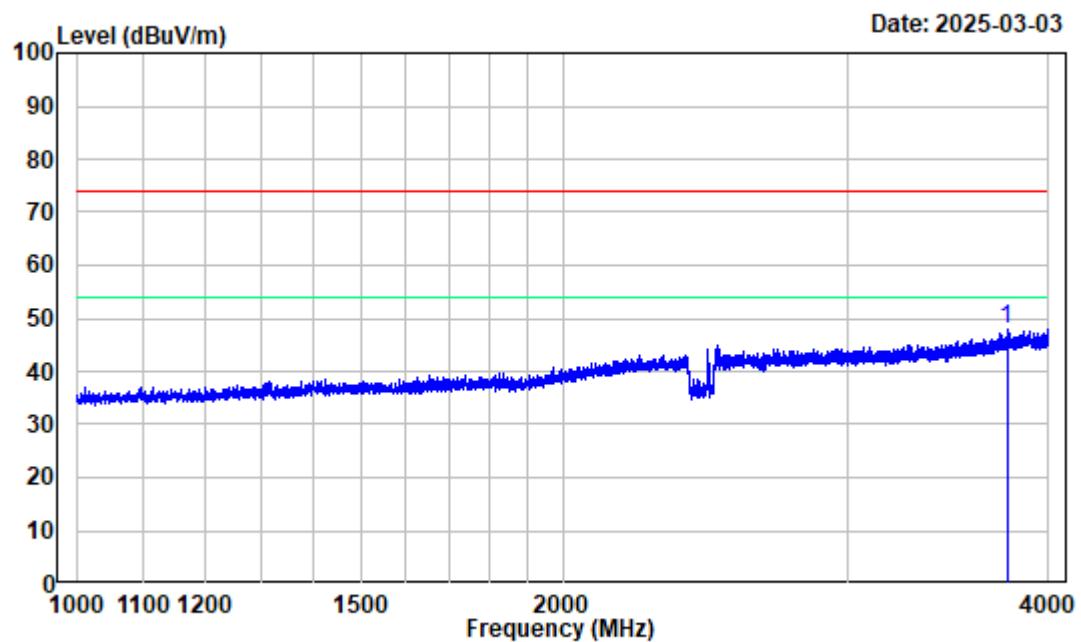
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3872.125	-8.16	55.77	47.61	74.00	-26.39	Peak



Site : chamber

Condition : 3m VERTICAL

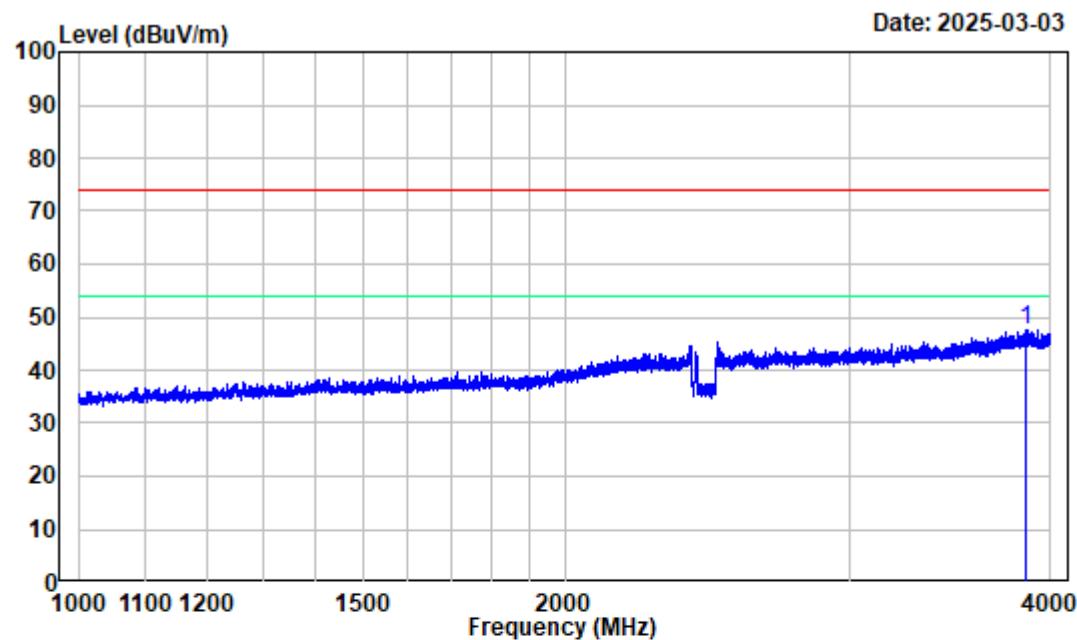
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3769.750	-8.56	56.39	47.83	74.00	-26.17	Peak

For 802.11g mode

Site : chamber

Condition : 3m HORIZONTAL

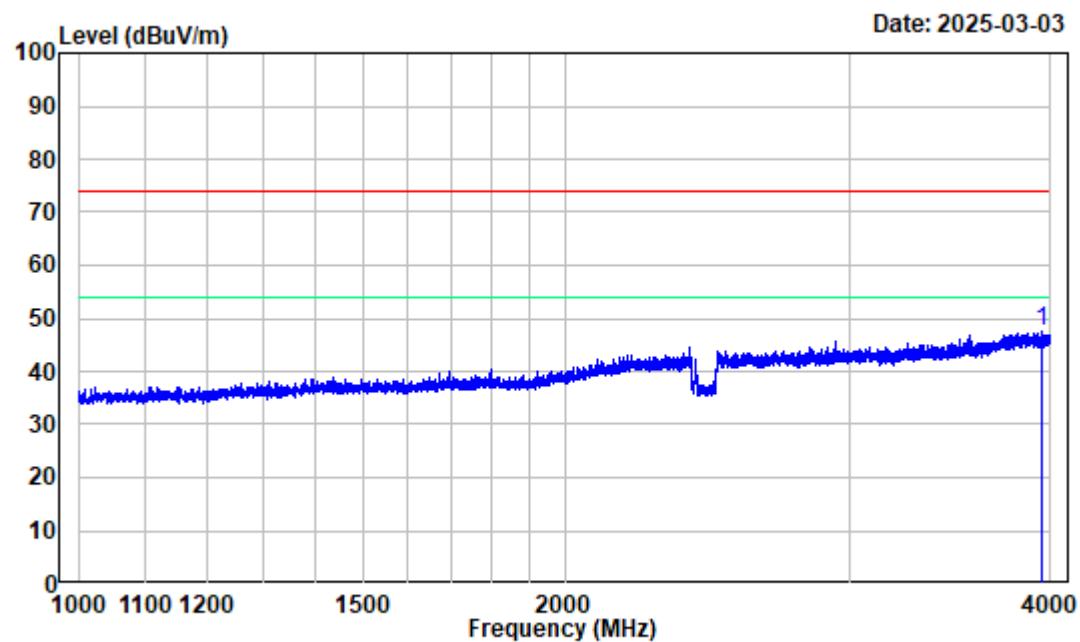
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	dBuV	dBuV/m		
1	3863.500	-8.24	55.94	47.70	74.00	-26.30	Peak



Site : chamber

Condition : 3m VERTICAL

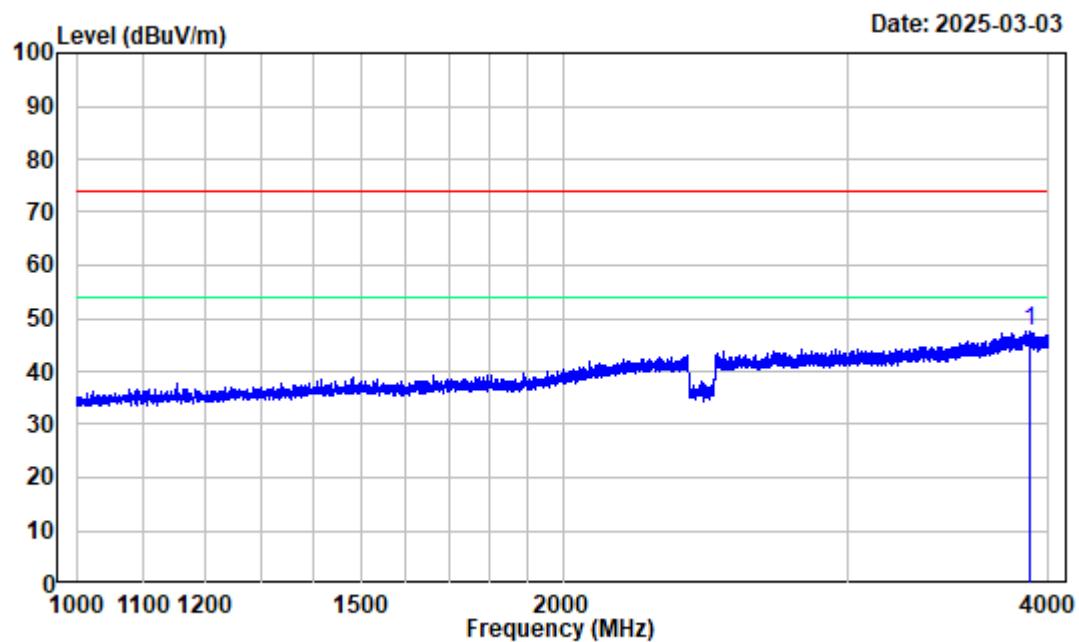
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3953.875	-8.37	55.81	47.44	74.00	-26.56	Peak



Site : chamber

Condition : 3m HORIZONTAL

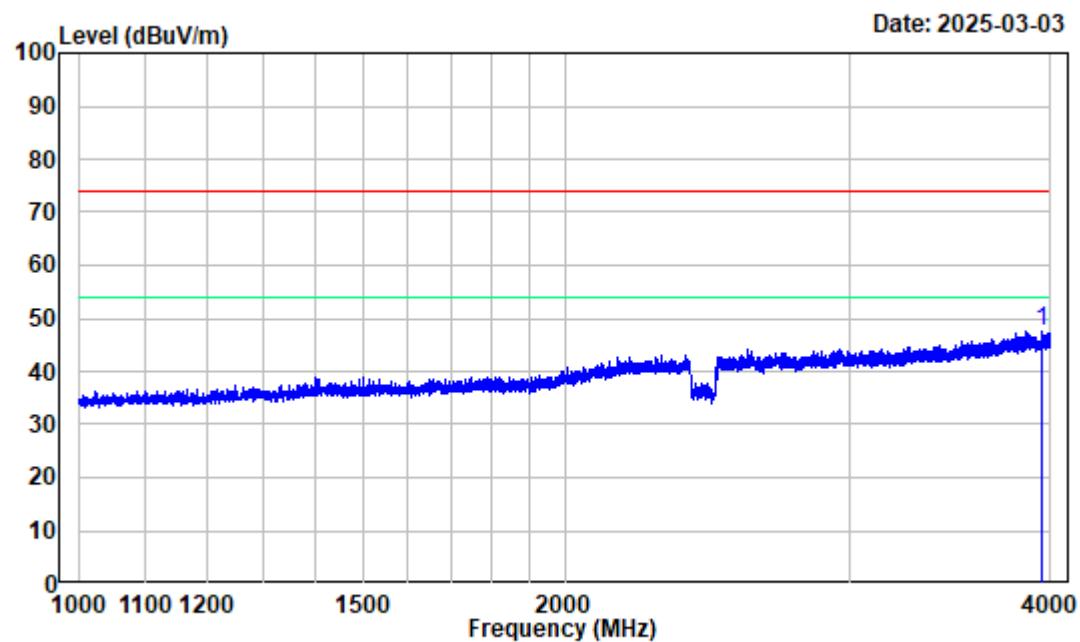
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3896.500	-7.94	55.37	47.43	74.00	-26.57	Peak



Site : chamber

Condition : 3m VERTICAL

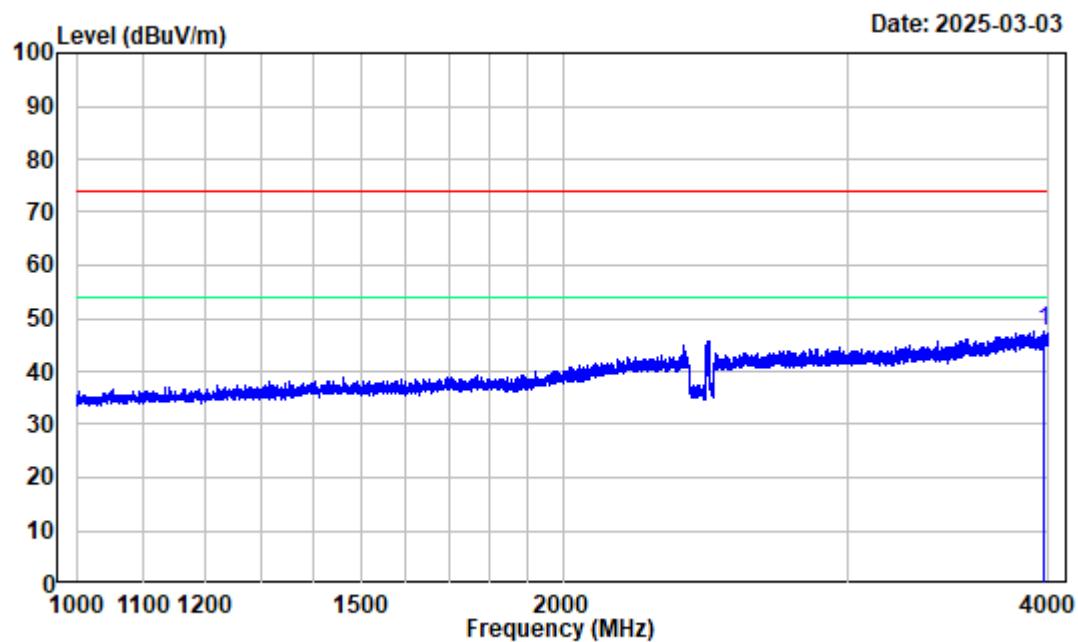
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

	Freq	Factor	Read Level	Limit Level	Line	Over Limit	Remark
	MHz		dB/m	dBuV	dB _{uV/m}	dB _{uV/m}	
1	3946.375		-8.36	55.91	47.55	74.00	-26.45 Peak



Site : chamber

Condition : 3m HORIZONTAL

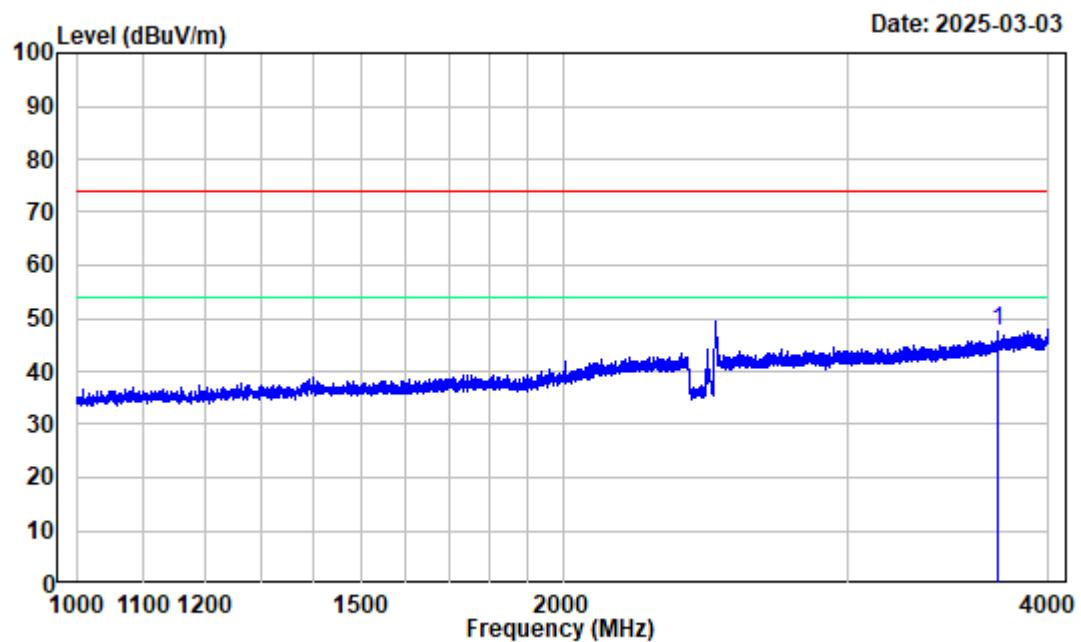
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

	Freq	Factor	Read Level	Limit Level	Line	Over Limit	Remark
1	3971.500		-8.27	55.79	47.52	74.00	-26.48 Peak



Site : chamber

Condition : 3m VERTICAL

Project No.: 2504Q09049E-RF

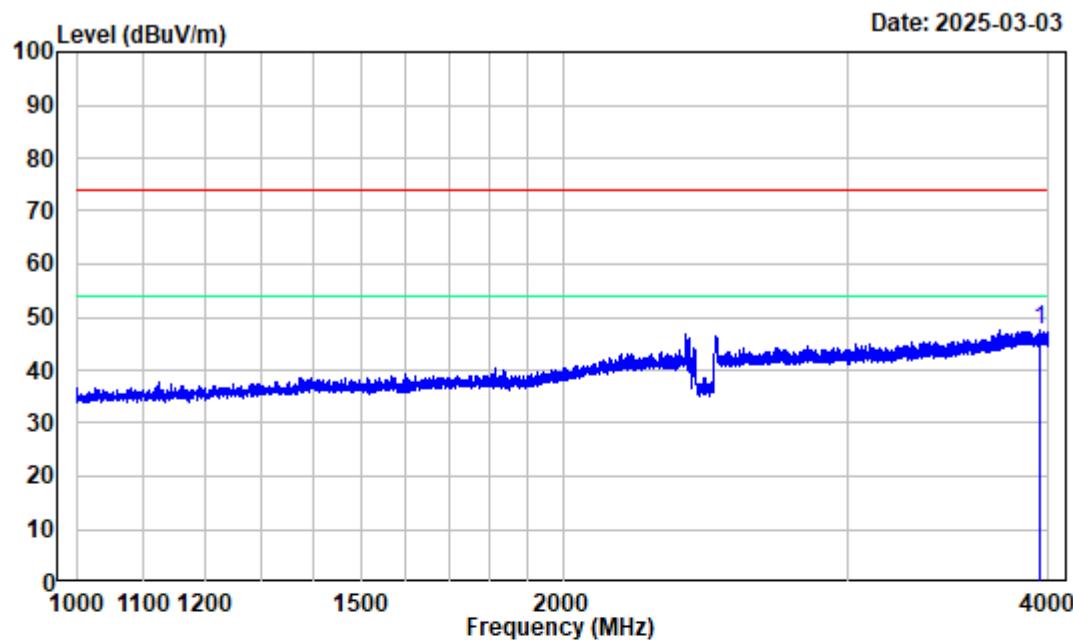
Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3724.000	-8.85	56.21	47.36	74.00	-26.64	Peak

For 802.11n20 mode



Site : chamber

Condition : 3m HORIZONTAL

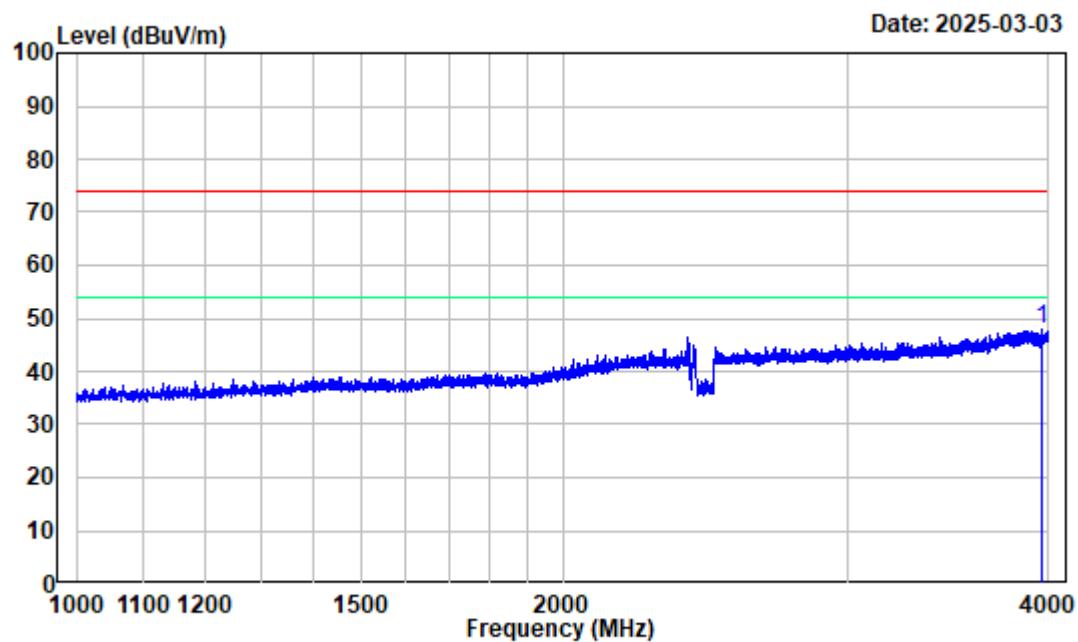
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	dBuV	dBuV/m		
1	3946.375	-8.36	55.96	47.60	74.00	-26.40	Peak



Site : chamber

Condition : 3m VERTICAL

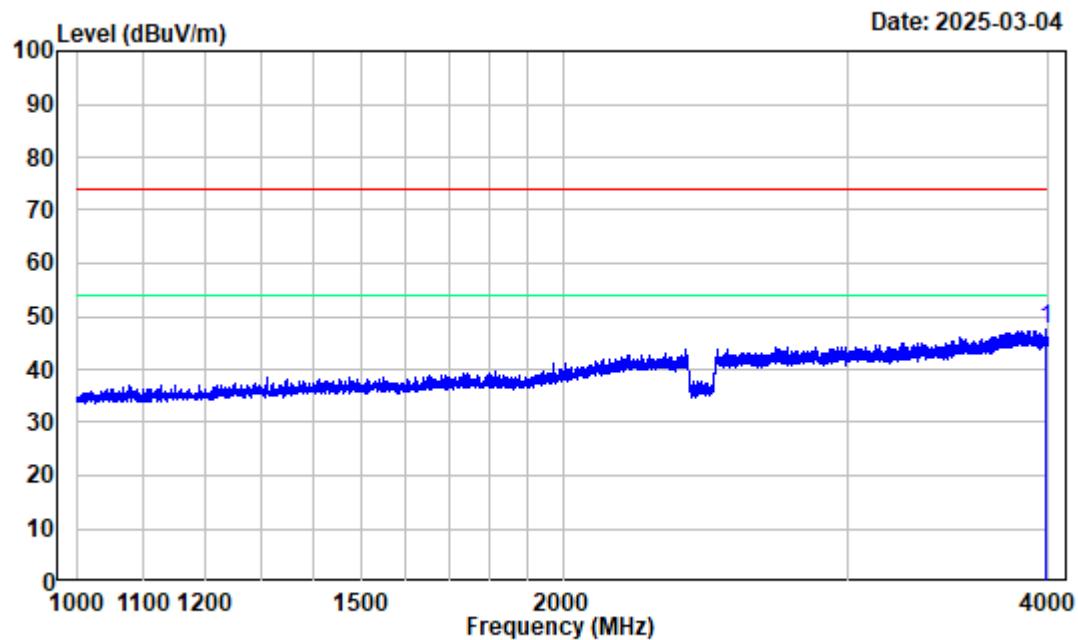
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3964.000	-8.32	56.29	47.97	74.00	-26.03	Peak



Site : chamber

Condition : 3m HORIZONTAL

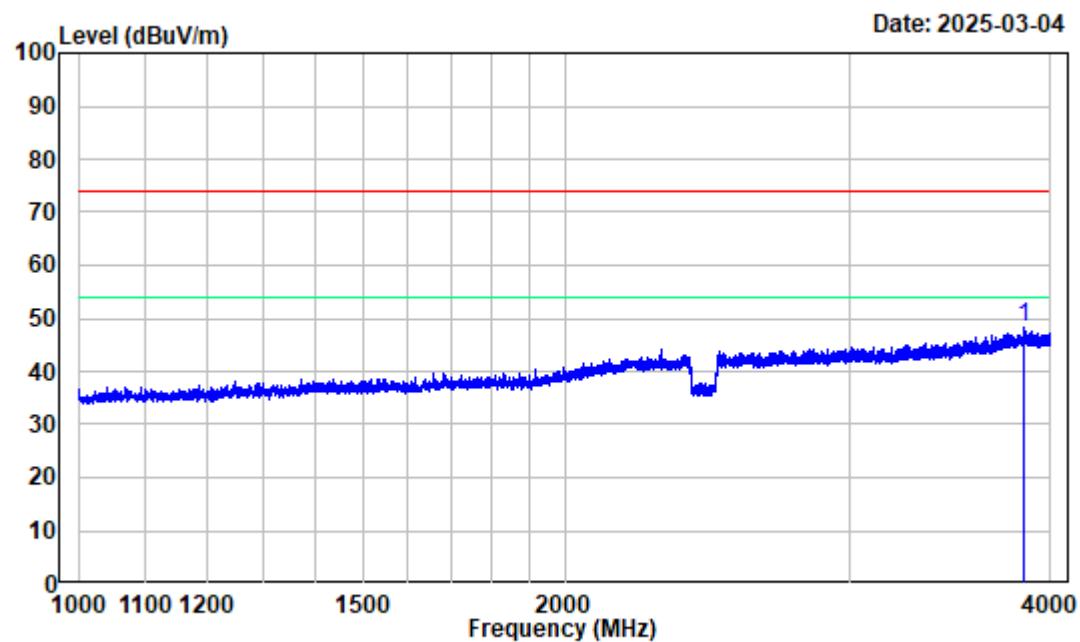
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

	Freq	Factor	Read Level	Limit Level	Line	Over Limit	Remark
1	3990.625		-8.17	55.72	47.55	74.00	-26.45 Peak



Site : chamber

Condition : 3m VERTICAL

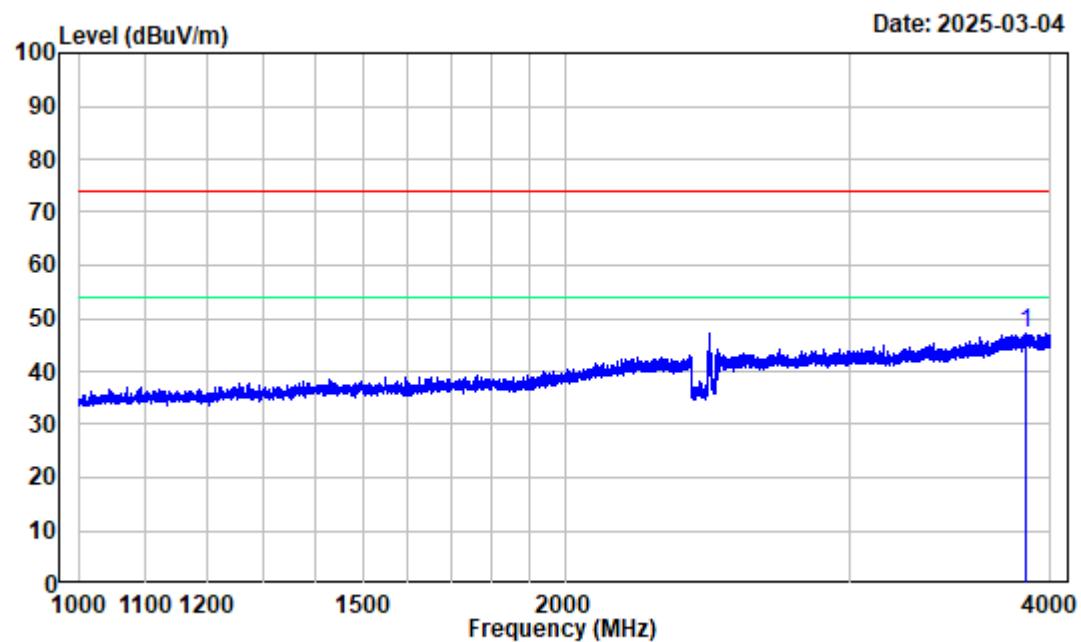
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3849.625	-8.36	56.51	48.15	74.00	-25.85	Peak



Site : chamber

Condition : 3m HORIZONTAL

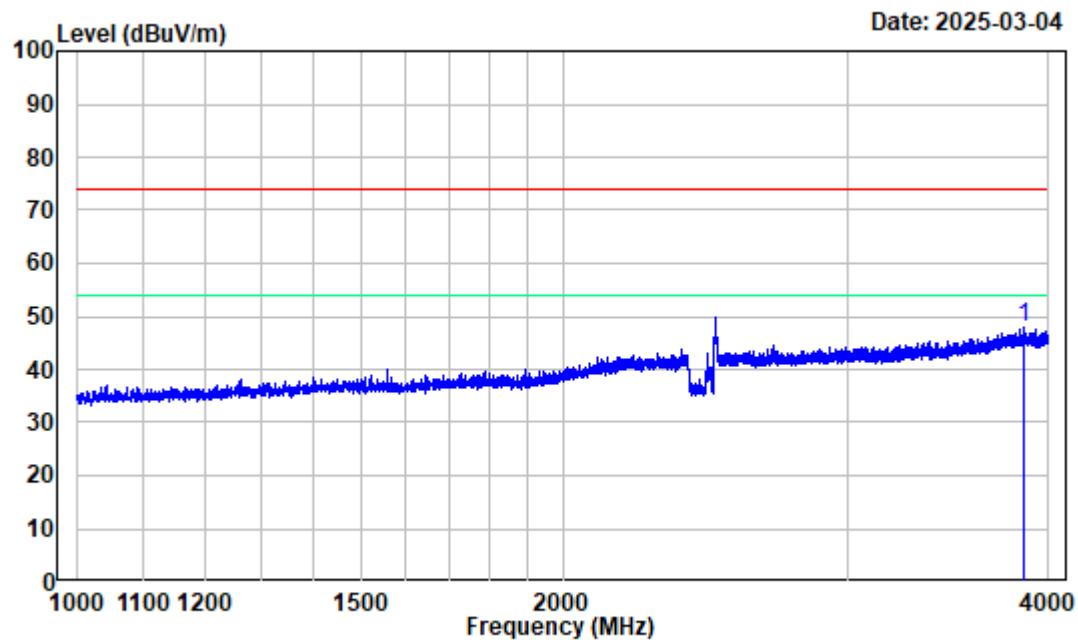
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3867.250	-8.21	55.27	47.06	74.00	-26.94	Peak



Site : chamber

Condition : 3m VERTICAL

Project No.: 2504Q09049E-RF

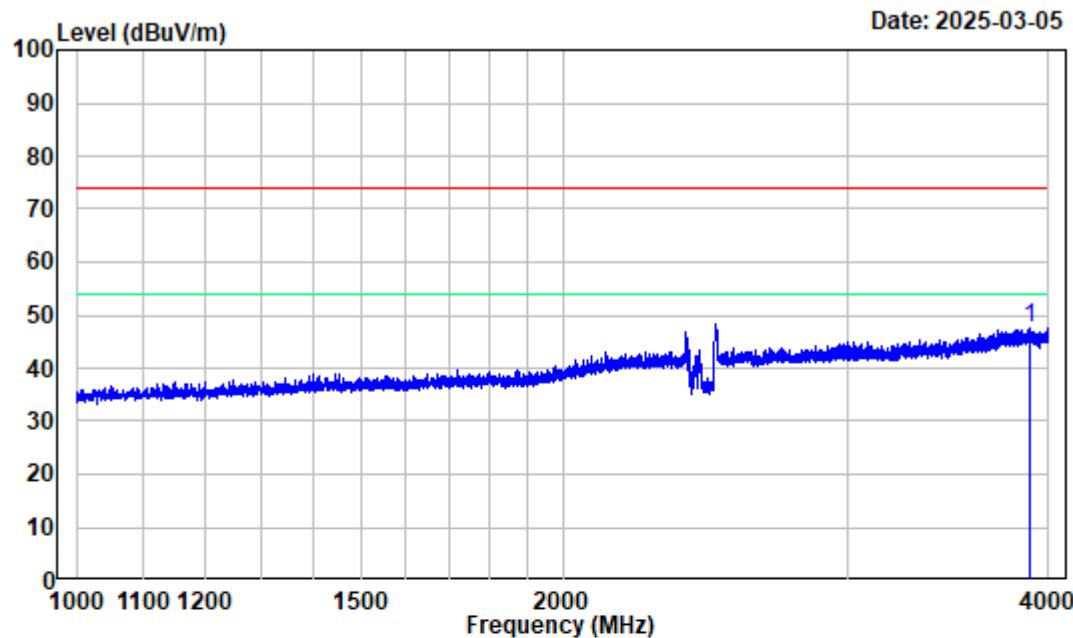
Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3863.875	-8.24	56.29	48.05	74.00	-25.95	Peak

For 802.11n40 mode



Site : chamber

Condition : 3m HORIZONTAL

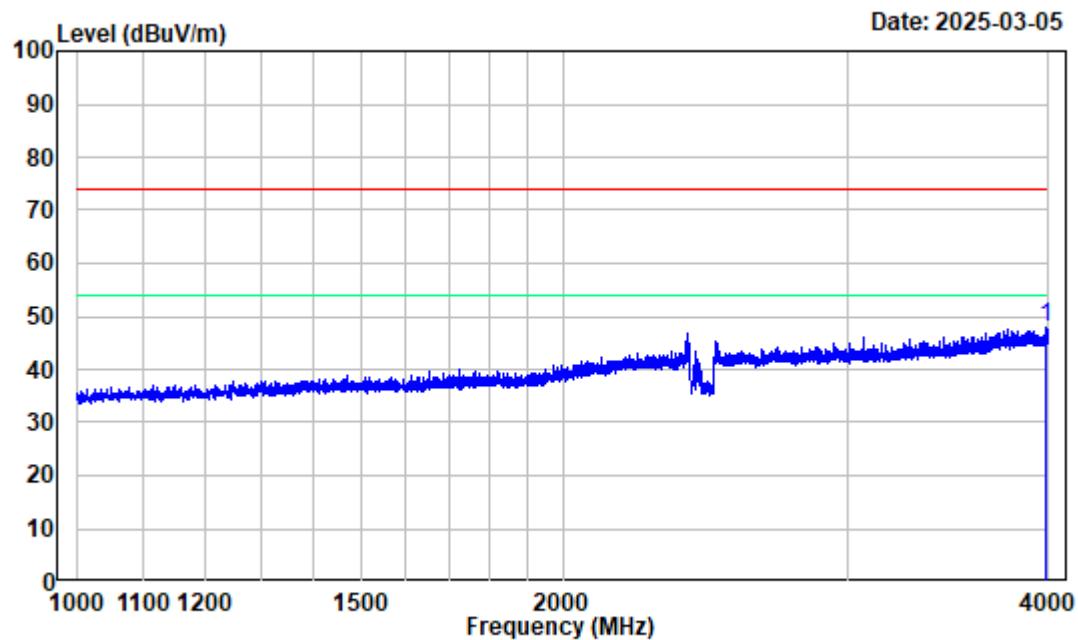
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Low Channel 2422MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	dBuV	dBuV/m		
1	3890.875	-7.98	55.50	47.52	74.00	-26.48	Peak



Site : chamber

Condition : 3m VERTICAL

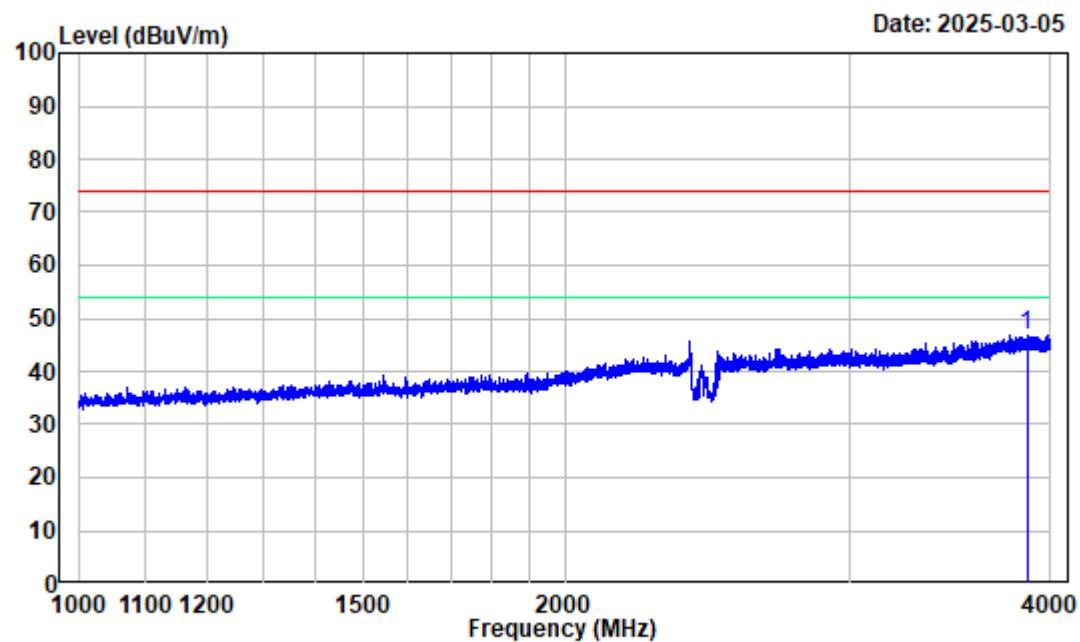
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Low Channel 2422MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3986.500	-8.18	56.03	47.85	74.00	-26.15	Peak



Site : chamber

Condition : 3m HORIZONTAL

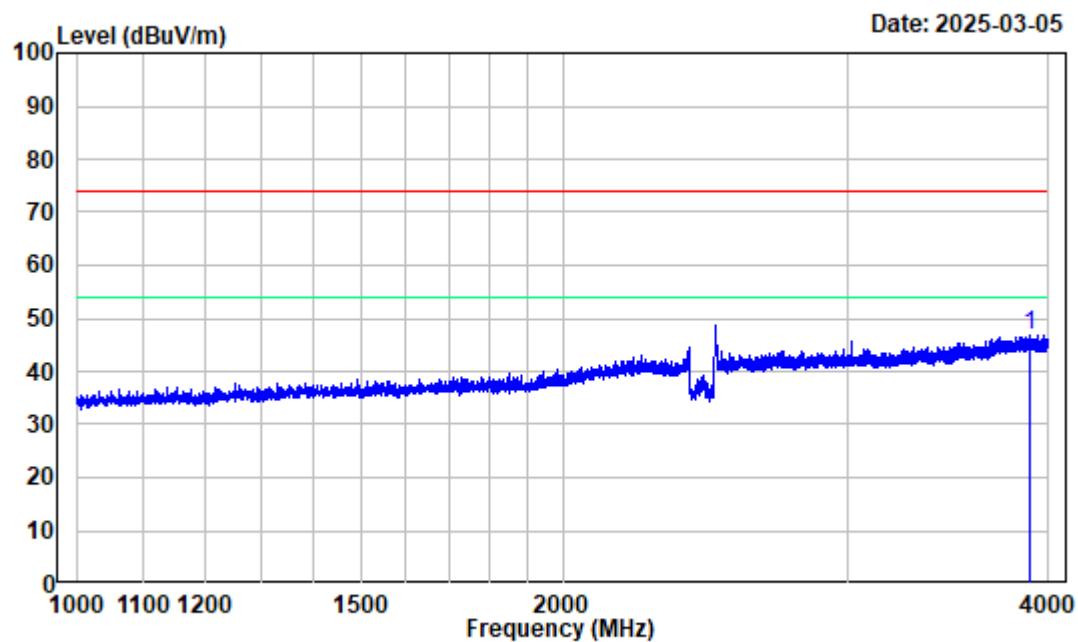
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3868.000	-8.19	55.12	46.93	74.00	-27.07	Peak



Site : chamber

Condition : 3m VERTICAL

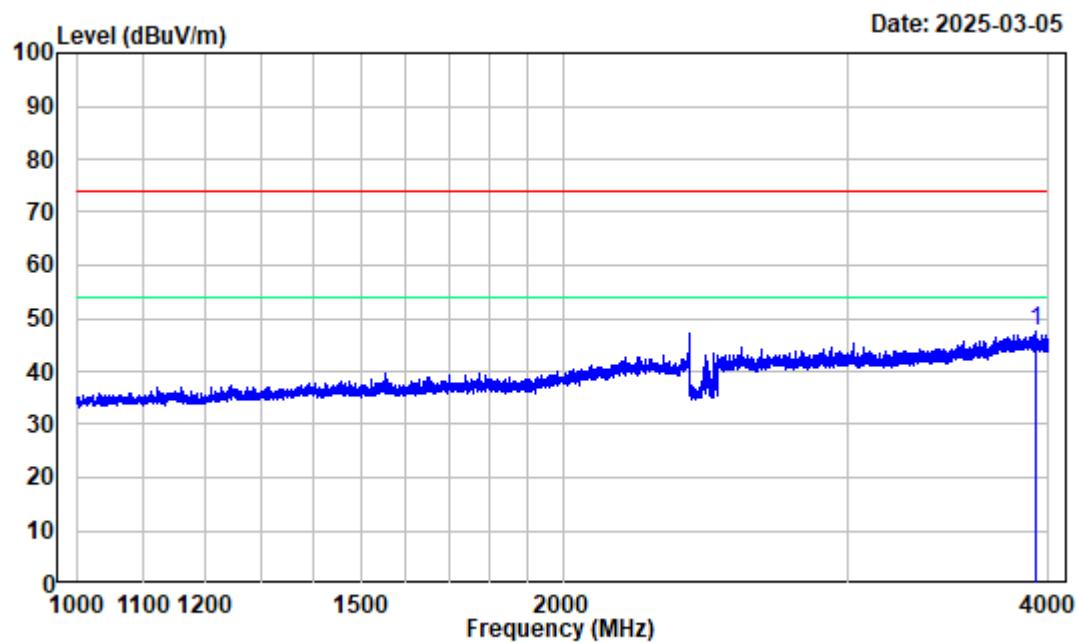
Job No. : 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Middle Channel 2437MHz

SA setting: Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3897.625	-7.92	54.67	46.75	74.00	-27.25	Peak



Site : chamber

Condition : 3m HORIZONTAL

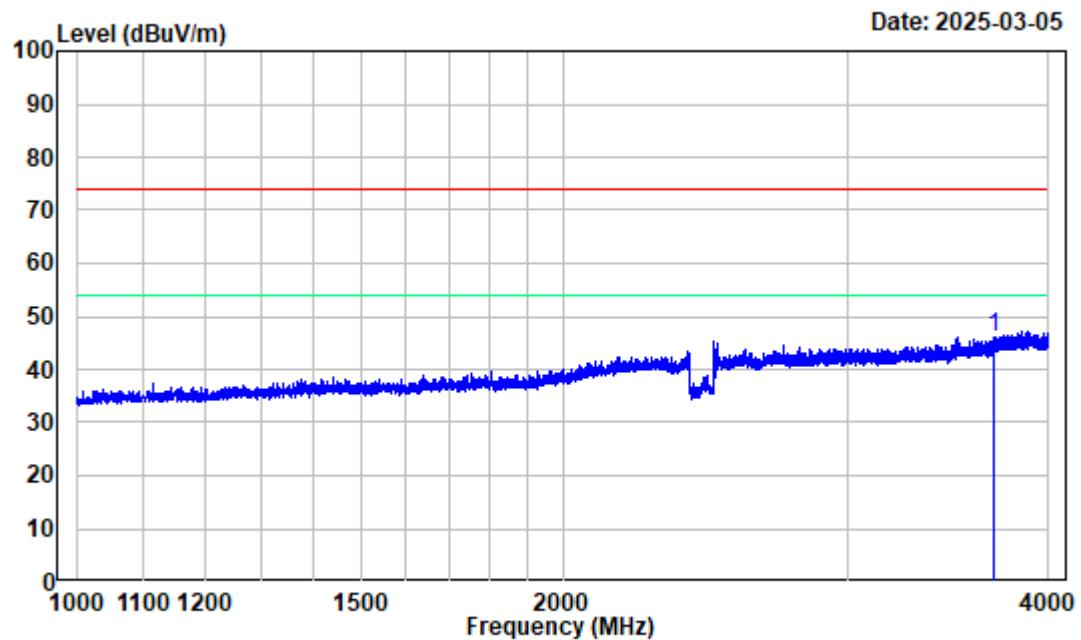
Job No. : 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 High Channel 2452MHz

SA setting: Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3929.125	-8.18	55.85	47.67	74.00	-26.33	Peak



Site : chamber

Condition : 3m VERTICAL

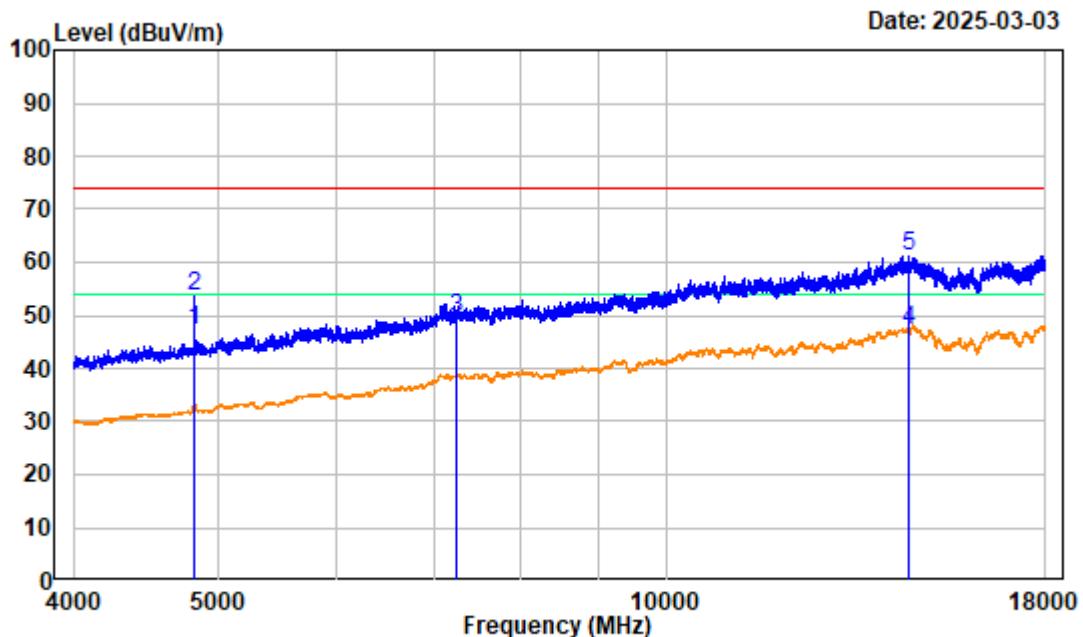
Job No. : 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 High Channel 2452MHz

SA setting: Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	3695.875	-9.07	55.19	46.12	74.00	-27.88	Peak

4GHz~18GHz:**For 802.11b mode**

Site : chamber

Condition : 3m HORIZONTAL

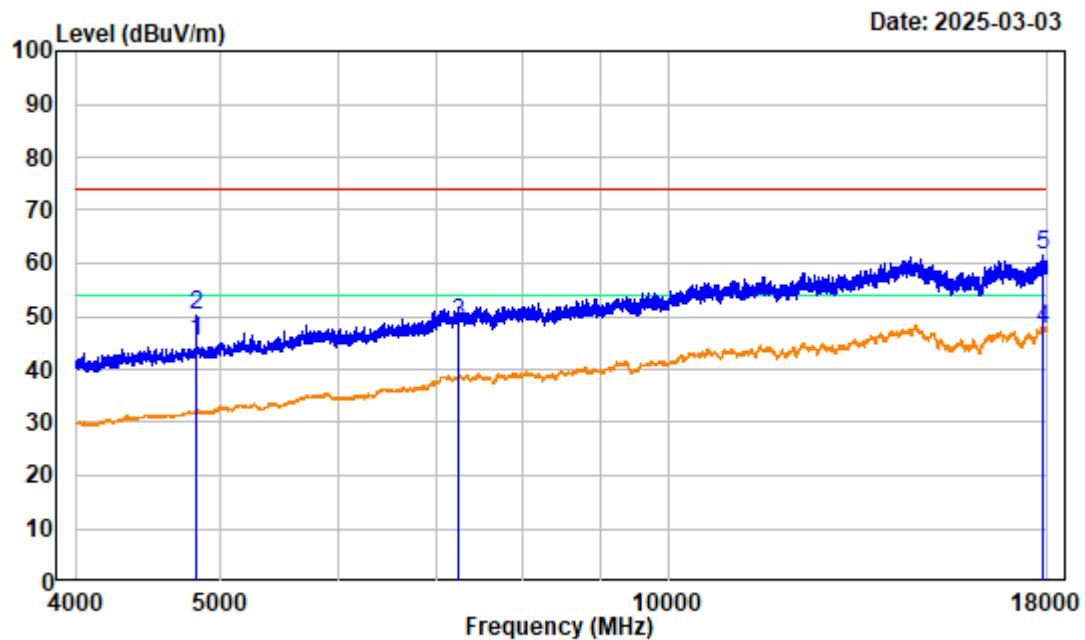
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Low Channel 2412MHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4824.000	-6.61	53.89	47.28	54.00	-6.72	Average
2	4824.000	-6.61	60.11	53.50	74.00	-20.50	Peak
3	7236.000	-1.31	50.84	49.53	74.00	-24.47	Peak
4	14552.500	9.00	38.27	47.27	54.00	-6.73	Average
5	14552.500	9.00	52.27	61.27	74.00	-12.73	Peak



Site : chamber

Condition : 3m VERTICAL

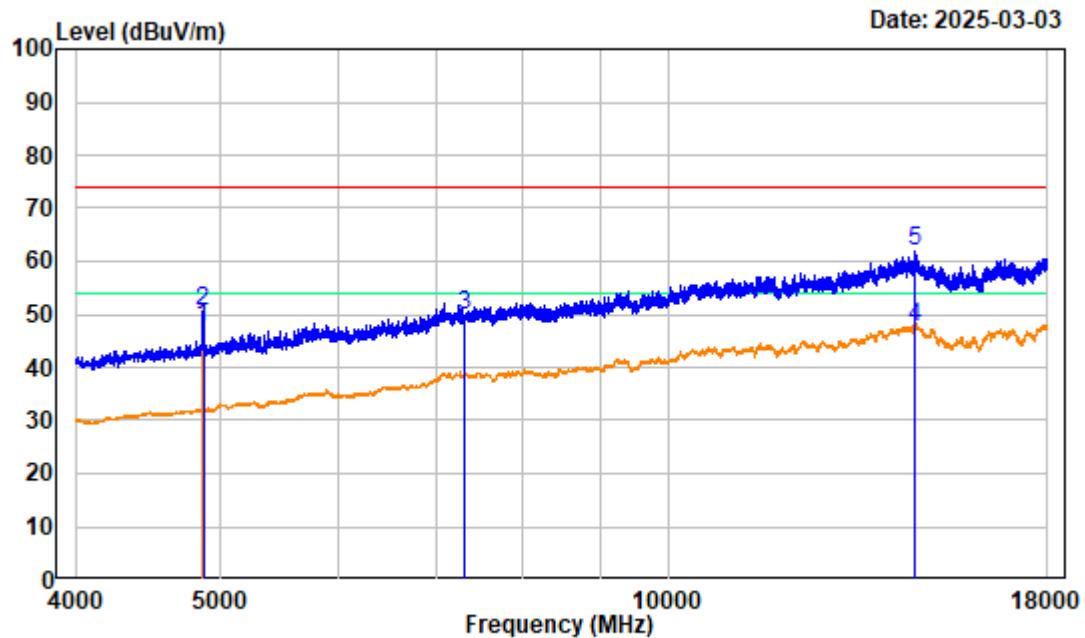
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4824.000	-6.61	51.83	45.22	54.00	-8.78	Average
2	4824.000	-6.61	56.78	50.17	74.00	-23.83	Peak
3	7236.000	-1.31	49.81	48.50	74.00	-25.50	Peak
4	17858.250	8.23	39.32	47.55	54.00	-6.45	Average
5	17858.250	8.23	53.32	61.55	74.00	-12.45	Peak



Site : chamber

Condition : 3m HORIZONTAL

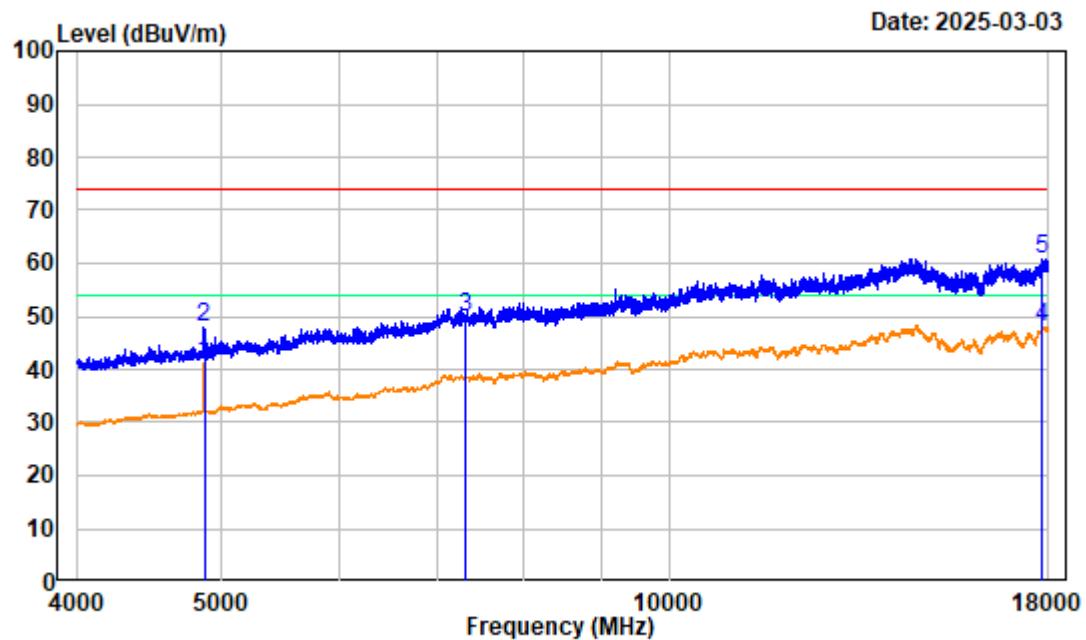
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4874.000	-6.63	54.27	47.64	54.00	-6.36	Average
2	4874.000	-6.63	57.01	50.38	74.00	-23.62	Peak
3	7311.000	-1.21	51.01	49.80	74.00	-24.20	Peak
4	14650.500	8.57	39.13	47.70	54.00	-6.30	Average
5	14650.500	8.57	53.13	61.70	74.00	-12.30	Peak



Site : chamber

Condition : 3m VERTICAL

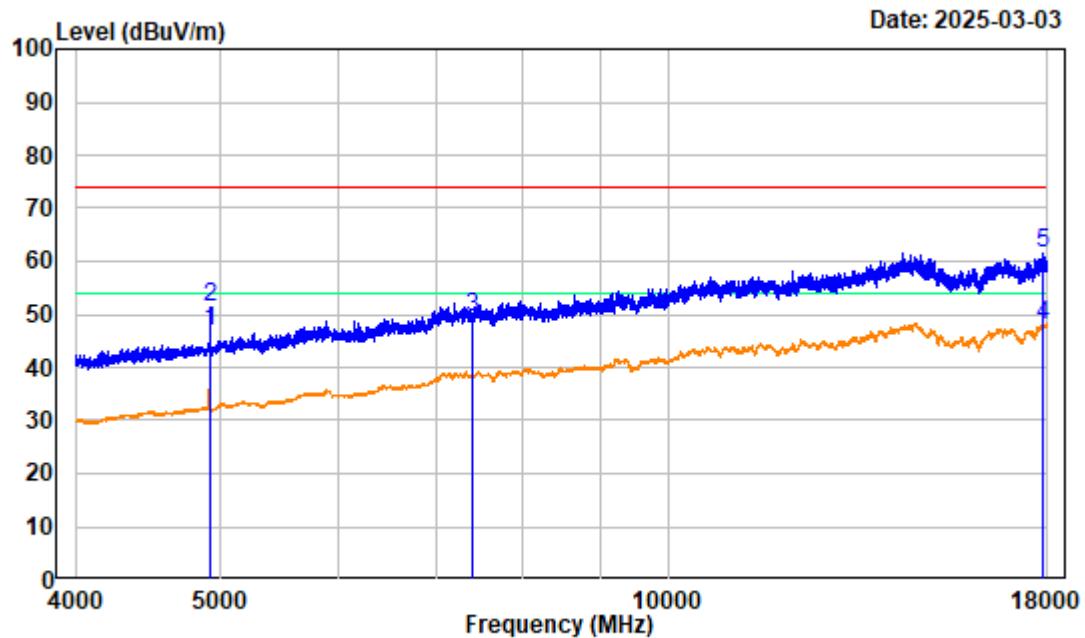
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

	Freq	Factor	Read Level	Limit Level	Line	Over Limit	Remark
	MHz		dB/m	dBuV	dBuV/m	dBuV/m	dB
1	4874.000	-6.63	47.64	41.01	54.00	-12.99	Average
2	4874.000	-6.63	54.59	47.96	74.00	-26.04	Peak
3	7311.000	-1.21	51.13	49.92	74.00	-24.08	Peak
4	17826.750	7.92	39.95	47.87	54.00	-6.13	Average
5	17826.750	7.92	52.95	60.87	74.00	-13.13	Peak



Site : chamber

Condition : 3m HORIZONTAL

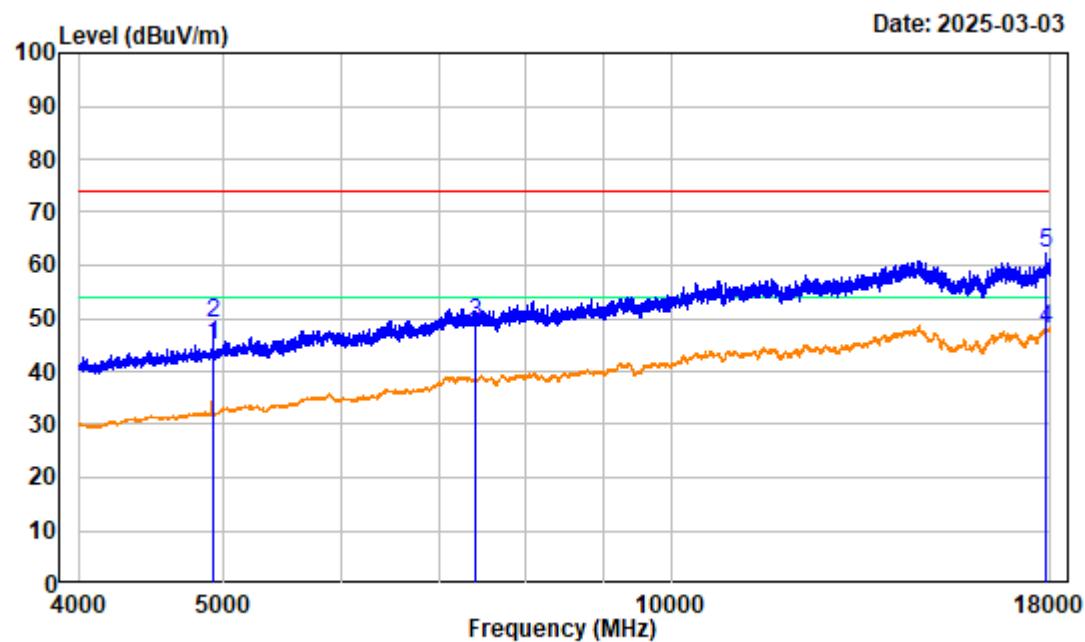
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4924.000	-6.60	53.57	46.97	54.00	-7.03	Average
2	4924.000	-6.60	57.99	51.39	74.00	-22.61	Peak
3	7386.000	-1.38	50.74	49.36	74.00	-24.64	Peak
4	17877.500	8.23	39.63	47.86	54.00	-6.14	average
5	17877.500	8.23	53.33	61.56	74.00	-12.44	peak



Site : chamber

Condition : 3m VERTICAL

Project No.: 2504Q09049E-RF

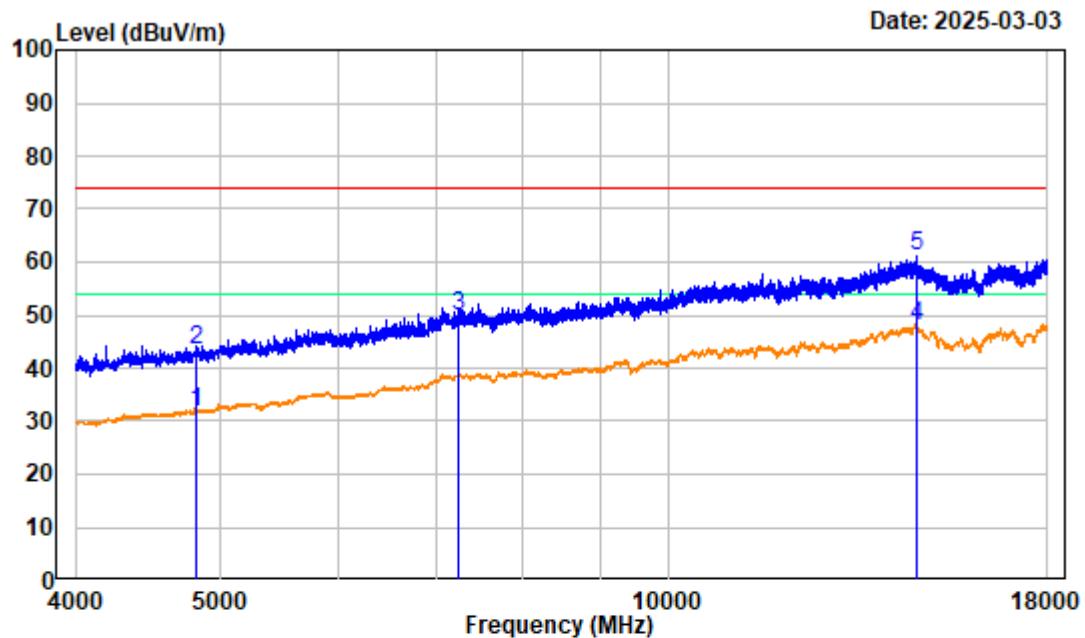
Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4924.000	-6.60	51.53	44.93	54.00	-9.07	Average
2	4924.000	-6.60	55.61	49.01	74.00	-24.99	Peak
3	7386.000	-1.38	50.35	48.97	74.00	-25.03	Peak
4	17865.250	8.24	39.69	47.93	54.00	-6.07	Average
5	17865.250	8.24	53.89	62.13	74.00	-11.87	Peak

For 802.11g mode



Site : chamber

Condition : 3m HORIZONTAL

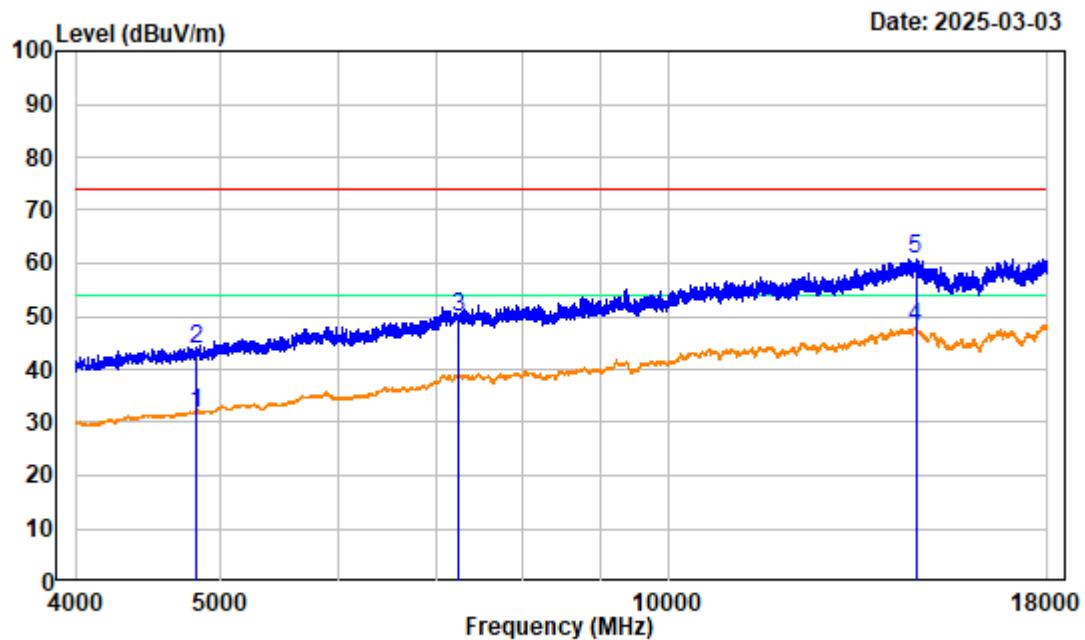
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	dBuV	dBuV/m	Line	
1	4824.000	-6.61	38.32	31.71	54.00	-22.29	Average
2	4824.000	-6.61	49.94	43.33	74.00	-30.67	Peak
3	7236.000	-1.31	51.26	49.95	74.00	-24.05	Peak
4	14696.000	8.14	39.82	47.96	54.00	-6.04	Average
5	14696.000	8.14	52.92	61.06	74.00	-12.94	Peak



Site : chamber

Condition : 3m VERTICAL

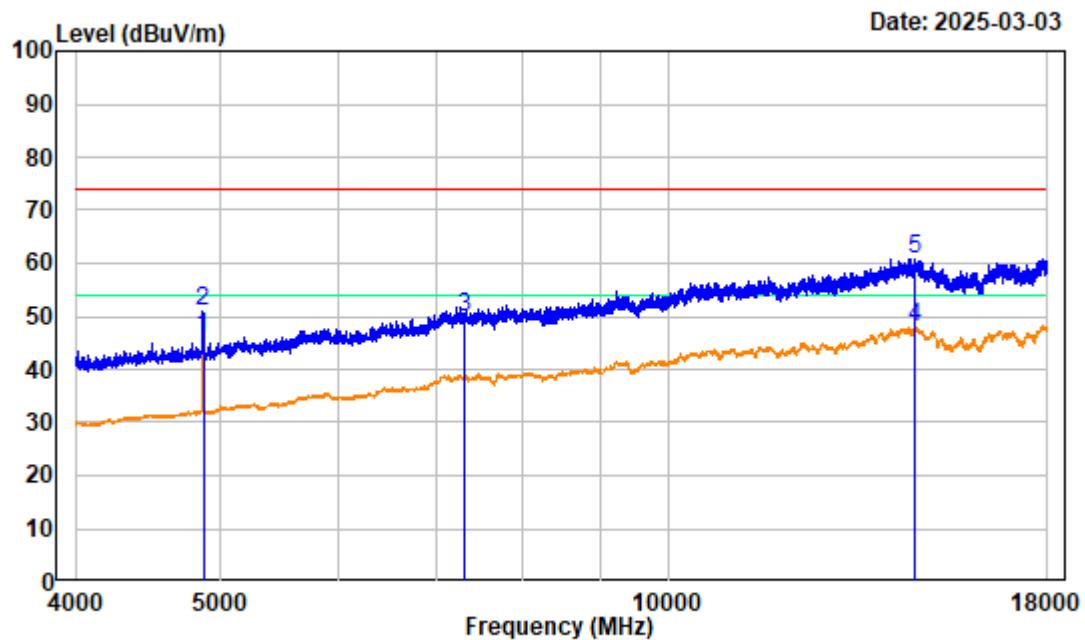
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4824.000	-6.61	38.14	31.53	54.00	-22.47	Average
2	4824.000	-6.61	50.35	43.74	74.00	-30.26	Peak
3	7236.000	-1.31	50.96	49.65	74.00	-24.35	Peak
4	14682.000	8.27	39.49	47.76	54.00	-6.24	Average
5	14682.000	8.27	52.49	60.76	74.00	-13.24	Peak



Site : chamber

Condition : 3m HORIZONTAL

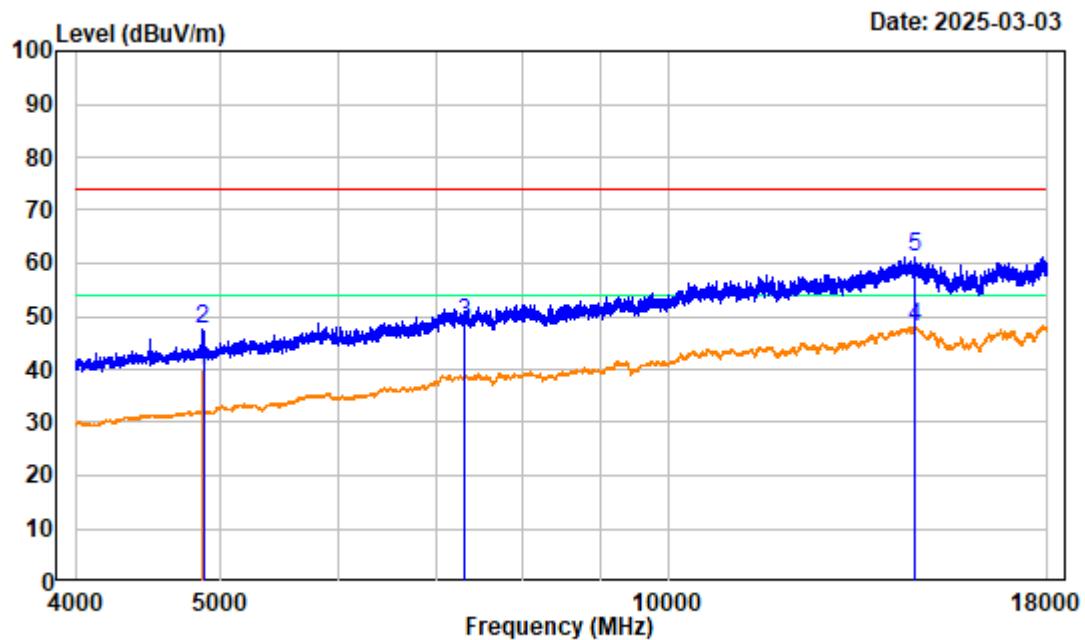
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4874.000	-6.63	52.55	45.92	54.00	-8.08	Average
2	4874.000	-6.63	57.70	51.07	74.00	-22.93	Peak
3	7311.000	-1.21	50.94	49.73	74.00	-24.27	Peak
4	14645.250	8.52	39.29	47.81	54.00	-6.19	Average
5	14645.250	8.52	52.29	60.81	74.00	-13.19	Peak



Site : chamber

Condition : 3m VERTICAL

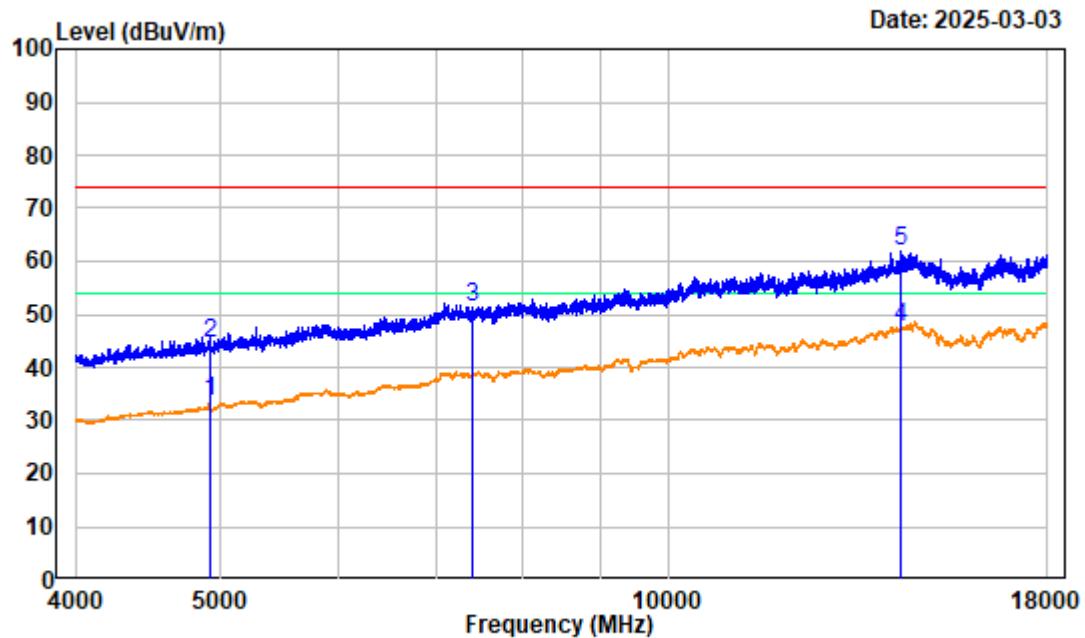
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4874.000	-6.63	46.10	39.47	54.00	-14.53	Average
2	4874.000	-6.63	54.14	47.51	74.00	-26.49	Peak
3	7311.000	-1.21	50.00	48.79	74.00	-25.21	Peak
4	14652.250	8.55	39.35	47.90	54.00	-6.10	Average
5	14652.250	8.55	52.75	61.30	74.00	-12.70	Peak



Site : chamber

Condition : 3m HORIZONTAL

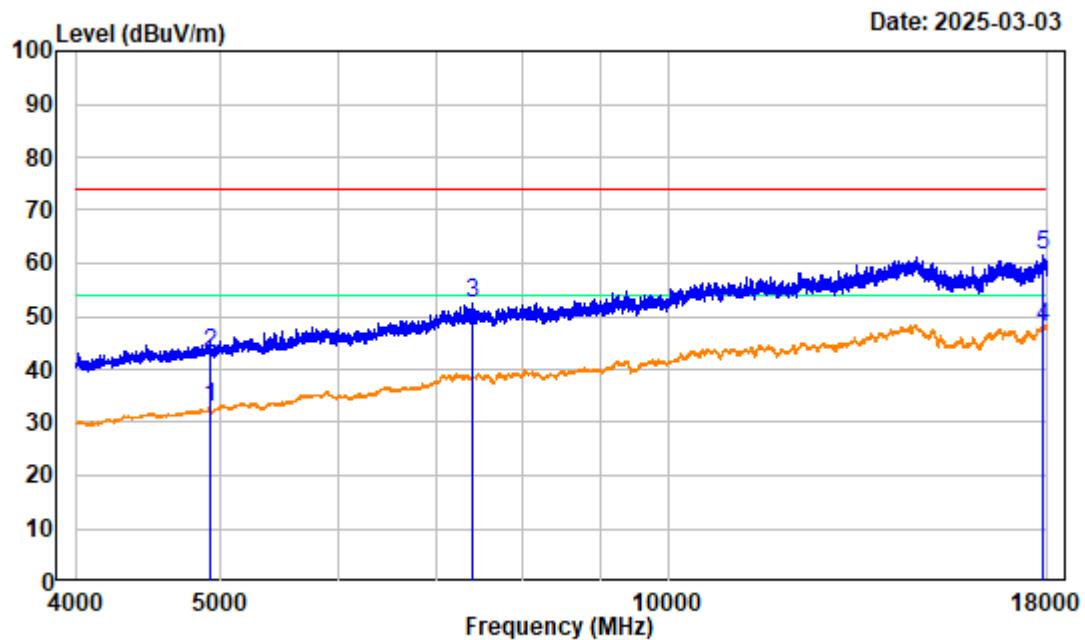
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

	Freq	Factor	Read Level	Limit Level	Line	Over Limit	Remark
	MHz		dB/m	dBuV	dBuV/m	dBuV/m	dB
1	4924.000	-6.60	40.08	33.48	54.00	-20.52	Average
2	4924.000	-6.60	51.10	44.50	74.00	-29.50	Peak
3	7386.000	-1.38	52.60	51.22	74.00	-22.78	Peak
4	14353.000	8.79	38.94	47.73	54.00	-6.27	Average
5	14353.000	8.79	52.94	61.73	74.00	-12.27	Peak



Site : chamber

Condition : 3m VERTICAL

Project No.: 2504Q09049E-RF

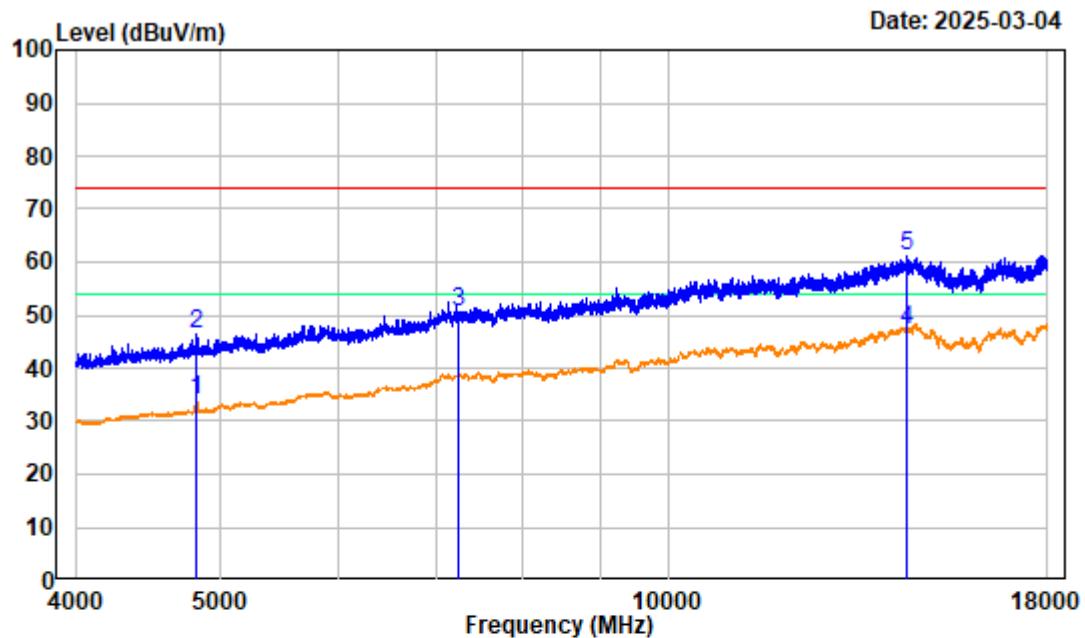
Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4924.000	-6.60	39.41	32.81	54.00	-21.19	Average
2	4924.000	-6.60	49.55	42.95	74.00	-31.05	Peak
3	7386.000	-1.38	53.69	52.31	74.00	-21.69	Peak
4	17891.500	8.23	39.66	47.89	54.00	-6.11	Average
5	17891.500	8.23	53.16	61.39	74.00	-12.61	Peak

For 802.11n20 mode



Site : chamber

Condition : 3m HORIZONTAL

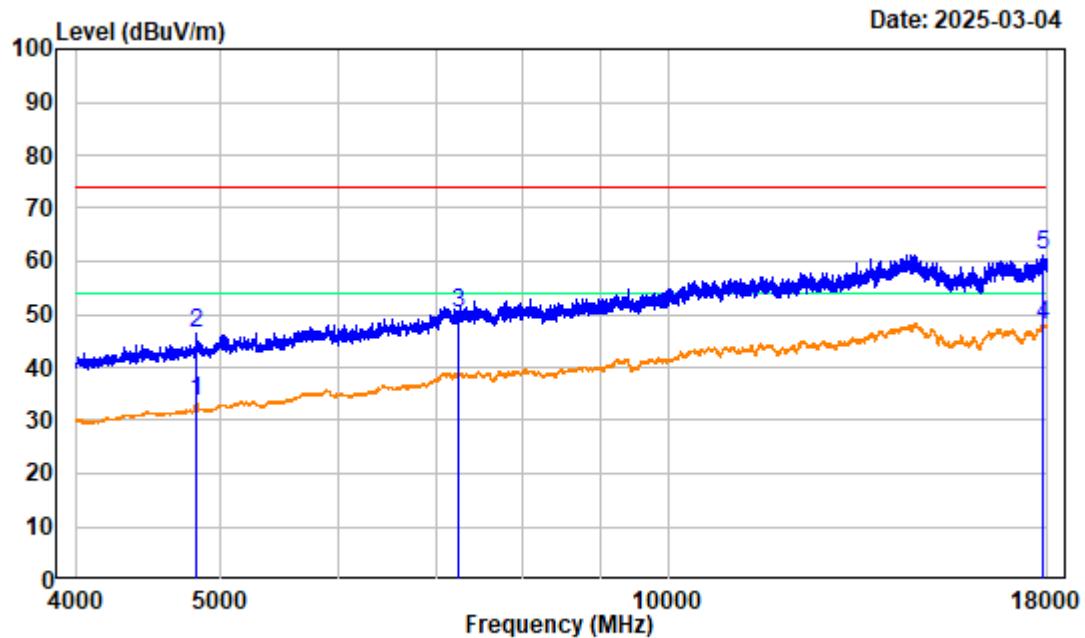
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

	Freq	Factor	Read Level	Limit Level	Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	4824.000	-6.61	40.39	33.78	54.00	-20.22	Average
2	4824.000	-6.61	53.07	46.46	74.00	-27.54	Peak
3	7236.000	-1.31	51.73	50.42	74.00	-23.58	Peak
4	14473.750	8.37	38.92	47.29	54.00	-6.71	Average
5	14473.750	8.37	52.92	61.29	74.00	-12.71	Peak



Site : chamber

Condition : 3m VERTICAL

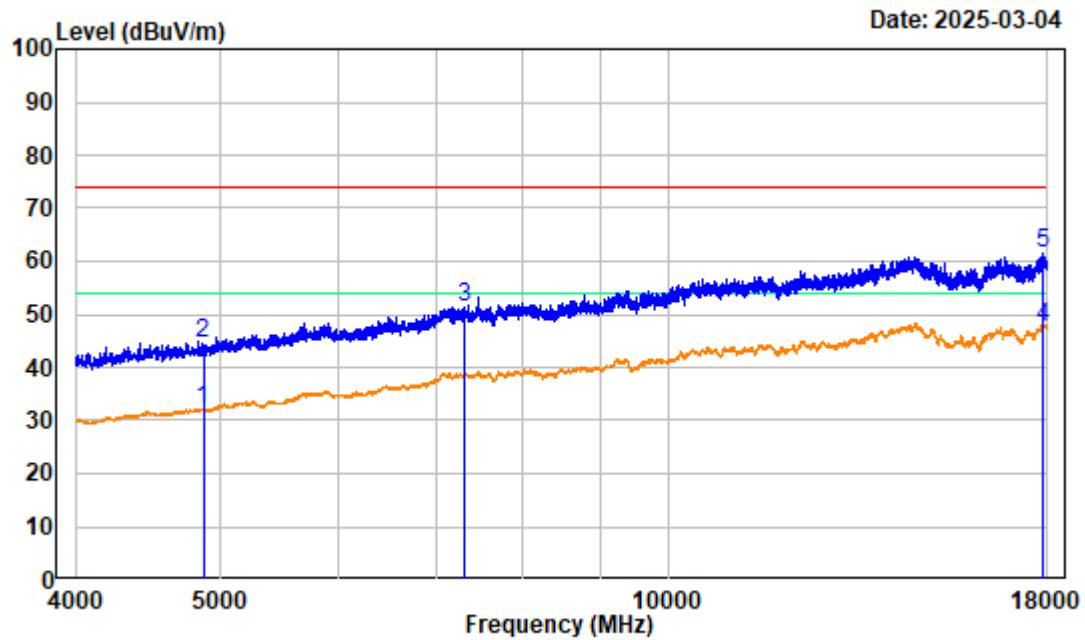
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4824.000	-6.61	40.09	33.48	54.00	-20.52	Average
2	4824.000	-6.61	52.84	46.23	74.00	-27.77	Peak
3	7236.000	-1.31	51.46	50.15	74.00	-23.85	Peak
4	17875.750	8.24	39.52	47.76	54.00	-6.24	Average
5	17875.750	8.24	53.02	61.26	74.00	-12.74	Peak



Site : chamber

Condition : 3m HORIZONTAL

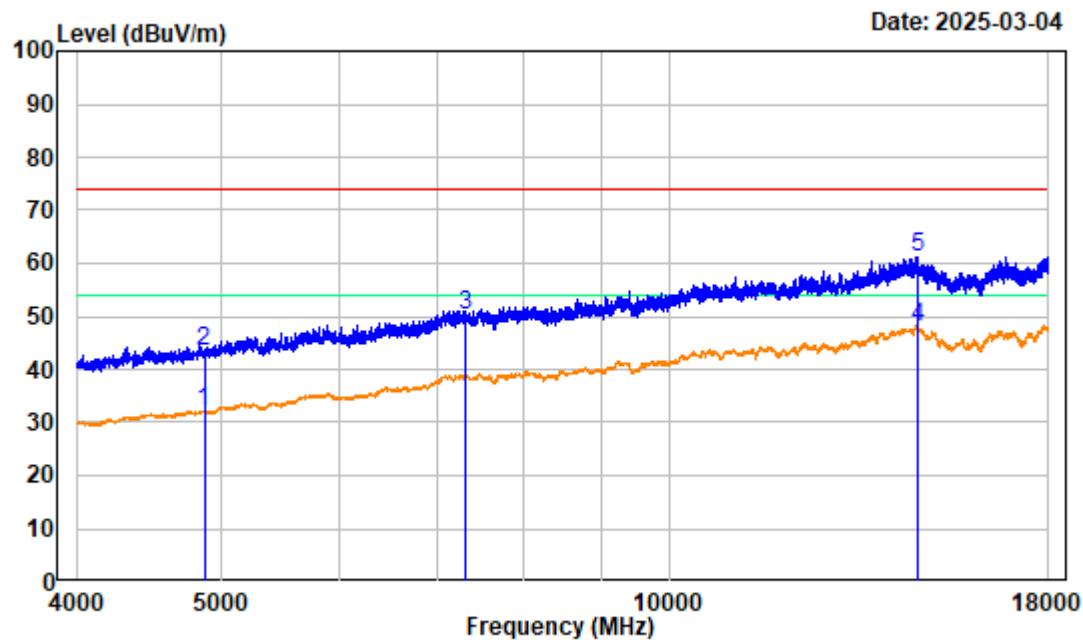
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4874.000	-6.63	38.73	32.10	54.00	-21.90	Average
2	4874.000	-6.63	51.13	44.50	74.00	-29.50	Peak
3	7311.000	-1.21	52.37	51.16	74.00	-22.84	Peak
4	17854.750	8.23	39.24	47.47	54.00	-6.53	Average
5	17854.750	8.23	53.24	61.47	74.00	-12.53	Peak



Site : chamber

Condition : 3m VERTICAL

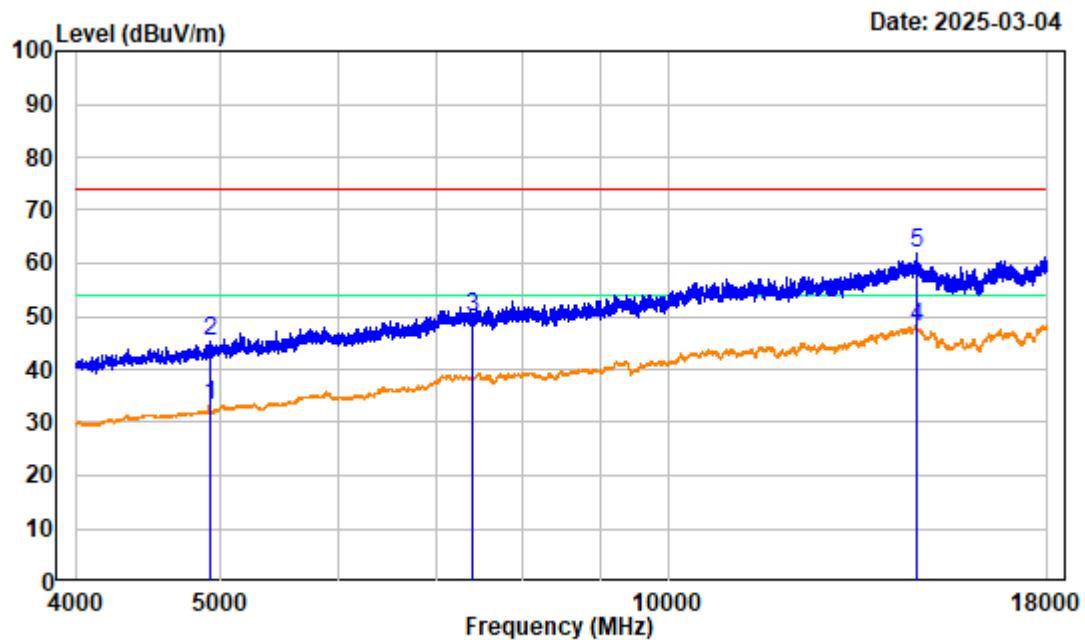
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Middle Channel 2437MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4874.000	-6.63	38.60	31.97	54.00	-22.03	Average
2	4874.000	-6.63	49.99	43.36	74.00	-30.64	Peak
3	7311.000	-1.21	51.30	50.09	74.00	-23.91	Peak
4	14683.750	8.25	39.62	47.87	54.00	-6.13	Average
5	14683.750	8.25	53.02	61.27	74.00	-12.73	Peak



Site : chamber

Condition : 3m HORIZONTAL

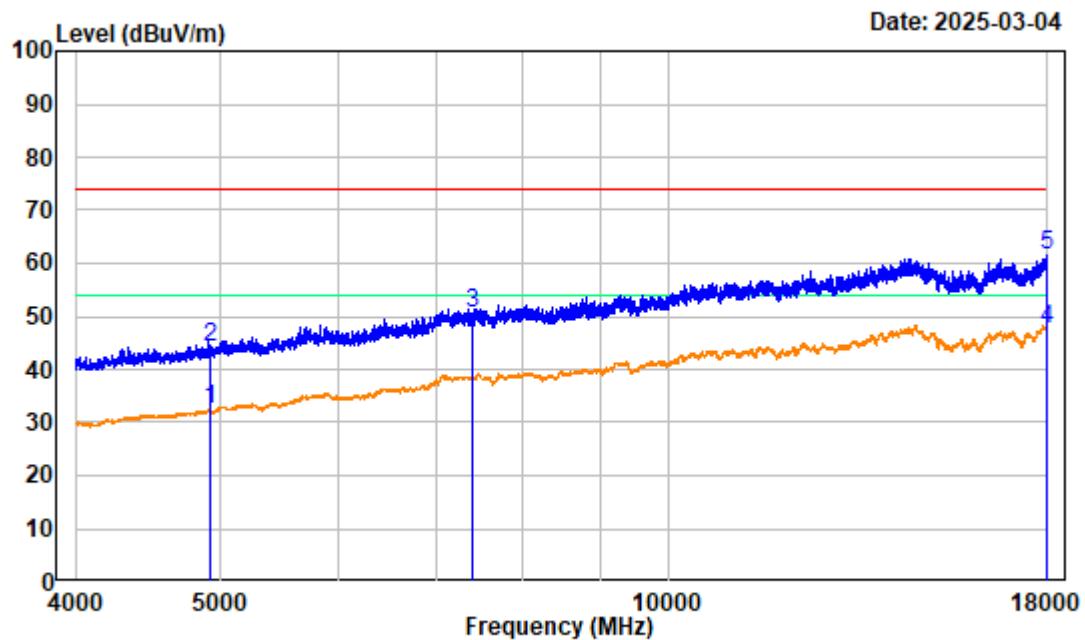
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4924.000	-6.60	39.67	33.07	54.00	-20.93	Average
2	4924.000	-6.60	51.75	45.15	74.00	-28.85	Peak
3	7386.000	-1.38	51.11	49.73	74.00	-24.27	Peak
4	14687.250	8.22	39.60	47.82	54.00	-6.18	Average
5	14687.250	8.22	53.60	61.82	74.00	-12.18	Peak



Site : chamber

Condition : 3m VERTICAL

Project No.: 2504Q09049E-RF

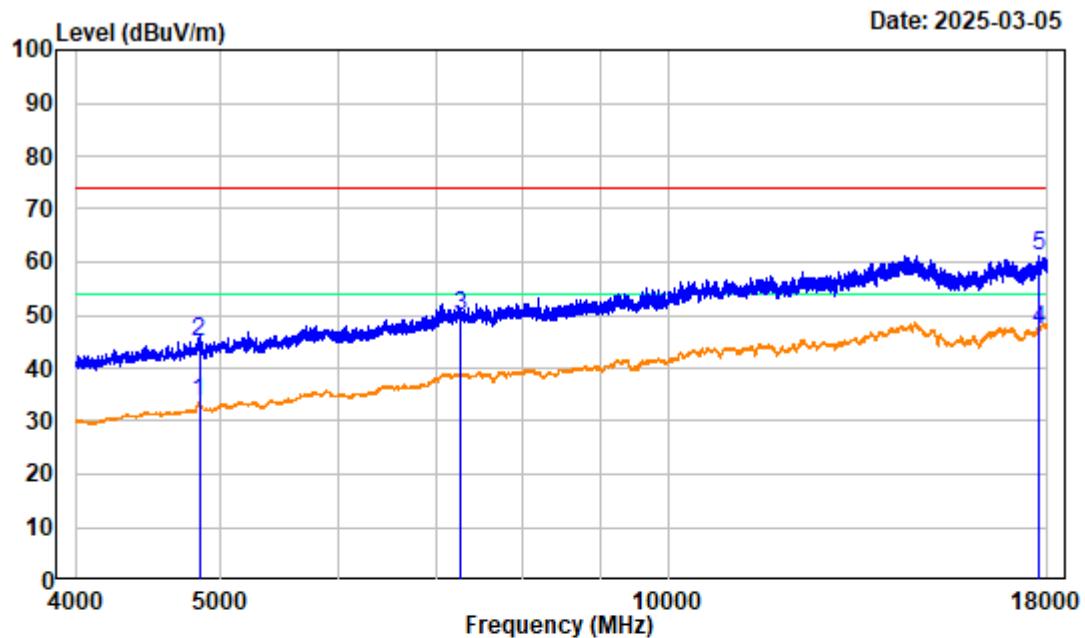
Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4924.000	-6.60	38.95	32.35	54.00	-21.65	Average
2	4924.000	-6.60	50.94	44.34	74.00	-29.66	Peak
3	7386.000	-1.38	51.87	50.49	74.00	-23.51	Peak
4	17979.000	8.26	39.47	47.73	54.00	-6.27	Average
5	17979.000	8.26	53.27	61.53	74.00	-12.47	Peak

For 802.11n40 mode



Site : chamber

Condition : 3m HORIZONTAL

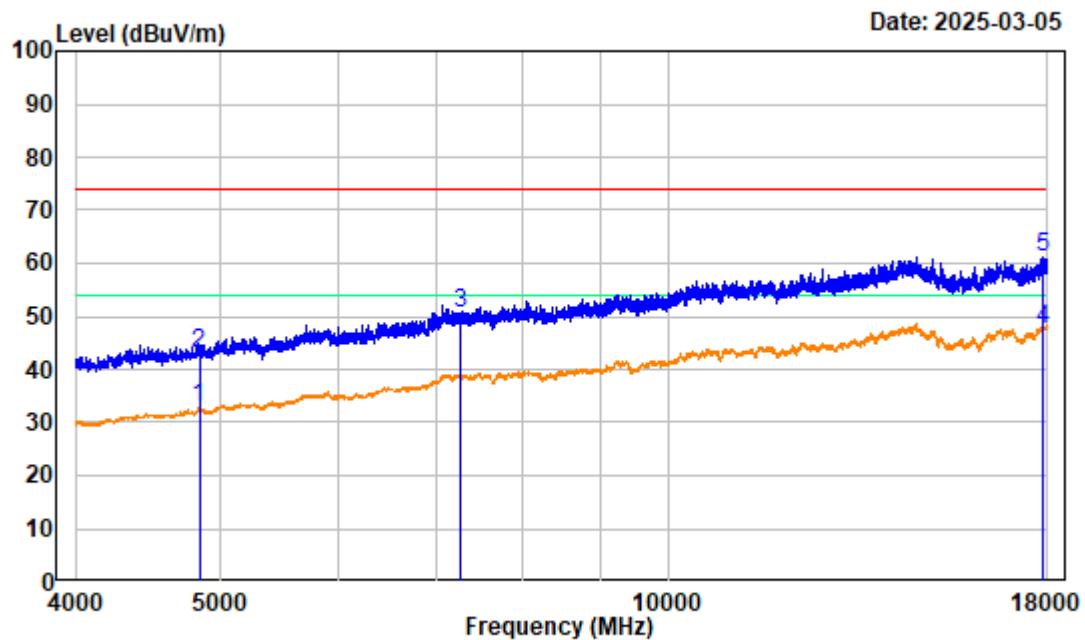
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Low Channel 2422MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	dBuV	dBuV/m	Line	Limit
1	4844.000	-6.62	40.08	33.46	54.00	-20.54	Average
2	4844.000	-6.62	51.70	45.08	74.00	-28.92	Peak
3	7266.000	-1.26	51.11	49.85	74.00	-24.15	Peak
4	17748.000	7.71	39.33	47.04	54.00	-6.96	Average
5	17748.000	7.71	53.33	61.04	74.00	-12.96	Peak



Site : chamber

Condition : 3m VERTICAL

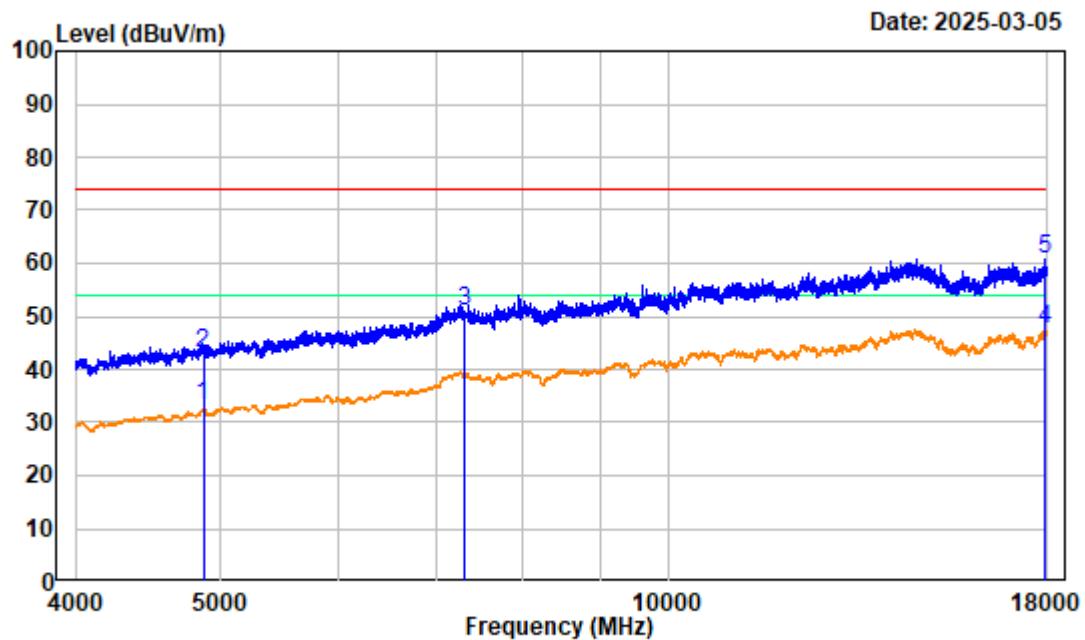
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Low Channel 2422MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4844.000	-6.62	39.54	32.92	54.00	-21.08	Average
2	4844.000	-6.62	49.54	42.92	74.00	-31.08	Peak
3	7266.000	-1.26	51.93	50.67	74.00	-23.33	Peak
4	17858.250	8.23	39.33	47.56	54.00	-6.44	Average
5	17858.250	8.23	52.93	61.16	74.00	-12.84	Peak



Site : chamber

Condition : 3m HORIZONTAL

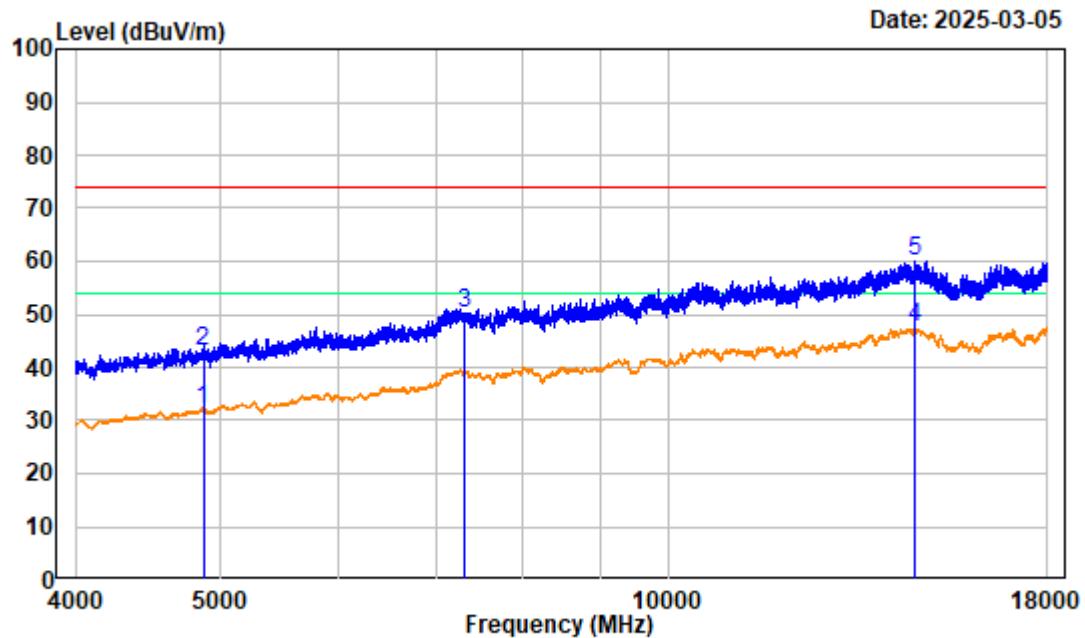
Job No. : 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Middle Channel 2437MHz

SA setting: Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4874.000	-6.63	39.71	33.08	54.00	-20.92	Average
2	4874.000	-6.63	49.71	43.08	74.00	-30.92	Peak
3	7311.000	-1.21	52.30	51.09	74.00	-22.91	Peak
4	17923.000	8.22	39.43	47.65	54.00	-6.35	Average
5	17923.000	8.22	52.43	60.65	74.00	-13.35	Peak



Site : chamber

Condition : 3m VERTICAL

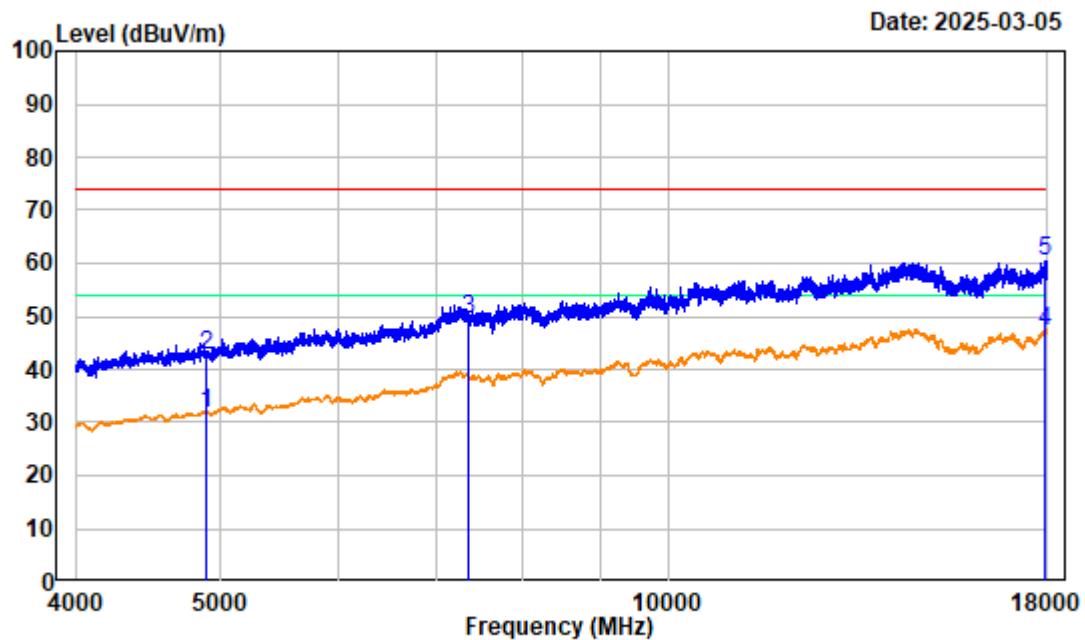
Job No. : 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Middle Channel 2437MHz

SA setting: Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4874.000	-6.63	38.63	32.00	54.00	-22.00	Average
2	4874.000	-6.63	49.63	43.00	74.00	-31.00	Peak
3	7311.000	-1.21	51.48	50.27	74.00	-23.73	Peak
4	14648.750	8.56	38.86	47.42	54.00	-6.58	Average
5	14648.750	8.56	51.36	59.92	74.00	-14.08	Peak



Site : chamber

Condition : 3m HORIZONTAL

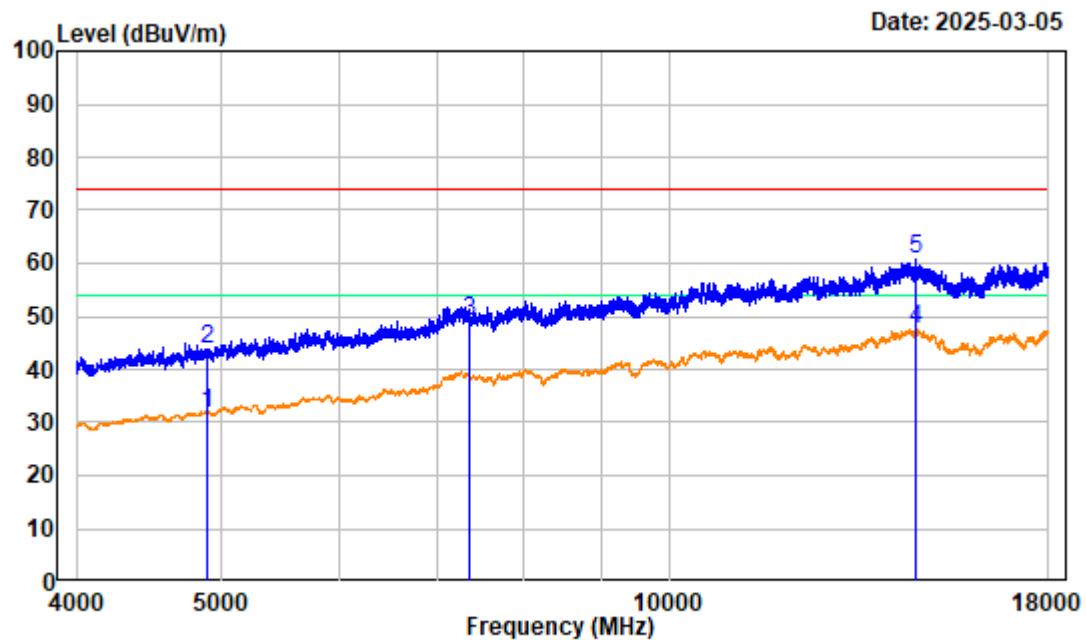
Job No. : 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 High Channel 2452MHz

SA setting: Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4904.000	-6.63	38.15	31.52	54.00	-22.48	Average
2	4904.000	-6.63	49.15	42.52	74.00	-31.48	Peak
3	7356.000	-1.31	50.70	49.39	74.00	-24.61	Peak
4	17931.750	8.21	38.99	47.20	54.00	-6.80	Average
5	17931.750	8.21	51.99	60.20	74.00	-13.80	Peak



Site : chamber

Condition : 3m VERTICAL

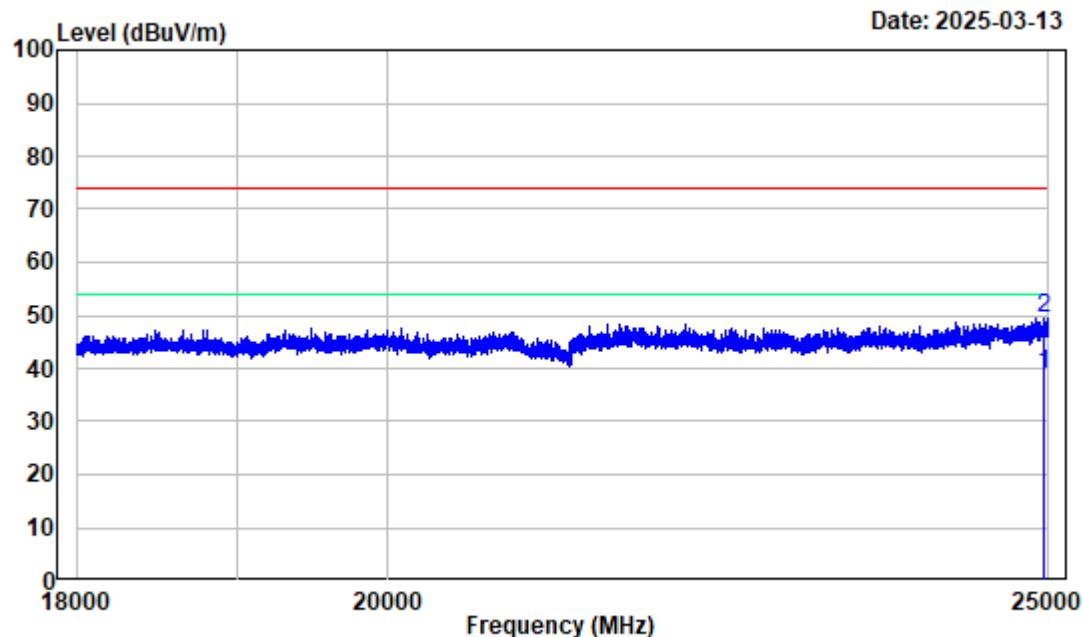
Job No. : 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 High Channel 2452MHz

SA setting: Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	4904.000	-6.63	38.39	31.76	54.00	-22.24	Average
2	4904.000	-6.63	50.39	43.76	74.00	-30.24	Peak
3	7356.000	-1.31	50.37	49.06	74.00	-24.94	Peak
4	14654.000	8.53	39.06	47.59	54.00	-6.41	Average
5	14654.000	8.53	52.06	60.59	74.00	-13.41	Peak

18GHz~25GHz:**For 802.11n40 mode**

Site : chamber

Condition : 3m HORIZONTAL

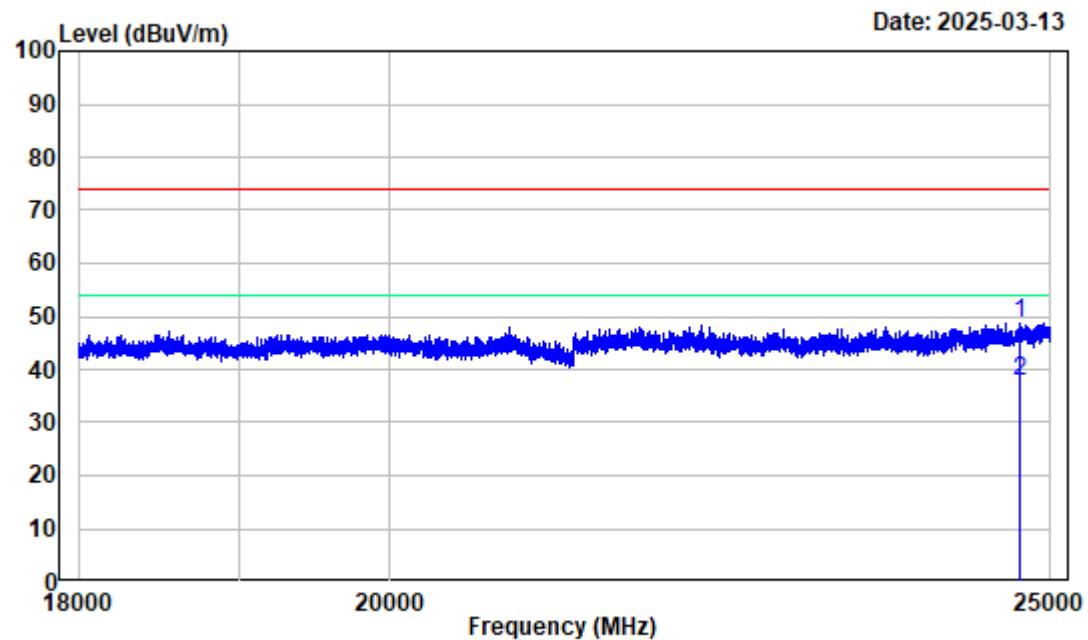
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Low Channel 2422MHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB		
1 24956.250	0.53	38.36	38.89	54.00	-15.11	Average	
2 24956.250	0.53	48.86	49.39	74.00	-24.61	Peak	



Site : chamber

Condition : 3m VERTICAL

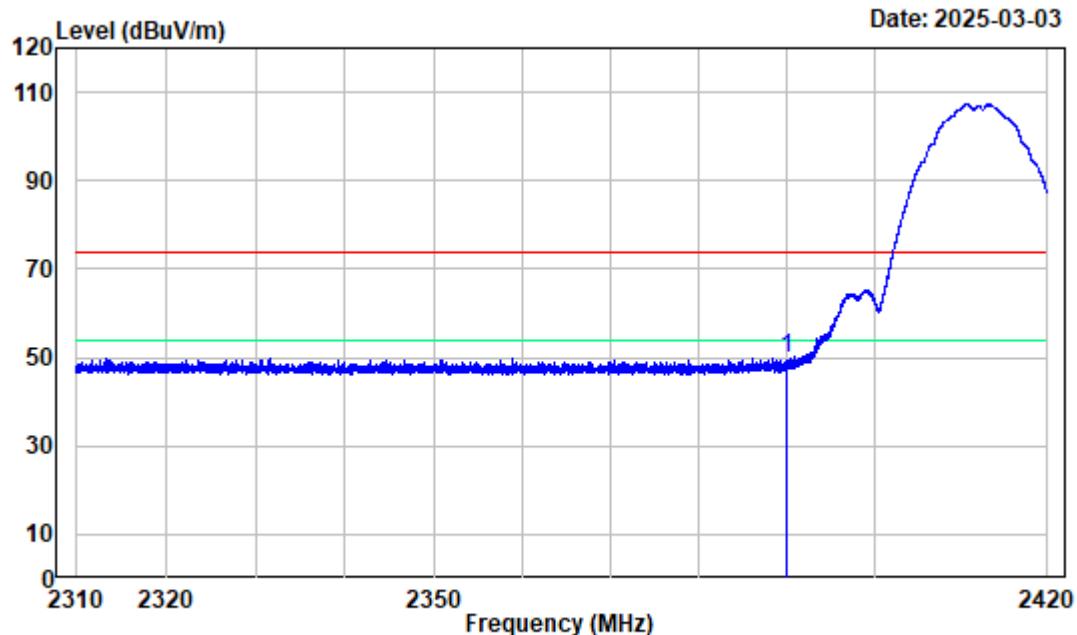
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Low Channel 2422MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	24747.130	0.04	48.76	48.80	74.00	-25.20	Peak
2	24747.130	0.04	37.76	37.80	54.00	-16.20	Average

Band Edge:**For 802.11b mode**

Site : chamber

Condition : 3m HORIZONTAL

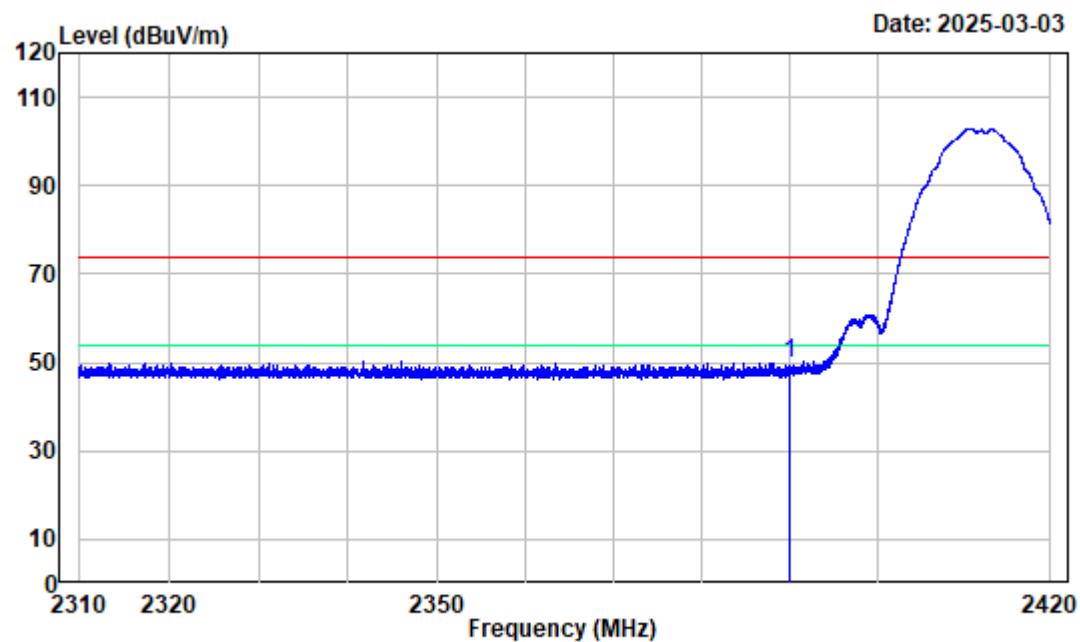
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Low Channel 2412MHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB		
1 2390.000	-10.24	60.16	49.92	74.00	-24.08	peak	



Site : chamber

Condition : 3m VERTICAL

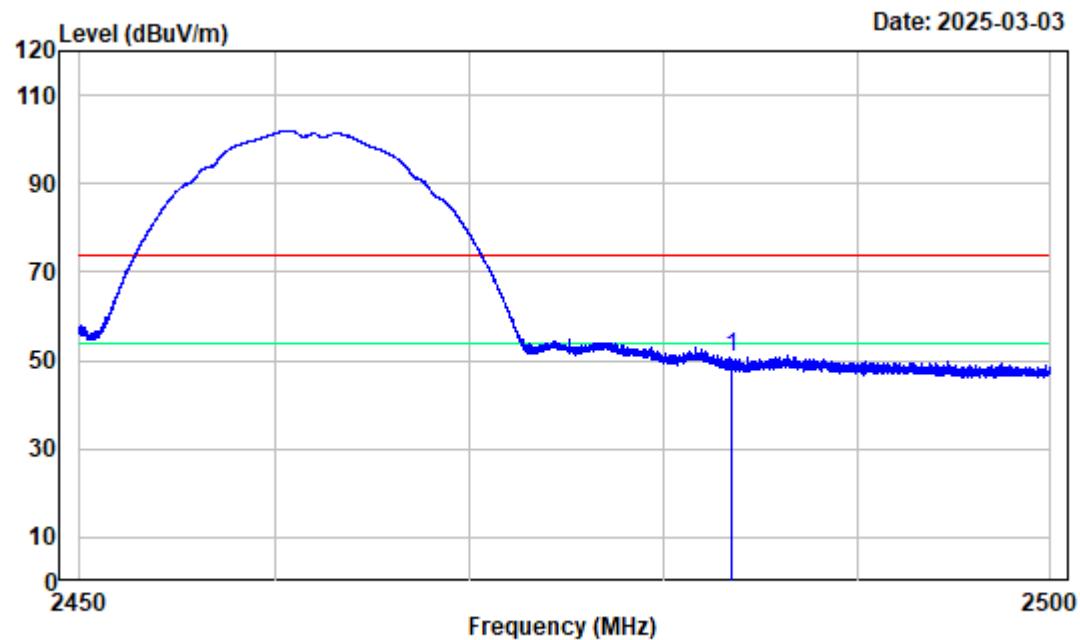
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b Low Channel 2412MHz

SA setting : Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	2390.000	-10.24	60.06	49.82	74.00	-24.18	peak



Site : chamber

Condition : 3m HORIZONTAL

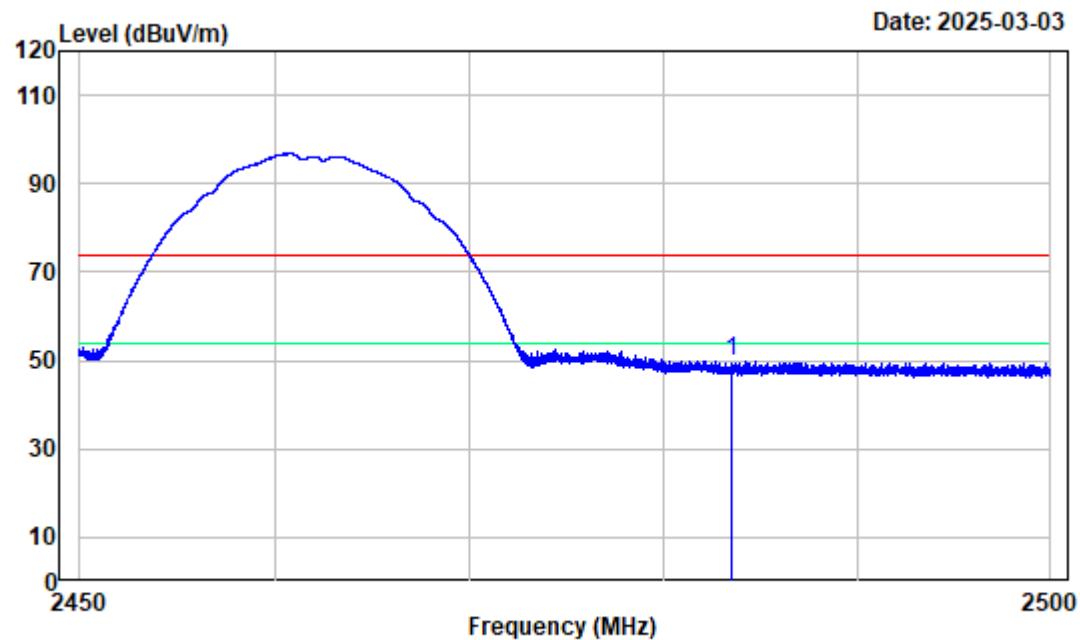
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
		MHz	dB/m	dBuV	dBuV/m	dB	
1		2483.500	-10.22	60.91	50.69	74.00	-23.31 peak



Site : chamber

Condition : 3m VERTICAL

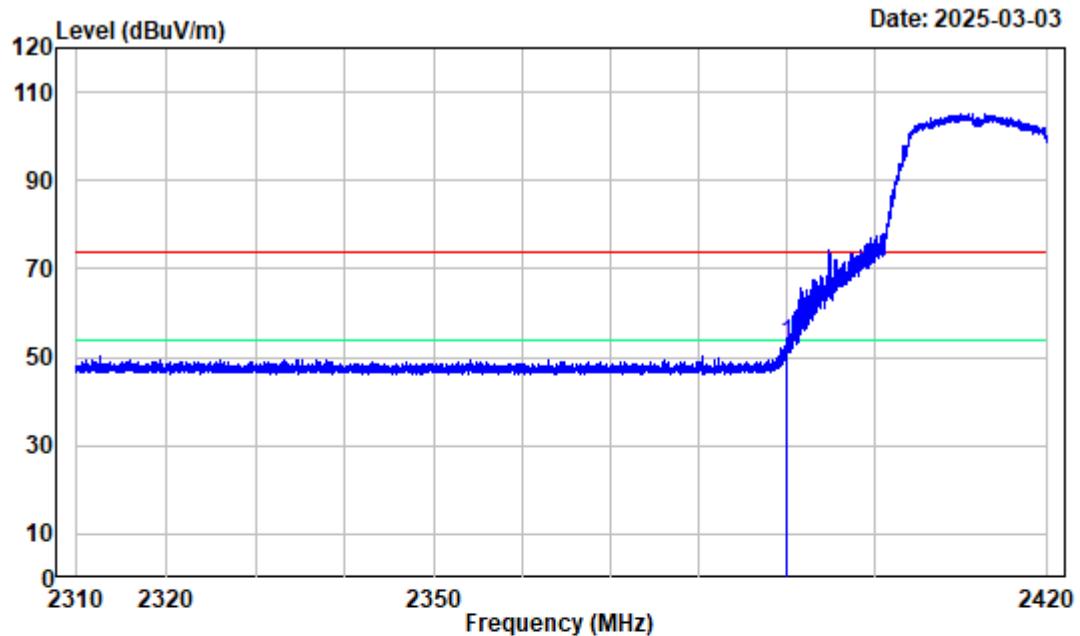
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11b High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

	Freq	Factor	Read Level	Limit Level	Line	Over Limit	Remark
	MHz		dB/m	dBuV	dBuV/m	dBuV/m	dB
1	2483.500		-10.22	59.94	49.72	74.00	-24.28 peak

For 802.11g mode

Site : chamber

Condition : 3m HORIZONTAL

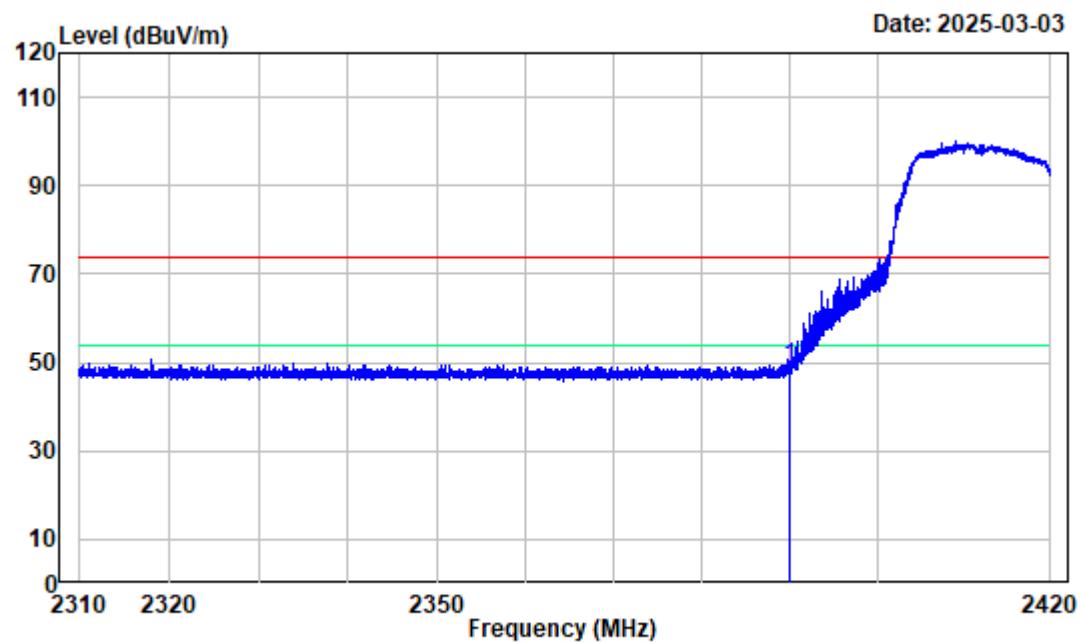
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	dBuV	dBuV/m		
1	2390.000	-10.24	63.43	53.19	74.00	-20.81	Peak



Site : chamber

Condition : 3m VERTICAL

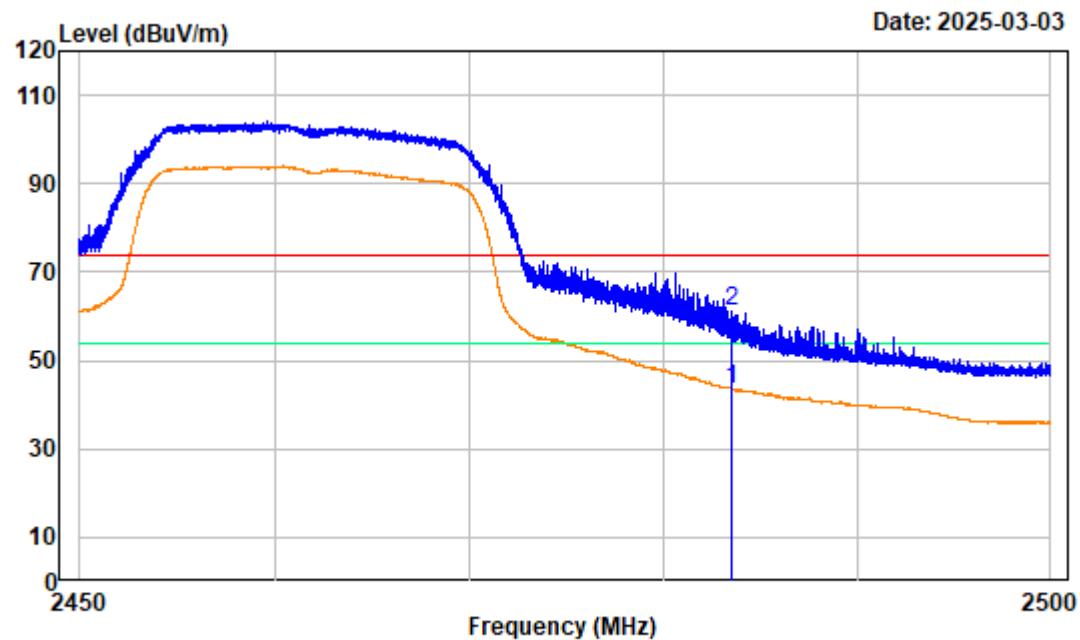
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	Level	dBuV/m	Line	
1	2390.000	-10.24	59.18	48.94	74.00	-25.06	Peak



Site : chamber

Condition : 3m HORIZONTAL

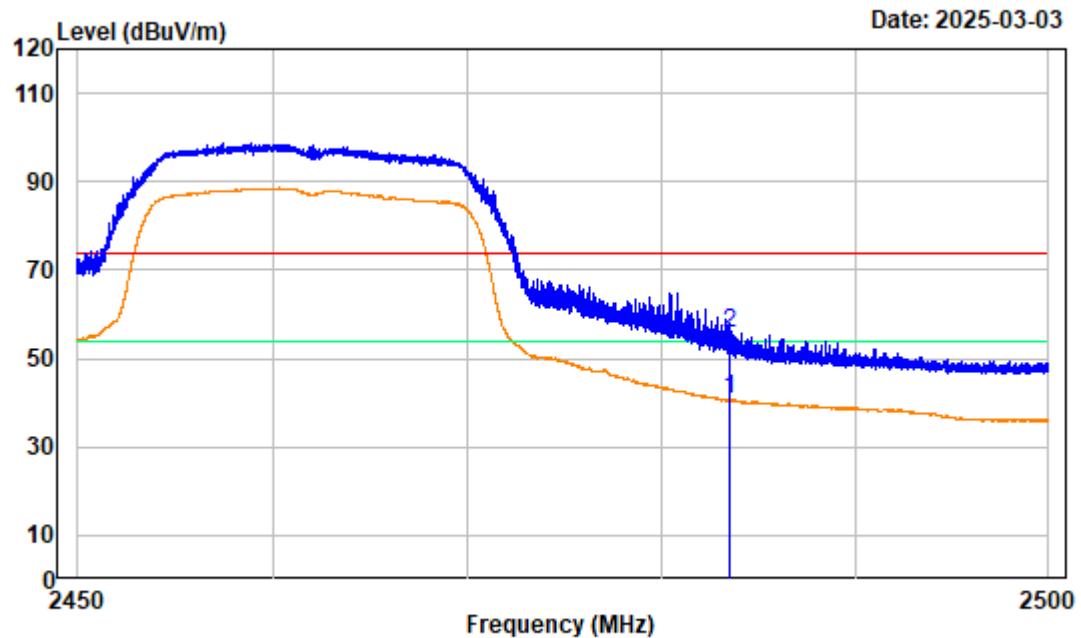
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	2483.500	-10.22	53.77	43.55	54.00	-10.45	Average
2	2483.500	-10.22	71.35	61.13	74.00	-12.87	Peak



Site : chamber

Condition : 3m VERTICAL

Project No.: 2504Q09049E-RF

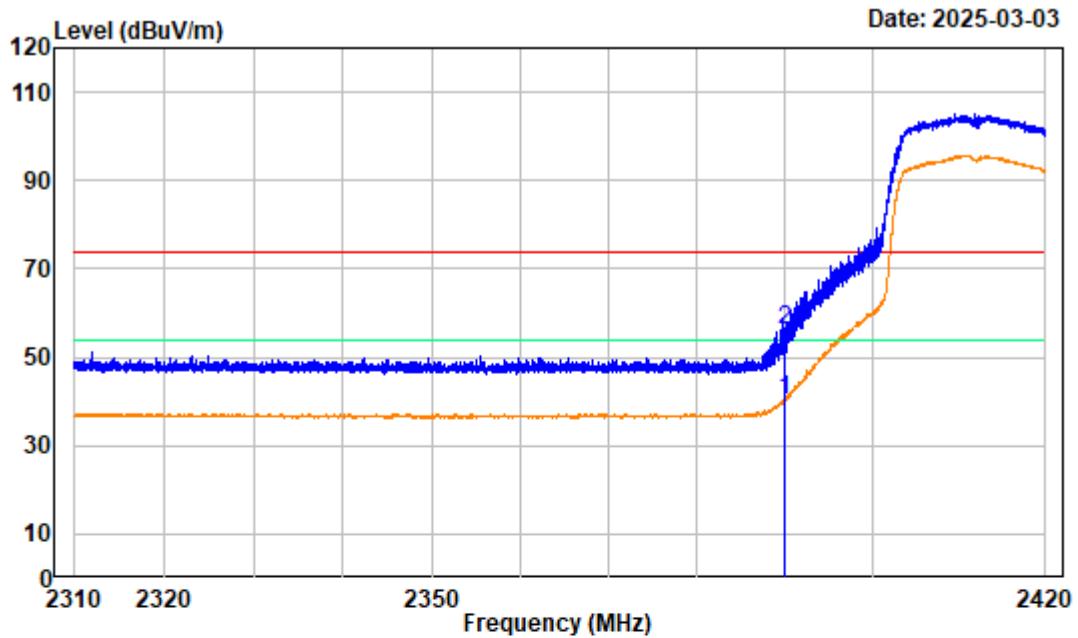
Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11g High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	Level	dBuV	Line	dB
1	2483.500	-10.22	50.95	40.73	54.00	-13.27	Average
2	2483.500	-10.22	65.98	55.76	74.00	-18.24	Peak

For 802.11n20 mode



Site : chamber

Condition : 3m HORIZONTAL

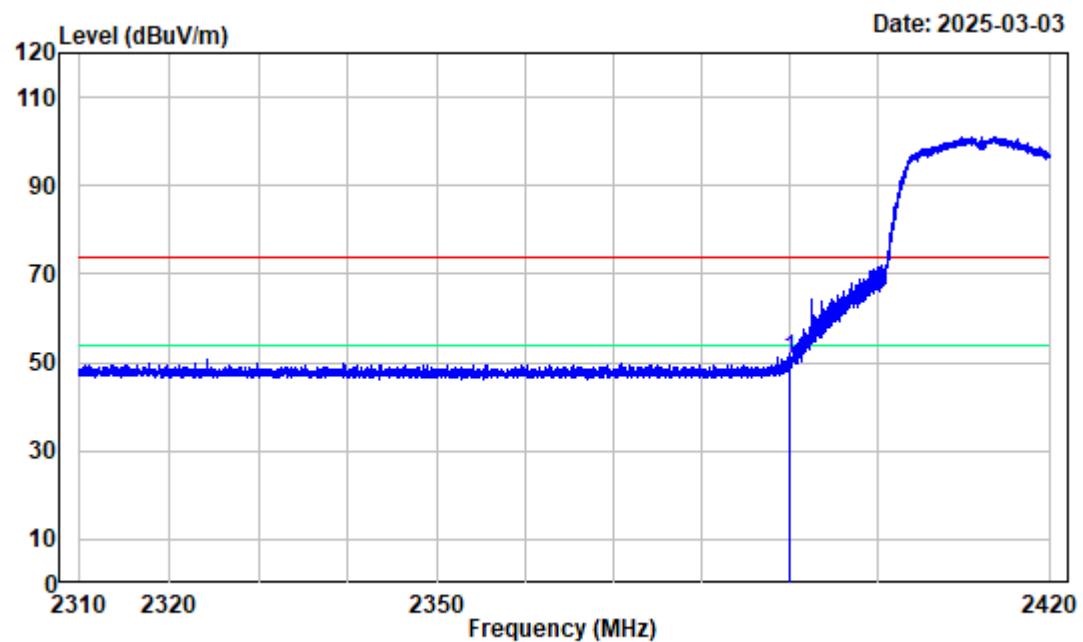
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	dB _{UV}	dB _{UV} /m	dB _{UV} /m	
1	2390.000	-10.24	50.35	40.11	54.00	-13.89	Average
2	2390.000	-10.24	66.47	56.23	74.00	-17.77	Peak



Site : chamber

Condition : 3m VERTICAL

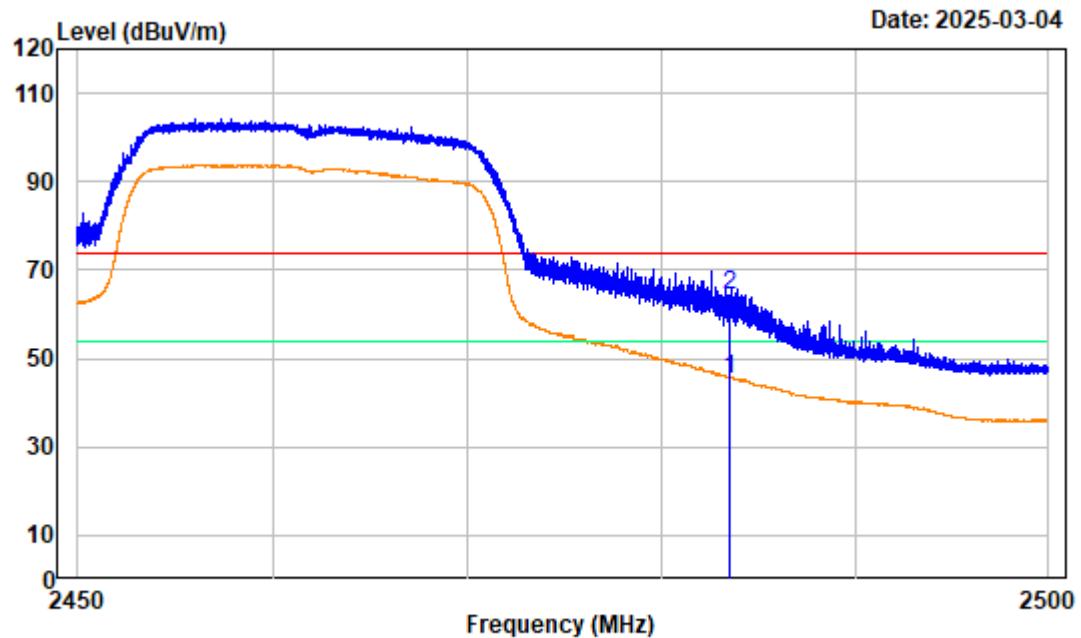
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 Low Channel 2412MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

	Freq	Factor	Read Level	Limit Level	Line	Over Limit	Remark
1	2389.998		-10.24	60.96	50.72	74.00	-23.28 Peak



Site : chamber

Condition : 3m HORIZONTAL

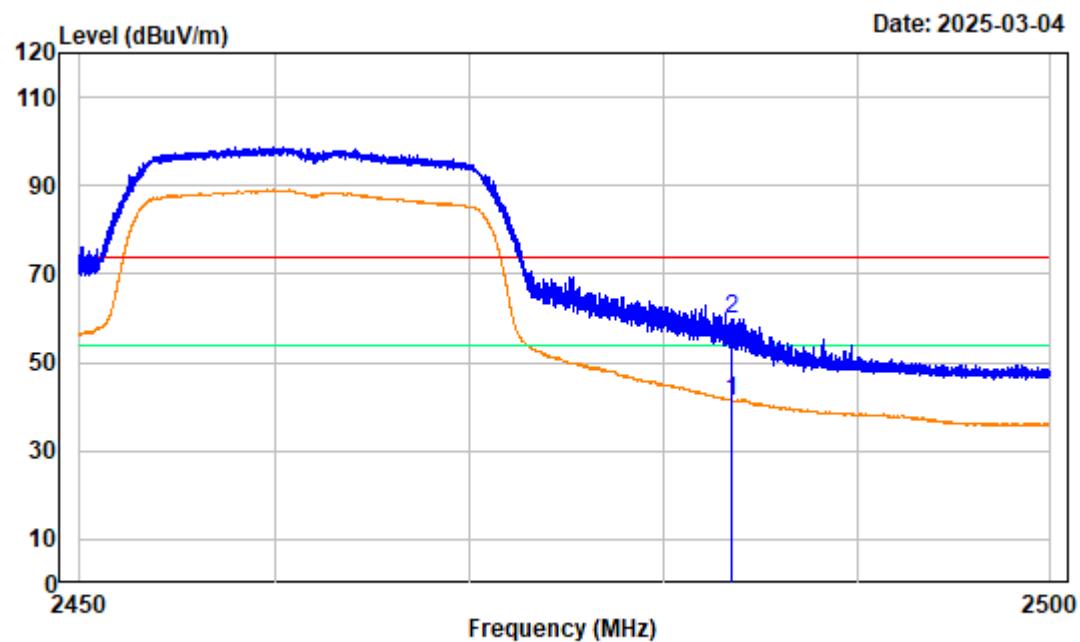
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	Level	dBuV	Line	dB
1	2483.500	-10.22	55.68	45.46	54.00	-8.54	Average
2	2483.500	-10.22	74.69	64.47	74.00	-9.53	Peak



Site : chamber

Condition : 3m VERTICAL

Project No.: 2504Q09049E-RF

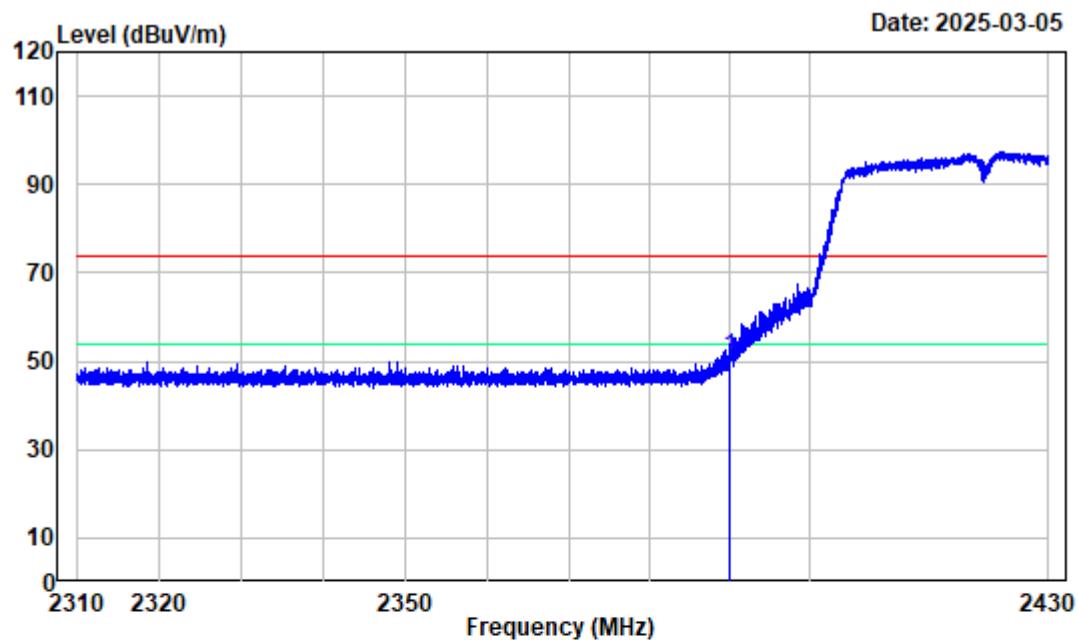
Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n20 High Channel 2462MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	Level	dBuV	Line	dB
1	2483.500	-10.22	51.61	41.39	54.00	-12.61	Average
2	2483.500	-10.22	69.96	59.74	74.00	-14.26	Peak

For 802.11n40 mode



Site : chamber

Condition : 3m HORIZONTAL

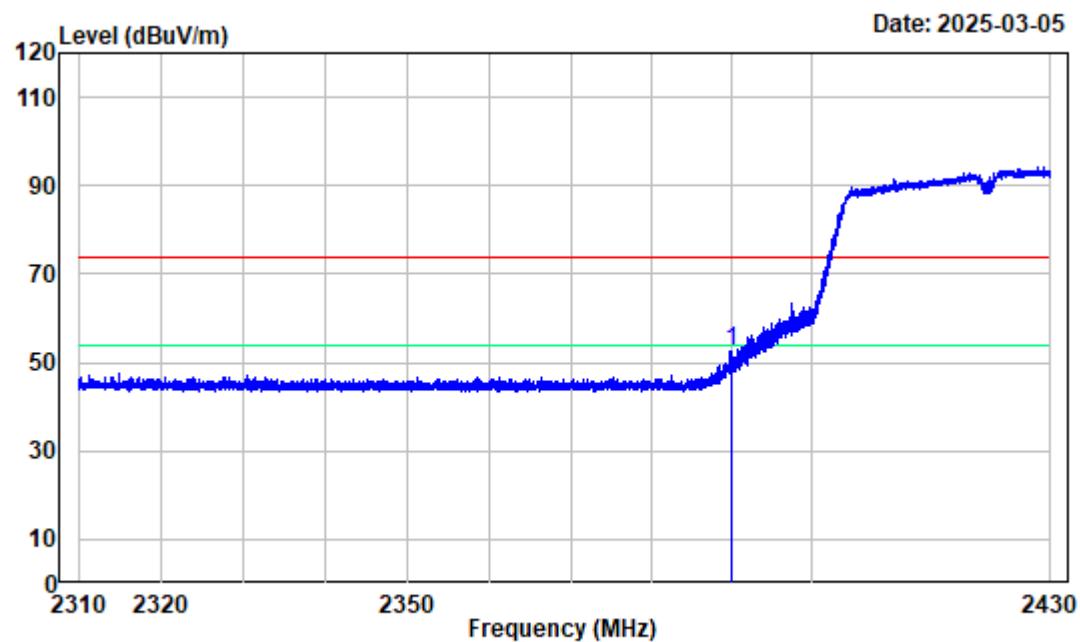
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Low Channel 2422MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB		
1 2390.000	-10.24	60.97	50.73	74.00	-23.27	Peak	



Site : chamber

Condition : 3m VERTICAL

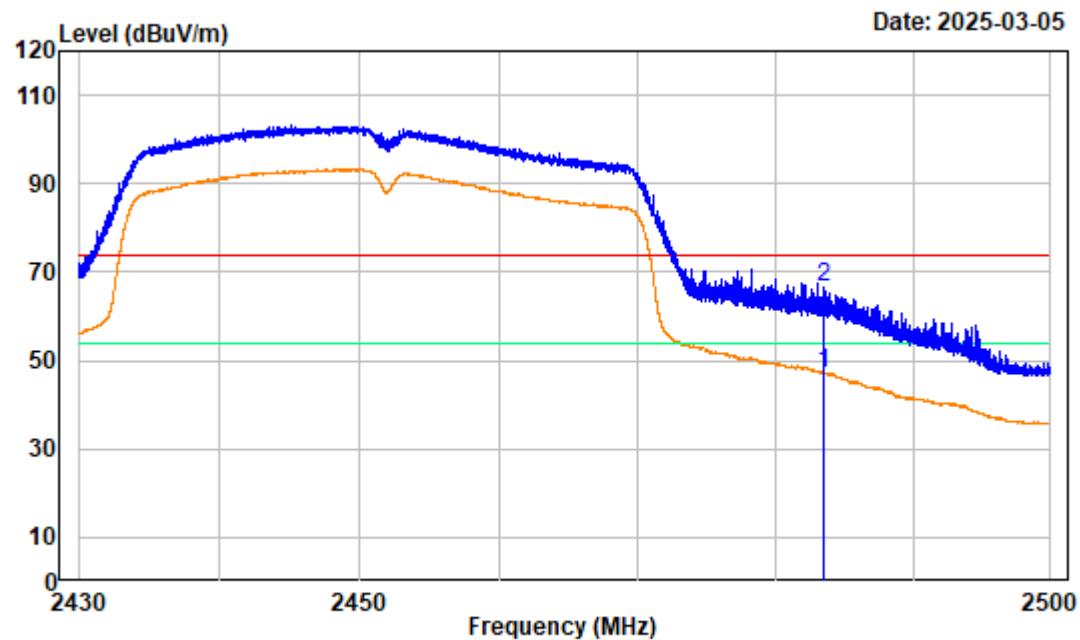
Project No.: 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 Low Channel 2422MHz

SA setting : Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
		MHz	dB/m	dBuV	dBuV/m	dB	
1	2390.000	-10.24	62.66	52.42	74.00	-21.58	Peak



Site : chamber

Condition : 3m HORIZONTAL

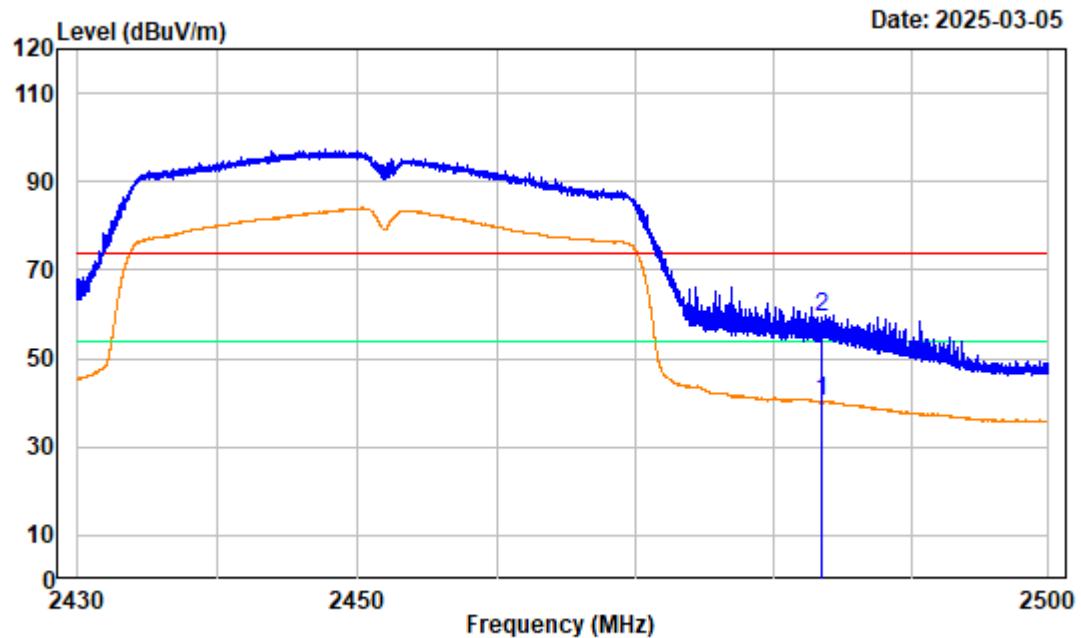
Job No. : 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 High Channel 2452MHz

SA setting: Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		Level	Level	Line	Line		
1	2483.500	-10.22	57.19	46.97	54.00	-7.03	Average
2	2483.500	-10.22	76.89	66.67	74.00	-7.33	Peak



Site : chamber

Condition : 3m VERTICAL

Job No. : 2504Q09049E-RF

Test Mode : Transmitting Tester: Jimi Zheng

Note : 802.11n40 High Channel 2452MHz

SA setting: Peak:RBW:1MHz, VBW:3MHz Ave:RBW:1MHz, VBW:5kHz

Freq	Factor	Read		Limit		Over	Remark
		MHz	dB/m	Level	dBuV	Line	dBuV/m
1	2483.500	-10.22	50.43	40.21	54.00	-13.79	Average
2	2483.500	-10.22	69.33	59.11	74.00	-14.89	Peak

FCC §15.247(a) (2)-6 dB EMISSION BANDWIDTH & OCCUPIED BANDWIDTH

Applicable Standard

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

According to ANSI C63.10-2020, section 11.8 and section 6.9

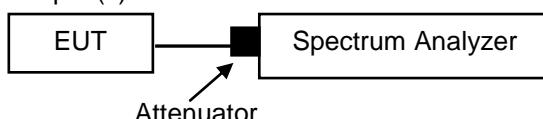
The steps for the first option are as follows:

- a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- b) Set the VBW $\geq [3 \times \text{RBW}]$.
- c) Detector = peak.
- d) Trace mode = max-hold.
- e) Sweep = No faster than coupled (auto) time.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-6 dB down amplitude”. If a marker is below this “-6 dB down amplitude” value, then it shall be as close as possible to this value.

According to ANSI C63.10-2020, section 7.8.6 and section 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 at least 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 $[10 \log (\text{OBW}/\text{RBW})]$ below the reference level. Specific guidance is given in 4.1.6.2.
- 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 spectral plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).



Test Data

Please refer to the Appendix.

FCC §15.247(b) (3)-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

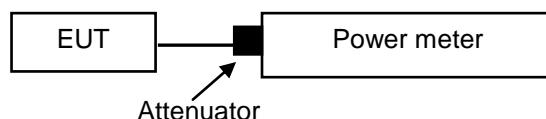
According to ANSI C63.10-2020, section 11.9.1.2

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast responding diode detector.

According to ANSI C63.10-2020, section 11.9.2.3

● Measurement using a power meter (PM)(Method AVGPM)

- a) As an alternative to spectrum analyzer or EMI receiver measurements, measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent, if all of the conditions listed below are satisfied:
 - 1) The EUT is configured to transmit continuously, or to transmit with a constant duty cycle.
 - 2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.
 - 3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
- b) If the transmitter does not transmit continuously, measure the duty cycle, D, of the transmitter output signal as described in 11.6.
- c) Measure the average power of the transmitter. This measurement is an average over both the ON and OFF periods of the transmitter.
- d) Correct the measurement in dBm by adding $[10 \log (1 / D)]$, where D is the duty cycle.



Test Data

Please refer to the Appendix.

FCC §15.247(d)-100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

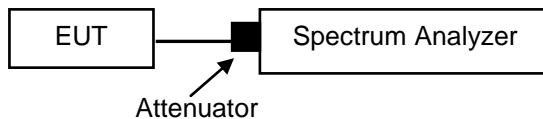
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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

According to ANSI C63.10-2020, section 11.11

- a) Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.
NOTE—the number of points can also be increased for large spans to retain frequency resolution
- b) Set the RBW = 100 kHz.
- c) Set the VBW $\geq [3 \times \text{RBW}]$.
- d) Detector = peak.
- e) Sweep time = No faster than coupled (auto) time.
- f) Trace mode = max-hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.



Test Data

Please refer to the Appendix.

FCC §15.247(e)-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

According to ANSI C63.10-2020, section 11.10.2

- Method PKPSD (peak PSD)

The following procedure shall be used if maximum peak conducted output power was used to determine compliance, and it is optional if the maximum conducted (average) output power was used to determine compliance:

- Set analyzer center frequency to DTS channel center frequency.
- Set the span >1.5 times the DTS bandwidth.
- Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set the VBW $\geq [3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.
- If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

According to ANSI C63.10-2020, section 11.10.3

- Method AVGPSD-1: (for duty cycle $\geq 98\%$)

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 ($D \geq 98\%$), or else sweep triggering/signal gating must be implemented to help ensure that measurements are made only when the EUT is transmitting at its maximum power control level (no transmitter OFF time to be considered):

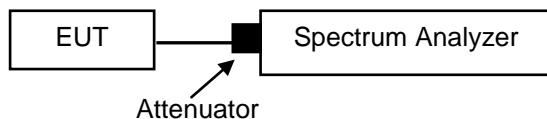
- Set instrument center frequency to DTS channel center frequency.
- Set span to > 1.5 times the OBW.
- Set RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set VBW $\geq [3 \times \text{RBW}]$.
- Detector = power averaging (rms) or sample detector (when rms not available).
- Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span} / \text{RBW}]$.
- Sweep time = auto couple.
- Employ trace averaging (rms) mode over a minimum of 100 traces.
- Use the peak marker function to determine the maximum amplitude level.
- If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat (note that this might require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

According to ANSI C63.10-2020, section 11.10.5

● Method AVGPSD-2: (for duty cycle < 98% and constant duty cycle)

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 $\pm 2\%$):

- a) Measure the duty cycle (D) of the transmitter output signal as described in 11.6.
- b) Set instrument center frequency to DTS channel center frequency.
- c) Set span to > 1.5 times the OBW.
- d) Set RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- e) Set VBW $\geq [3 \times \text{RBW}]$.
- f) Detector = power averaging (rms) or sample detector (when rms not available).
- g) Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span} / \text{RBW}]$.
- h) Sweep time = auto couple.
- i) Do not use sweep triggering; allow sweep to “free run.”
- j) Employ trace averaging (rms) mode over a minimum of 100 traces.
- k) Use the peak marker function to determine the maximum amplitude level.
- l) Add $[10 \log (1 / D)]$, where D is the duty cycle measured in step a), to the measured PSD to compute the average PSD during the actual transmission time.
- m) If measured value exceeds requirement specified by regulatory agency, then reduce RBW (but no less than 3 kHz) and repeat (note that this might 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 Data

Please refer to the Appendix.

APPENDIX (RF TEST RESULTS)

6dB Emission Bandwidth

Test Information:

Sample No.:	2YOF-1	Test Date:	2025/06/10
Test Site:	RF	Test Mode:	Transmitting
Tester:	Cayde Hou	Test Result:	Pass

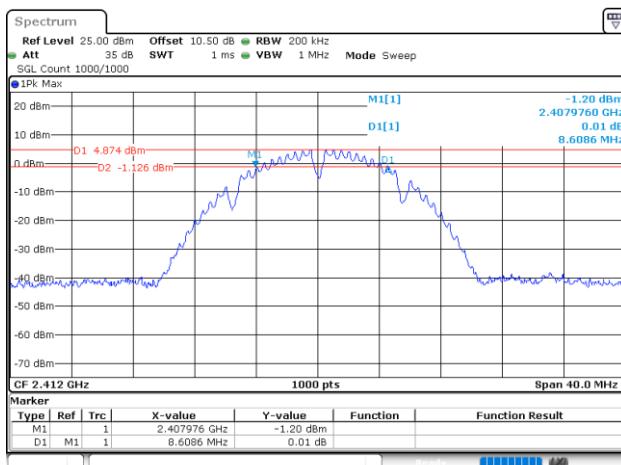
Environmental Conditions:

Temperature: (°C)	25.9	Relative Humidity: (%)	45	ATM Pressure: (kPa)	99.7
-------------------	------	------------------------	----	---------------------	------

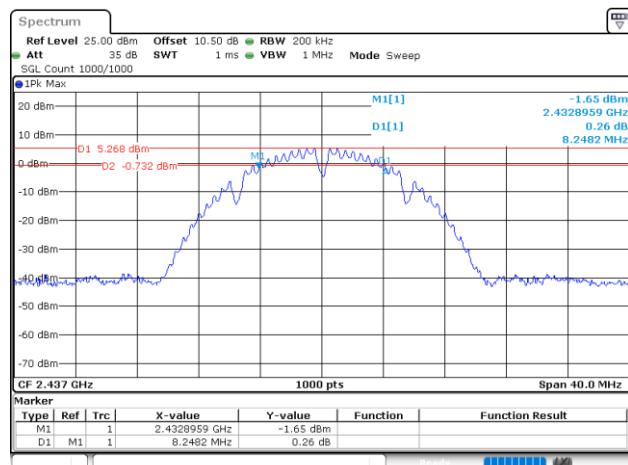
Test Data:

Mode	Test Frequency (MHz)	Result (MHz)	Limit (MHz)	Verdict
802.11b	2412	8.609	≥0.5	Pass
	2437	8.248	≥0.5	Pass
	2462	8.208	≥0.5	Pass
802.11g	2412	15.696	≥0.5	Pass
	2437	16.056	≥0.5	Pass
	2462	15.896	≥0.5	Pass
802.11n20	2412	16.296	≥0.5	Pass
	2437	17.337	≥0.5	Pass
	2462	16.416	≥0.5	Pass
802.11n40	2422	33.714	≥0.5	Pass
	2437	36.436	≥0.5	Pass
	2452	35.235	≥0.5	Pass

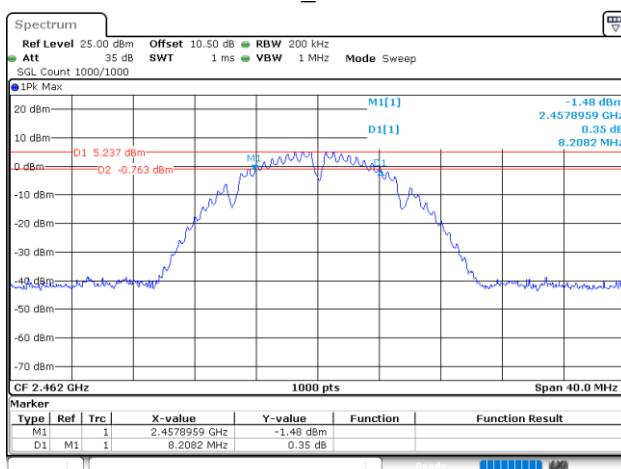
802.11b_2412MHz



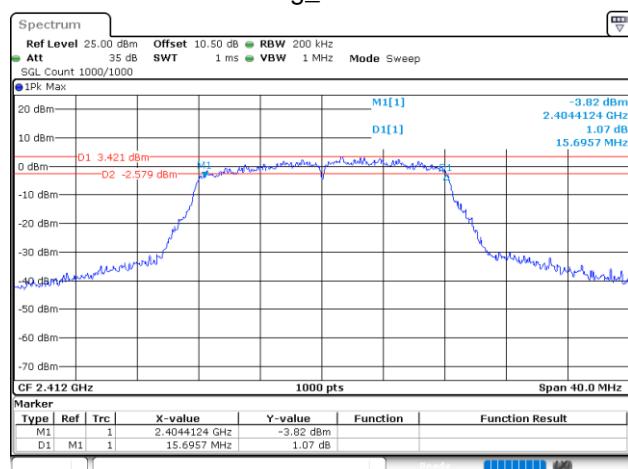
802.11b_2437MHz



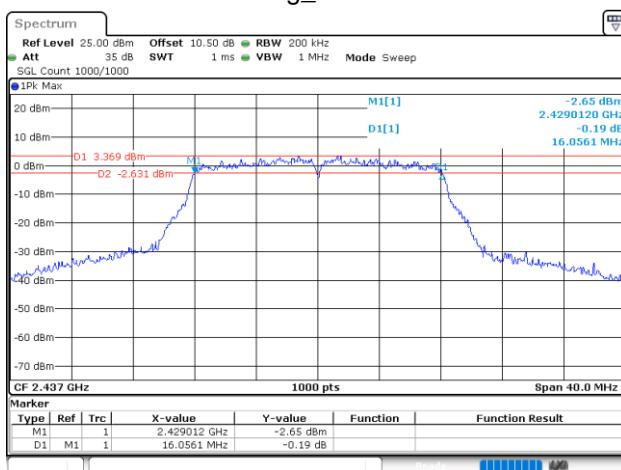
802.11b_2462MHz



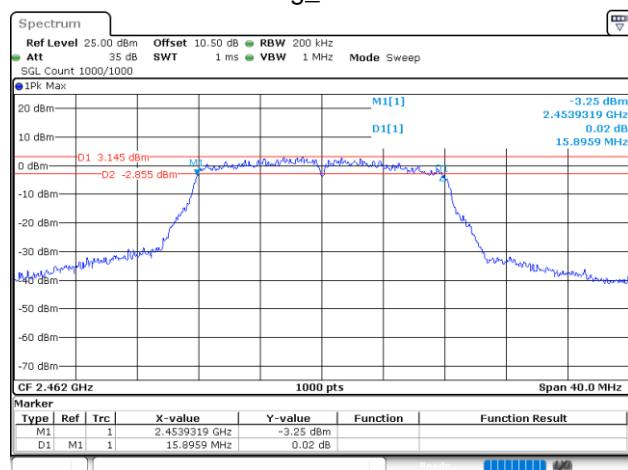
802.11g_2412MHz



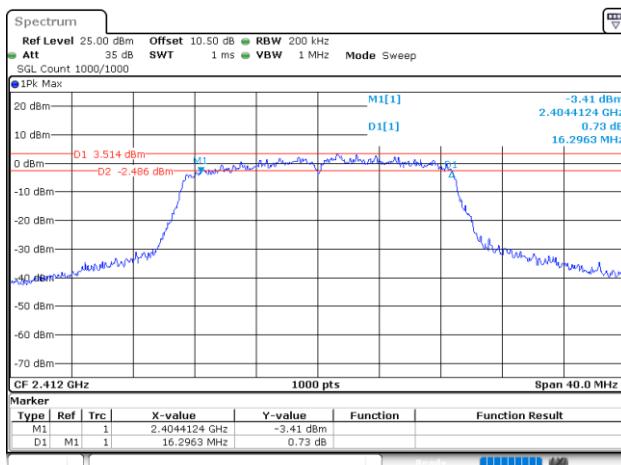
802.11g_2437MHz



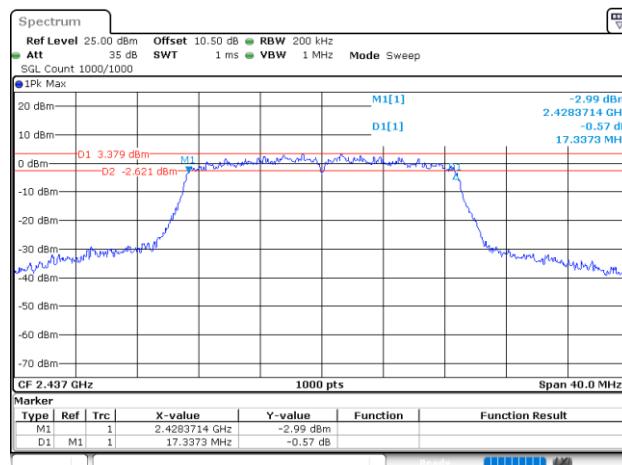
802.11g_2462MHz



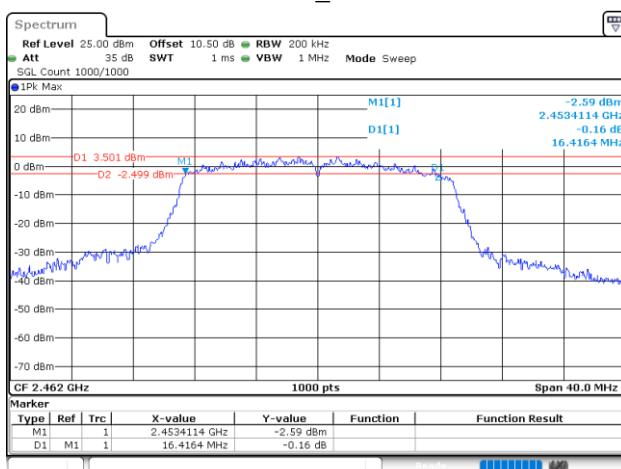
802.11n20_2412MHz



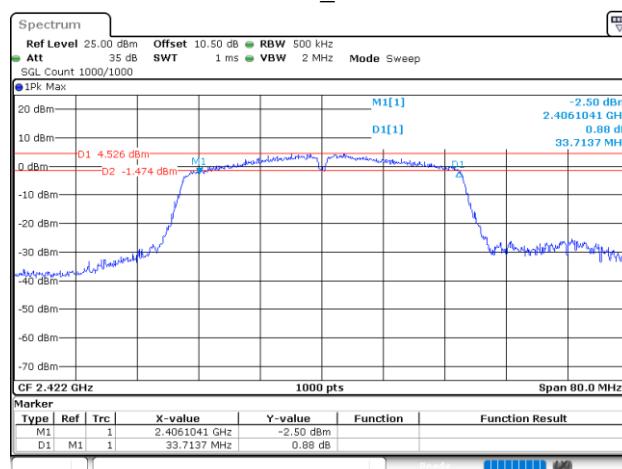
802.11n20_2437MHz



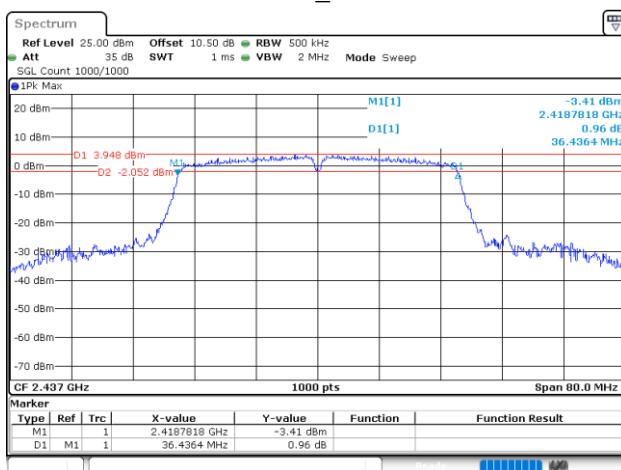
802.11n20_2462MHz



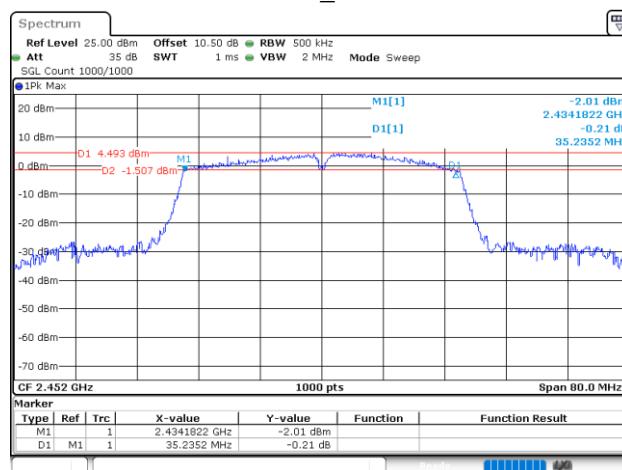
802.11n40_2422MHz



802.11n40_2437MHz



802.11n40_2452MHz



99% Occupied Bandwidth**Test Information:**

Sample No.:	2YOF-1	Test Date:	2025/06/10
Test Site:	RF	Test Mode:	Transmitting
Tester:	Cayde Hou	Test Result:	/

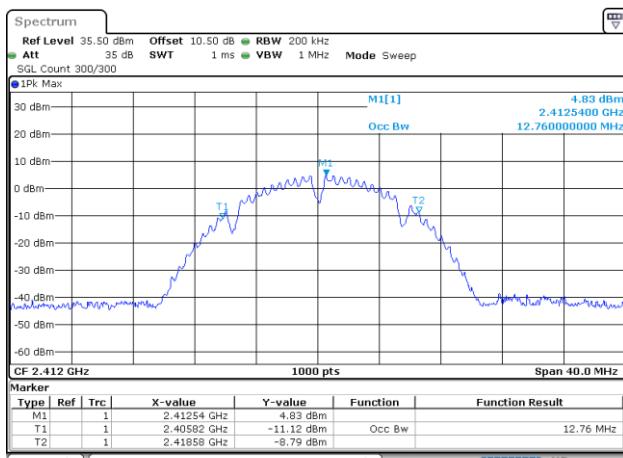
Environmental Conditions:

Temperature: (°C)	25.9	Relative Humidity: (%)	45	ATM Pressure: (kPa)	99.7
-------------------	------	------------------------	----	---------------------	------

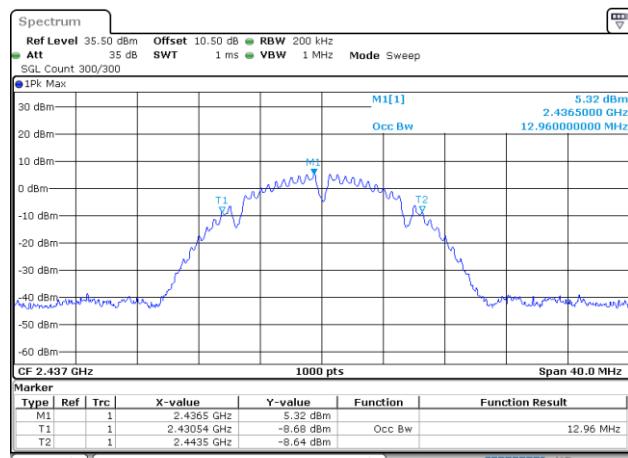
Test Data:

Mode	Test Frequency (MHz)	99% OBW (MHz)
802.11b	2412	12.760
	2437	12.960
	2462	12.720
802.11g	2412	16.440
	2437	16.480
	2462	16.360
802.11n20	2412	17.520
	2437	17.600
	2462	17.480
802.11n40	2422	36
	2437	36.240
	2452	36

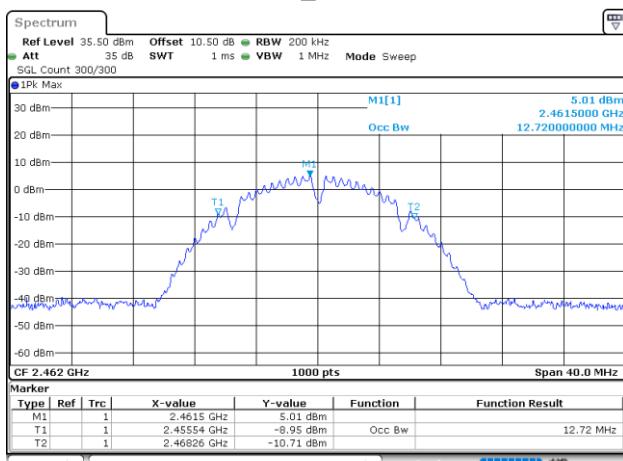
802.11b_2412MHz



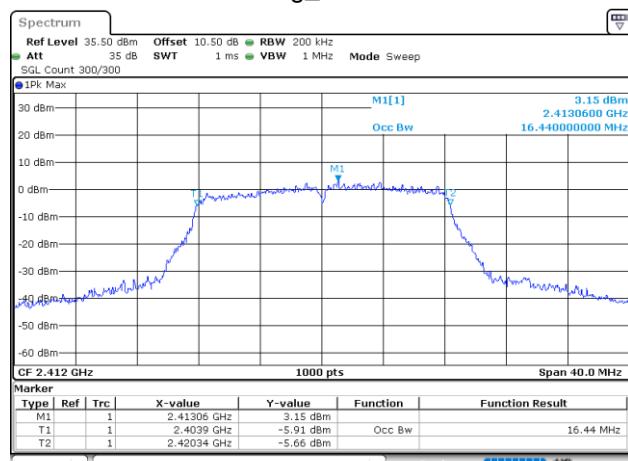
802.11b_2437MHz



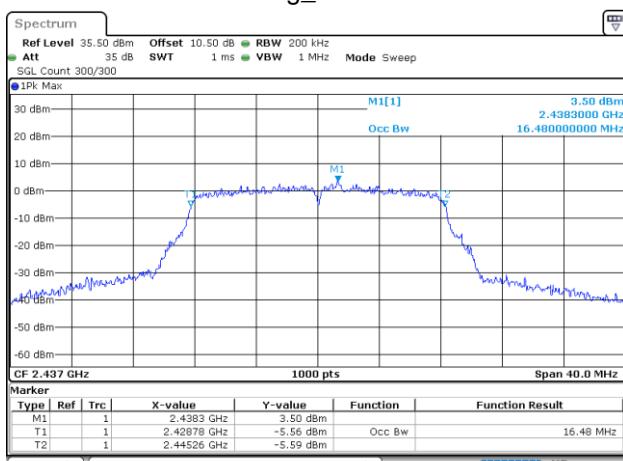
802.11b_2462MHz



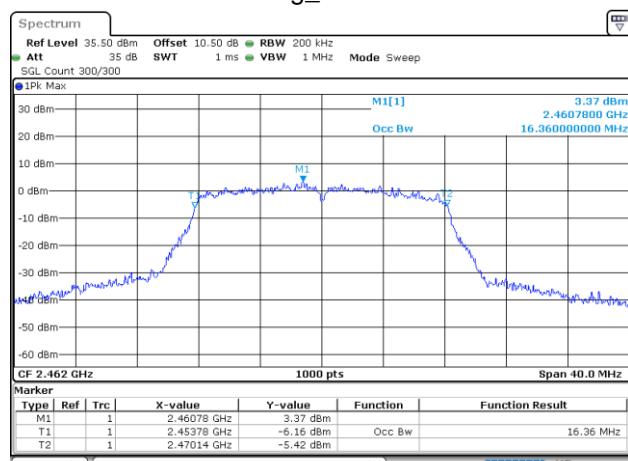
802.11g_2412MHz



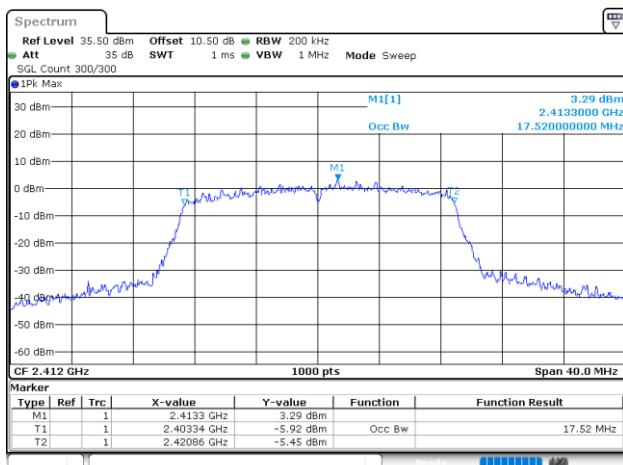
802.11g_2437MHz



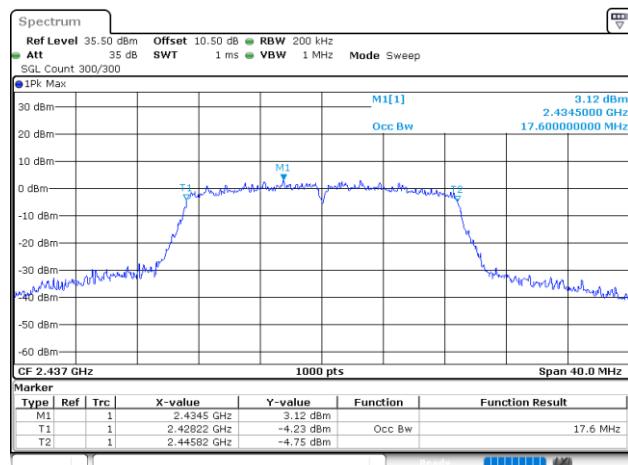
802.11g_2462MHz



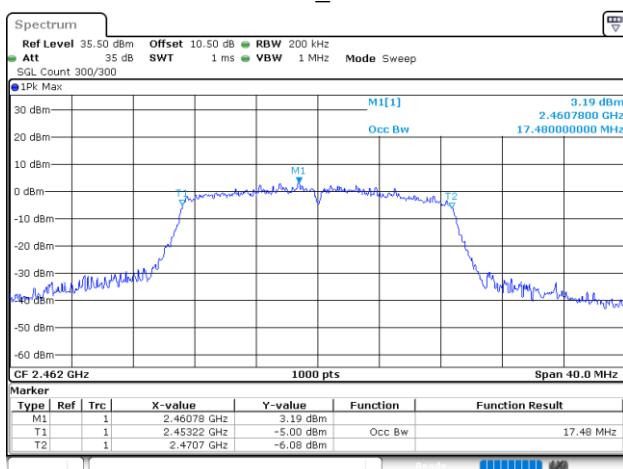
802.11n20_2412MHz



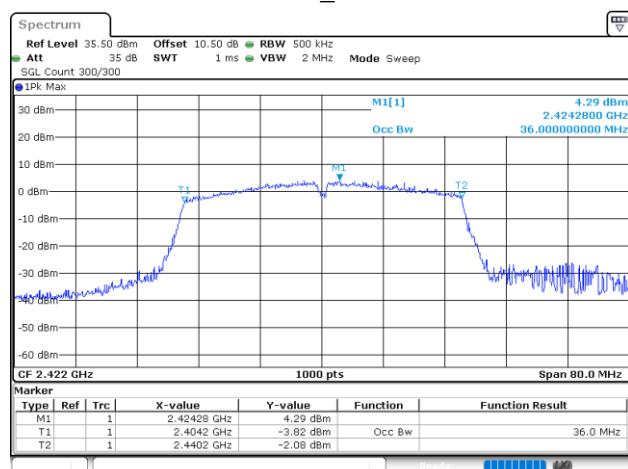
802.11n20_2437MHz



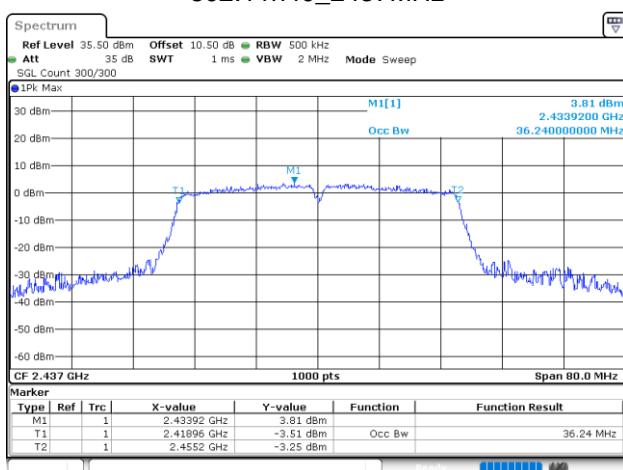
802.11n20_2462MHz



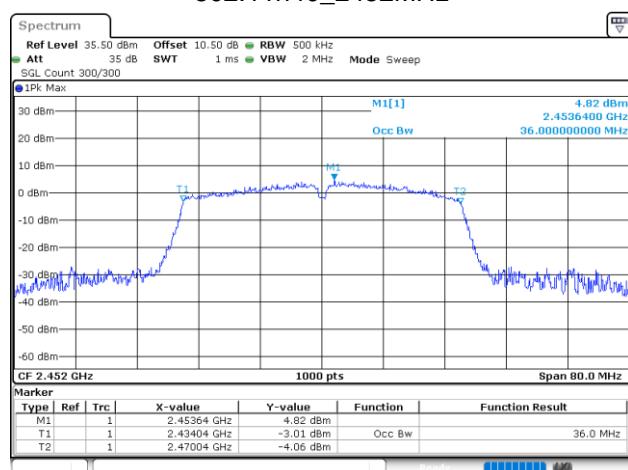
802.11n40_2422MHz



802.11n40_2437MHz



802.11n40_2452MHz



Maximum Conducted Output Power**Test Information:**

Sample No.:	2YOF-1	Test Date:	2025/04/28
Test Site:	RF	Test Mode:	Transmitting
Tester:	Cayde Hou	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	23.3	Relative Humidity: (%)	59	ATM Pressure: (kPa)	101.3
-------------------	------	------------------------	----	---------------------	-------

Test Data:

Mode	Test Frequency (MHz)	Peak Output Power(dBm)	Average Output Power(dBm)	Limit (dBm)	Verdict
802.11b	2412	15.19	12.73	30	Pass
	2437	15.67	13.28	30	Pass
	2462	15.41	12.97	30	Pass
802.11g	2412	23.08	12.73	30	Pass
	2437	23.24	13.29	30	Pass
	2462	22.53	12.83	30	Pass
802.11n20	2412	23.24	12.57	30	Pass
	2437	23.22	13.00	30	Pass
	2462	22.57	12.78	30	Pass
802.11n40	2422	23.55	13.14	30	Pass
	2437	23.49	13.30	30	Pass
	2452	22.97	13.16	30	Pass

Power Spectral Density

Test Information:

Sample No.:	2YOF-1	Test Date:	2025/02/25
Test Site:	RF	Test Mode:	Transmitting
Tester:	Cayde Hou	Test Result:	Pass

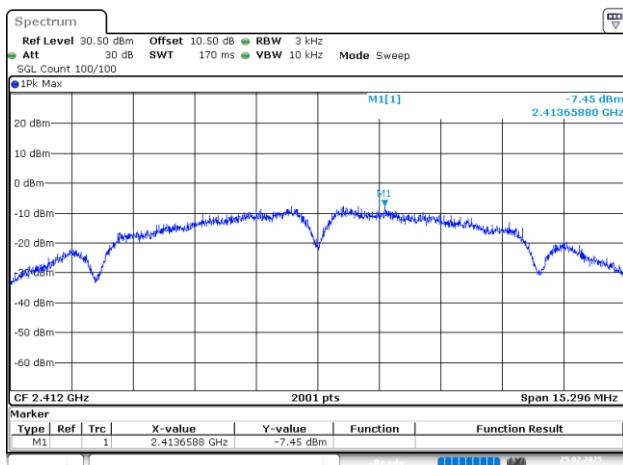
Environmental Conditions:

Temperature: (°C)	21.2	Relative Humidity: (%)	43	ATM Pressure: (kPa)	101.3
-------------------	------	------------------------	----	---------------------	-------

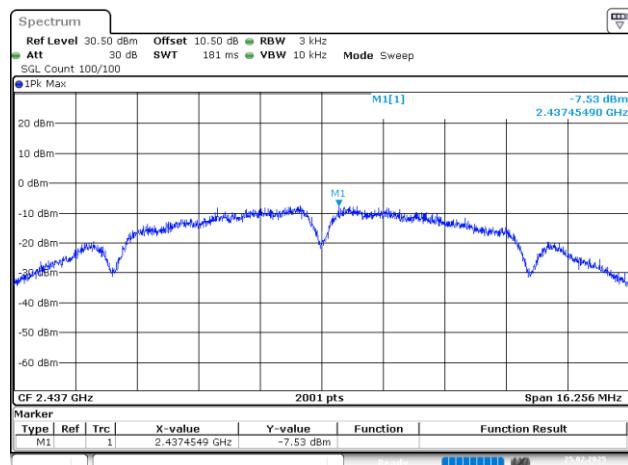
Test Data:

Mode	Test Frequency (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
802.11b	2412	-7.45	8	Pass
	2437	-7.53	8	Pass
	2462	-7.52	8	Pass
802.11g	2412	-9.27	8	Pass
	2437	-9.10	8	Pass
	2462	-8.71	8	Pass
802.11n20	2412	-10.09	8	Pass
	2437	-9.15	8	Pass
	2462	-9.65	8	Pass
802.11n40	2422	-12.07	8	Pass
	2437	-12.01	8	Pass
	2452	-12.69	8	Pass

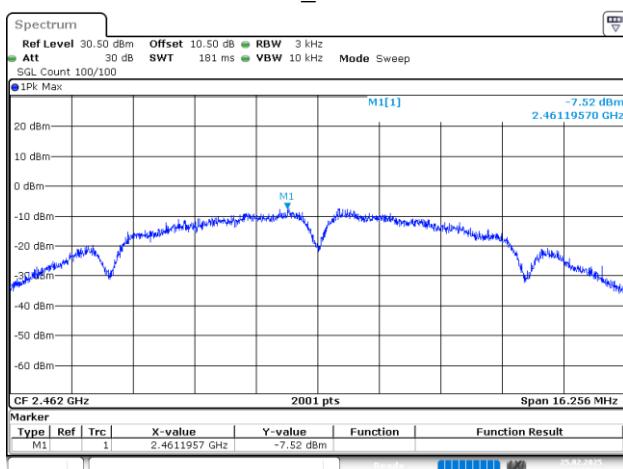
802.11b_2412MHz



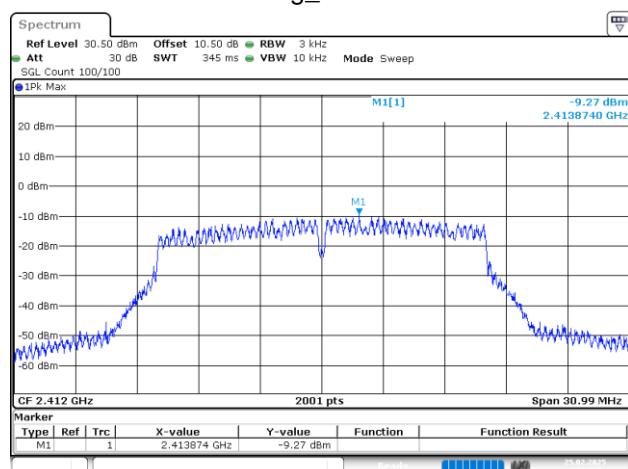
802.11b_2437MHz



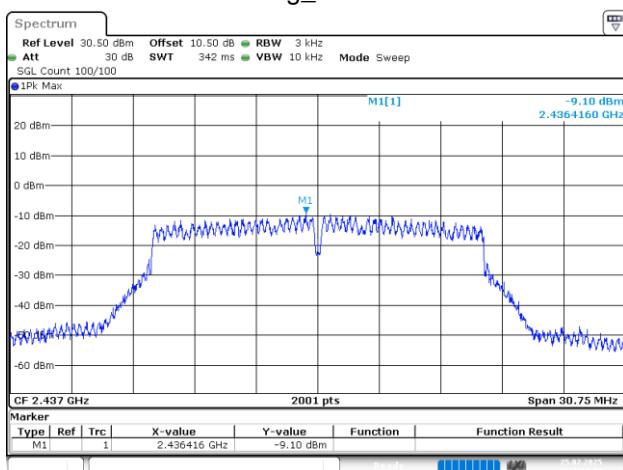
802.11b_2462MHz



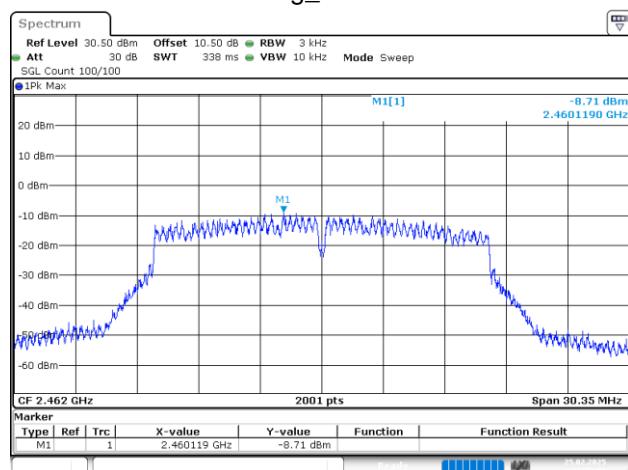
802.11g_2412MHz



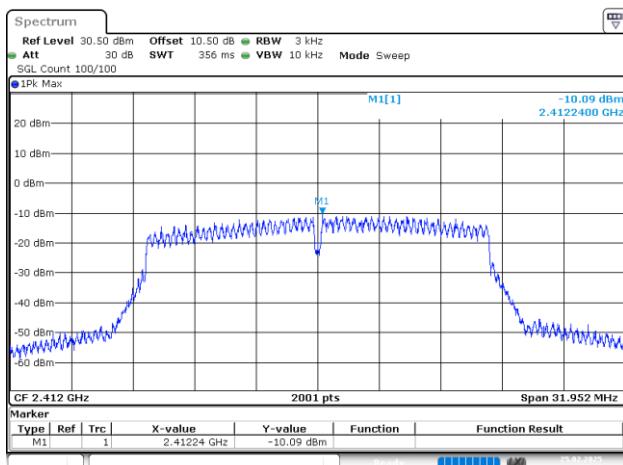
802.11g_2437MHz



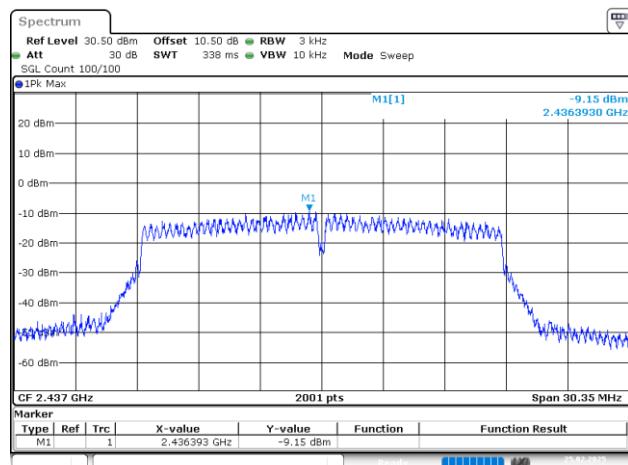
802.11g_2462MHz



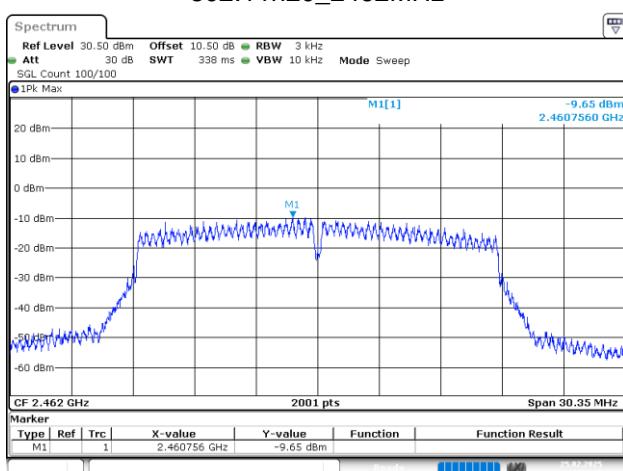
802.11n20_2412MHz



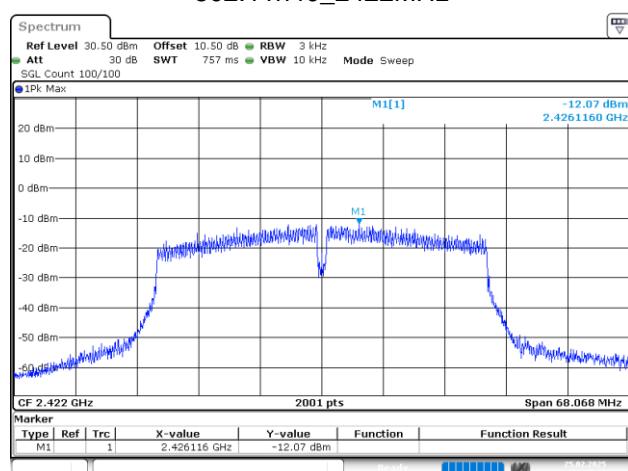
802.11n20_2437MHz



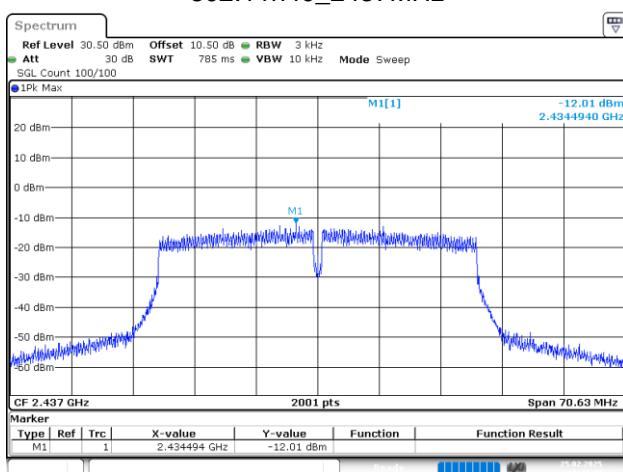
802.11n20_2462MHz



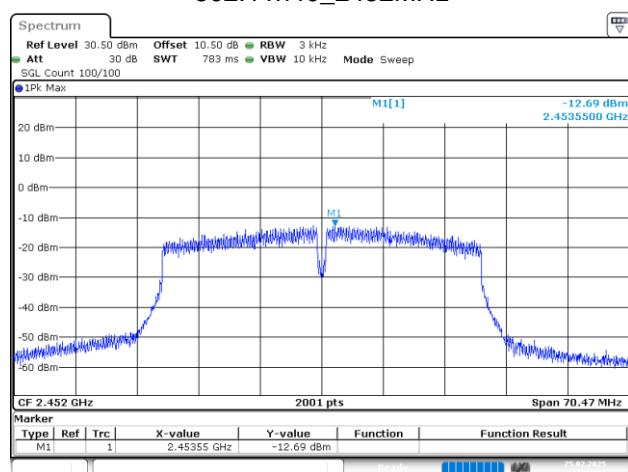
802.11n40_2422MHz



802.11n40_2437MHz



802.11n40_2452MHz



100 kHz Bandwidth of Frequency Band Edge

Test Information:

Sample No.:	2YOF-1	Test Date:	2025/02/25
Test Site:	RF	Test Mode:	Transmitting
Tester:	Cayde Hou	Test Result:	Pass

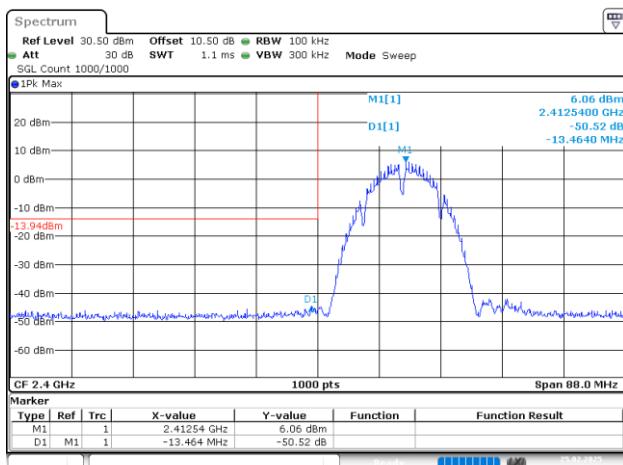
Environmental Conditions:

Temperature: (°C)	21.2	Relative Humidity: (%)	43	ATM Pressure: (kPa)	101.3
-------------------	------	------------------------	----	---------------------	-------

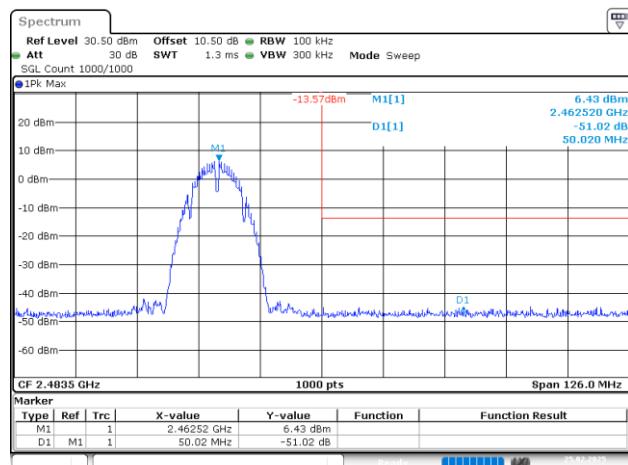
Test Data:

Mode	Test Frequency (MHz)	Result (dB)	Limit (dB)	Verdict
802.11b	2412	50.52	20	Pass
	2462	51.02	20	Pass
802.11g	2412	37.95	20	Pass
	2462	47.92	20	Pass
802.11n20	2412	37.93	20	Pass
	2462	48.50	20	Pass
802.11n40	2422	37.48	20	Pass
	2452	38.02	20	Pass

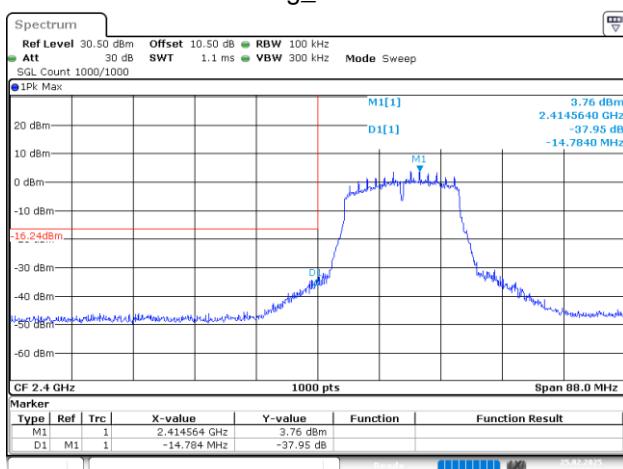
802.11b_2412MHz



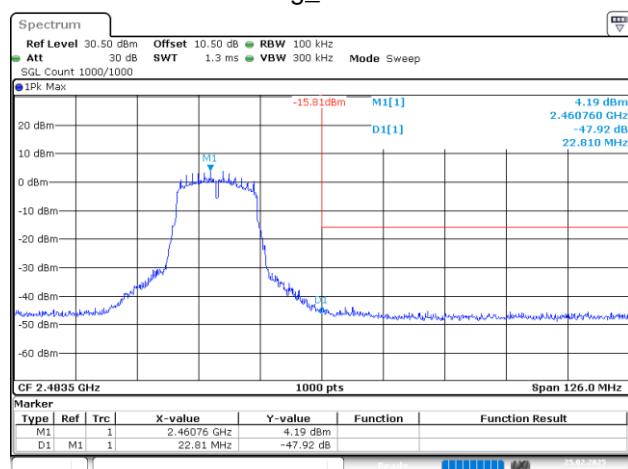
802.11b_2462MHz



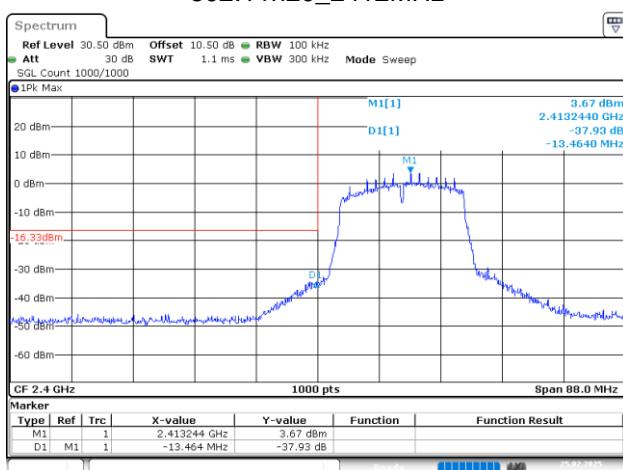
802.11g_2412MHz



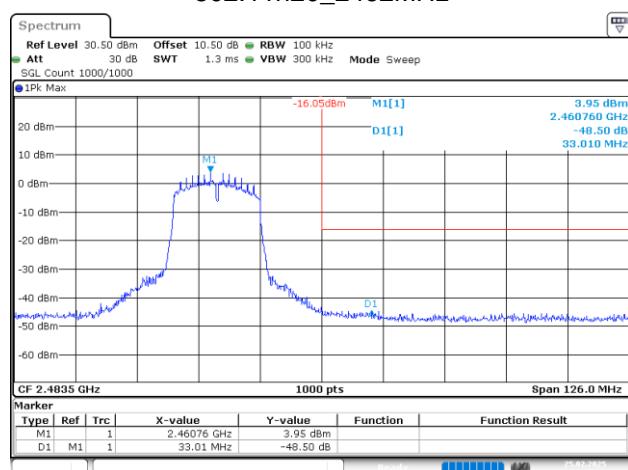
802.11g_2462MHz



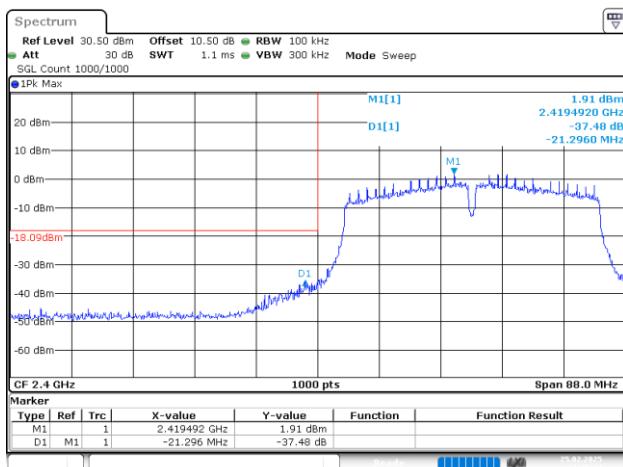
802.11n20_2412MHz



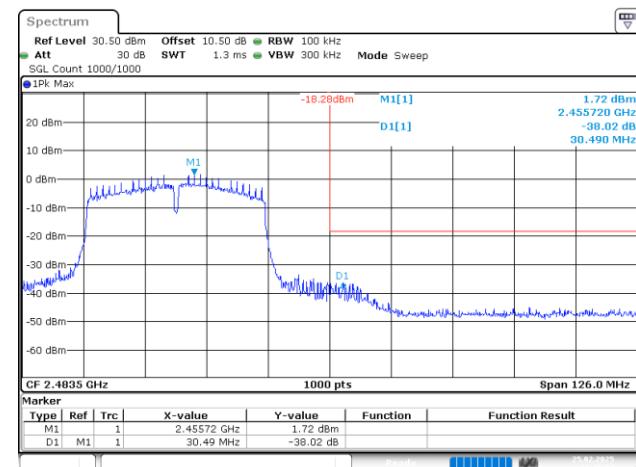
802.11n20_2462MHz



802.11n40_2422MHz



802.11n40_2452MHz



Duty Cycle**Test Information:**

Sample No.:	2YOF-1	Test Date:	2025/02/25
Test Site:	RF	Test Mode:	Transmitting
Tester:	Cayde Hou	Test Result:	Pass

Environmental Conditions:

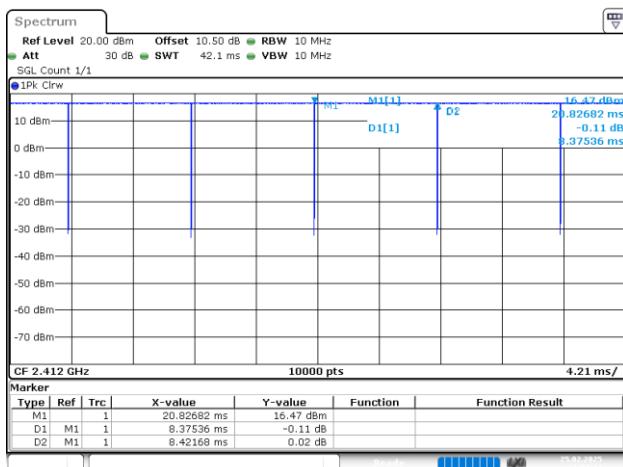
Temperature: (°C)	21.2	Relative Humidity: (%)	43	ATM Pressure: (kPa)	101.3
-----------------------------	------	--------------------------------------	----	-------------------------------	-------

Test Data:

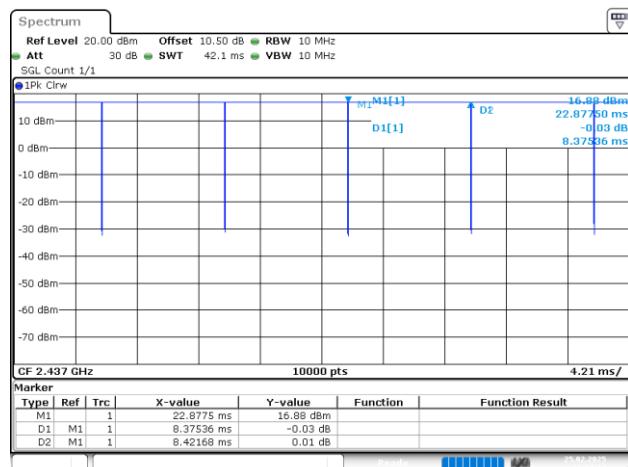
Mode	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11b	2412	8.375	8.422	99.44	/	/	0.010
	2437	8.375	8.422	99.44	/	/	0.010
	2462	8.375	8.422	99.44	/	/	0.010
802.11g	2412	1.391	1.437	96.80	0.14	719	1
	2437	1.390	1.437	96.73	0.14	719	1
	2462	1.391	1.437	96.80	0.14	719	1
802.11n20	2412	1.299	1.345	96.58	0.15	770	1
	2437	1.298	1.344	96.58	0.15	770	1
	2462	1.298	1.344	96.58	0.15	770	1
802.11n40	2422	0.647	0.692	93.50	0.29	1546	2
	2437	0.647	0.692	93.50	0.29	1546	2
	2452	0.647	0.692	93.50	0.29	1546	2

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

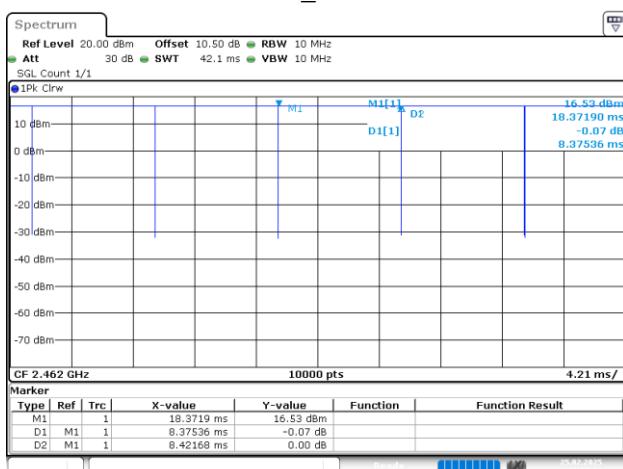
802.11b_2412MHz



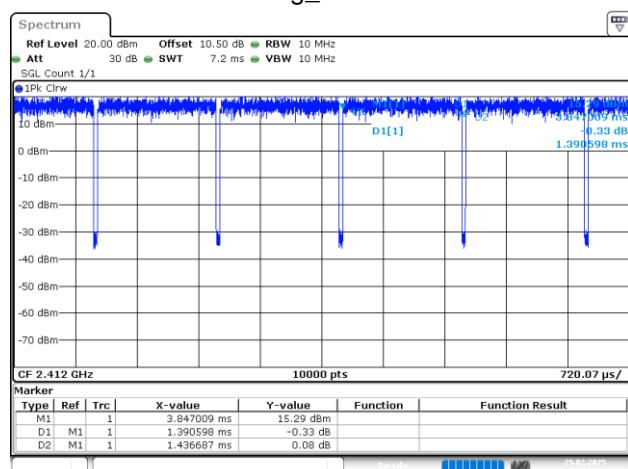
802.11b_2437MHz



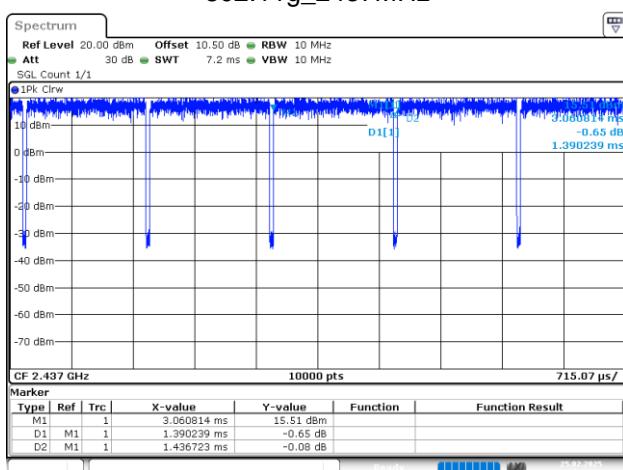
802.11b_2462MHz



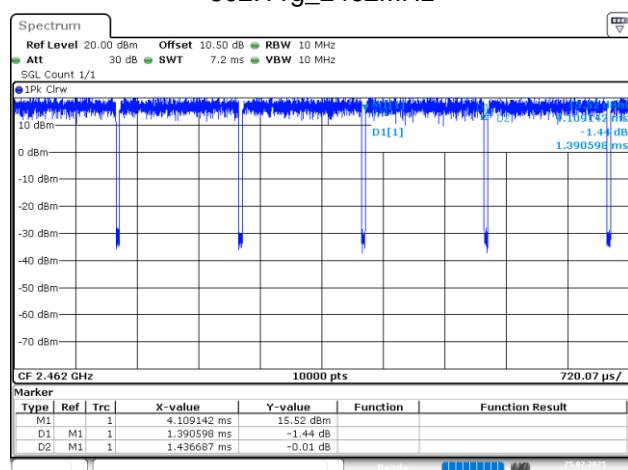
802.11g_2412MHz



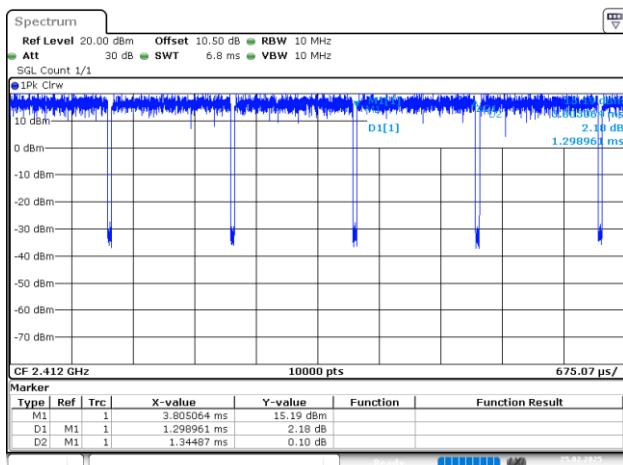
802.11g_2437MHz



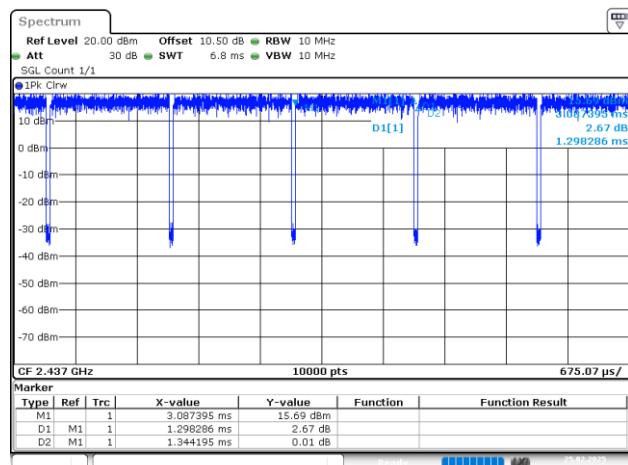
802.11g_2462MHz



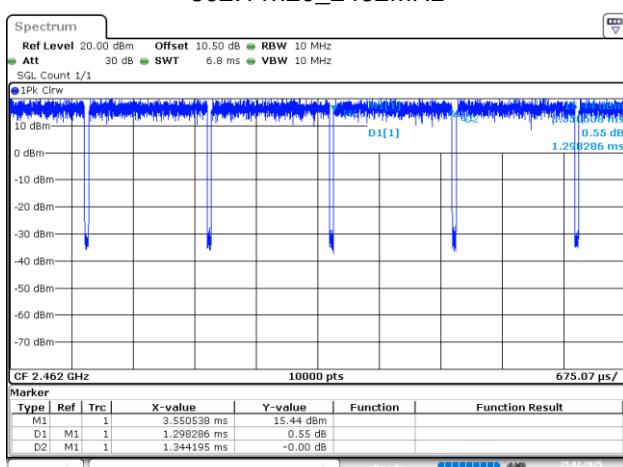
802.11n20_2412MHz



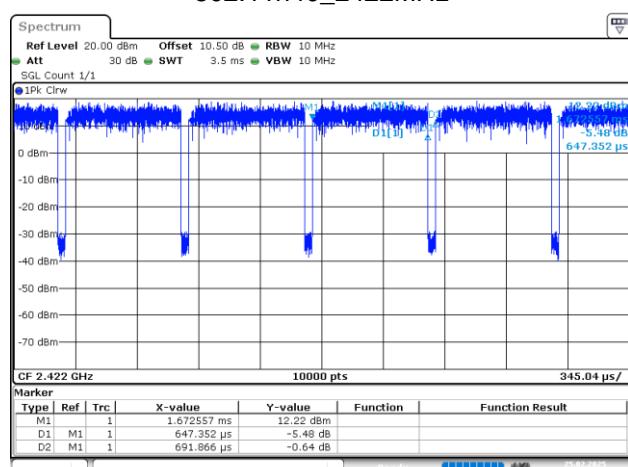
802.11n20_2437MHz



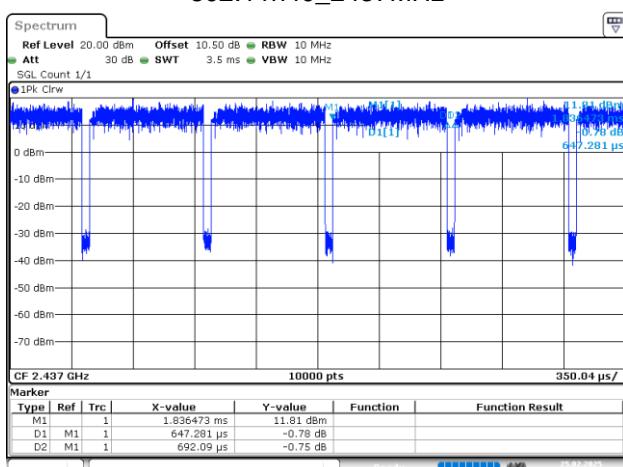
802.11n20_2462MHz



802.11n40_2422MHz



802.11n40_2437MHz



802.11n40_2452MHz

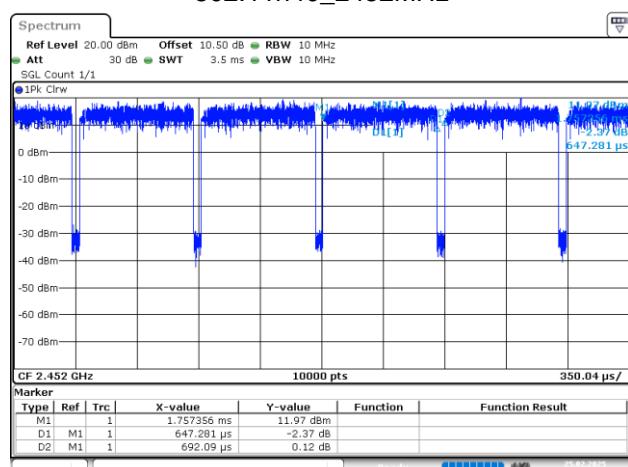


EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the Attachment: 2504Q09049E-RF EUT EXTERNAL PHOTOGRAPHS and 2504Q09049E-RF EUT INTERNAL PHOTOGRAPHS.

EXHIBIT B - TEST SETUP PHOTOGRAPHS

Please refer to the Attachment: 2504Q09049E-RF-00C TEST SETUP PHOTOGRAPHS.

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