



TEST REPORT

No. I23N00692-WLAN 2.4GHz

for

Spectralink Corporation

Wifi/BT Phone

Model Name: Versity 9740

with

Hardware Version: DVT

Software Version: vSL25

FCC ID: IYG97XX

IC:2128B-97XX

Issued Date: 2023-07-26

Designation Number: CN1210

ISED Assigned Code: 23289

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of SAICT.

Test Laboratory:

SAICT, Shenzhen Academy of Information and Communications Technology

Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China 518000.

Tel: +86(0)755-33322000, Fax: +86(0)755-33322001

Email: yewu@caict.ac.cn, website: www.saict.ac.cn



REPORT HISTORY

Report Number	Revision	Description	Issue Date
I23N00642-WLAN 2.4GHz	Rev.0	1st edition	2023-07-26

Note: the latest revision of the test report supersedes all previous versions.



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1. Summary of Test Report

1.1. Test Items

Description	Wifi/BT Phone
Model Name	Versity 9740
Applicant's name	Spectralink Corporation
Manufacturer's Name	Spectralink Corporation

1.2. Test Standards

FCC Part15-2021; ANSI C63.10-2013;RSS-247 Issue 2; RSS-Gen Issue 5 A2; KDB 662911-V02r01.

1.3. Test Result

Pass

Please refer to 5.2 Test Results.

1.4. Testing Location

Address: Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China 518000

1.5. Project data

Testing Start Date:	2023-04-21
Testing End Date:	2023-07-04

1.6. Signature

Lin Kanfeng
(Prepared this test report)

An Ran
(Reviewed this test report)

Zhang Bojun
(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name: Spectralink Corporation
Address: 2560 55th Street Boulder CO 80301 USA
Contact Person Andrew Jackson
E-Mail andrew.jackson@spectralink.com
Telephone: /
Fax: +1 (303) 441-7618

2.2. Manufacturer Information

Company Name: Spectralink Corporation
Address: 2560 55th Street Boulder CO 80301 USA
Contact Person Andrew Jackson
E-Mail andrew.jackson@spectralink.com
Telephone: /
Fax: +1 (303) 441-7618



3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	Wifi/BT Phone
Model Name	Versity 9740
RF Protocol	IEEE 802.11 b/g/n20/n40/ax20/ax40
Operating Frequency	2412MHz~2462MHz
Number of Channels	11
Antenna Type	Integrated
Antenna Gain	Antenna 0 = 0.43 dBi; Antenna 1 = 0.58 dBi Directional Gain: 0.51dBi (see Note1)
Power Supply	3.85V DC by Battery
FCC ID	IYG97XX
IC	2128B-97XX
Condition of EUT as received	No abnormality in appearance

Note1: After confirmation with the customer, the Directional gain = $10 \log [(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/NANT] \text{dBi} = 10 \log [(10^{0.43/10} + 10^{0.58/10})/2] \text{dBi} \approx 0.51 \text{dBi}$.

Note2: Components list, please refer to documents of the manufacturer; it is also included in the original test record of Shenzhen Academy of Information and Communications Technology.

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Date of Receipt
UT02aa	MHNE03BQKGG000G	DVT	vSL25	2023-04-21
UT14aa	MHNE04BBHHG000S	DVT	vSL25	2023-05-05

*EUT ID: is used to identify the test sample in the lab internally.

*UT02aa is used for Conduction test; UT14aa is used for radiation test and AC Power line Conducted Emission test.

3.3. Internal Identification of AE

AE No.	Description	AE ID*
AE1	Battery	/
AE2	Charger	Aa01
AE3	USB Cable	Ca01a
AE1-1		
Model	BLI0000100	
Manufacturer	Ningbo Veken Battery Co., Ltd.	
Capacity	3020mAh	
Nominal Voltage	3.85V	
AE1-2		
Model	351038P	
Manufacturer	Chongqing VDL Electronics Co., Ltd.	



Capacity	95mAh
Nominal Voltage	3.7V
AE2	
Model	IN-CA-310Q
Manufacturer	Shenzhen Inno Vision Industrial Co., Ltd.

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

The Equipment under Test (EUT) is a model of Versity 9740 with integrated antenna and battery. It consists of normal options: Lithium Battery and Charger. Manual and specifications of the EUT were provided to fulfil the test. Samples undergoing test were selected by the client.

According to the customer's description, Versity9740 is a variant product of Versity9753.

The main difference between them is the antenna type and mechanical shell, which does not affect the conduction test. All conduction results were from the initial model, and the radiation part has been retested and updated in this report. The initial model report number is I23N00642-WLAN 2.4GHz.



4. Reference Documents

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part15	FCC CFR 47, Part 15, Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz	2021
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013
RSS-247	Spectrum Management and Telecommunications Radio Standards Specification Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices	Issue 2 February, 2017
RSS-Gen	Spectrum Management and Telecommunications Radio Standards Specification General Requirements for Compliance of Radio Apparatus	Issue 5 A2 February, 2021
KDB 662911	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)	V02r01

5. Test Results

5.1. Testing Environment

Normal Temperature: 15~35°C
 Relative Humidity: 20~75%

5.2. Test Results

No	Test cases	Sub-clause of Part 15C	Sub-clause of IC	Verdict
0	Antenna Requirement	15.203	/	P
1	Maximum Output Power	15.247 (b)	RSS-247 section 5.4	P
2	Peak Power Spectral Density	15.247 (e)	RSS-247 section 5.2	P
3	6dB Bandwidth	15.247 (a)	RSS-247 section 5.2	P
4	Band Edges Compliance	15.247 (d)	RSS-247 section 5.5	P
5	Conducted Emission	15.247 (d)	RSS-247 section 5.5/RSS-Gen section 6.13	P
6	Radiated Emission	15.247, 15.205, 15.209	RSS-247 section 5.5/RSS-Gen section 6.13	P
7	AC Power line Conducted	15.107, 15.207	RSS-Gen section 8.8	P
8	99% Occupied Bandwidth	/	RSS-Gen section 6.7	/

See **ANNEX A** for details.

5.3. Statements

SAICT has evaluated the test cases requested by the applicant/manufacturer as listed in section 5.2 of this report, for the EUT specified in section 3, according to the standards or reference documents listed in section 4.2.

Disclaimer:

A. After confirmation with the customer, the sample information provided by the customer may affect the validity of the measurement results in this report, and the impact and consequences arising therefrom shall be borne by the customer.

B. The samples in this report are provided by the customer, and the test results are only applicable to the samples received.

6. Test Equipments Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due Date	Calibration Period
1	Vector Signal Analyzer	FSV40	100903	Rohde & Schwarz	2023-12-28	1 year
2	Power Sensor	U2021XA	MY55430013	Keysight	2023-12-28	1 year
3	Data Acquisition	U2531A	TW55443507	Keysight	/	/
4	Shielding Room	S81	CT000986-13 44	ETS-Lindgren	2026-09-12	5 years

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due Date	Calibration Period
1	Test Receiver	ESR7	101676	Rohde & Schwarz	2023-11-23	1 year
2	BiLog Antenna	3142E	0224831	ETS-lindgren	2024-05-27	3 years
3	Horn Antenna	3117	00066577	ETS-lindgren	2025-04-17	1 year
4	Anechoic Chamber	FACT3-2.0	1285	ETS-Lindgren	2025-05-28	2 years
5	Spectrum Analyzer	FSV40	101192	Rohde & Schwarz	2024-01-11	1 year
6	Loop Antenna	HLA6120	35779	TESEQ	2025-05-12	3 years
7	Horn Antenna	QSH-SL-1 8-26-S-20	17013	Q-par	2026-02-01	3 years
8	Test Receiver	ESCI	100702	Rohde & Schwarz	2024-01-11	1 year
9	LISN	ENV216	102067	Rohde & Schwarz	2023-09-06	1 year

Test software

No.	Equipment	Manufacturer	Version
1	TechMgr Software	CAICT	2.1.1
2	EMC32	Rohde & Schwarz	10.50.40

EUT is engineering software provided by the customer to control the transmitting signal. The EUT was programmed to be in continuously transmitting mode.

Anechoic chamber

Fully anechoic chamber by ETS-Lindgren

7. Laboratory Environment

Shielded room

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz> 60 dB; 1MHz-18000MHz>90 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

Anechoic chamber

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz> 60 dB; 1MHz-18000MHz>90 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	< ± 4 dB, 3 m distance, from 30 to 1000 MHz
Voltage Standing Wave Ratio (VSWR)	≤ 6 dB, from 1 to 18 GHz, 3 m distance
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz

8. Measurement Uncertainty

Test Name	Uncertainty ($k=2$)	
1. RF Output Power - Conducted	1.32dB	
2. Power Spectral Density - Conducted	1.32dBm/MHz	
3. Occupied channel bandwidth - Conducted	4.56kHz	
4. Transmitter Spurious Emission - Conducted	$30\text{MHz} \leq f < 1\text{GHz}$	1.41dB
	$1\text{GHz} \leq f < 7\text{GHz}$	1.92dB
	$7\text{GHz} \leq f < 13\text{GHz}$	2.31dB
	$13\text{GHz} \leq f \leq 26\text{GHz}$	2.61dB
5. Transmitter Spurious Emission - Radiated	$9\text{kHz} \leq f < 30\text{MHz}$	1.70dB
	$30\text{MHz} \leq f < 1\text{GHz}$	4.80dB
	$1\text{GHz} \leq f < 18\text{GHz}$	4.62dB
	$18\text{GHz} \leq f \leq 40\text{GHz}$	2.36dB
6. AC Power line Conducted Emission	$150\text{kHz} \leq f \leq 30\text{MHz}$	2.68dB

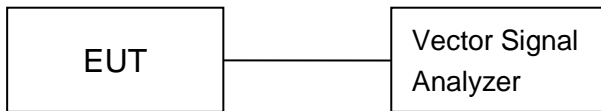
ANNEX A: Detailed Test Results

Test Configuration

The measurement is made according to ANSI C63.10.

1) Conducted Measurements

1. Connect the EUT to the test system correctly.
2. Set the EUT to the required work mode.
3. Set the EUT to the required channel.
4. Set the spectrum analyzer to start measurement.
5. Record the values.

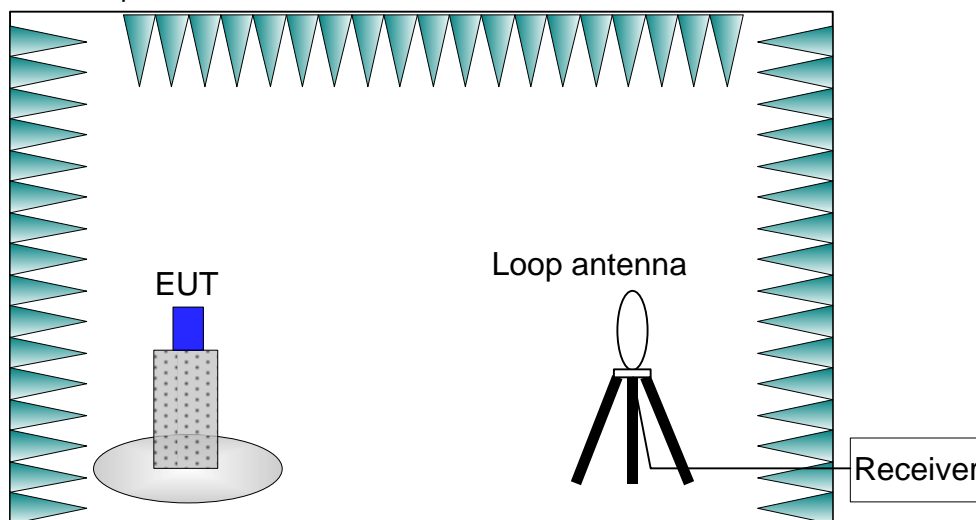


2) Radiated Measurements

Test setup:

9kHz-30MHz:

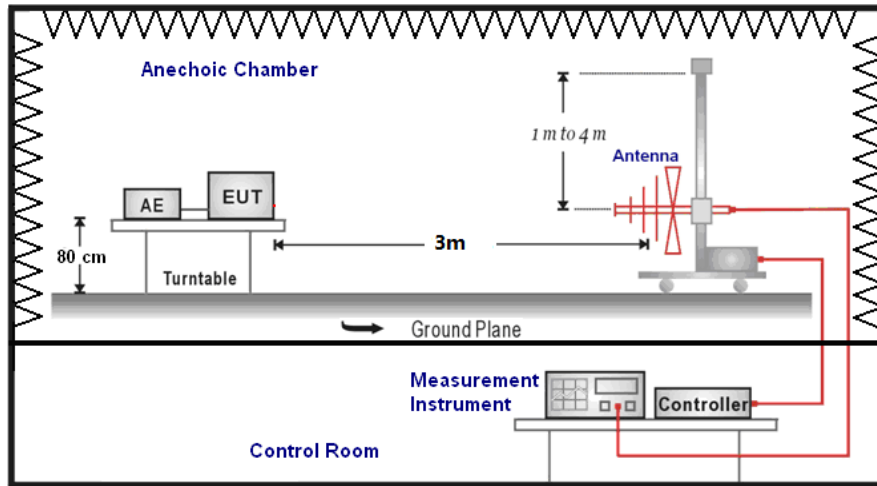
The EUT are measured in a anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving loop antenna is 1.0 meter above the ground. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT and adjusting the receiver antenna polarization.



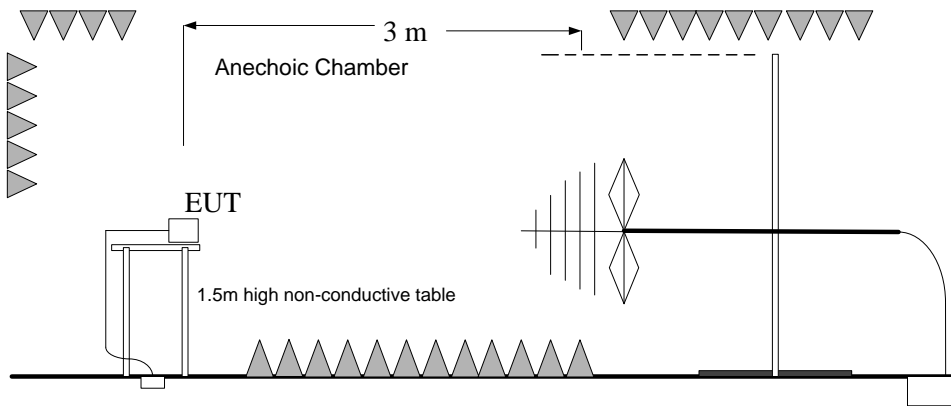
30MHz-26.5GHz:

The EUT are measured in a anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving antenna is 1.0 meter to 4.0 meter above the ground. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT and adjusting the receiver antenna polarization.

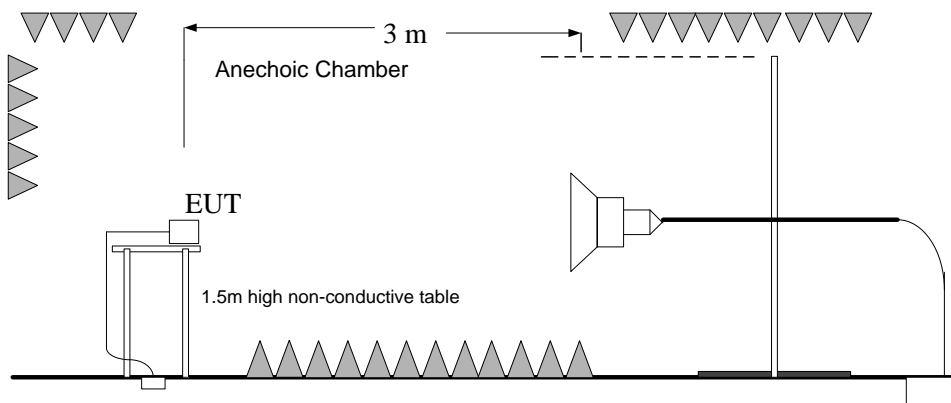
30MHz-1GHz:



1GHz-3GHz:

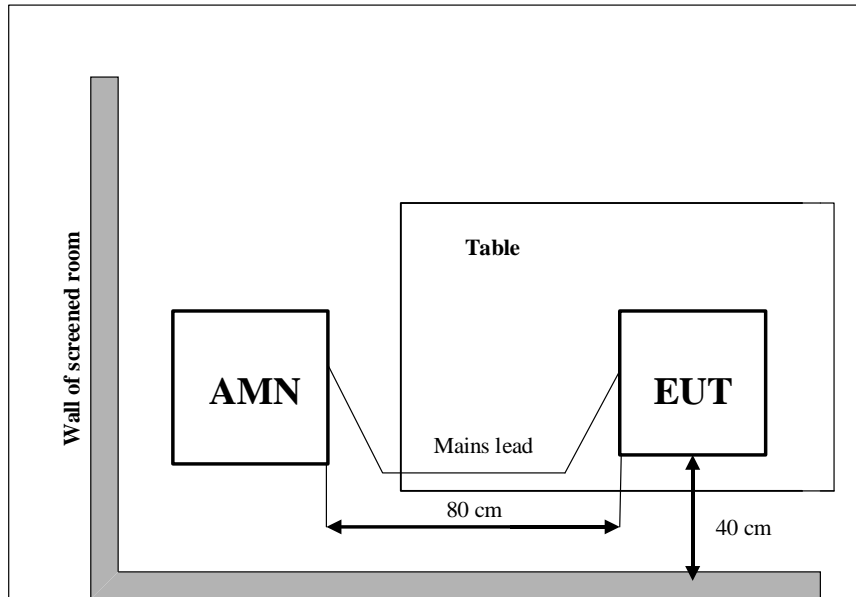


3GHz-26.5GHz:



3) AC Power line Conducted Emission Measurement

For WLAN, the EUT is working under test mode. The EUT is commanded to operate at maximum transmitting power.





A.0 Antenna requirement

Measurement Limit:

Standard	Requirement
FCC CRF Part 15.203	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

Conclusion: The Directional gains of antenna used for transmitting:

SISO: Antenna 0:0.43dBi; Antenna 1:0.58dBi.

Directional Gain : 0.51dBi

The RF transmitter uses an integrate antenna without connector.

**A.1 Maximum Output Power****Measurement of method :See ANSI C63.10-Clause 11.9.2.3.2**

Method AVGP-G is a measurement using a gated RF average power meter.

Alternatively, measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Measurement Limit:

Standard	Limit (dBm)	E.I.R.P Limit (dBm)
FCC CRF Part 15.247(b) & RSS-247 Section 5.4	< 30	< 36

Measurement Results:**Antenna 0 (SISO)**

Mode	Frequency (MHz)	Test Result (dBm)	Conclusion
802.11b	2412 (CH1)	20.28	P
	2437 (CH6)	20.56	P
	2462 (CH11)	20.65	P
802.11g	2412 (CH1)	18.46	P
	2437 (CH6)	18.33	P
	2462 (CH11)	18.51	P
802.11n-HT20	2412 (CH1)	17.80	P
	2437 (CH6)	17.68	P
	2462 (CH11)	17.88	P
802.11n-HT40	2422 (CH3)	17.50	P
	2437 (CH6)	17.41	P
	2452 (CH9)	17.43	P
802.11ax-HE20	2412 (CH1)	16.19	P
	2437 (CH6)	16.09	P
	2462 (CH11)	16.25	P
802.11ax-HE40	2422 (CH3)	16.23	P
	2437 (CH6)	16.12	P
	2452 (CH9)	16.18	P

Antenna 1 (SISO)

Mode	Frequency (MHz)	Test Result (dBm)	Conclusion
802.11b	2412 (CH1)	20.37	P



	2437 (CH6)	20.45	P
	2462 (CH11)	20.59	P
802.11g	2412 (CH1)	17.62	P
	2437 (CH6)	17.64	P
	2462 (CH11)	18.17	P
802.11n-HT20	2412 (CH1)	16.78	P
	2437 (CH6)	16.99	P
	2462 (CH11)	17.56	P
802.11n-HT40	2422 (CH3)	16.35	P
	2437 (CH6)	16.55	P
	2452 (CH9)	16.91	P
802.11ax-HE20	2412 (CH1)	15.57	P
	2437 (CH6)	15.62	P
	2462 (CH11)	15.96	P
802.11ax-HE40	2422 (CH3)	15.28	P
	2437 (CH6)	15.46	P
	2452 (CH9)	15.66	P

Antenna 01 (MIMO)

Mode	Frequency (MHz)	Test Result (dBm)	Conclusion
802.11n-HT20	2412 (CH1)	20.41	P
	2437 (CH6)	20.40	P
	2462 (CH11)	20.74	P
802.11n-HT40	2422 (CH3)	18.88	P
	2437 (CH6)	18.89	P
	2452 (CH9)	19.12	P
802.11ax-HE20	2412 (CH1)	20.11	P
	2437 (CH6)	20.07	P
	2462 (CH11)	20.33	P
802.11ax-HE40	2422 (CH3)	18.86	P
	2437 (CH6)	18.85	P
	2452 (CH9)	19.05	P

Note:

The data rate 1Mbps (11b mode), 6Mbps (11g mode), MCS0 (11n mode) and MCS0 (11ax mode) are selected as the Worst-Case. **Antenna 0** is selected as the worst condition (SISO). The following cases and test graphs are performed with this condition. The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.



The E.I.R.P Results are listed below:

Antenna 0 (SISO)

Mode	Frequency (MHz)	E.I.R.P (dBm)	Conclusion
802.11b	2412 (CH1)	20.71	P
	2437 (CH6)	20.99	P
	2462 (CH11)	21.08	P
802.11g	2412 (CH1)	18.89	P
	2437 (CH6)	18.76	P
	2462 (CH11)	18.94	P
802.11n-HT20	2412 (CH1)	18.23	P
	2437 (CH6)	18.11	P
	2462 (CH11)	18.31	P
802.11n-HT40	2422 (CH3)	17.93	P
	2437 (CH6)	17.84	P
	2452 (CH9)	17.86	P
802.11ax-HE20	2412 (CH1)	16.62	P
	2437 (CH6)	16.52	P
	2462 (CH11)	16.68	P
802.11ax-HE40	2422 (CH3)	16.66	P
	2437 (CH6)	16.55	P
	2452 (CH9)	16.61	P

Antenna 1 (SISO)

Mode	Frequency (MHz)	E.I.R.P (dBm)	Conclusion
802.11b	2412 (CH1)	20.95	P
	2437 (CH6)	21.03	P
	2462 (CH11)	21.17	P
802.11g	2412 (CH1)	18.20	P
	2437 (CH6)	18.22	P
	2462 (CH11)	18.75	P
802.11n-HT20	2412 (CH1)	17.36	P
	2437 (CH6)	17.57	P
	2462 (CH11)	18.14	P
802.11n-HT40	2422 (CH3)	16.93	P
	2437 (CH6)	17.13	P
	2452 (CH9)	17.49	P
802.11ax-HE20	2412 (CH1)	16.15	P
	2437 (CH6)	16.20	P
	2462 (CH11)	16.54	P



802.11ax-HE40	2422 (CH3)	15.86	P
	2437 (CH6)	16.04	P
	2452 (CH9)	16.24	P

Antenna 01 (MIMO)

Mode	Frequency (MHz)	E.I.R.P (dBm)	Conclusion
802.11n-HT20	2412 (CH1)	20.92	P
	2437 (CH6)	20.91	P
	2462 (CH11)	21.25	P
802.11n-HT40	2422 (CH3)	19.39	P
	2437 (CH6)	19.40	P
	2452 (CH9)	19.63	P
802.11ax-HE20	2412 (CH1)	20.62	P
	2437 (CH6)	20.58	P
	2462 (CH11)	20.84	P
802.11ax-HE40	2422 (CH3)	19.37	P
	2437 (CH6)	19.36	P
	2452 (CH9)	19.56	P

E.I.R.P value = Conducted values (with conducted samples) + Antenna Gain.

Conclusion: PASS

**A.2 Peak Power Spectral Density****Method of Measurement: See ANSI C63.10-clause 11.10.2.****Measurement Limit:**

Standard	Limit
FCC CRF Part 15.247(e) & RSS-247 section 5.2	< 8 dBm/3 kHz

Measurement Results:**SISO**

Mode	Channel	Frequency (MHz)	Test Results (dBm)	Conclusion
802.11b	CH 1	2412	-2.10	P
	CH 6	2437	-2.30	P
	CH 11	2462	-3.12	P
802.11g	CH 1	2412	-9.26	P
	CH 6	2437	-9.04	P
	CH 11	2462	-10.01	P
802.11n- HT20	CH 1	2412	-7.84	P
	CH 6	2437	-7.85	P
	CH 11	2462	-7.64	P
802.11n- HT40	CH 3	2422	-12.45	P
	CH 6	2437	-12.60	P
	CH 9	2452	-12.40	P
802.11ax- HE20	CH 1	2412	-11.12	P
	CH 6	2437	-11.50	P
	CH 11	2462	-11.08	P
802.11ax- HE40	CH 3	2422	-14.26	P
	CH 6	2437	-13.61	P
	CH 9	2452	-13.88	P

MIMO

Mode	Channel	Frequency (MHz)	Test Results (dBm)	Conclusion
802.11n- HT20	CH 1	2412	0.32	P
	CH 6	2437	0.51	P
	CH 11	2462	1.29	P
802.11n- HT40	CH 3	2422	-3.77	P
	CH 6	2437	-3.30	P
	CH 9	2452	-4.34	P
802.11ax- HE20	CH 1	2412	-2.89	P
	CH 6	2437	-2.43	P
	CH 11	2462	-2.66	P
802.11ax- HE40	CH 3	2422	-5.78	P
	CH 6	2437	-5.77	P
	CH 9	2452	-5.63	P

See below for test graphs.

Conclusion: PASS

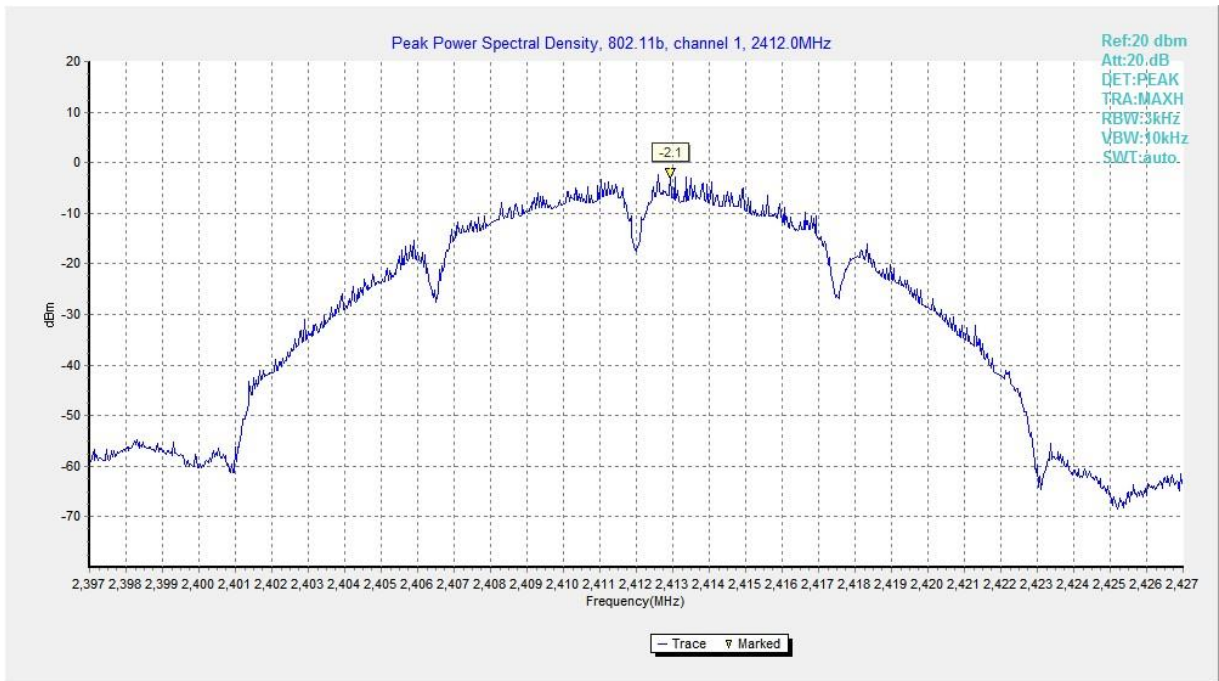


Fig.1 Power Spectral Density (802.11b, CH 1)

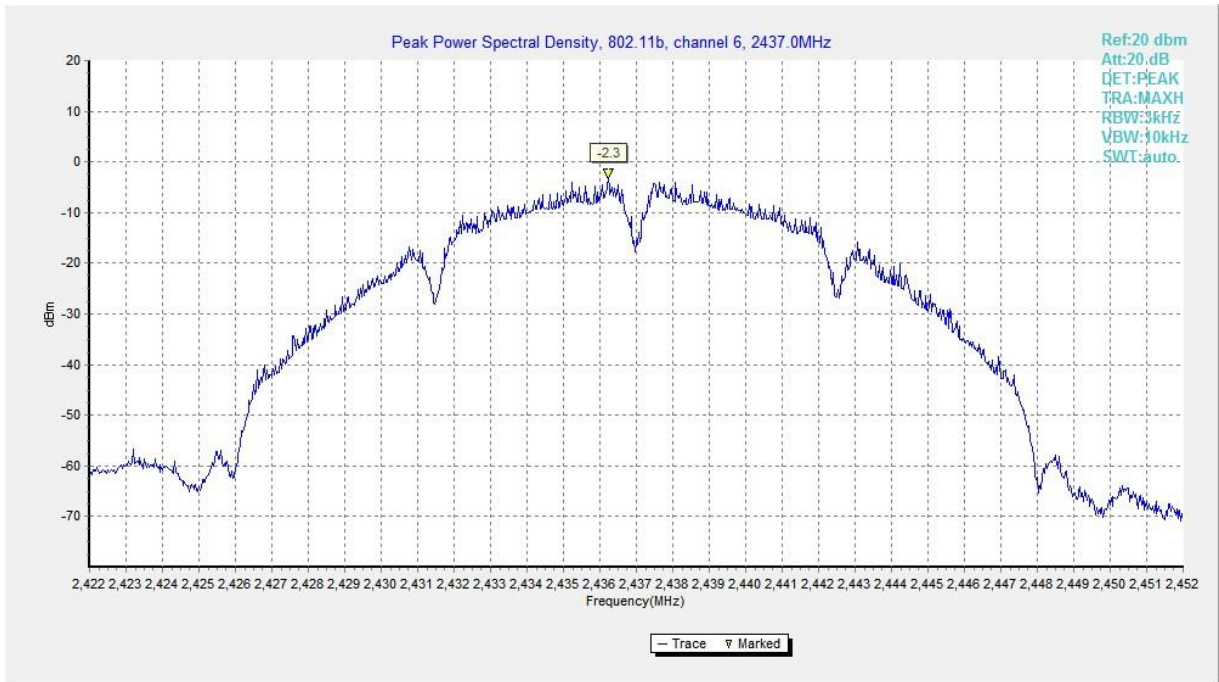


Fig.2 Power Spectral Density (802.11b, CH 6)

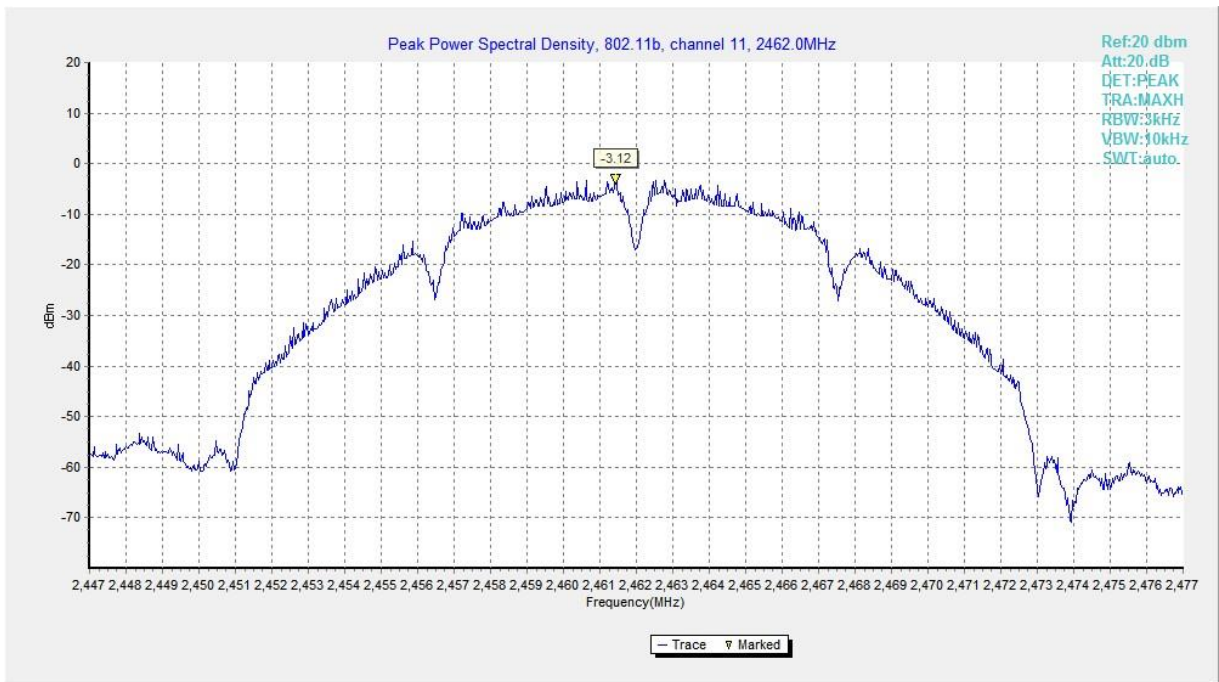


Fig.3 Power Spectral Density (802.11b, CH 11)



A.3 6dB Bandwidth

Method of Measurement: See ANSI C63.10-clause 11.8.

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a) RSS-247 section 5.2	≥ 500

Measurement Result:

Mode	Channel	Frequency (MHz)	Test Results (kHz)	Conclusion
802.11b	CH 1	2412	7750	P
	CH 6	2437	7600	P
	CH 11	2462	8000	P
802.11g	CH 1	2412	16300	P
	CH 6	2437	16300	P
	CH 11	2462	16300	P
802.11n- HT20	CH 1	2412	17600	P
	CH 6	2437	17250	P
	CH 11	2462	17550	P
802.11n- HT40	CH 3	2422	36080	P
	CH 6	2437	35920	P
	CH 9	2452	36320	P
802.11ax- HE20	CH 1	2412	18950	P
	CH 6	2437	18050	P
	CH 11	2462	18950	P
802.11ax- HE40	CH 3	2422	37920	P
	CH 6	2437	37840	P
	CH 9	2452	37920	P

See below for test graphs.

Conclusion: PASS

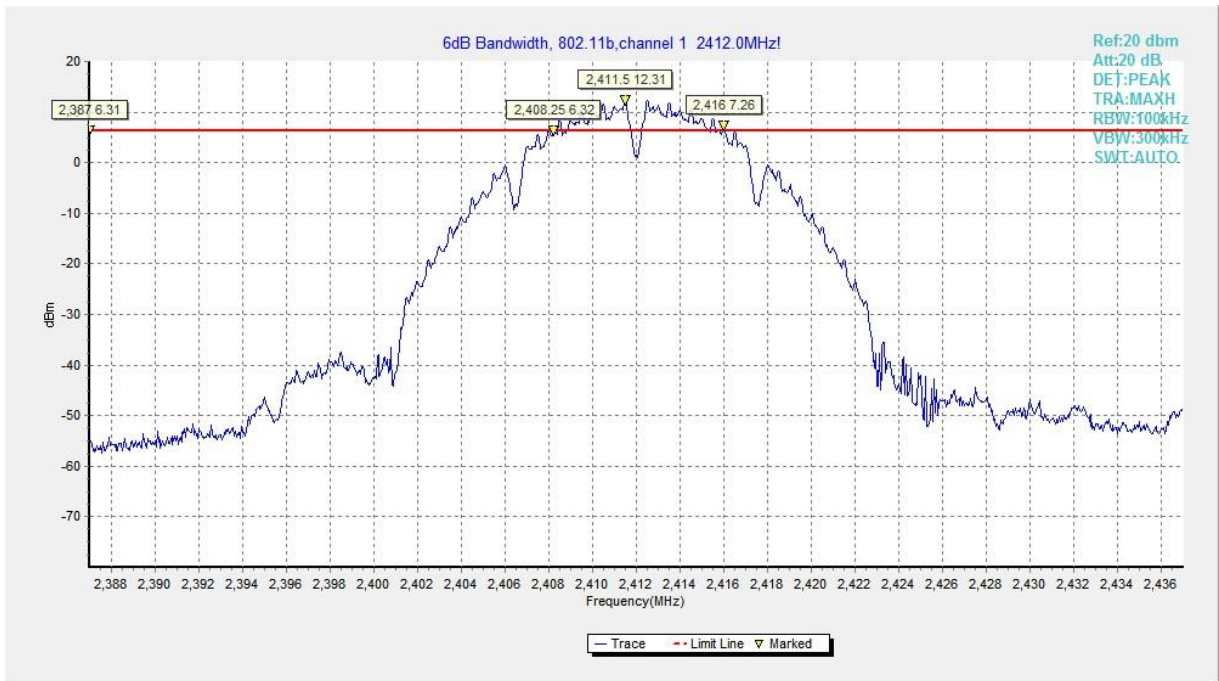


Fig.1 6dB Bandwidth (802.11b, CH 1)

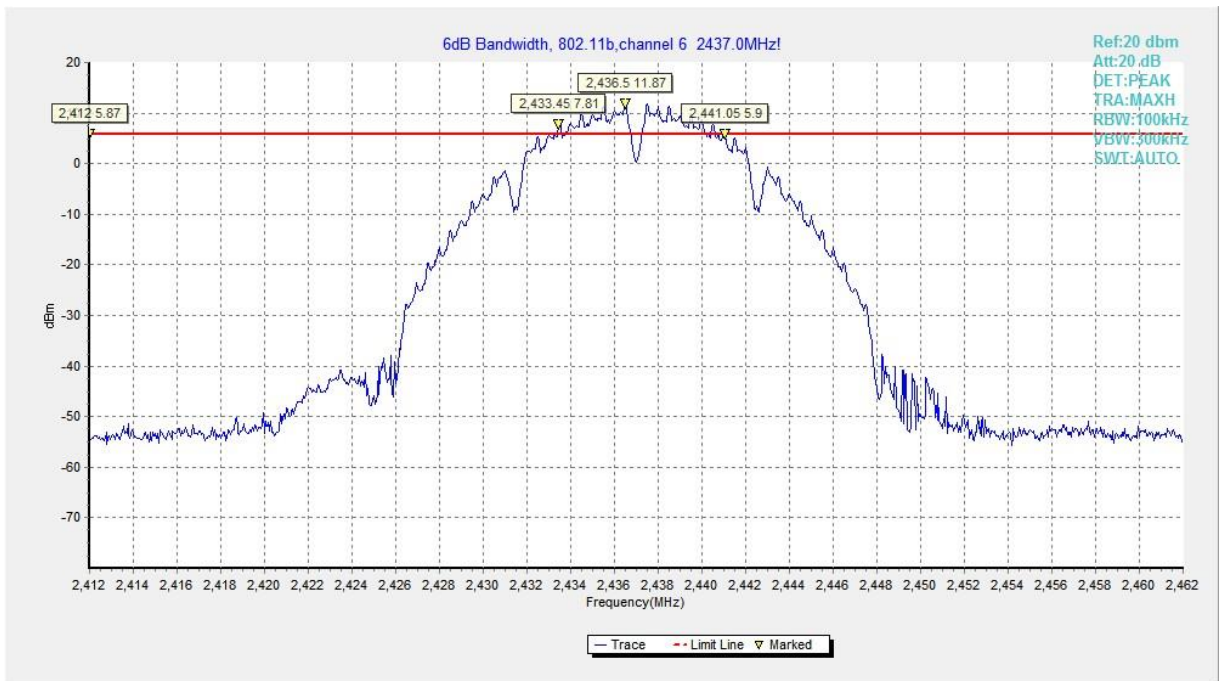


Fig.2 6dB Bandwidth (802.11b, CH 6)

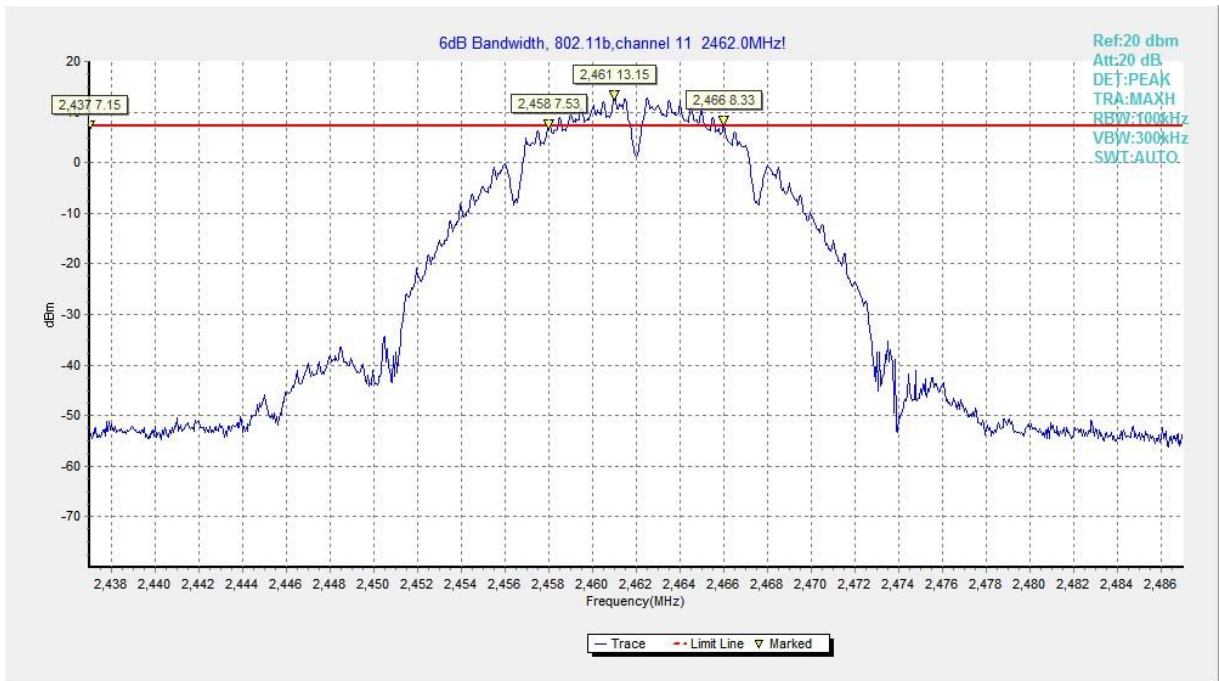


Fig.3 6dB Bandwidth (802.11b, CH 11)



A.4 Band Edges Compliance

Method of Measurement: See ANSI C63.10-clause 11.13.3.

Measurement Limit:

Standard	Limit (dB)
FCC 47 CFR Part 15.247 (d) & RSS-247 section 5.5	> 20

Measurement Result:

Mode	Channel	Frequency (MHz)	Test Results (dB)	Conclusion
802.11b	CH 1	2412	55.10	P
	CH 11	2462	67.70	P
802.11g	CH 1	2412	40.51	P
	CH 11	2462	59.65	P
802.11n- HT20	CH 1	2412	40.30	P
	CH 11	2462	59.83	P
802.11n- HT40	CH 3	2422	44.13	P
	CH 9	2452	53.53	P
802.11ax- HE20	CH 1	2412	40.47	P
	CH 11	2462	58.35	P
802.11ax- HE40	CH 3	2422	43.07	P
	CH 9	2452	55.25	P

See below for test graphs.

Conclusion: PASS

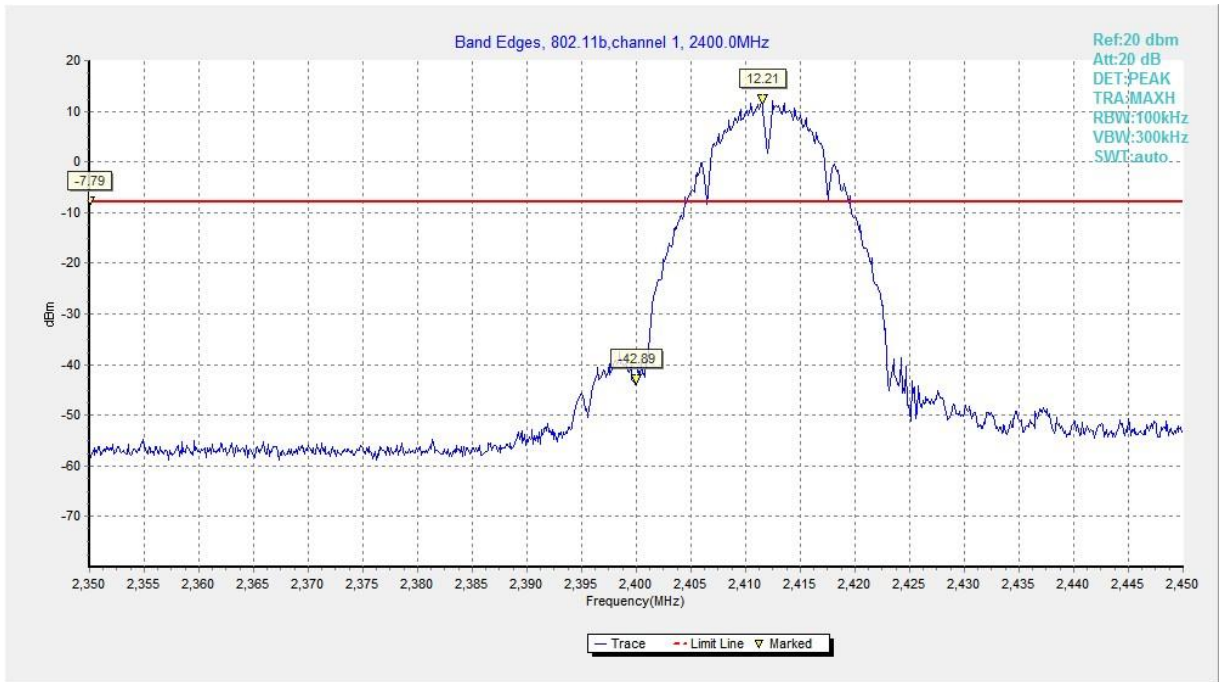


Fig.1 Band Edges (802.11b, CH 1)

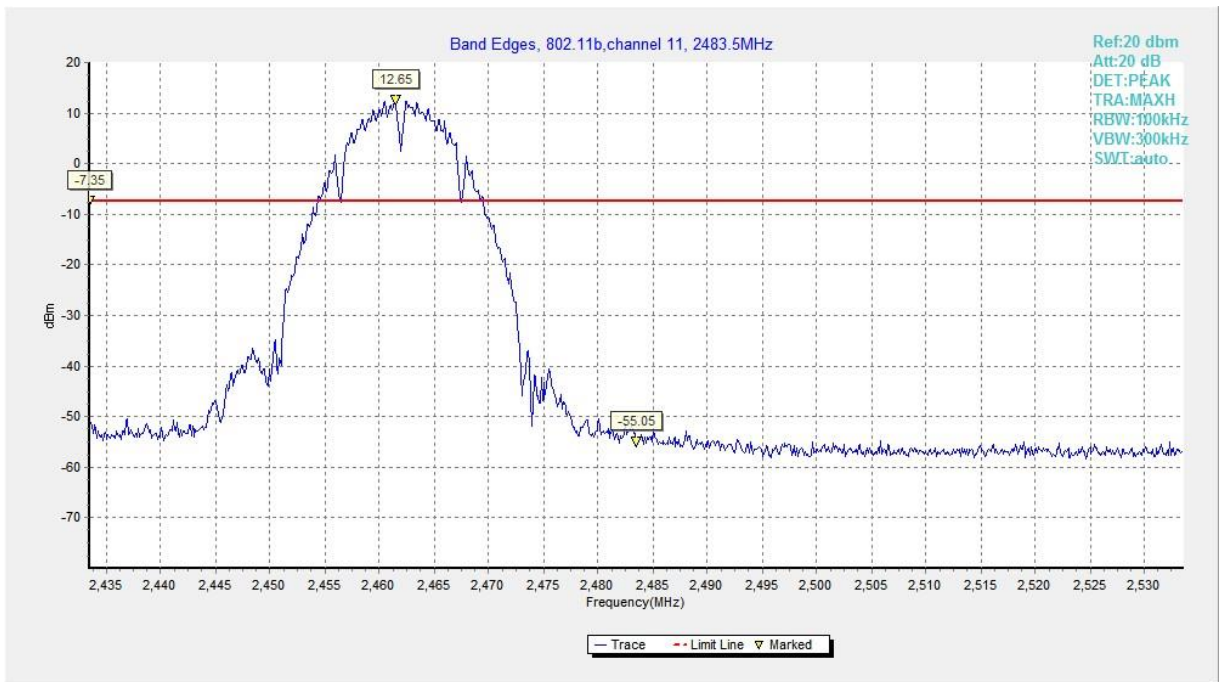


Fig.2 Band Edges (802.11b, CH 11)



A.5 Conducted Emission

Method of Measurement: See ANSI C63.10-clause 11.11.

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247 (d) & RSS-247 section 5.5/RSS-Gen section 6.13	30dB below peak output power in 100kHz bandwidth

Measurement Results:

Mode	Channel	Frequency (MHz)	Frequency Range	Test Results	Conclusion
802.11b	CH 1	2412	30MHz-26GHz	Fig.1	P
	CH 6	2437	30MHz-26GHz	Fig.2	P
	CH 11	2462	30MHz-26GHz	Fig.3	P
802.11g	CH 1	2412	30MHz-26GHz	Fig.4	P
	CH 6	2437	30MHz-26GHz	Fig.5	P
	CH 11	2462	30MHz-26GHz	Fig.6	P
802.11n- HT20	CH 1	2412	30MHz-26GHz	Fig.7	P
	CH 6	2437	30MHz-26GHz	Fig.8	P
	CH 11	2462	30MHz-26GHz	Fig.9	P
802.11n- HT40	CH 3	2422	30MHz-26GHz	Fig.10	P
	CH 6	2437	30MHz-26GHz	Fig.11	P
	CH 9	2452	30MHz-26GHz	Fig.12	P
802.11ax- HE20	CH 1	2412	30MHz-26GHz	Fig.13	P
	CH 6	2437	30MHz-26GHz	Fig.14	P
	CH 11	2462	30MHz-26GHz	Fig.15	P
802.11ax- HE40	CH 3	2422	30MHz-26GHz	Fig.16	P
	CH 6	2437	30MHz-26GHz	Fig.17	P
	CH 9	2452	30MHz-26GHz	Fig.18	P

See below for test graphs.

Conclusion: PASS

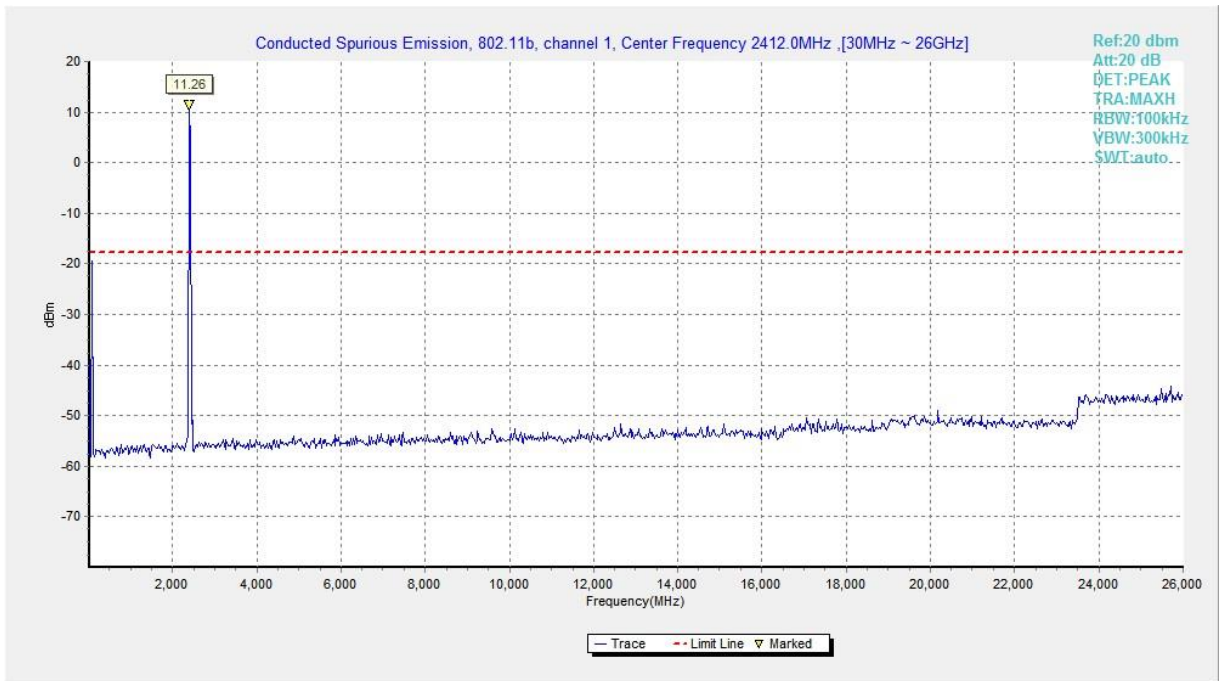


Fig.1 Conducted Spurious Emission (802.11b, CH1)

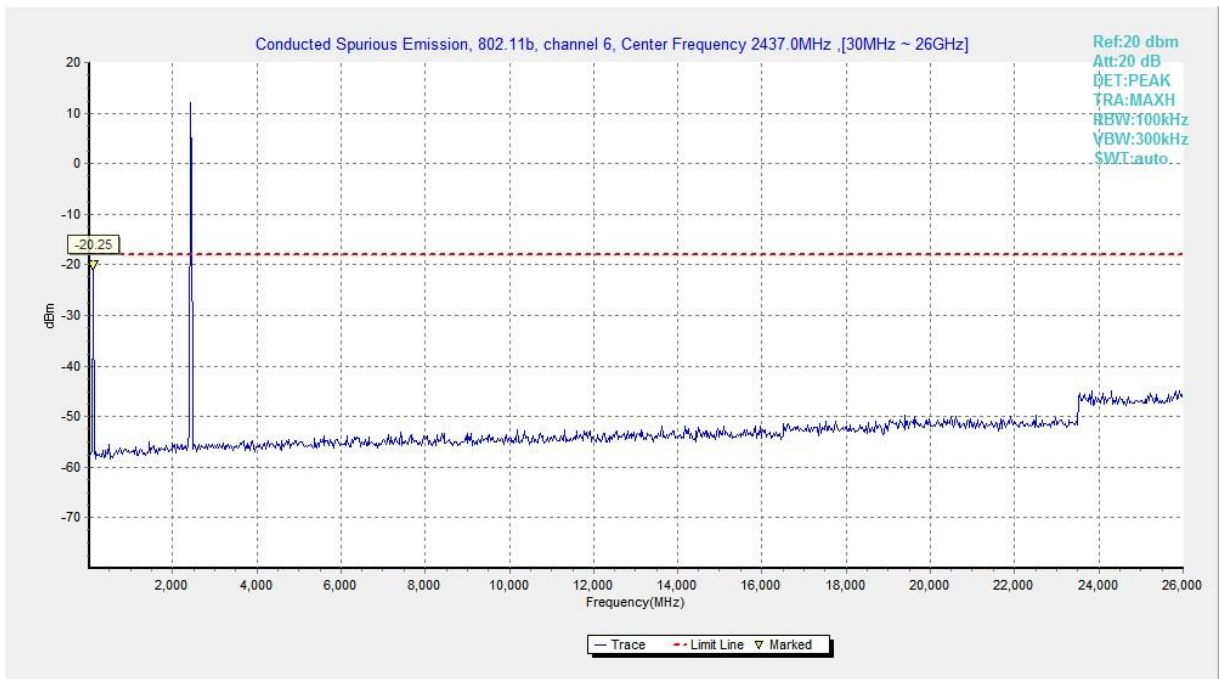


Fig.2 Conducted Spurious Emission (802.11b, CH6)

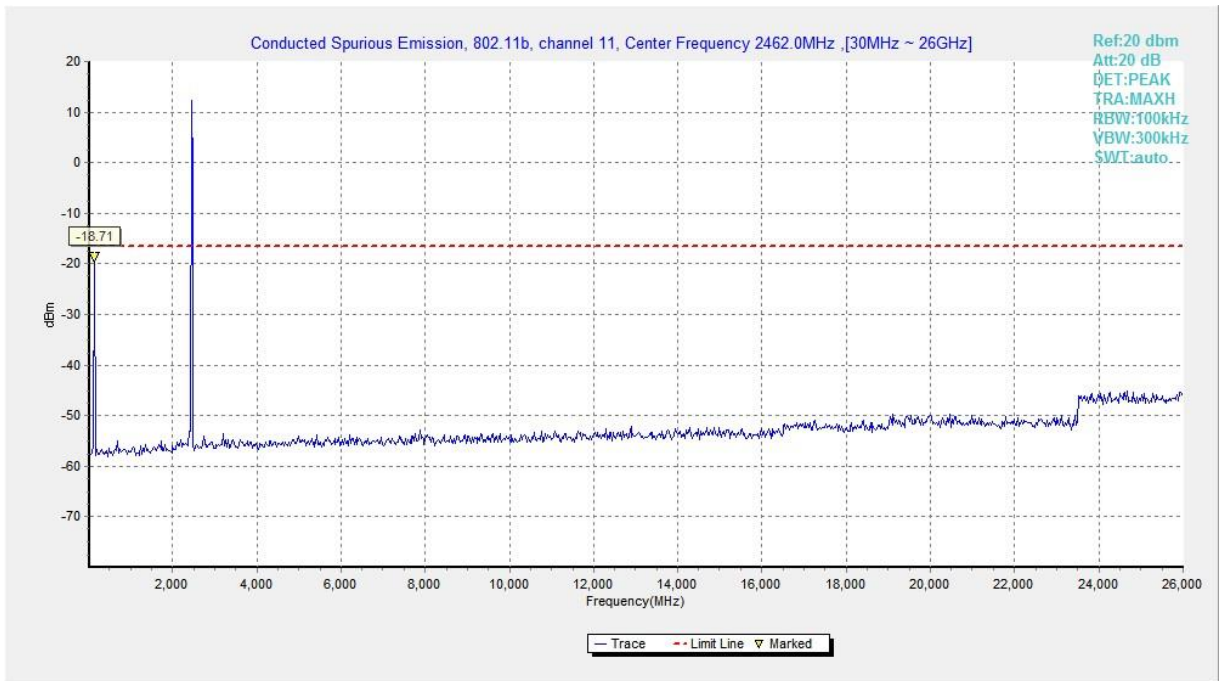


Fig.3 Conducted Spurious Emission (802.11b, CH11)

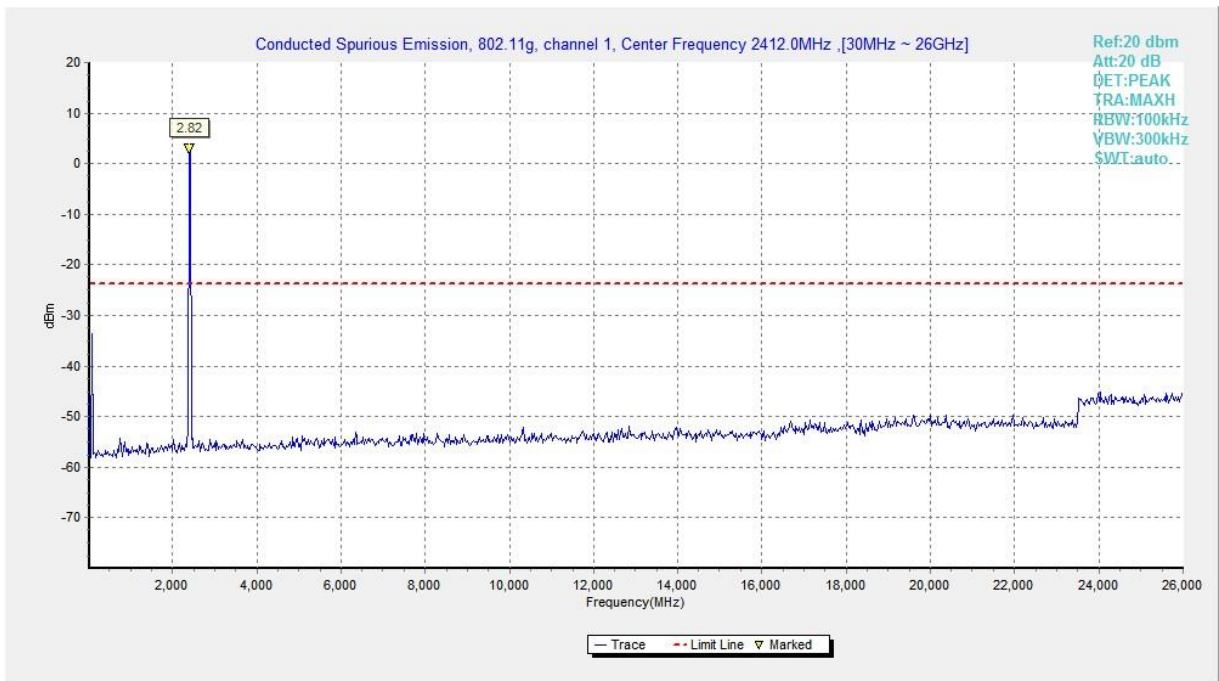


Fig.4 Conducted Spurious Emission (802.11g, CH1)

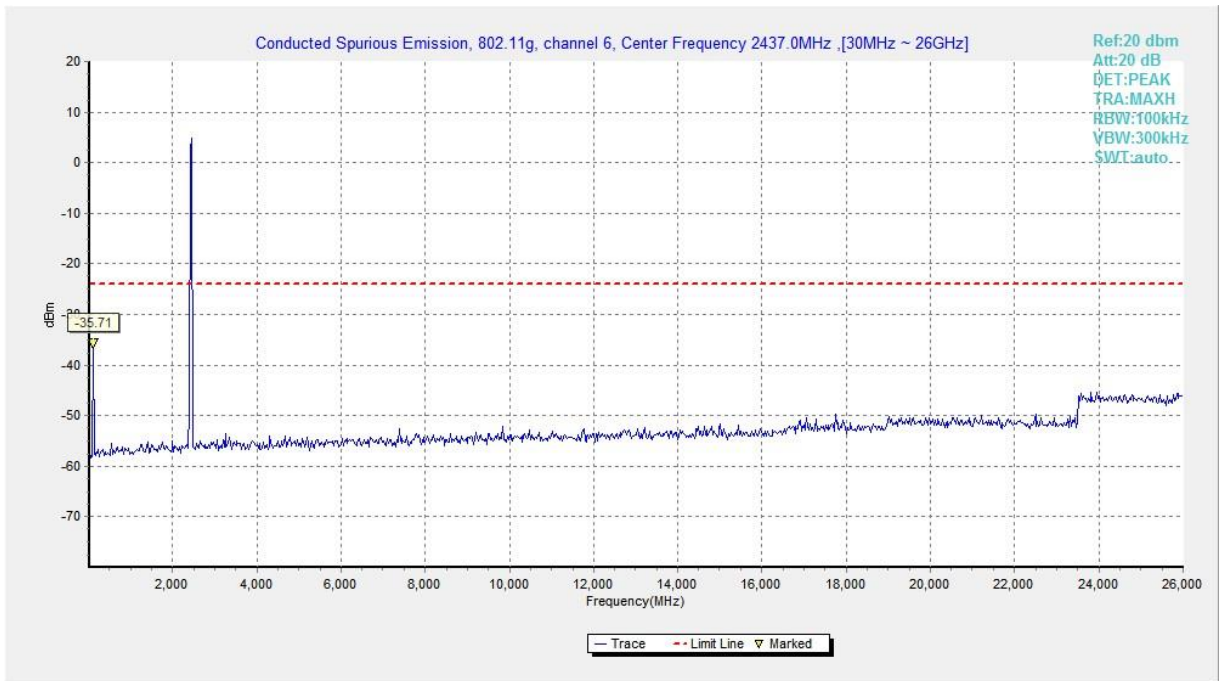


Fig.5 Conducted Spurious Emission (802.11g, CH6)

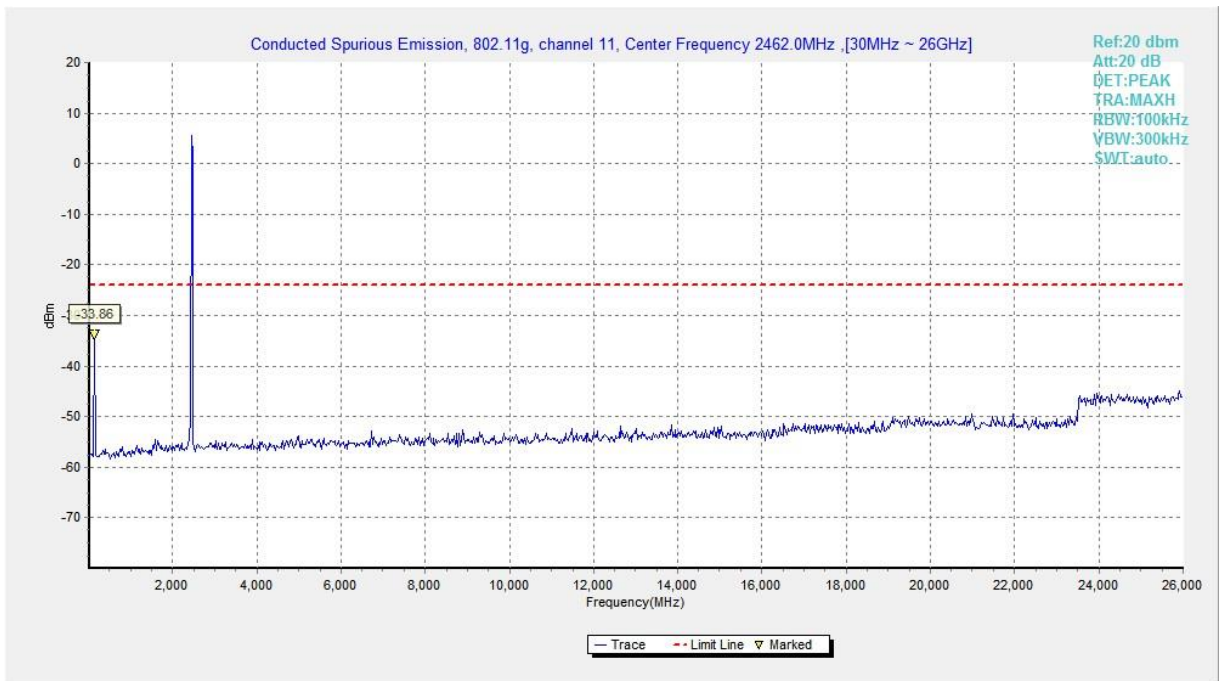


Fig.6 Conducted Spurious Emission (802.11g, CH11)

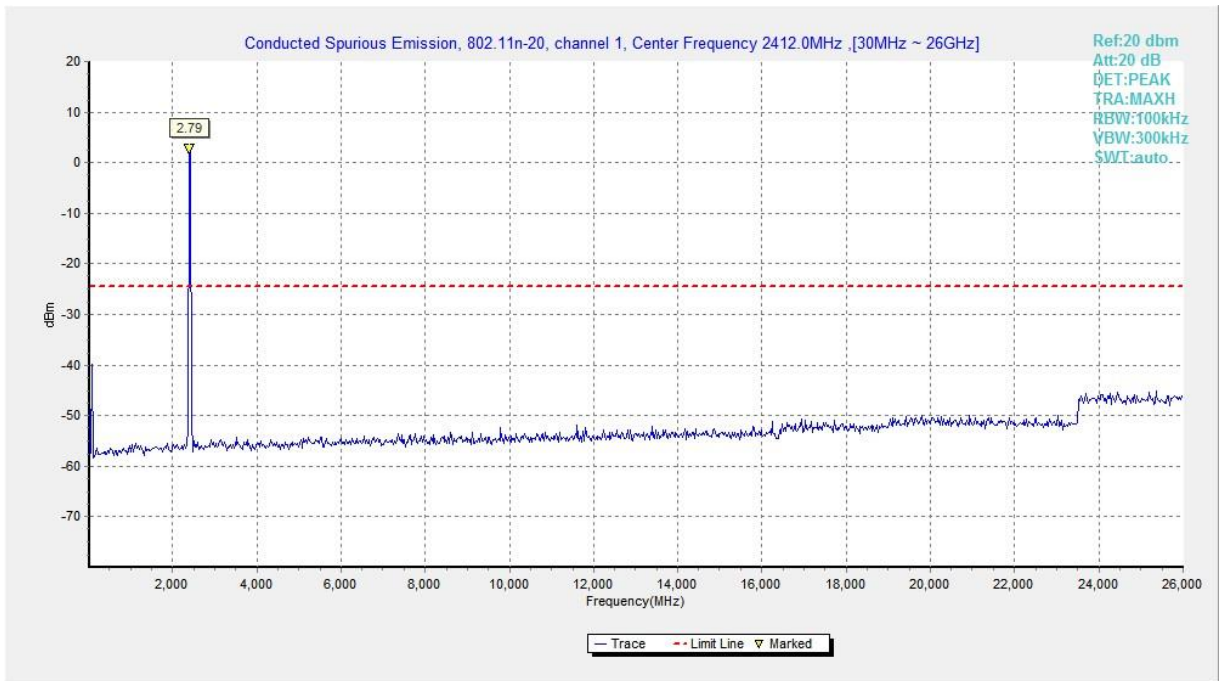


Fig.7 Conducted Spurious Emission (802.11n-HT20, CH1)

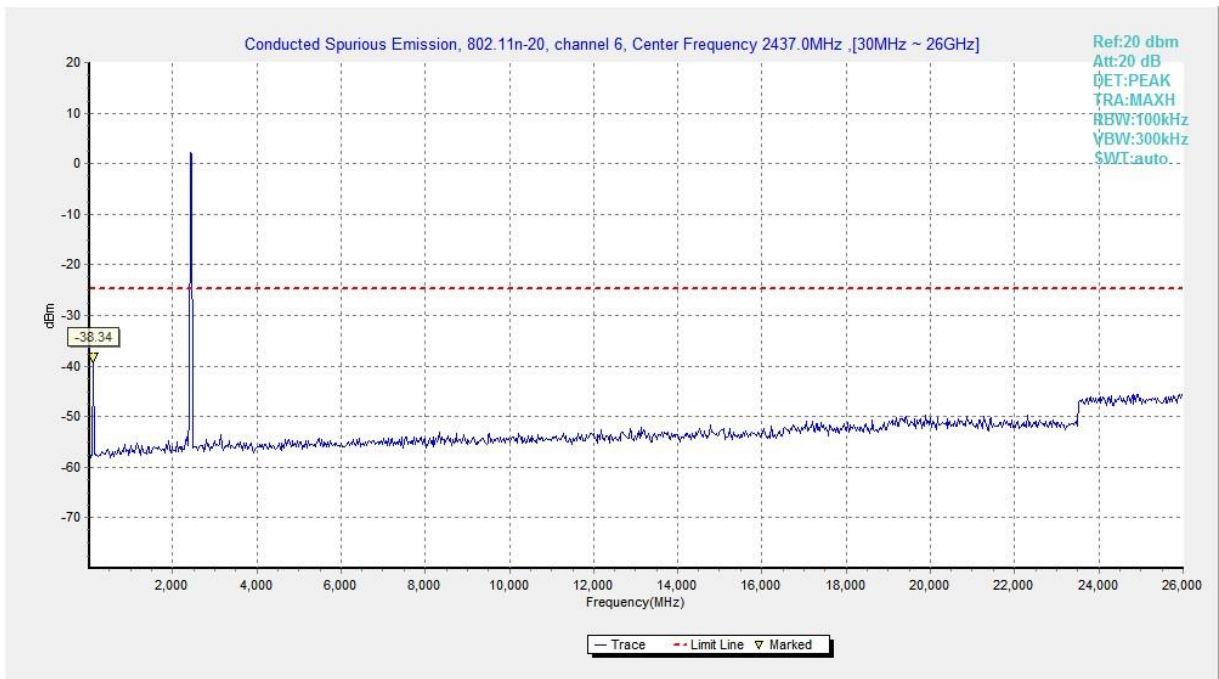


Fig.8 Conducted Spurious Emission (802.11n-HT20, CH6)

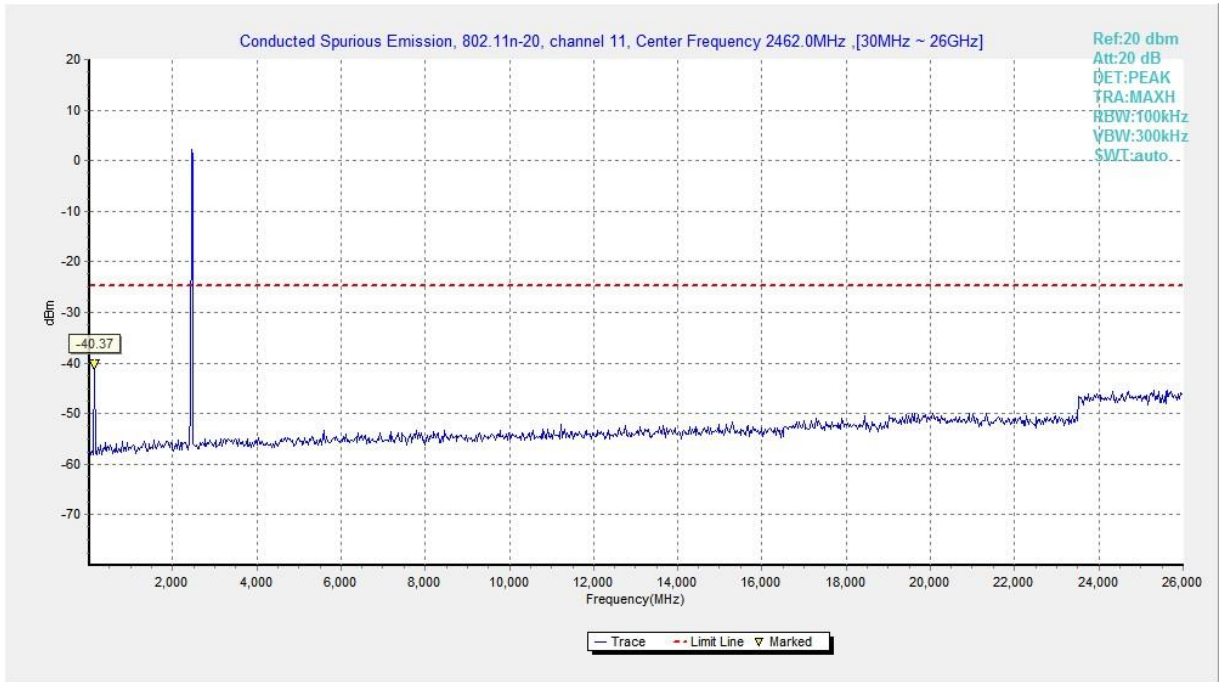


Fig.9 Conducted Spurious Emission (802.11n-HT20, CH11)

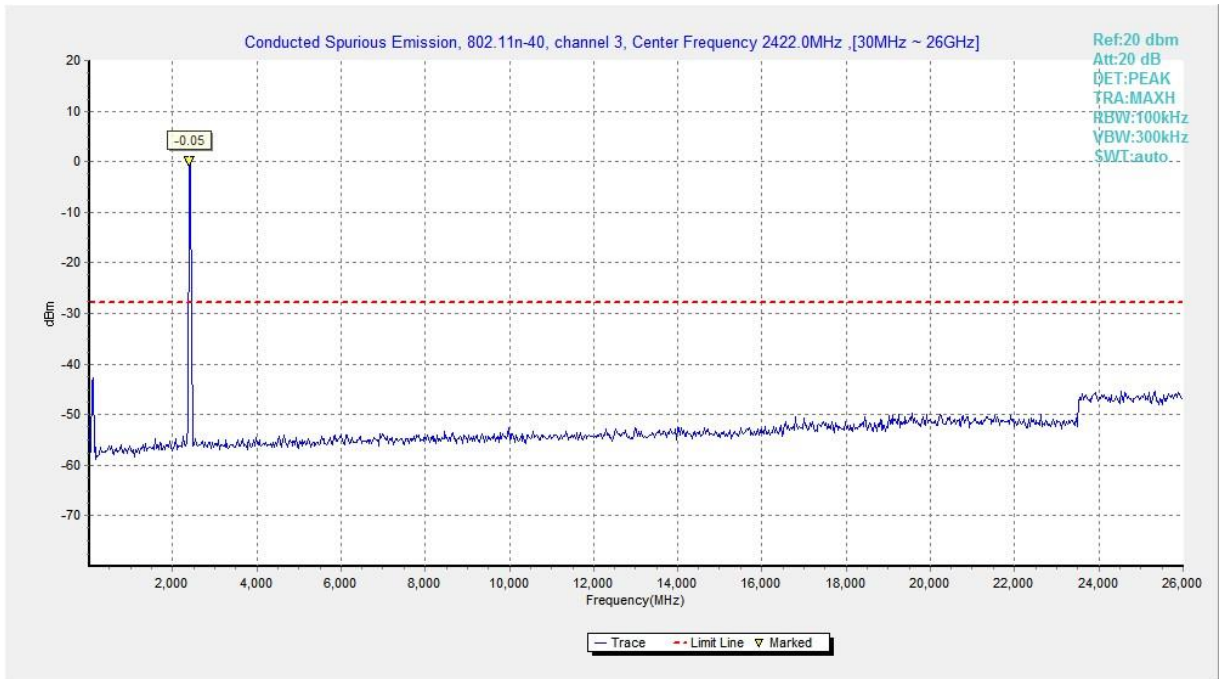


Fig.10 Conducted Spurious Emission (802.11n-HT40, CH3)

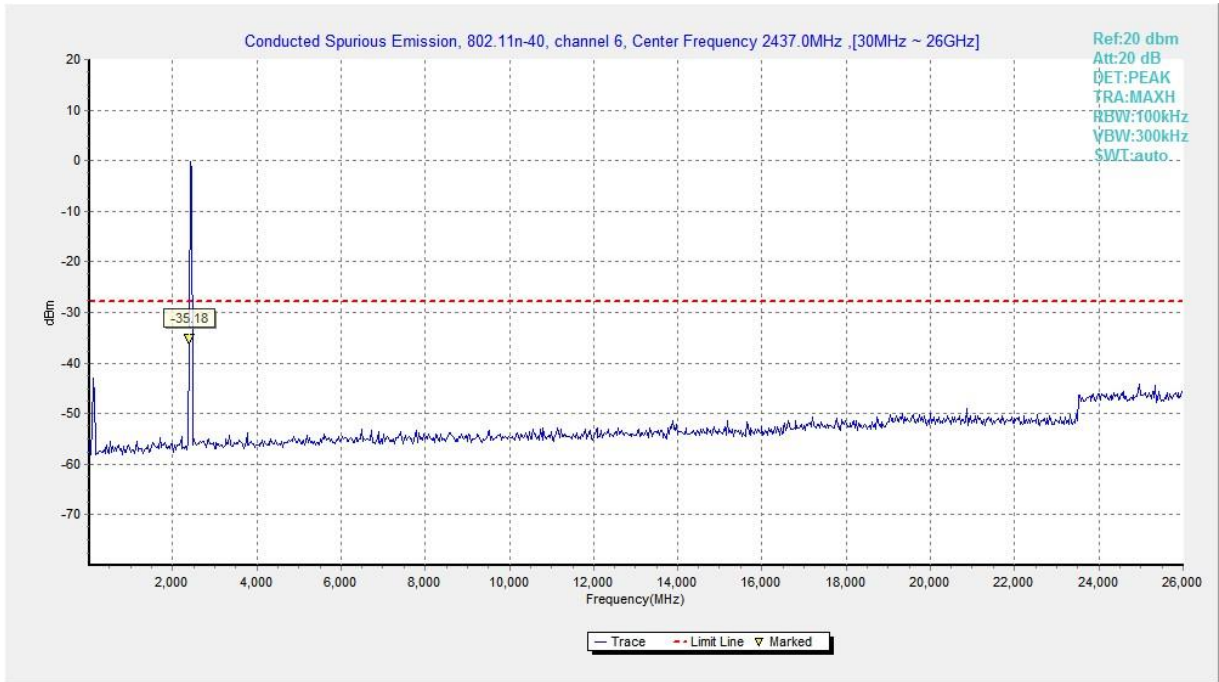


Fig.11 Conducted Spurious Emission (802.11n-HT40, CH6)

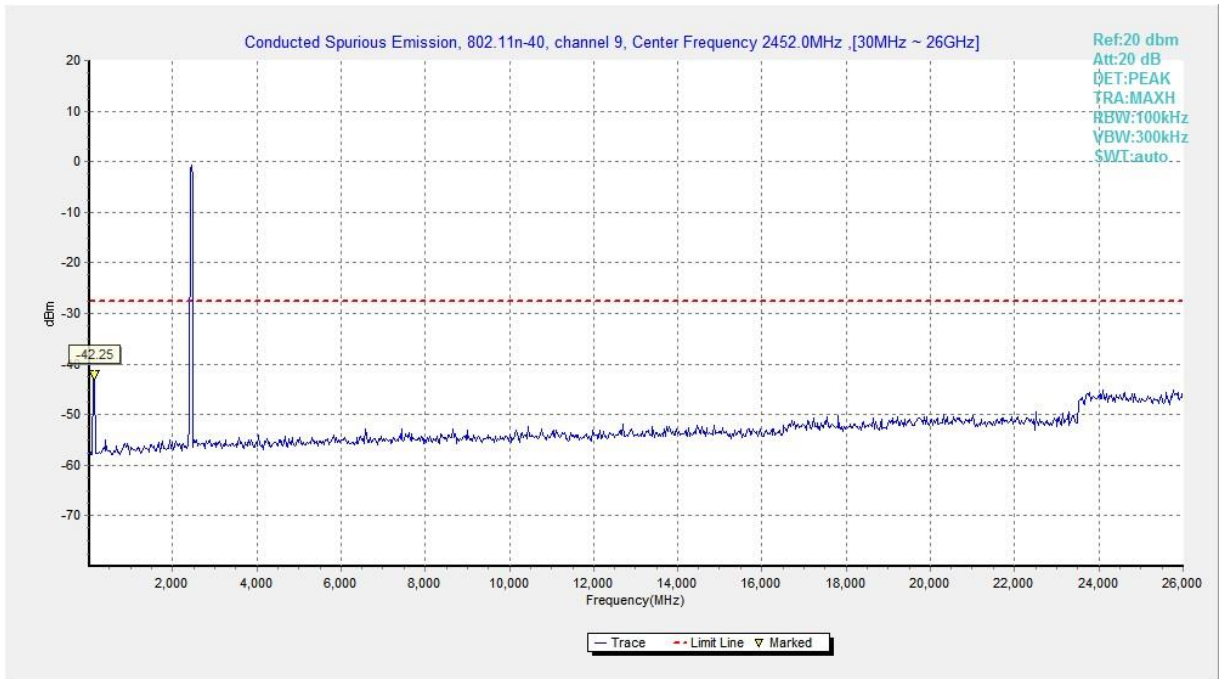


Fig.12 Conducted Spurious Emission (802.11n-HT40, CH9)

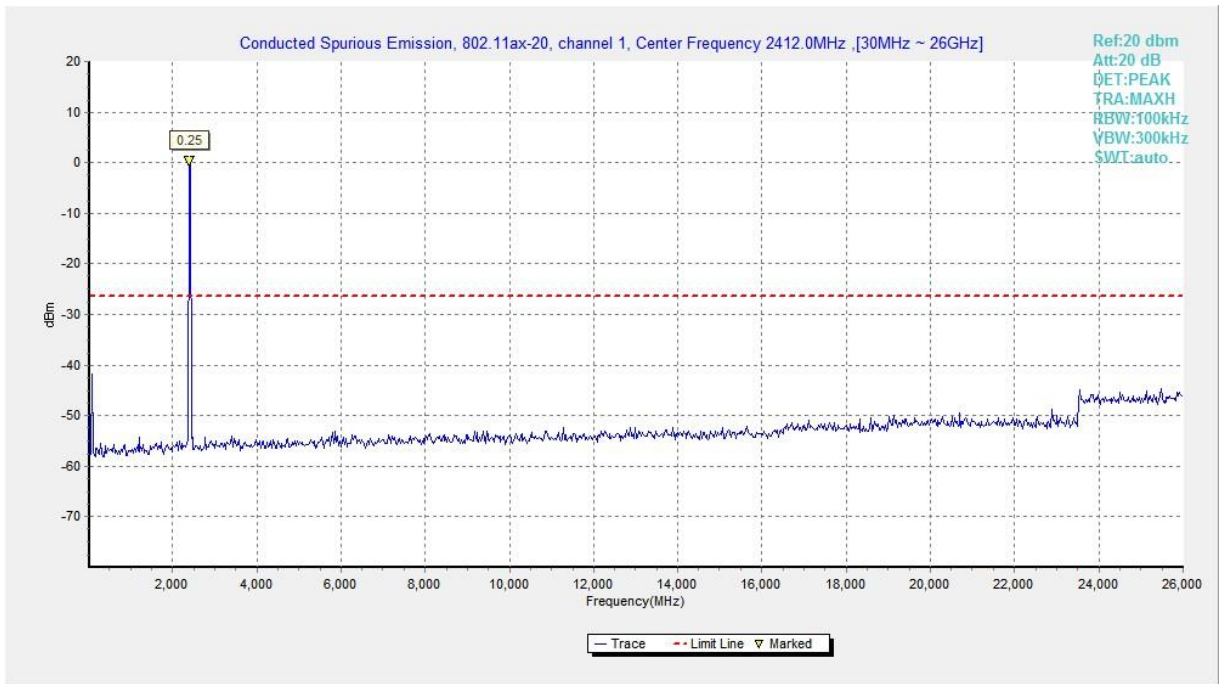


Fig.13 Conducted Spurious Emission (802.11ax-HE20, CH1)

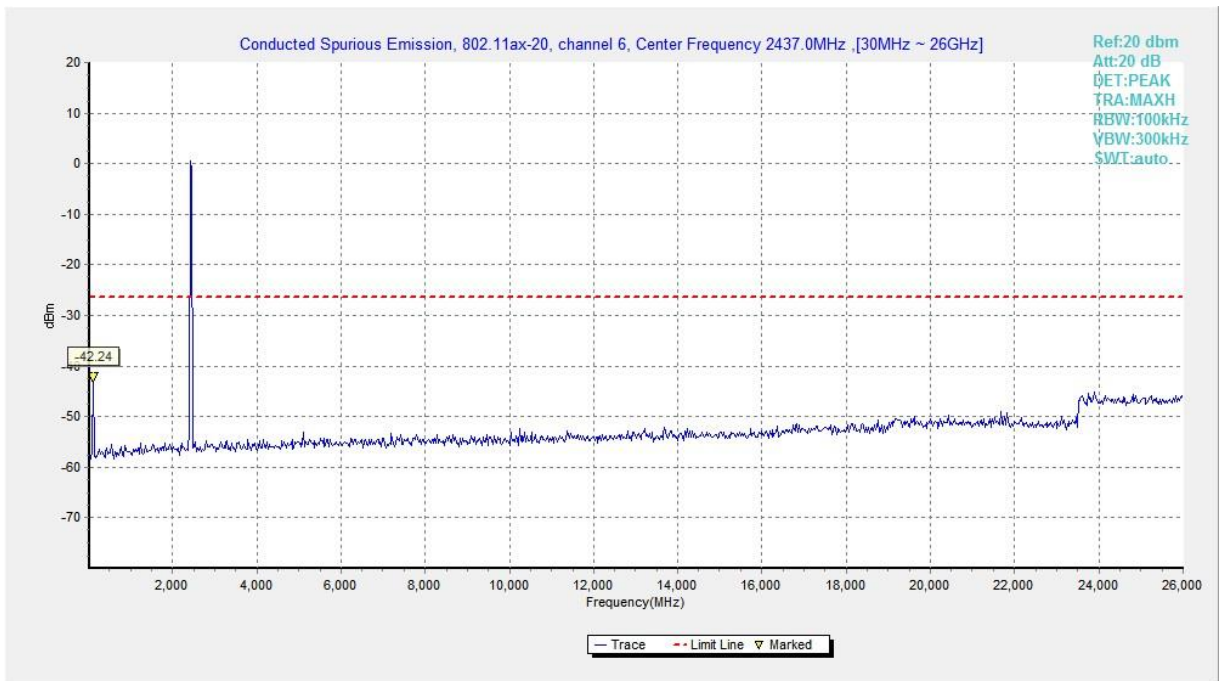


Fig.14 Conducted Spurious Emission (802.11ax-HE20, CH6)

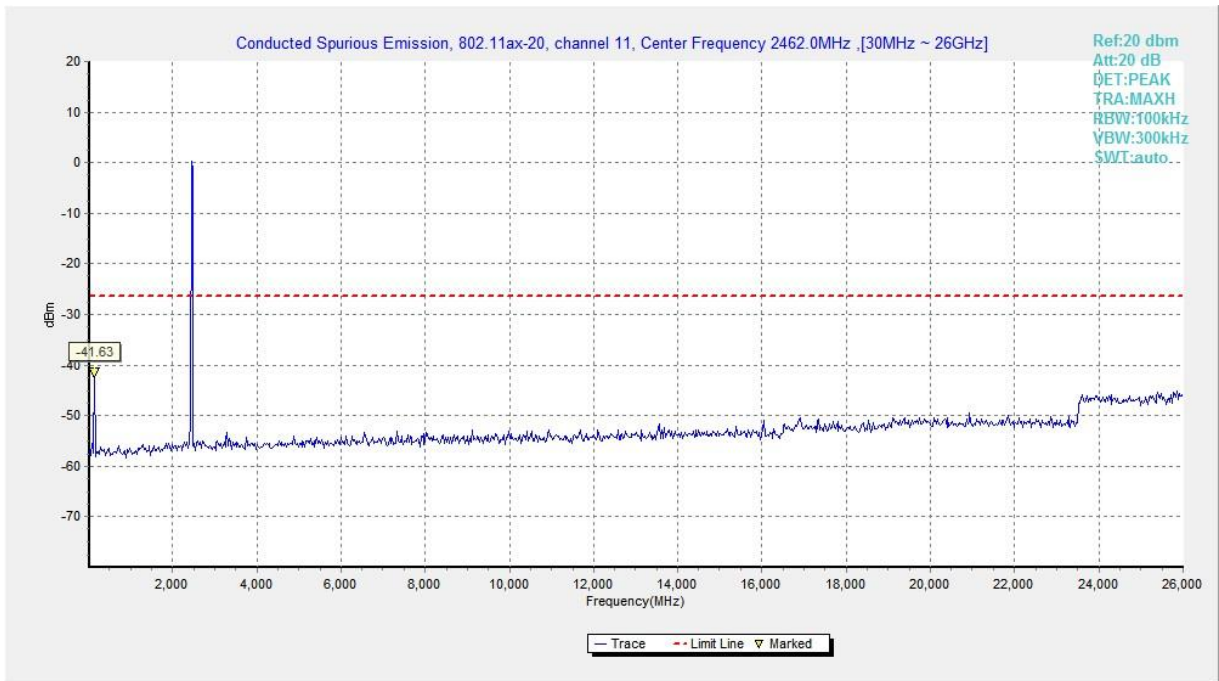


Fig.15 Conducted Spurious Emission (802.11ax-HE20, CH11)

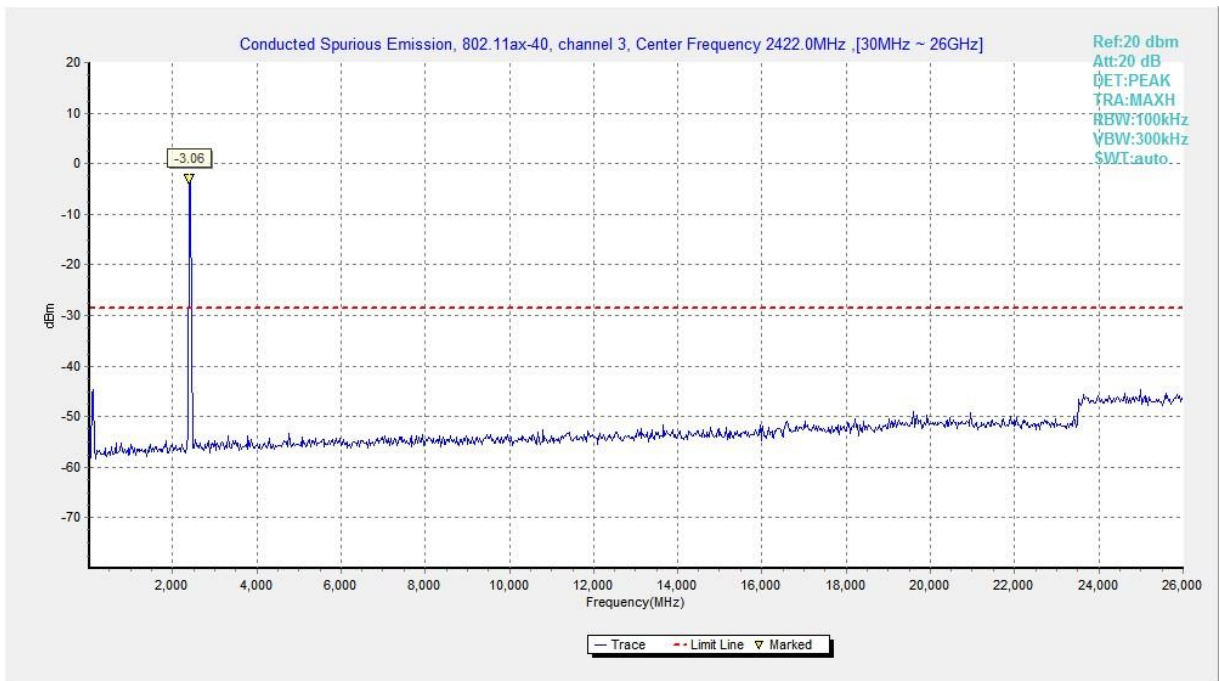


Fig.16 Conducted Spurious Emission (802.11ax-HE40, CH3)

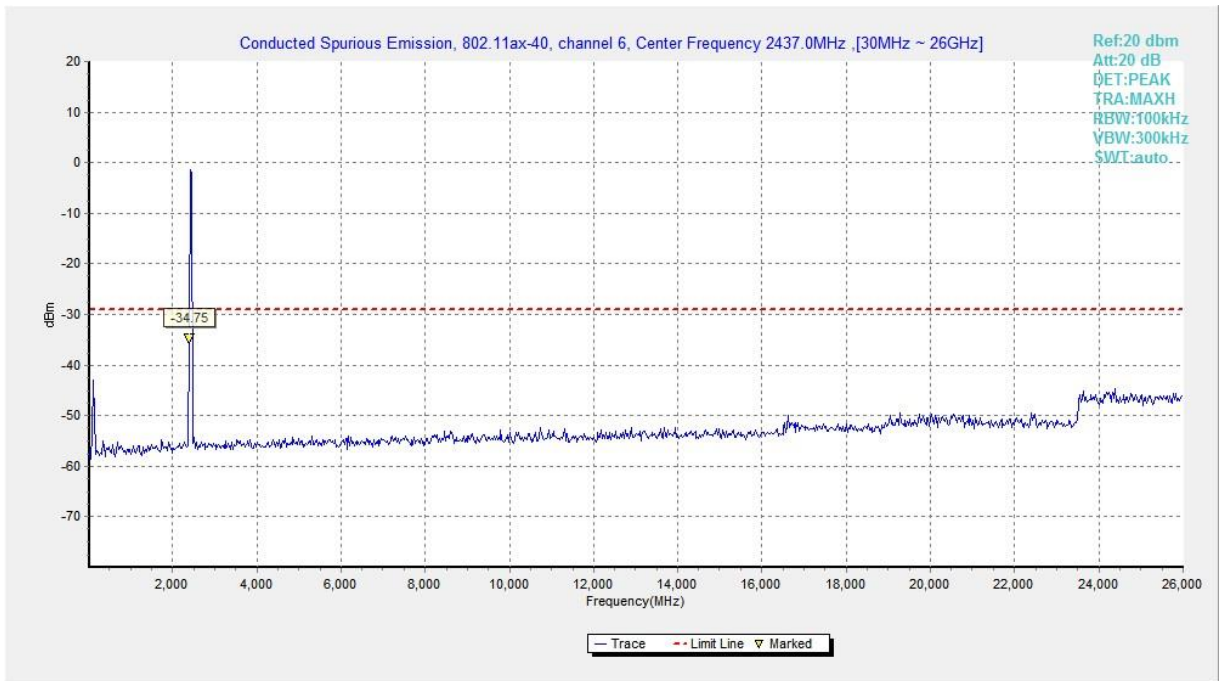


Fig.17 Conducted Spurious Emission (802.11ax-HE40, CH6)

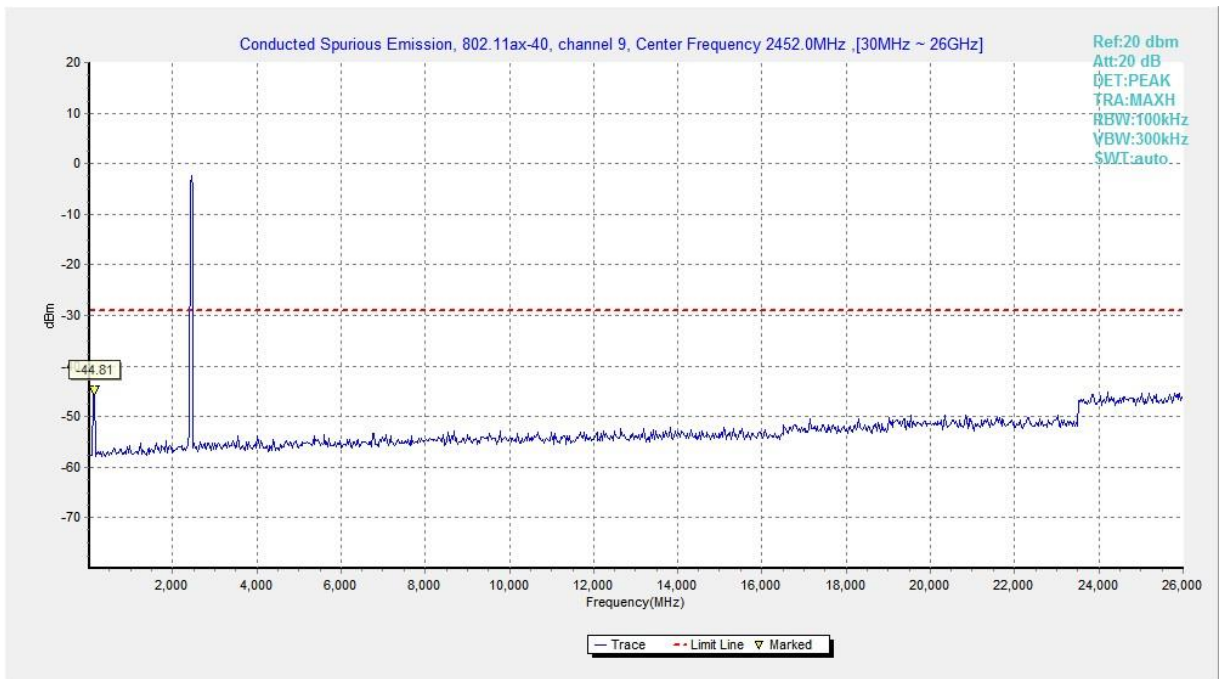


Fig.18 Conducted Spurious Emission (802.11ax-HE40, CH9)

A.6 Radiated Emission

Method of Measurement: See ANSI C63.10-clause 11.11&11.12.

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209 & RSS-247 section 5.5/RSS-Gen section 6.13	20dB below peak output power

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)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength (µV/m)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Condition:

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time (s)
30-1000	120kHz/300kHz	5
1000-4000	1MHz/3MHz	15
4000-18000	1MHz/3MHz	40
18000-26500	1MHz/3MHz	20

Note: According to the performance evaluation, the radiated emission margin of EUT is over 20dB in the band from 9kHz to 30MHz. Therefore, the measurement starts from 30MHz to tenth harmonic. The measurement results include the horizontal polarization and vertical polarization measurements. For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

Measurement Results:

SISO:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	CH 1	1 GHz ~ 18 GHz	Fig.1	P
	CH 6	1 GHz ~ 18 GHz	Fig.2	P
	CH 11	1 GHz ~ 18 GHz	Fig.3	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.4	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.5	P
802.11g	CH 1	1 GHz ~ 18 GHz	Fig.6	P
	CH 6	1 GHz ~ 18 GHz	Fig.7	P
	CH 11	1 GHz ~ 18 GHz	Fig.8	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.9	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.10	P
802.11n- HT20	CH 1	1 GHz ~ 18 GHz	Fig.11	P
	CH 6	1 GHz ~ 18 GHz	Fig.12	P
	CH 11	1 GHz ~ 18 GHz	Fig.13	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.14	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.15	P
802.11n- HT40	CH 3	1 GHz ~ 18 GHz	Fig.16	P
	CH 6	1 GHz ~ 18 GHz	Fig.17	P
	CH 9	1 GHz ~ 18 GHz	Fig.18	P
	Restricted Band (CH3)	2.38 GHz ~ 2.45 GHz	Fig.19	P
	Restricted Band (CH9)	2.45 GHz ~ 2.5 GHz	Fig.20	P
802.11ax- HE20	CH 1	1 GHz ~ 18 GHz	Fig.21	P
	CH 6	1 GHz ~ 18 GHz	Fig.22	P
	CH 11	1 GHz ~ 18 GHz	Fig.23	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.24	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.25	P
802.11ax- HE40	CH 3	1 GHz ~ 18 GHz	Fig.26	P
	CH 6	1 GHz ~ 18 GHz	Fig.27	P
	CH 9	1 GHz ~ 18 GHz	Fig.28	P
	Restricted Band (CH3)	2.38 GHz ~ 2.45 GHz	Fig.29	P
	Restricted Band (CH9)	2.45 GHz ~ 2.5 GHz	Fig.30	P
/	All Channels	9 kHz ~ 30 MHz	Fig.31	P
		30 MHz ~ 1 GHz	Fig.32	P
		18 GHz ~ 26.5 GHz	Fig.33	P

MIMO:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n- HT20	CH 1	1 GHz ~ 18 GHz	Fig.34	P
	CH 6	1 GHz ~ 18 GHz	Fig.35	P
	CH 11	1 GHz ~ 18 GHz	Fig.36	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.37	P



	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.38	P
802.11n- HT40	CH 3	1 GHz ~ 18 GHz	Fig.39	P
	CH 6	1 GHz ~ 18 GHz	Fig.40	P
	CH 9	1 GHz ~ 18 GHz	Fig.41	P
	Restricted Band (CH3)	2.38 GHz ~ 2.45 GHz	Fig.42	P
	Restricted Band (CH9)	2.45 GHz ~ 2.5 GHz	Fig.43	P
802.11ax- HE20	CH 1	1 GHz ~ 18 GHz	Fig.44	P
	CH 6	1 GHz ~ 18 GHz	Fig.45	P
	CH 11	1 GHz ~ 18 GHz	Fig.46	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.47	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.48	P
802.11ax- HE40	CH 3	1 GHz ~ 18 GHz	Fig.49	P
	CH 6	1 GHz ~ 18 GHz	Fig.50	P
	CH 9	1 GHz ~ 18 GHz	Fig.51	P
	Restricted Band (CH3)	2.38 GHz ~ 2.45 GHz	Fig.52	P
	Restricted Band (CH9)	2.45 GHz ~ 2.5 GHz	Fig.53	P
/	All Channels	9 kHz ~ 30 MHz	Fig.54	P
		30 MHz ~ 1 GHz	Fig.55	P
		18 GHz ~ 26.5 GHz	Fig.56	P



Worst-Case Result:

SISO:

802.11b CH11 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4923.900000	47.03	74.00	26.97	V	3.7
6709.714286	43.14	74.00	30.86	V	5.8
8891.571429	43.64	74.00	30.36	H	6.5
10431.428572	45.59	74.00	28.41	V	9.0
12823.714286	46.93	74.00	27.07	V	11.1
16950.428571	52.22	74.00	21.78	H	18.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4923.900000	41.16	54.00	12.84	V	3.7
6709.714286	32.14	54.00	21.86	V	5.8
8891.571429	33.01	54.00	20.99	H	6.5
10431.428572	34.99	54.00	19.01	V	9.0
12823.714286	35.48	54.00	18.52	V	11.1
16950.428571	41.94	54.00	12.06	H	18.2

802.11g CH11 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3902.100000	46.61	74.00	27.39	V	2.1
4573.500000	46.94	74.00	27.06	V	4.5
5588.400000	46.91	74.00	27.09	V	3.9
7059.000000	44.59	74.00	29.41	H	5.2
11325.428572	46.20	74.00	27.80	H	9.8
17040.428571	54.01	74.00	19.99	V	18.4

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3902.100000	33.45	54.00	20.55	V	2.1
4573.500000	34.32	54.00	19.68	V	4.5
5588.400000	34.70	54.00	19.30	V	3.9
7059.000000	32.17	54.00	21.83	H	5.2
11325.428572	34.38	54.00	19.62	H	9.8
17040.428571	41.70	54.00	12.30	V	18.4



802.11n-HT20 CH11 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3957.300000	45.95	74.00	28.05	V	2.2
4770.600000	47.22	74.00	26.78	H	4.1
8210.571429	44.46	74.00	29.54	V	5.9
12291.428572	48.22	74.00	25.78	H	11.0
17046.857143	54.23	74.00	19.77	V	18.5
17896.285714	54.37	74.00	19.63	H	18.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3957.300000	33.22	54.00	20.78	V	2.2
4770.600000	34.35	54.00	19.65	H	4.1
8210.571429	32.46	54.00	21.54	V	5.9
12291.428572	35.46	54.00	18.54	H	11.0
17046.857143	41.41	54.00	12.59	V	18.5
17896.285714	41.89	54.00	12.11	H	18.8

802.11n-HT40 CH3 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4137.300000	46.31	74.00	27.69	H	2.5
5535.000000	46.99	74.00	27.01	H	3.8
7617.000000	44.79	74.00	29.21	V	5.7
10497.000000	46.84	74.00	27.16	V	8.9
12806.142857	47.85	74.00	26.15	H	11.1
16875.857143	53.48	74.00	20.52	H	18.0

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4137.300000	33.63	54.00	20.37	H	2.5
5535.000000	35.10	54.00	18.90	H	3.8
7617.000000	32.46	54.00	21.54	V	5.7
10497.000000	35.00	54.00	19.00	V	8.9
12806.142857	35.59	54.00	18.41	H	11.1
16875.857143	41.21	54.00	12.79	H	18.0



802.11ax-HE20 CH11 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3896.400000	46.52	74.00	27.48	H	2.0
5950.500000	47.46	74.00	26.54	V	4.6
7047.857143	44.32	74.00	29.68	V	5.1
8921.142857	45.29	74.00	28.71	H	6.5
12867.428572	48.22	74.00	25.78	H	11.0
16977.857143	52.30	74.00	21.70	H	18.3

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3896.400000	33.46	54.00	20.54	H	2.0
5950.500000	35.33	54.00	18.67	V	4.6
7047.857143	32.04	54.00	21.96	V	5.1
8921.142857	33.05	54.00	20.95	H	6.5
12867.428572	36.02	54.00	17.98	H	11.0
16977.857143	41.53	54.00	12.47	H	18.3

802.11ax-HE40 CH3 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3901.800000	45.94	74.00	28.06	H	2.1
5015.400000	45.24	74.00	28.76	H	3.5
7687.714286	44.89	74.00	29.11	V	5.7
9492.428572	45.69	74.00	28.31	V	7.0
11938.714286	47.27	74.00	26.73	V	10.2
17916.428571	55.06	74.00	18.94	V	18.9

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3901.800000	33.52	54.00	20.48	H	2.1
5015.400000	33.35	54.00	20.65	H	3.5
7687.714286	32.28	54.00	21.72	V	5.7
9492.428572	33.28	54.00	20.73	V	7.0
11938.714286	34.90	54.00	19.10	V	10.2
17916.428571	42.36	54.00	11.64	V	18.9



MIMO:

802.11n-HT20 CH11 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3334.200000	44.28	74.00	29.72	V	-0.5
4173.300000	45.29	74.00	28.71	H	2.6
6879.428572	43.47	74.00	30.53	V	5.1
8639.571429	44.12	74.00	29.88	V	6.1
10474.285714	47.64	74.00	26.36	V	8.9
16939.285714	53.73	74.00	20.27	V	18.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3334.200000	31.69	54.00	22.31	V	-0.5
4173.300000	32.90	54.00	21.10	H	2.6
6879.428572	30.94	54.00	23.06	V	5.1
8639.571429	31.91	54.00	22.09	V	6.1
10474.285714	35.13	54.00	18.87	V	8.9
16939.285714	41.75	54.00	12.25	V	18.2

802.11n-HT40 CH9 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4648.500000	46.50	74.00	27.50	H	4.6
5409.900000	47.43	74.00	26.57	V	3.7
6765.857143	44.44	74.00	29.56	H	5.6
10456.714286	47.97	74.00	26.03	V	9.0
14897.142857	49.98	74.00	24.02	V	13.0
17289.428571	53.58	74.00	20.42	V	18.1

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4648.500000	34.50	54.00	19.50	H	4.6
5409.900000	34.94	54.00	19.06	V	3.7
6765.857143	31.94	54.00	22.06	H	5.6
10456.714286	35.00	54.00	19.00	V	9.0
14897.142857	38.00	54.00	16.00	V	13.0
17289.428571	41.06	54.00	12.94	V	18.1



802.11ax-HE20 CH11 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3900.300000	45.48	74.00	28.52	V	2.1
4644.600000	46.68	74.00	27.32	V	4.6
9539.142857	46.07	74.00	27.93	V	7.1
12832.714286	47.71	74.00	26.29	H	11.1
16957.285714	53.98	74.00	20.02	V	18.2
17898.428571	54.35	74.00	19.65	H	18.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3900.300000	33.67	54.00	20.33	V	2.1
4644.600000	34.49	54.00	19.51	V	4.6
9539.142857	33.43	54.00	20.57	V	7.1
12832.714286	35.77	54.00	18.23	H	11.1
16957.285714	41.83	54.00	12.17	V	18.2
17898.428571	41.83	54.00	12.17	H	18.8

802.11ax-HE40 CH9 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3476.700000	45.04	74.00	28.96	H	-0.3
4569.000000	46.76	74.00	27.24	V	4.5
7011.857143	44.65	74.00	29.35	V	5.0
10365.000000	45.03	74.00	28.97	V	8.9
14919.000000	48.55	74.00	25.45	H	12.9
17964.000000	54.60	74.00	19.40	V	19.1

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
3476.700000	31.76	54.00	22.24	H	-0.3
4569.000000	34.34	54.00	19.66	V	4.5
7011.857143	32.41	54.00	21.59	V	5.0
10365.000000	34.40	54.00	19.60	V	8.9
14919.000000	37.85	54.00	16.15	H	12.9
17964.000000	41.85	54.00	12.15	V	19.1

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and Antenna Factor, the gain of the preamplifier, the cable loss. P_{Mea} is the field strength recorded from the instrument. The measurement results are obtained as described below:

Result = P_{Mea} + Cable Loss + Antenna Factor - Gain of the preamplifier

See below for test graphs.

Conclusion: PASS

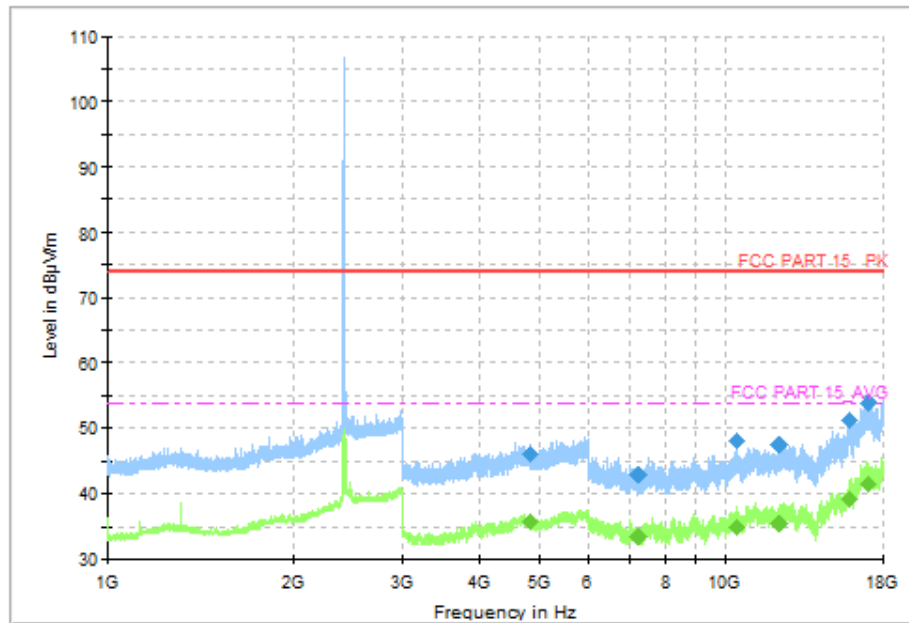


Fig.1 Radiated Spurious Emission (802.11b, CH1, 1GHz-18GHz)

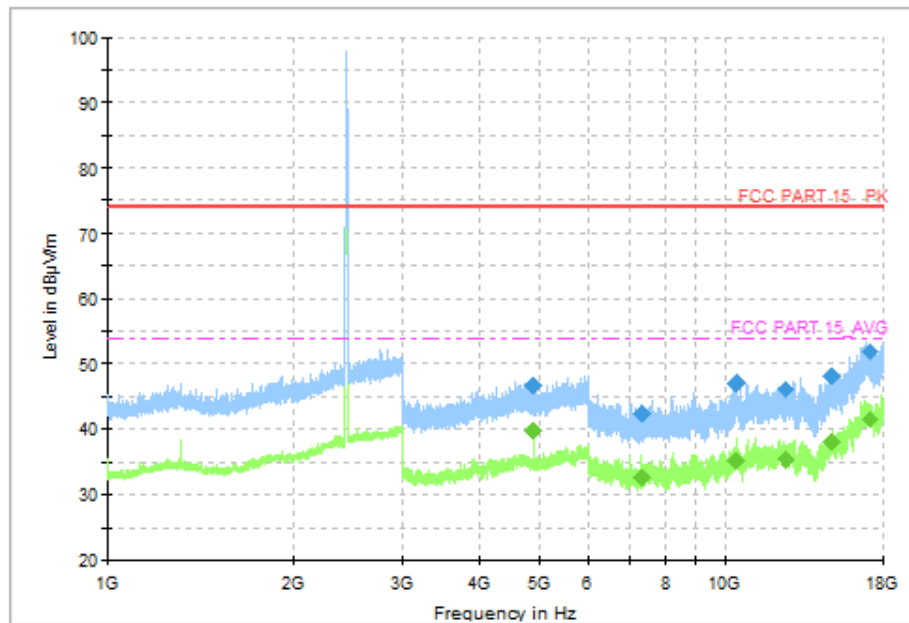


Fig.2 Radiated Spurious Emission (802.11b, CH6, 1GHz-18GHz)

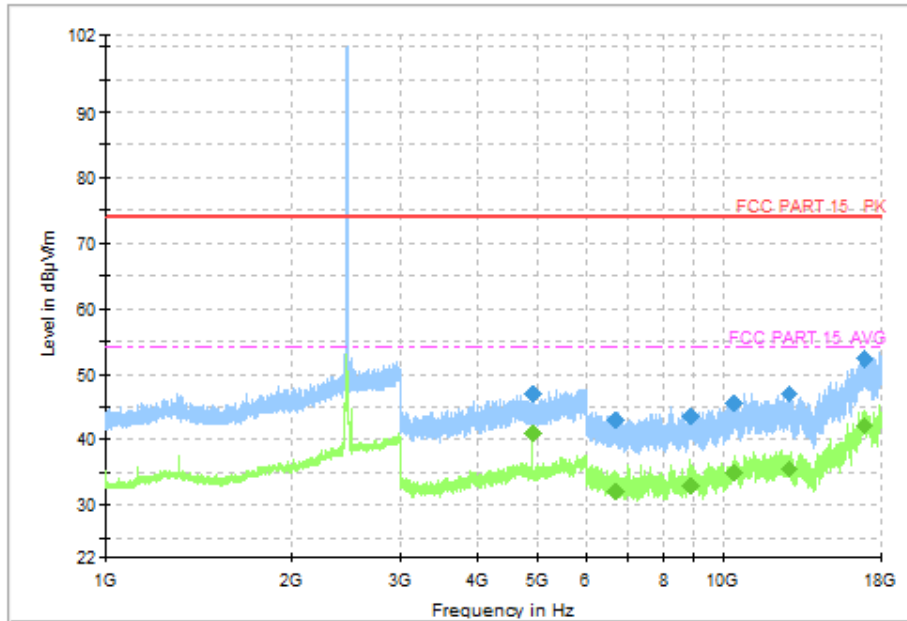


Fig.3 Radiated Spurious Emission (802.11b, CH11, 1GHz-18GHz)

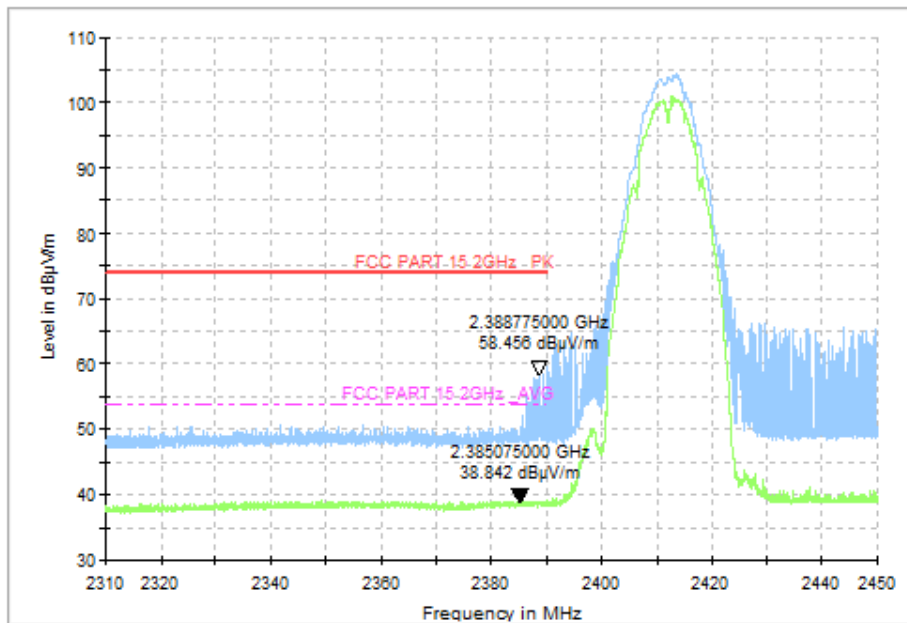


Fig.4 Radiated Restricted Band (802.11b, CH1, 2.38GHz~2.45GHz)

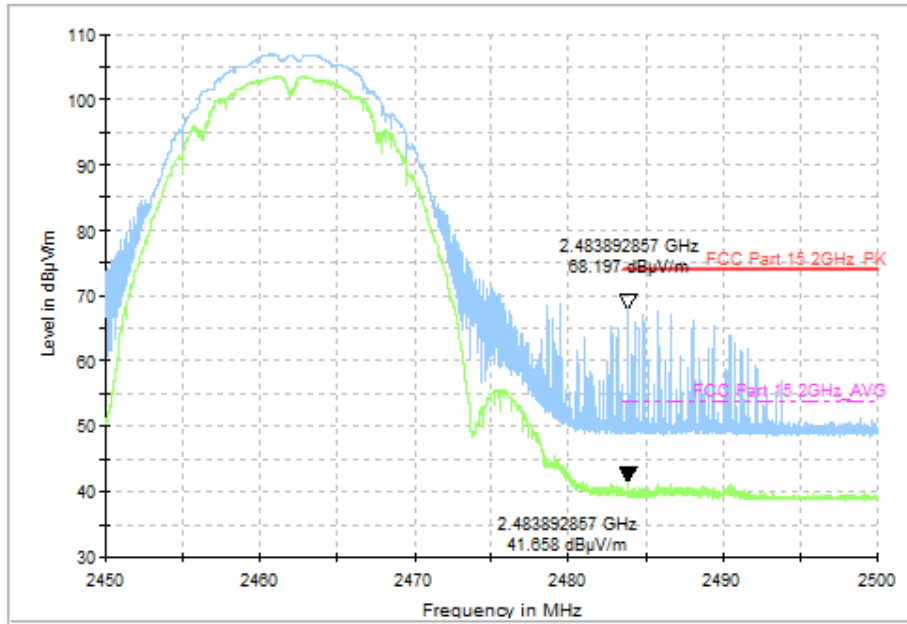


Fig.5 Radiated Restricted Band (802.11b, CH11, 2.45GHz~2.5GHz)

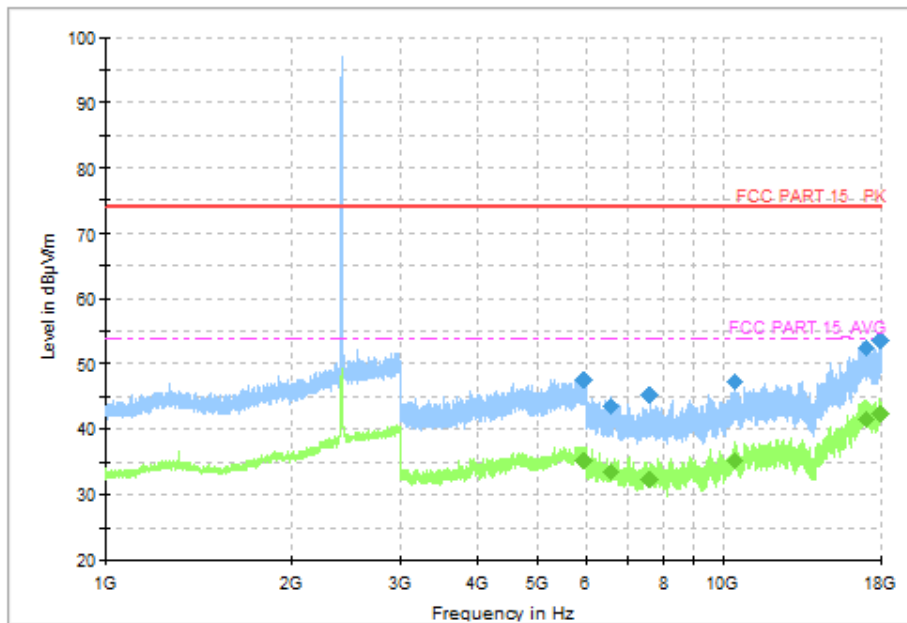


Fig.6 Radiated Spurious Emission (802.11g, CH1, 1GHz-18GHz)

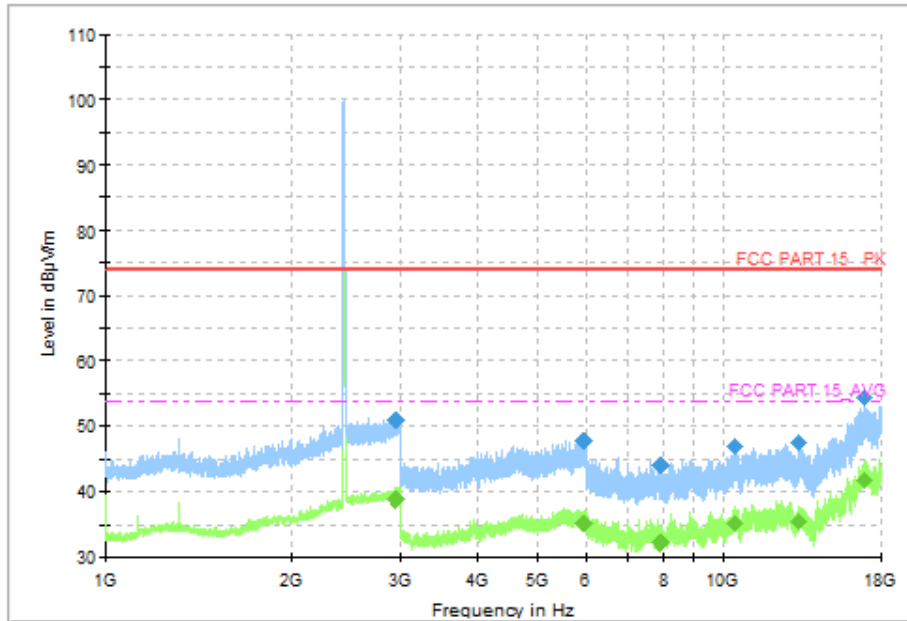


Fig.7 Radiated Spurious Emission (802.11g, CH6, 1GHz-18GHz)

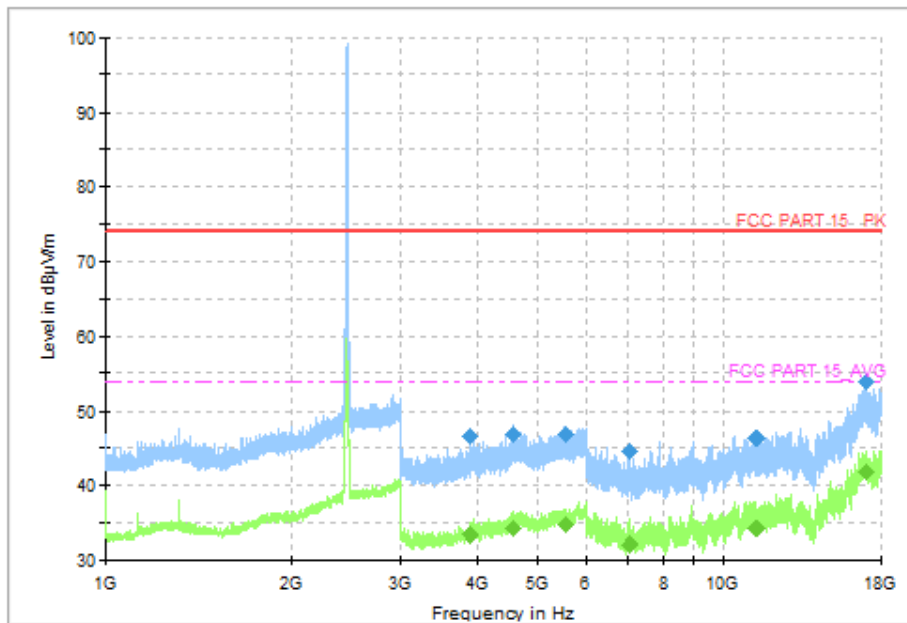


Fig.8 Radiated Spurious Emission (802.11g, CH11, 1GHz-18GHz)

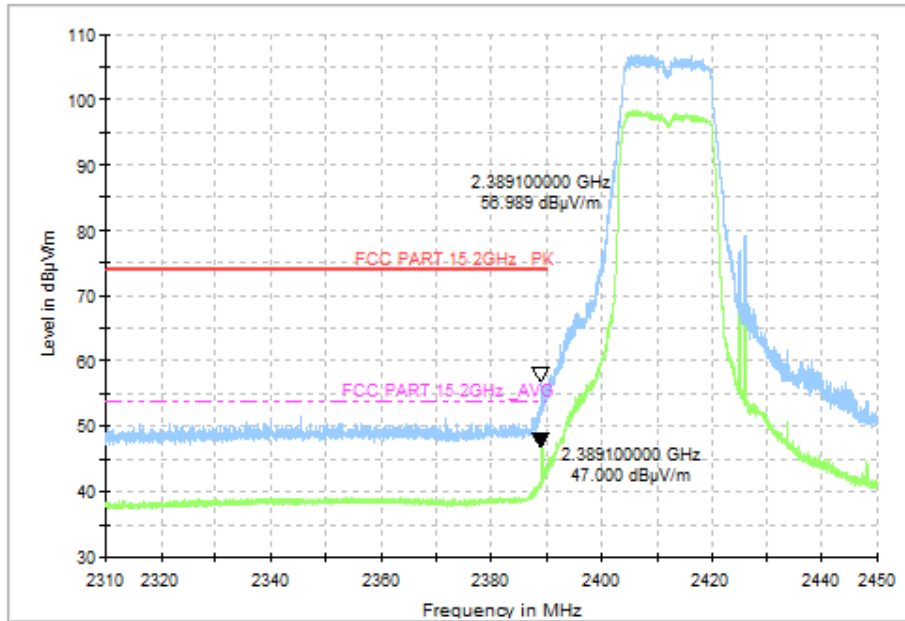


Fig.9 Radiated Restricted Band (802.11g, CH1, 2.38GHz~2.45GHz)

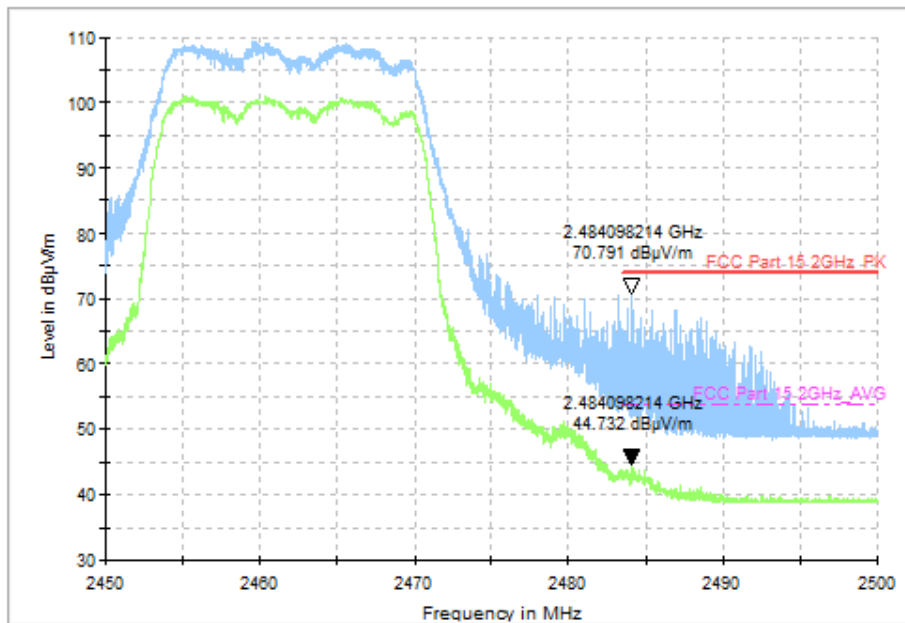


Fig.10 Radiated Restricted Band (802.11g, CH11, 2.45GHz~2.5GHz)

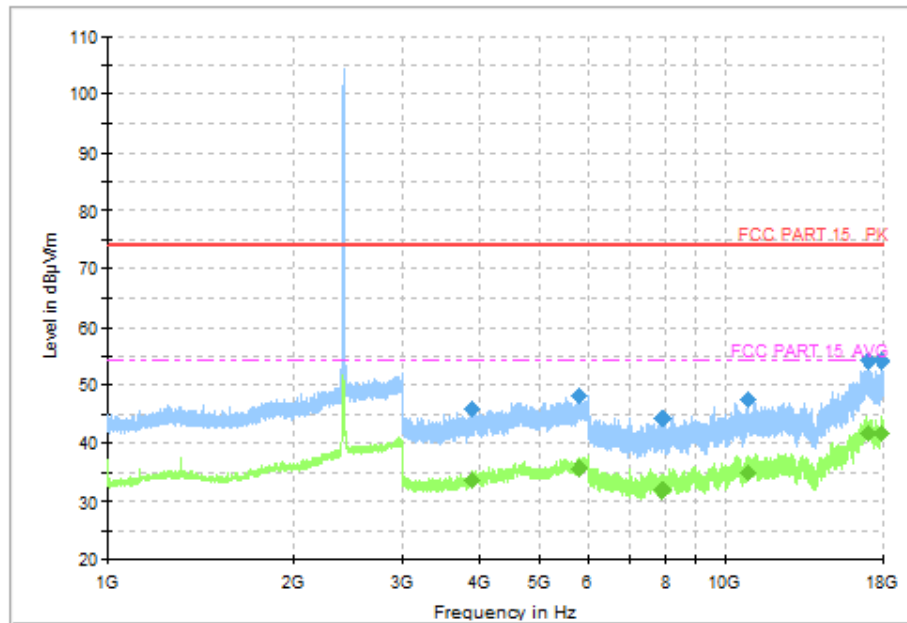


Fig.11 Radiated Spurious Emission (802.11n-HT20, CH1, 1GHz-18GHz)

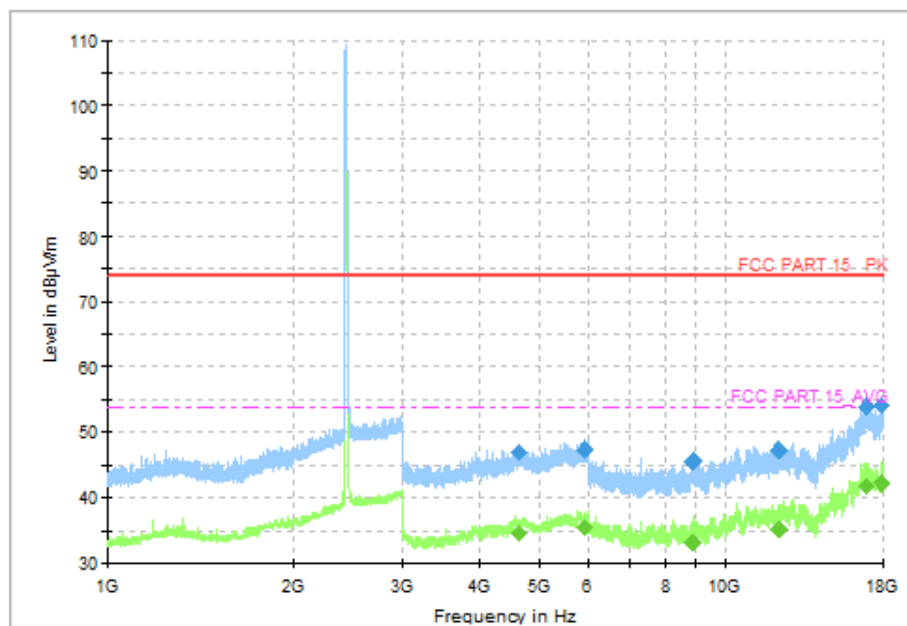


Fig.12 Radiated Spurious Emission (802.11n-HT20, CH6, 1GHz-18GHz)

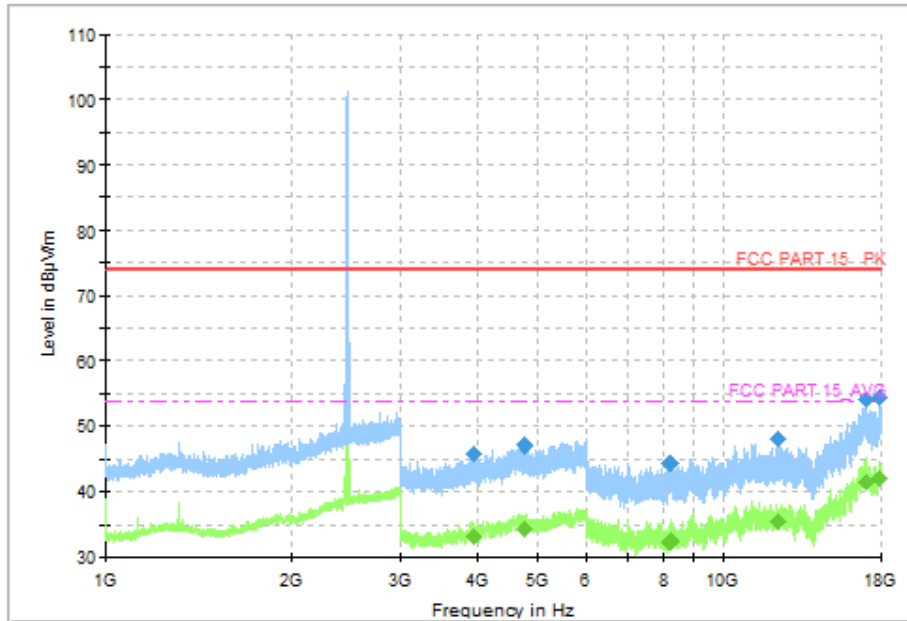


Fig.13 Radiated Spurious Emission (802.11n-HT20, CH11, 1GHz-18GHz)

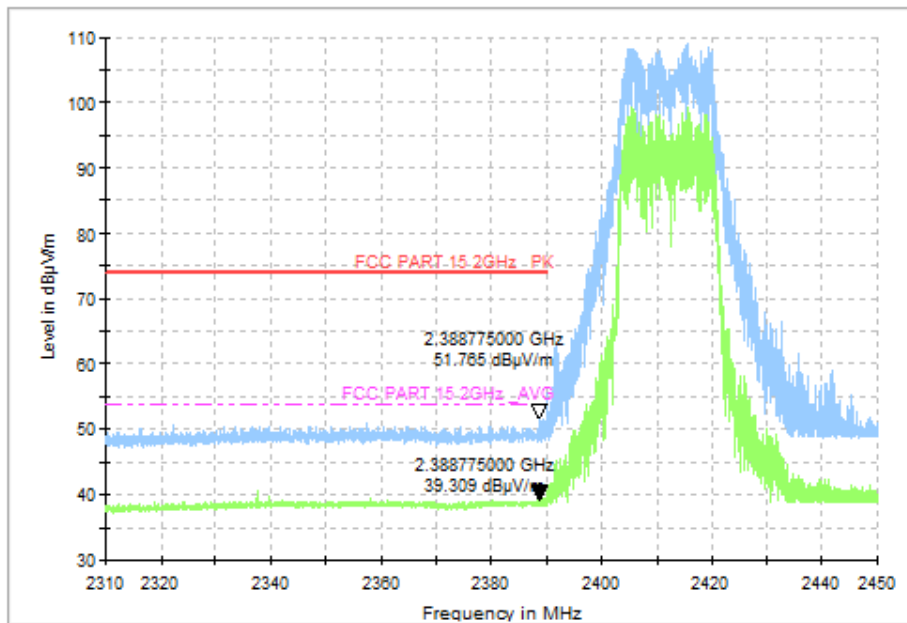


Fig.14 Radiated Restricted Band (802.11n-HT20, CH1, 2.38GHz~2.45GHz)

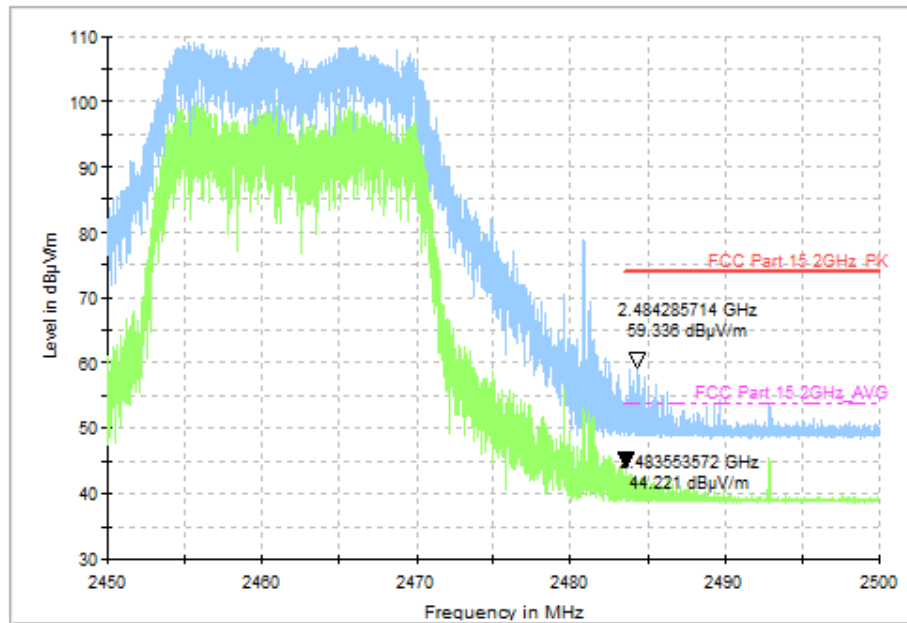


Fig.15 Radiated Restricted Band (802.11n-HT20, CH11, 2.45GHz~2.5GHz)

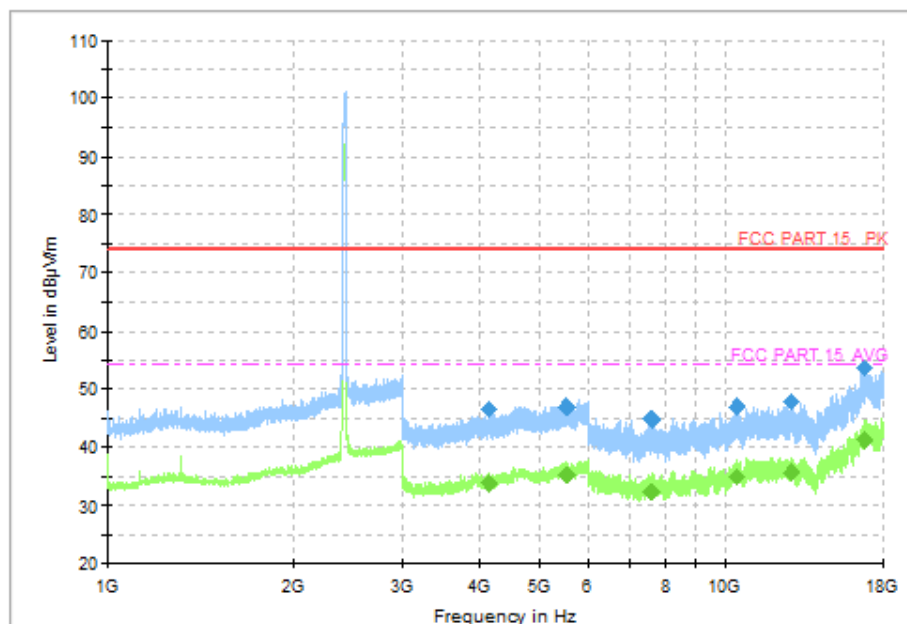


Fig.16 Radiated Spurious Emission (802.11n-HT40, CH3, 1GHz-18GHz)

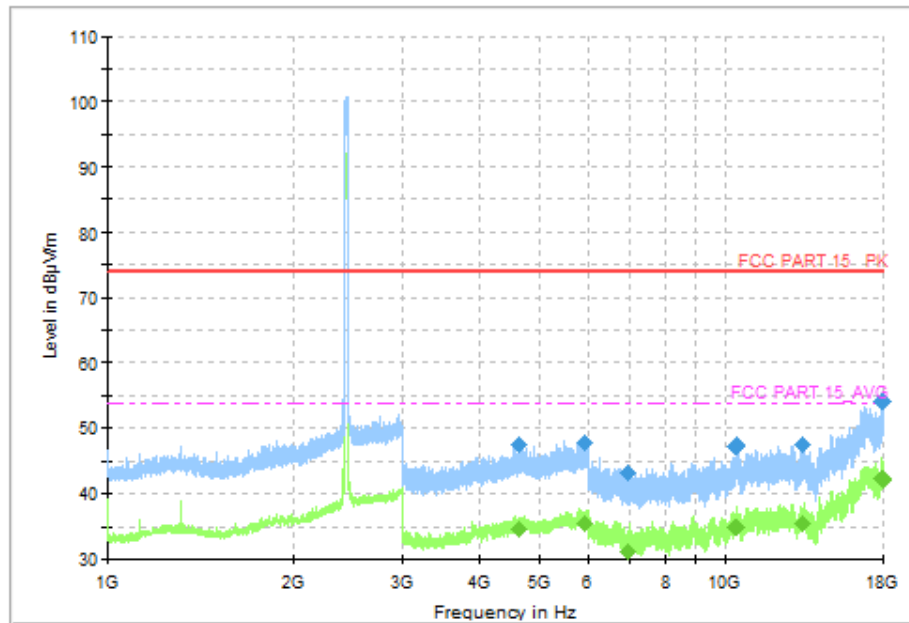


Fig.17 Radiated Spurious Emission (802.11n-HT40, CH6, 1GHz-18GHz)

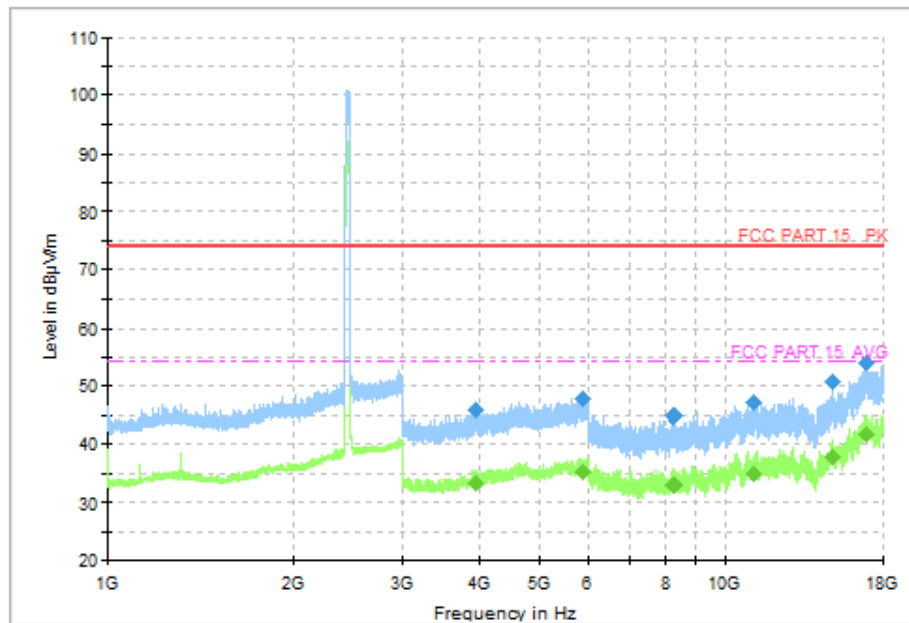


Fig.18 Radiated Spurious Emission (802.11n-HT40, CH9, 1GHz-18GHz)

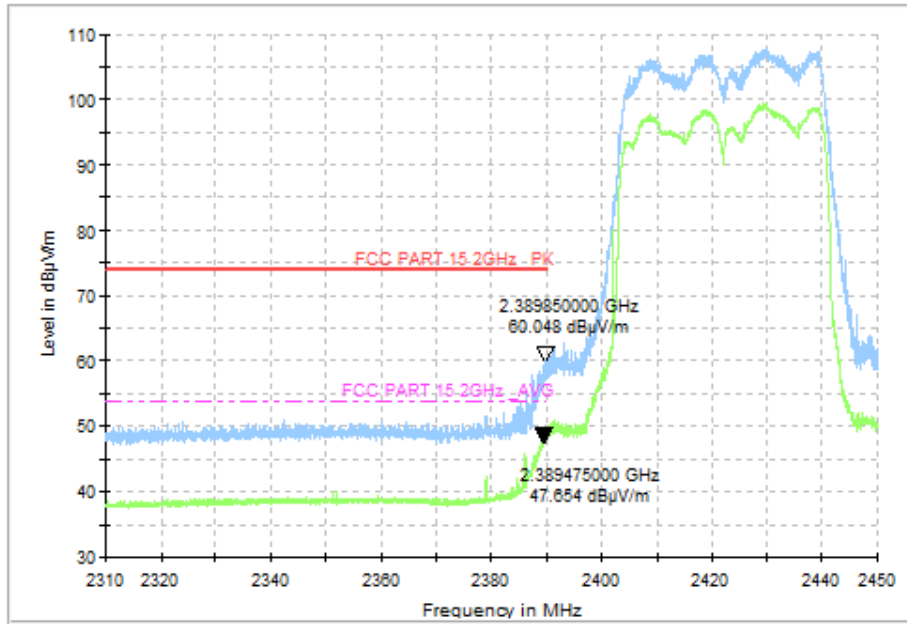


Fig.19 Radiated Restricted Band (802.11n-HT40, CH3, 2.38GHz~2.45GHz)

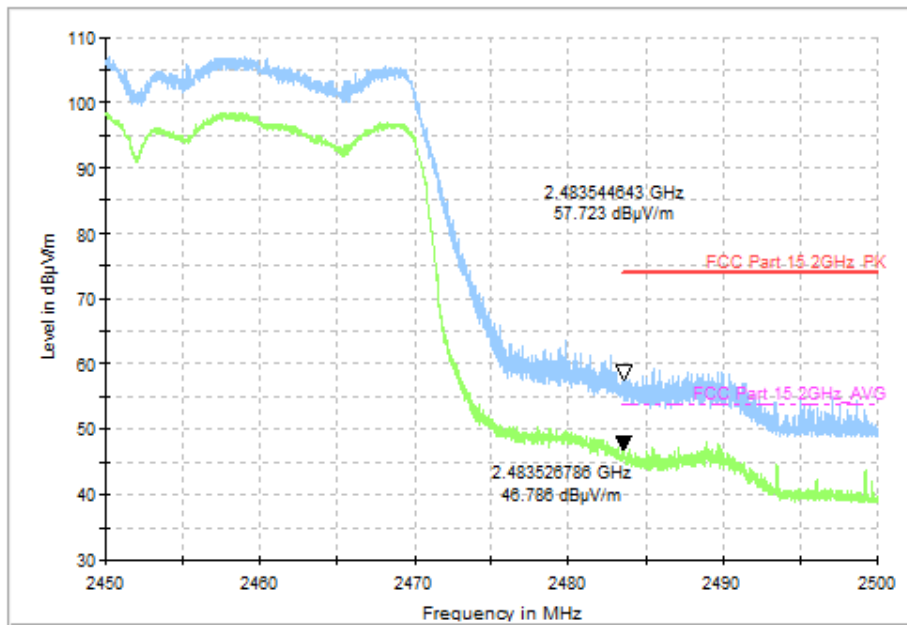


Fig.20 Radiated Restricted Band (802.11n-HT40, CH9, 2.45GHz~2.5GHz)

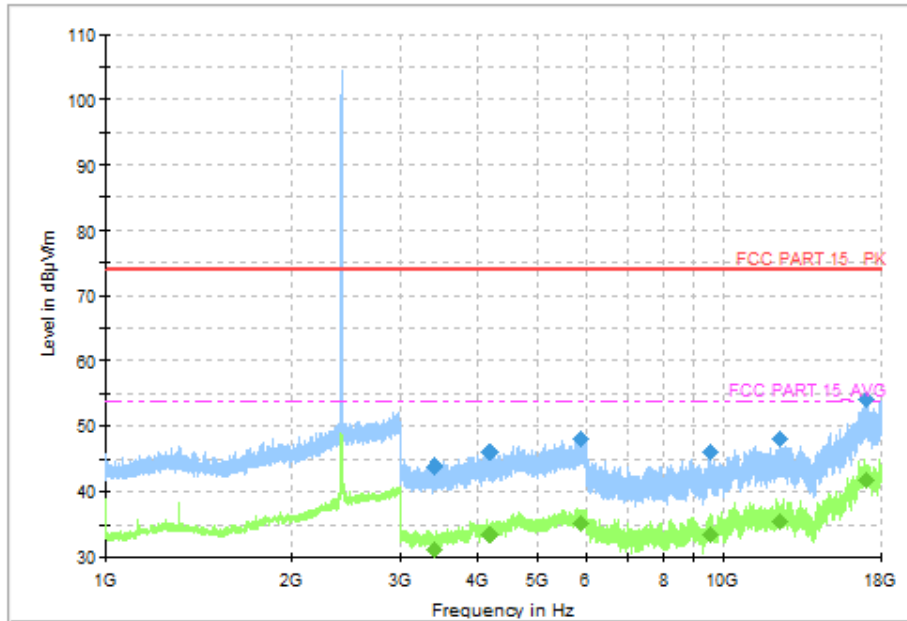


Fig.21 Radiated Spurious Emission (802.11ax-HE20, CH1, 1GHz-18GHz)

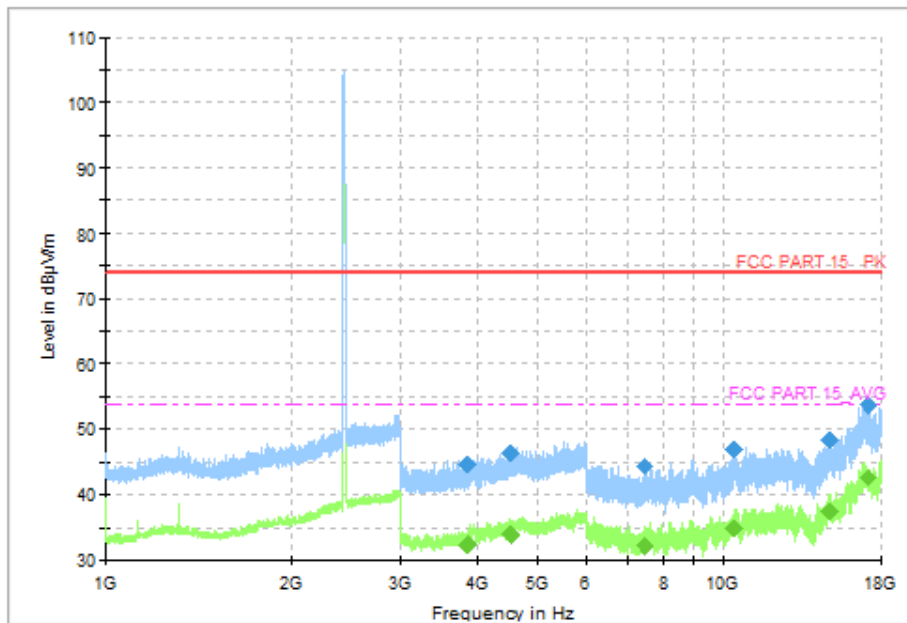


Fig.22 Radiated Spurious Emission (802.11ax-HE20, CH6, 1GHz-18GHz)

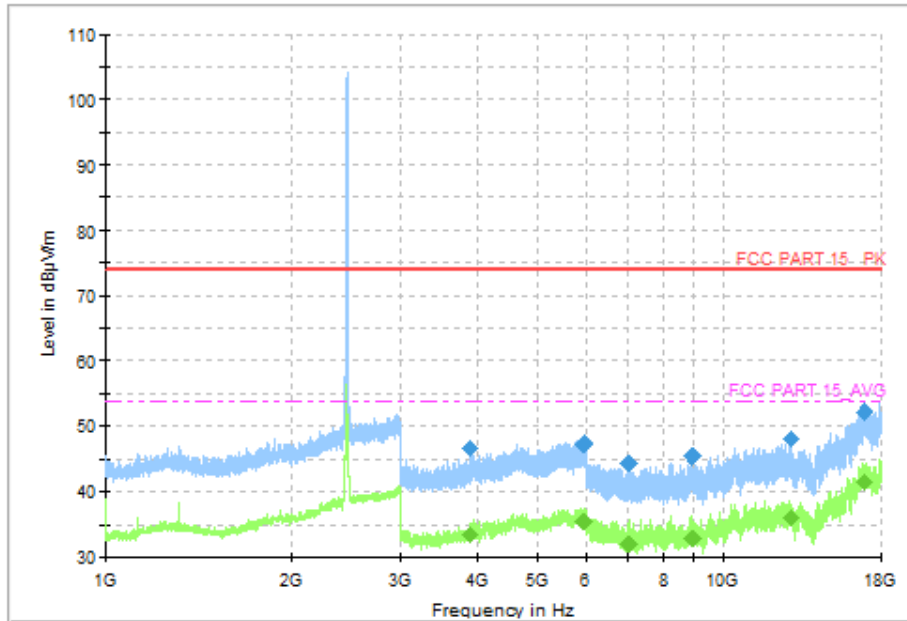


Fig.23 Radiated Spurious Emission (802.11ax-HE20, CH11, 1GHz-18GHz)

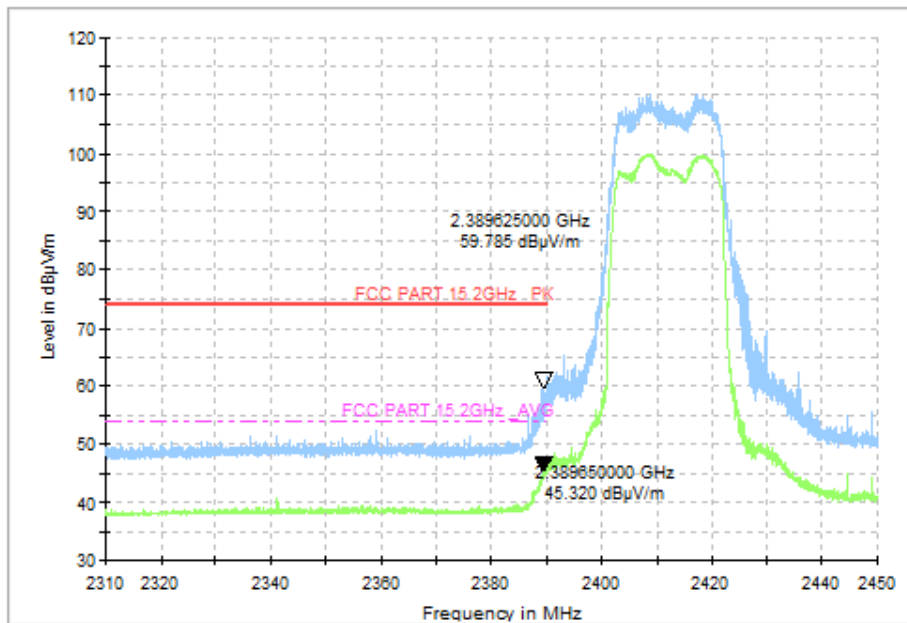


Fig.24 Radiated Restricted Band (802.11ax-HE20, CH1, 2.38GHz~2.45GHz)

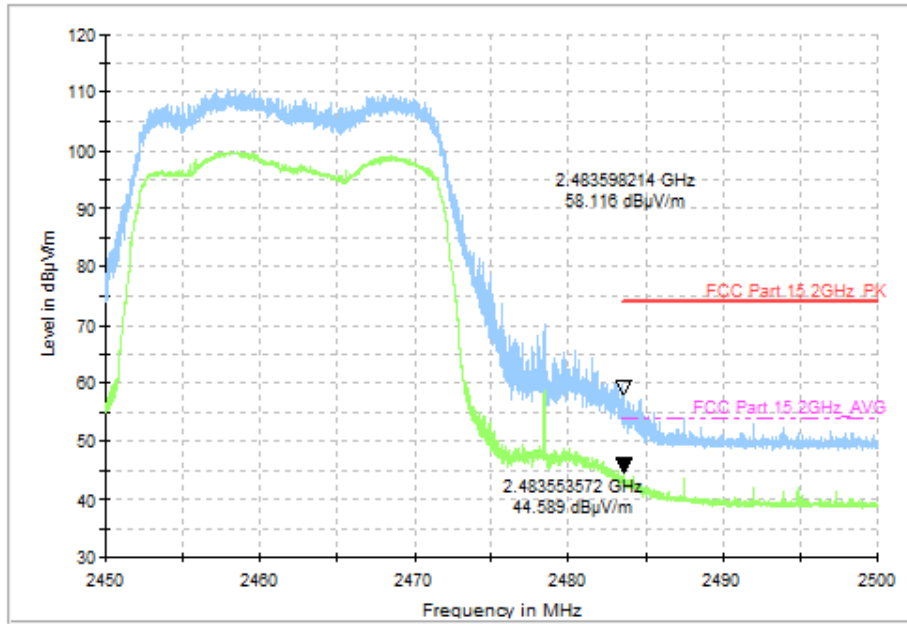


Fig.25 Radiated Restricted Band (802.11ax-HE20, CH11, 2.45GHz~2.5GHz)

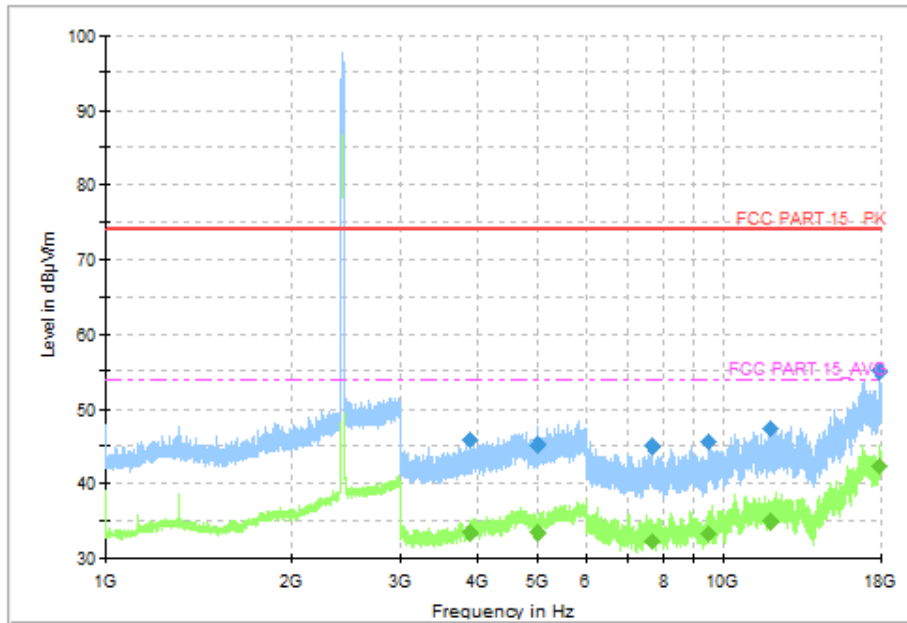


Fig.26 Radiated Spurious Emission (802.11ax-HE40, CH3, 1GHz-18GHz)

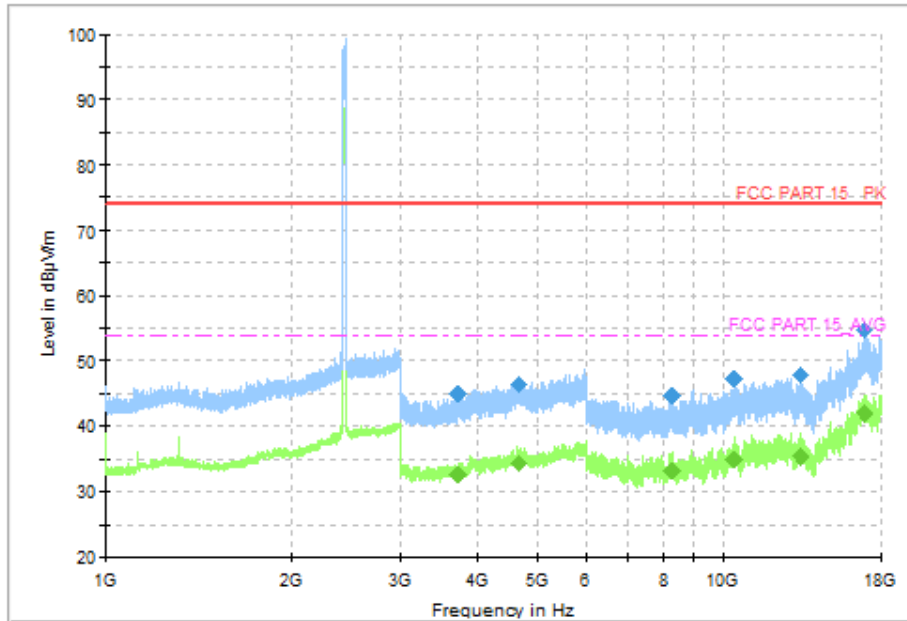


Fig.27 Radiated Spurious Emission (802.11ax-HE40, CH6, 1GHz-18GHz)

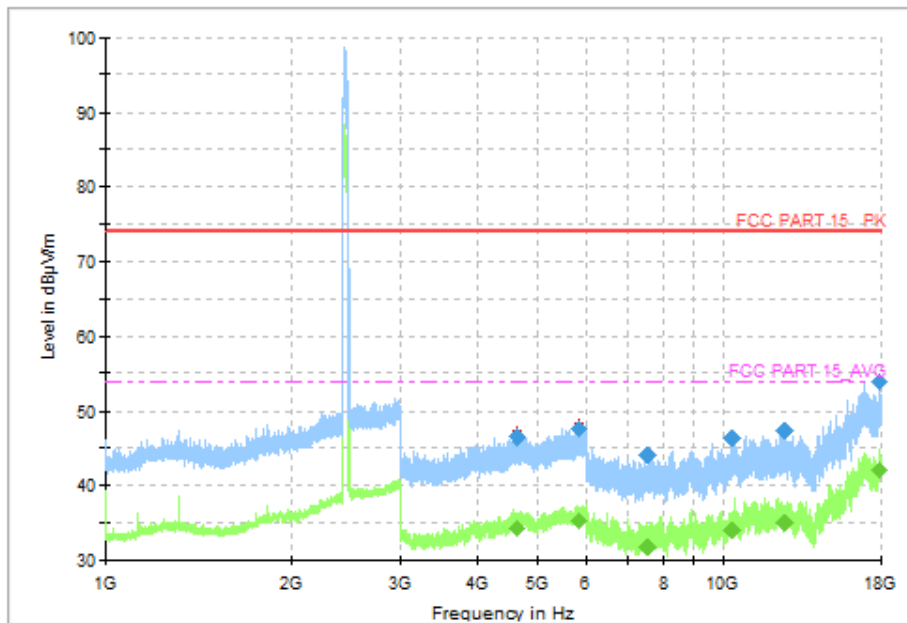


Fig.28 Radiated Spurious Emission (802.11ax-HE40, CH9, 1GHz-18GHz)

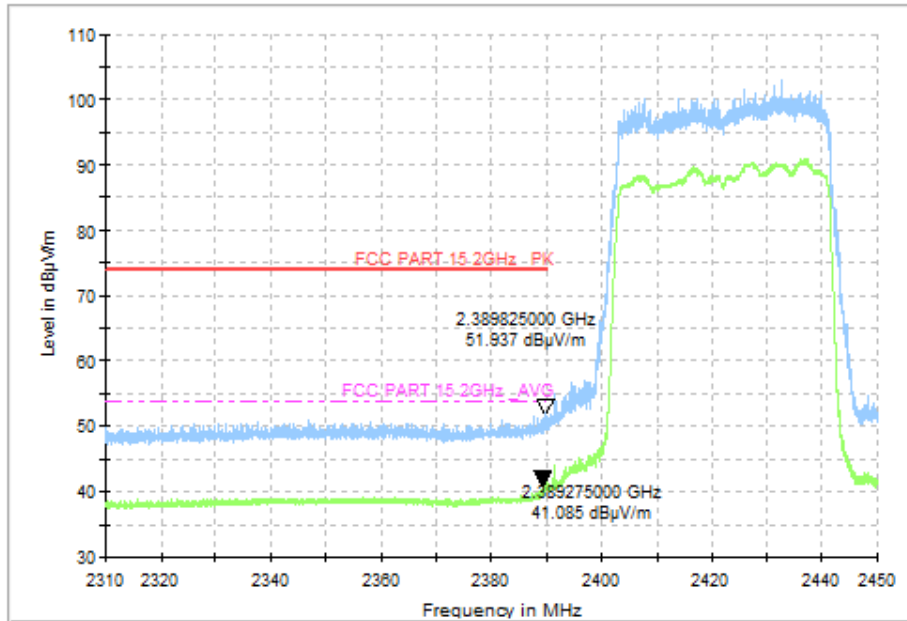


Fig.29 Radiated Restricted Band (802.11ax-HE40, CH3, 2.38GHz~2.45GHz)

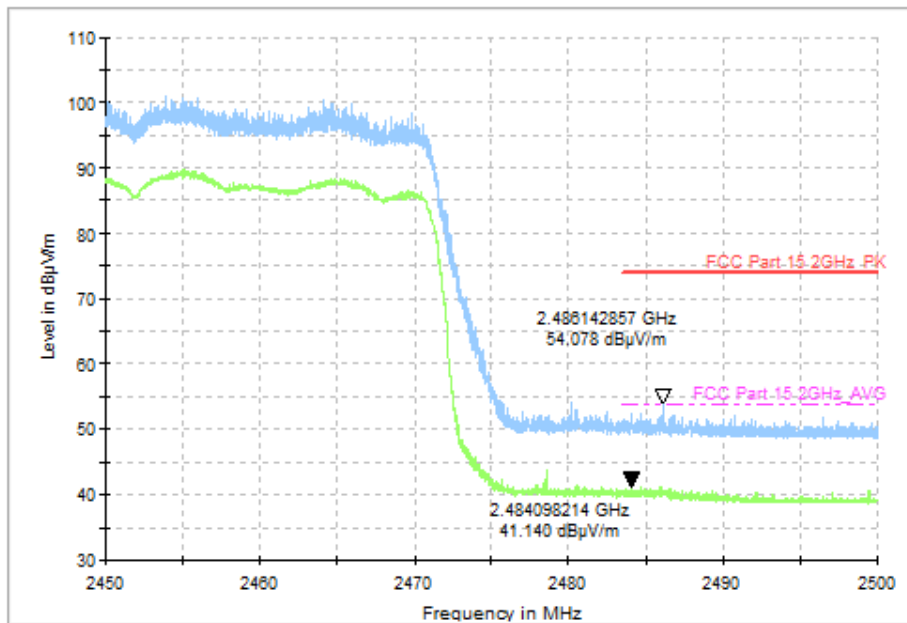


Fig.30 Radiated Restricted Band (802.11ax-HE40, CH9, 2.45GHz~2.5GHz)

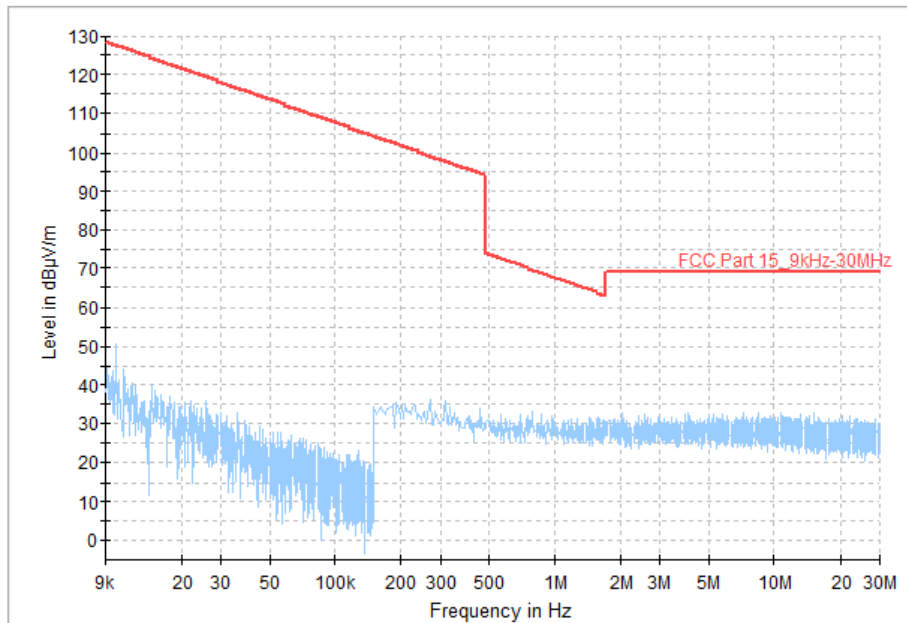


Fig.31 Radiated Spurious Emission (All Channels, 9KHz-30MHz)

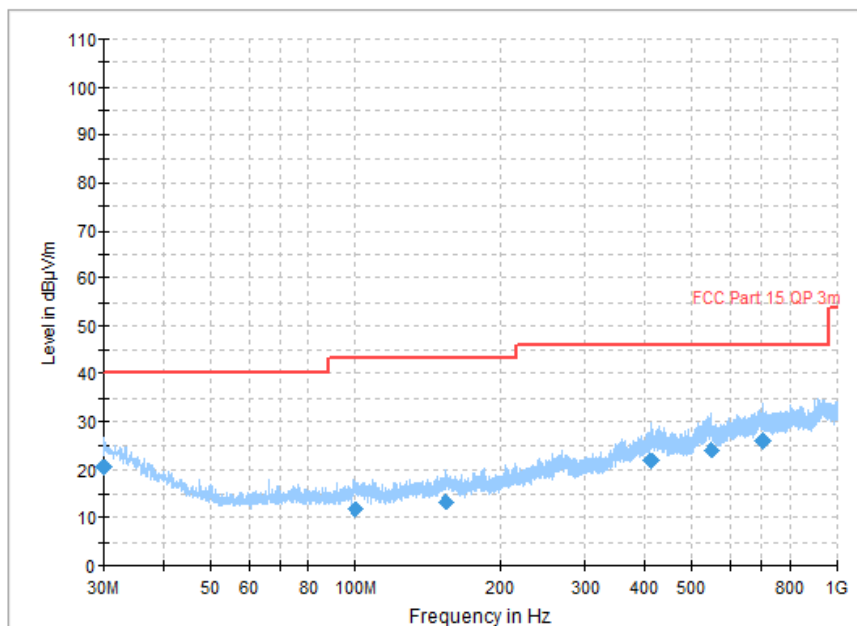


Fig.32 Radiated Spurious Emission (All Channels, 30MHz-1GHz)

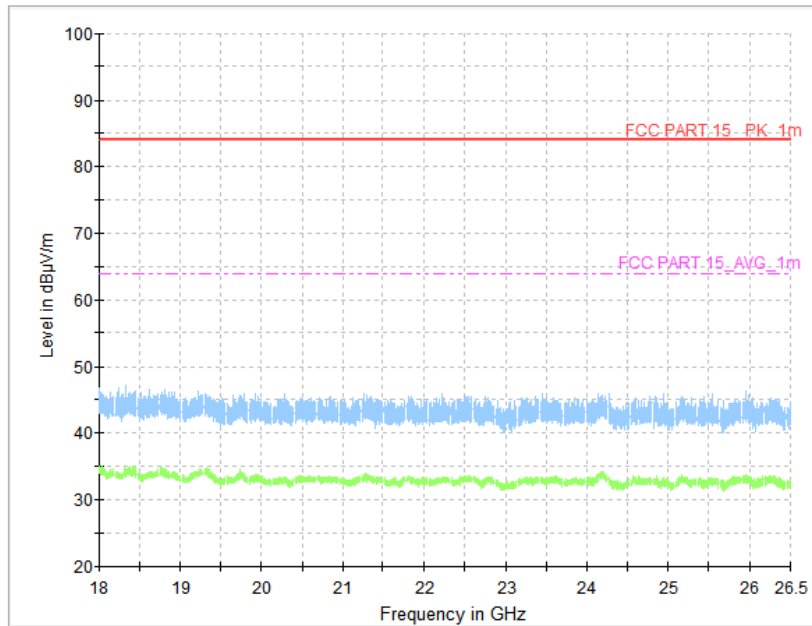


Fig.33 Radiated Spurious Emission (All Channels, 18GHz-26.5GHz)

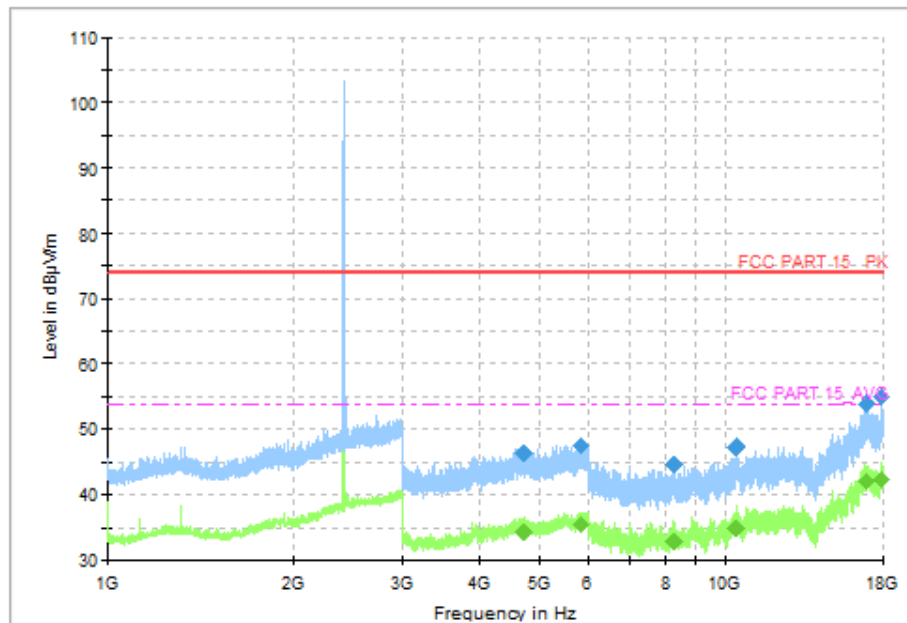


Fig.34 Radiated Spurious Emission (802.11n-HT20, CH1, 1GHz-18GHz),MIMO

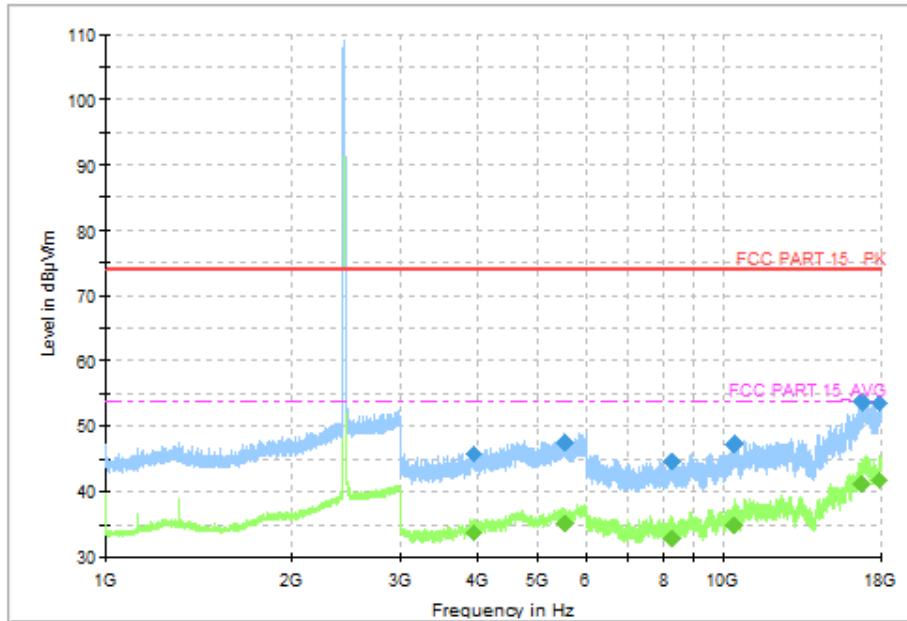


Fig.35 Radiated Spurious Emission (802.11n-HT20, CH6, 1GHz-18GHz),MIMO

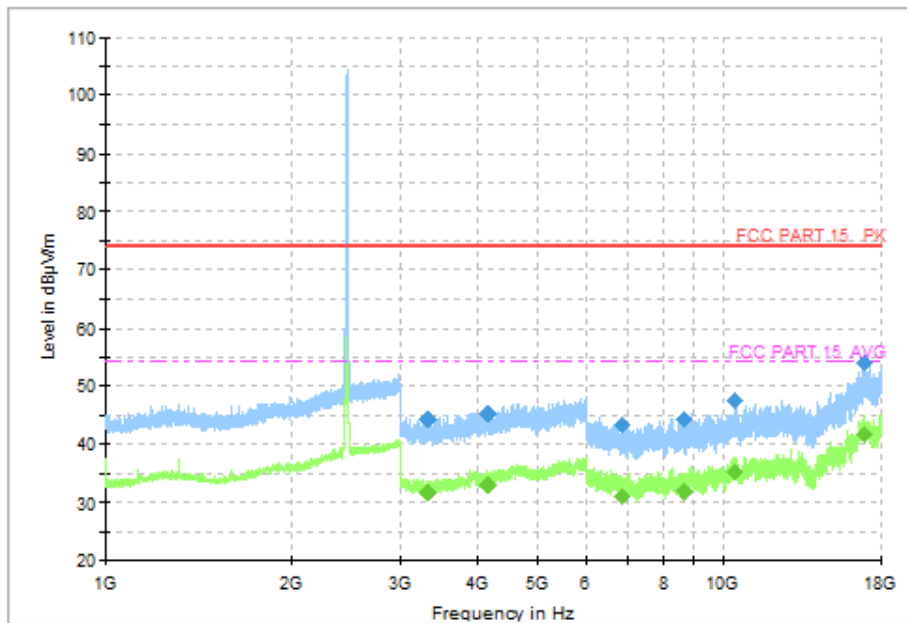


Fig.36 Radiated Spurious Emission (802.11n-HT20, CH11, 1GHz-18GHz),MIMO

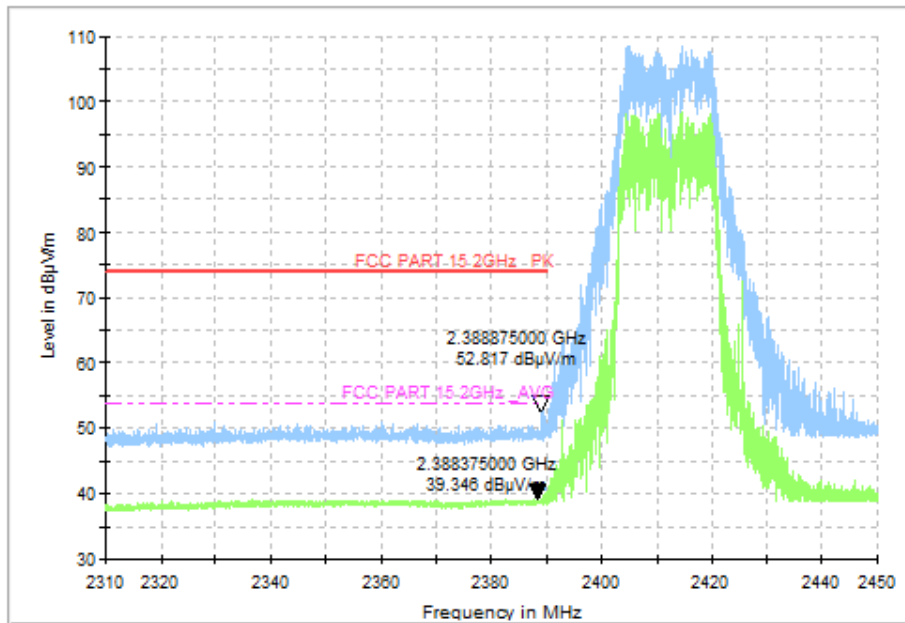


Fig.37 Radiated Restricted Band (802.11n-HT20, CH1, 2.38GHz~2.45GHz),MIMO

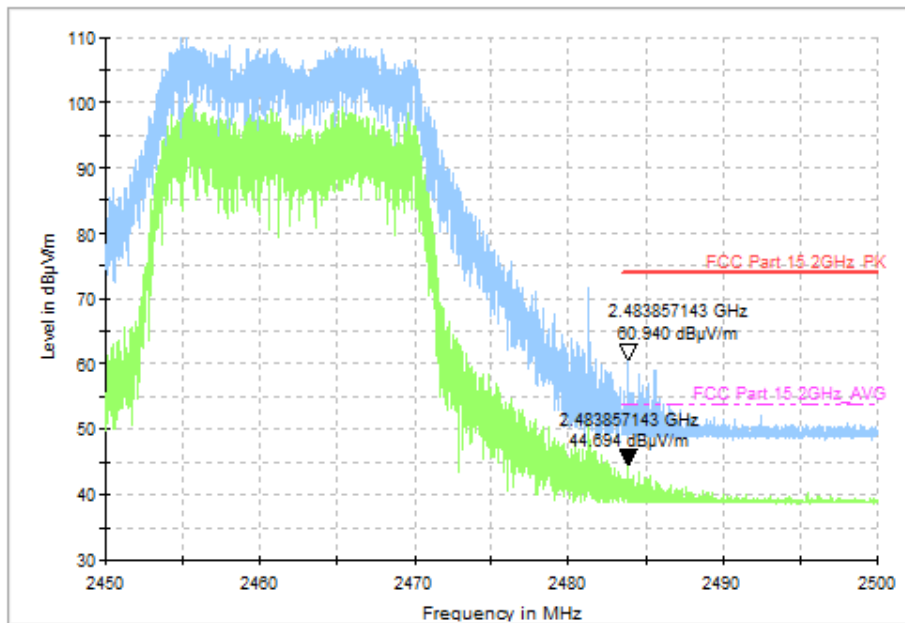


Fig.38 Radiated Restricted Band (802.11n-HT20, CH11, 2.45GHz~2.5GHz),MIMO

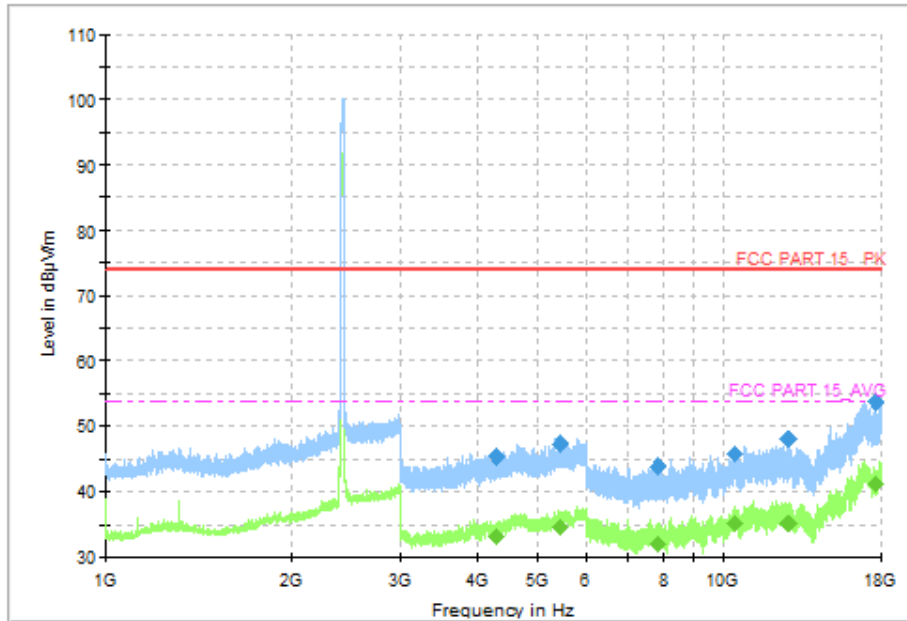


Fig.39 Radiated Spurious Emission (802.11n-HT40, CH3, 1GHz-18GHz),MIMO

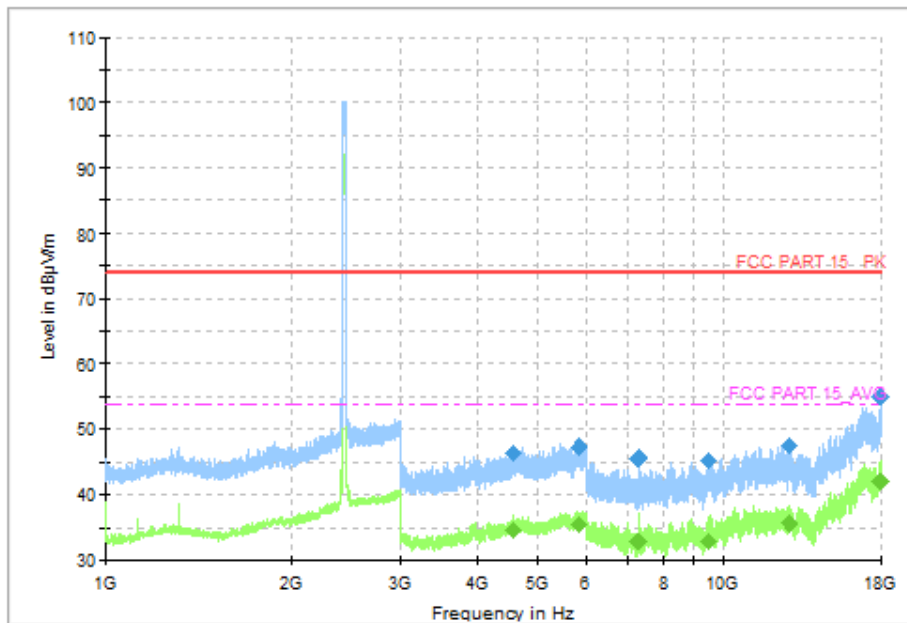


Fig.40 Radiated Spurious Emission (802.11n-HT40, CH6, 1GHz-18GHz),MIMO

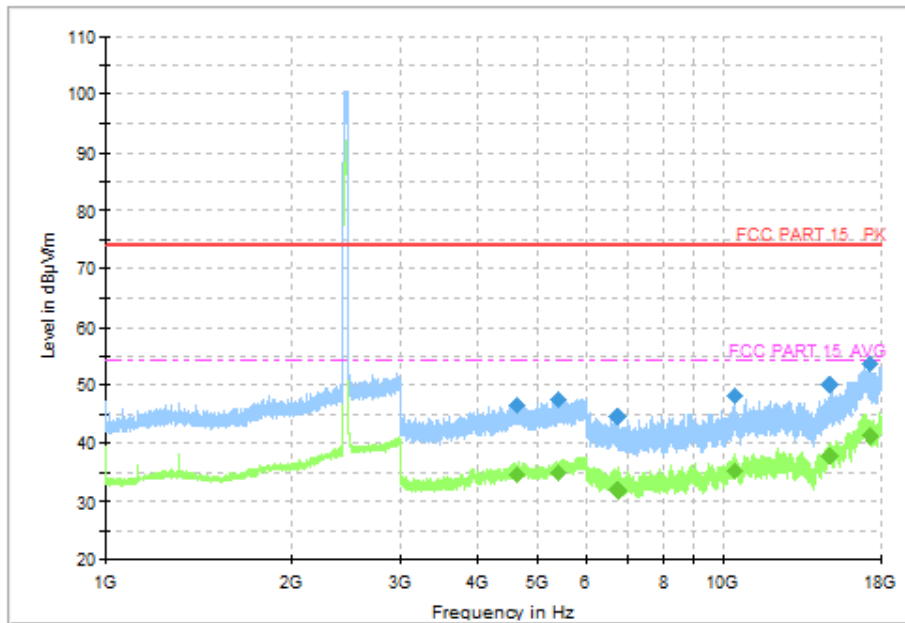


Fig.41 Radiated Spurious Emission (802.11n-HT40, CH9, 1GHz-18GHz),MIMO

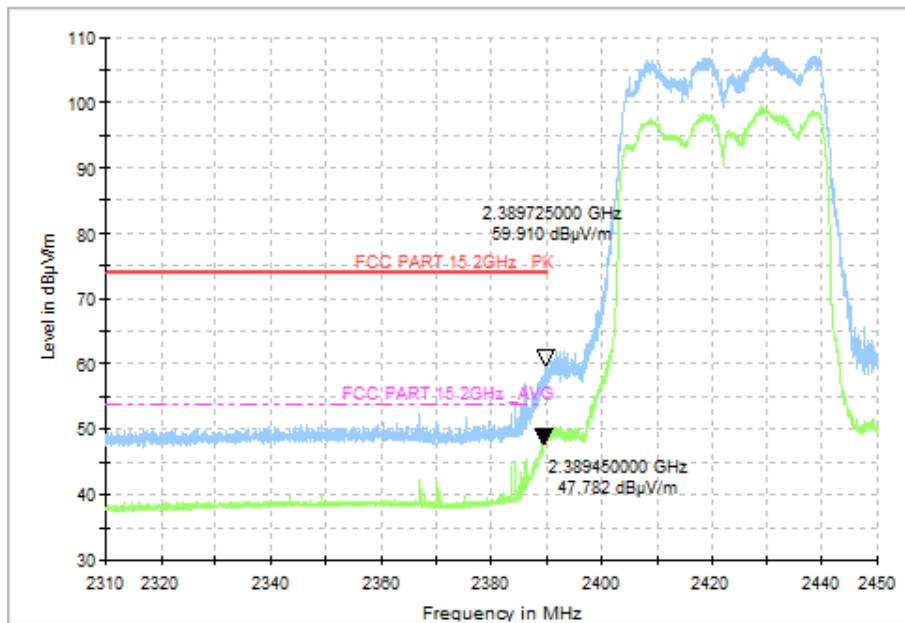


Fig.42 Radiated Restricted Band (802.11n-HT40, CH3, 2.38GHz~2.45GHz),MIMO

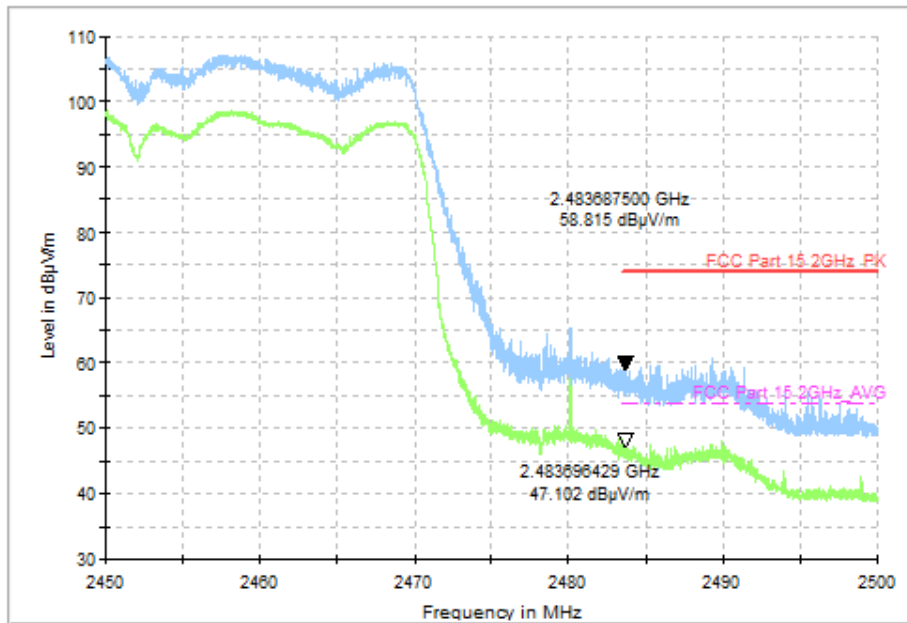


Fig.43 Radiated Restricted Band (802.11n-HT40, CH9, 2.45GHz~2.5GHz),MIMO

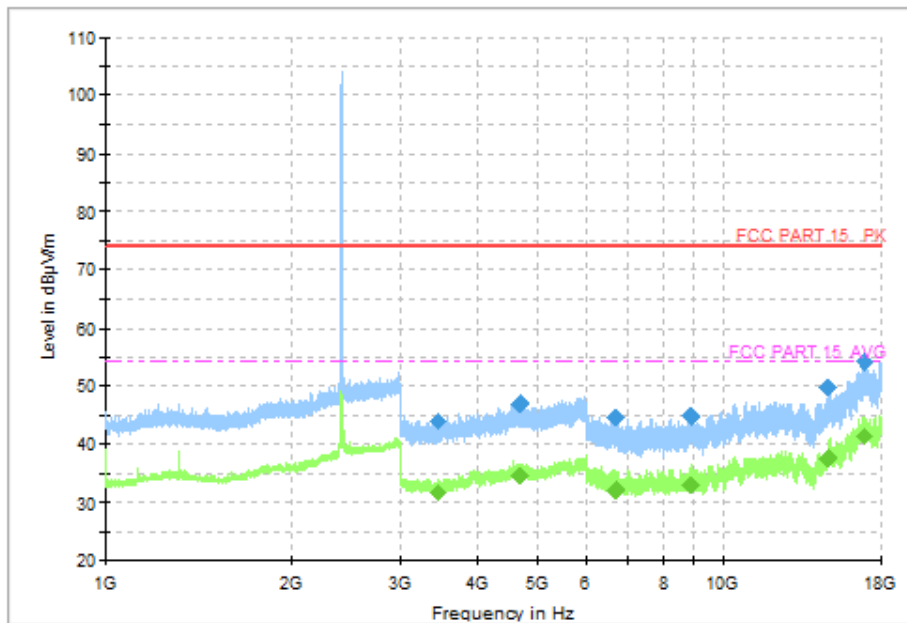


Fig.44 Radiated Spurious Emission (802.11ax-HE20, CH1, 1GHz-18GHz),MIMO

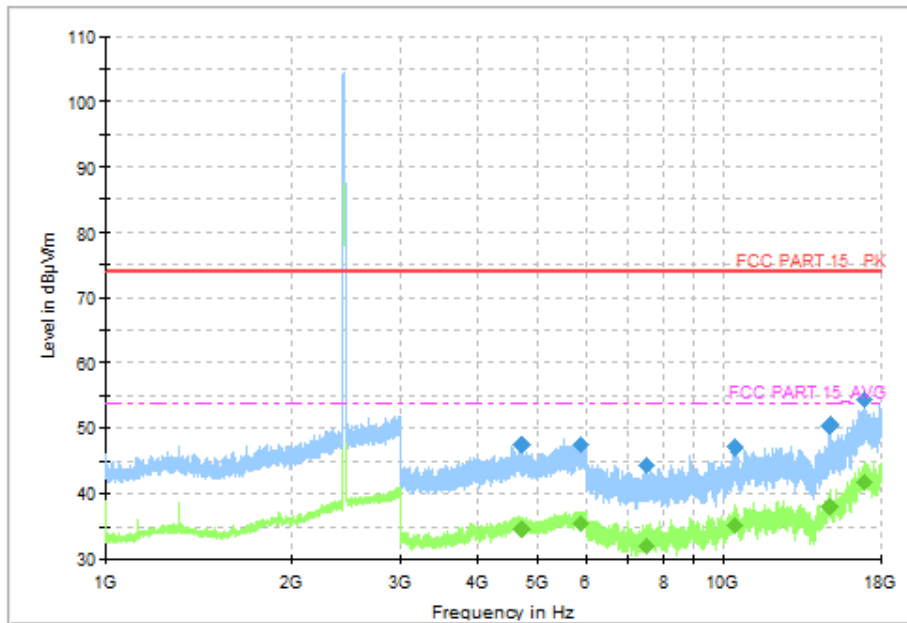


Fig.45 Radiated Spurious Emission (802.11ax-HE20, CH6, 1GHz-18GHz),MIMO

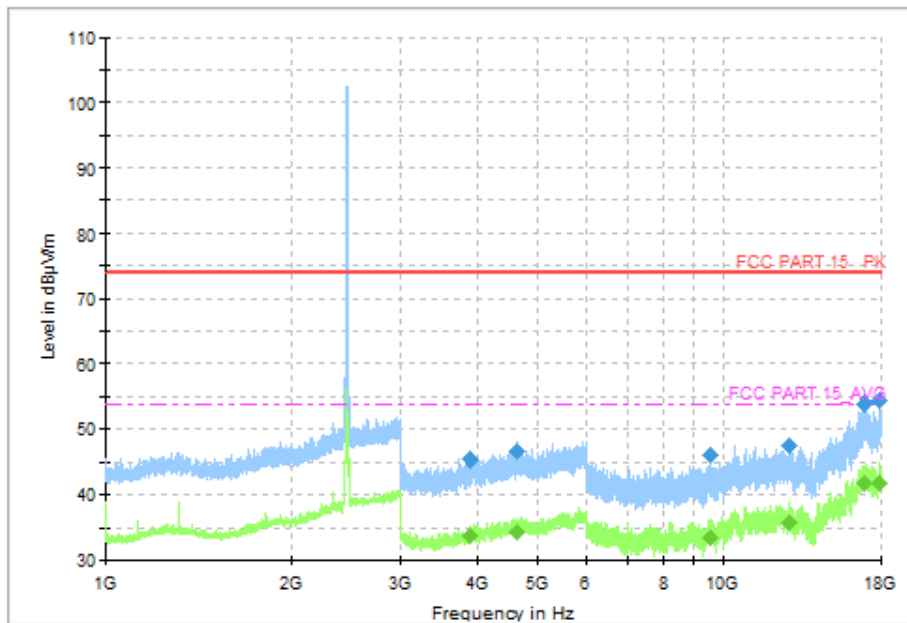


Fig.46 Radiated Spurious Emission (802.11ax-HE20, CH11, 1GHz-18GHz),MIMO

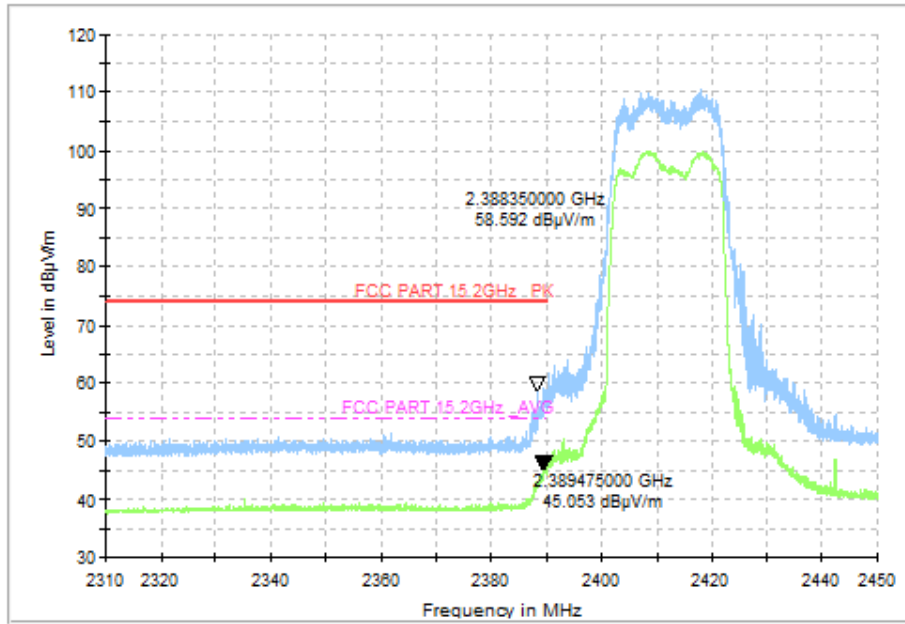


Fig.47 Radiated Restricted Band (802.11ax-HE20, CH1, 2.38GHz~2.45GHz),MIMO

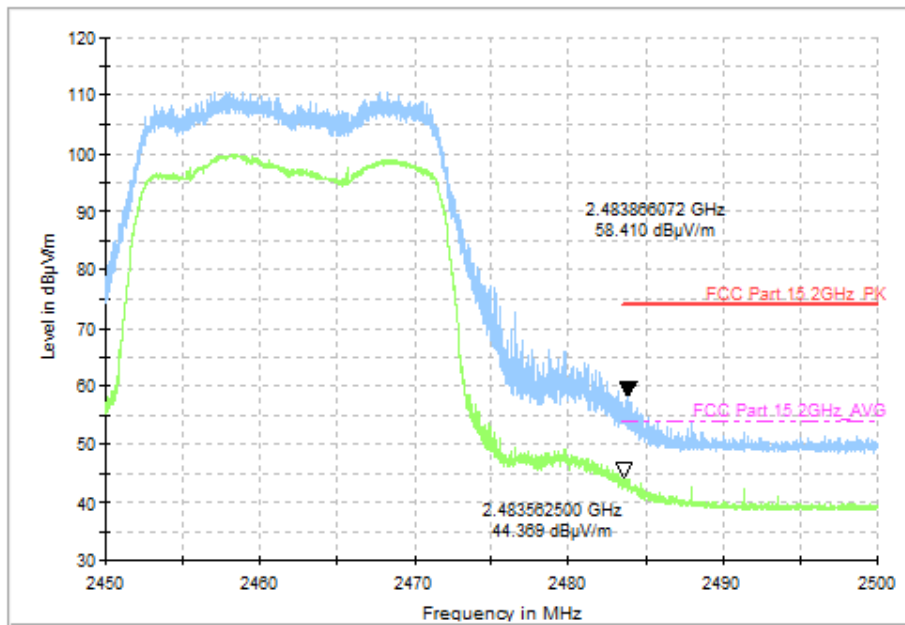


Fig.48 Radiated Restricted Band (802.11ax-HE20, CH11, 2.45GHz~2.5GHz),MIMO

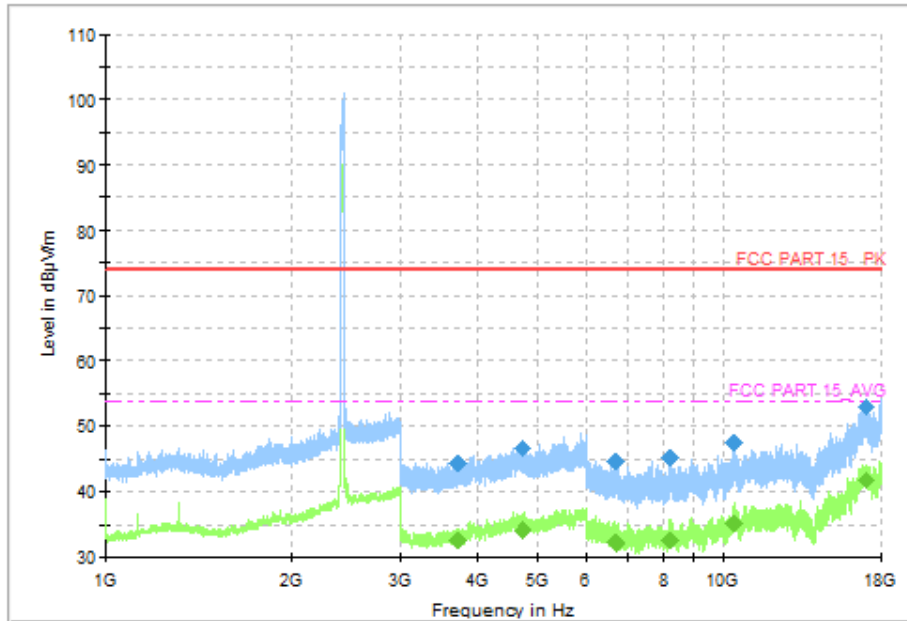


Fig.49 Radiated Spurious Emission (802.11ax-HE40, CH3, 1GHz-18GHz),MIMO

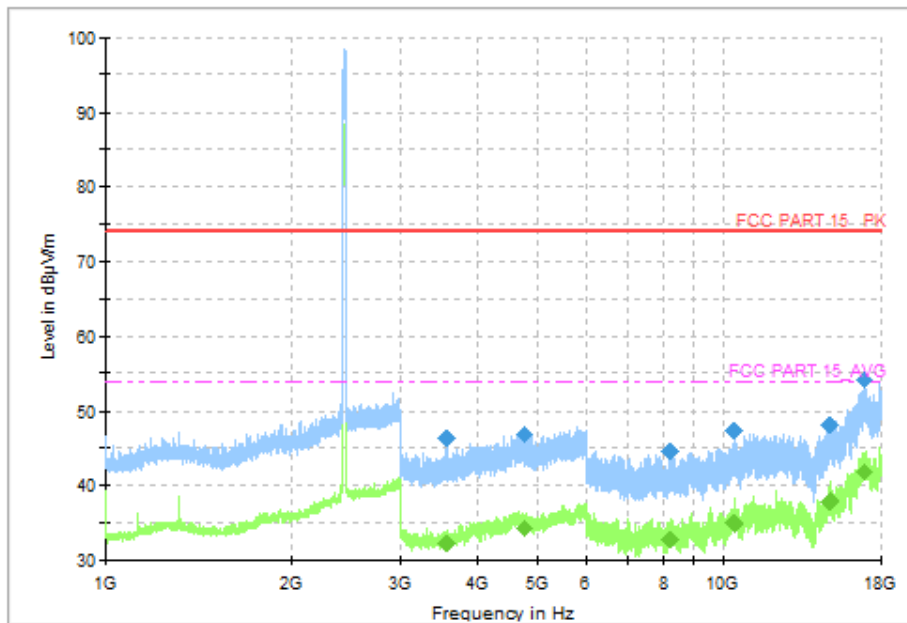


Fig.50 Radiated Spurious Emission (802.11ax-HE40, CH6, 1GHz-18GHz),MIMO

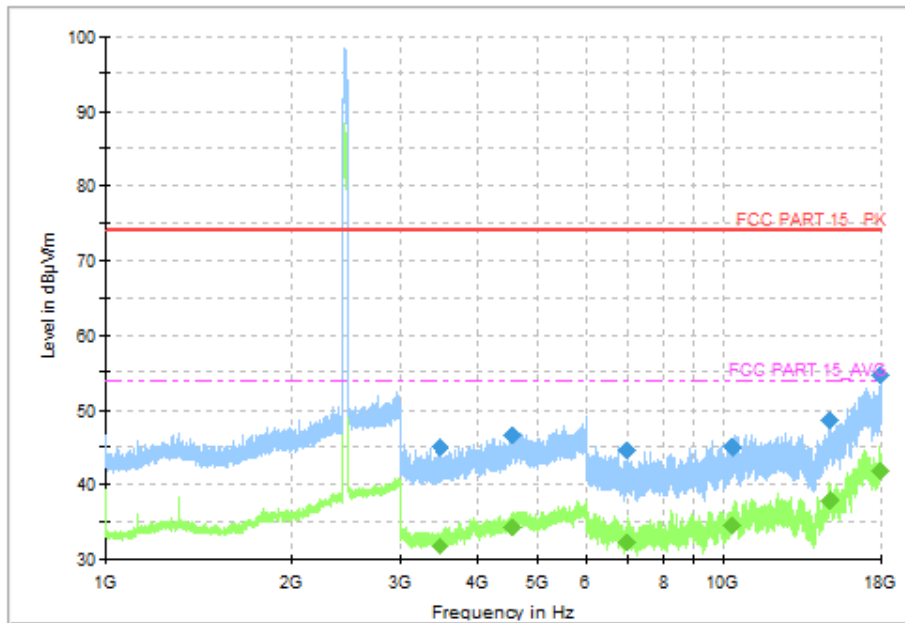


Fig.51 Radiated Spurious Emission (802.11ax-HE40, CH9, 1GHz-18GHz),MIMO

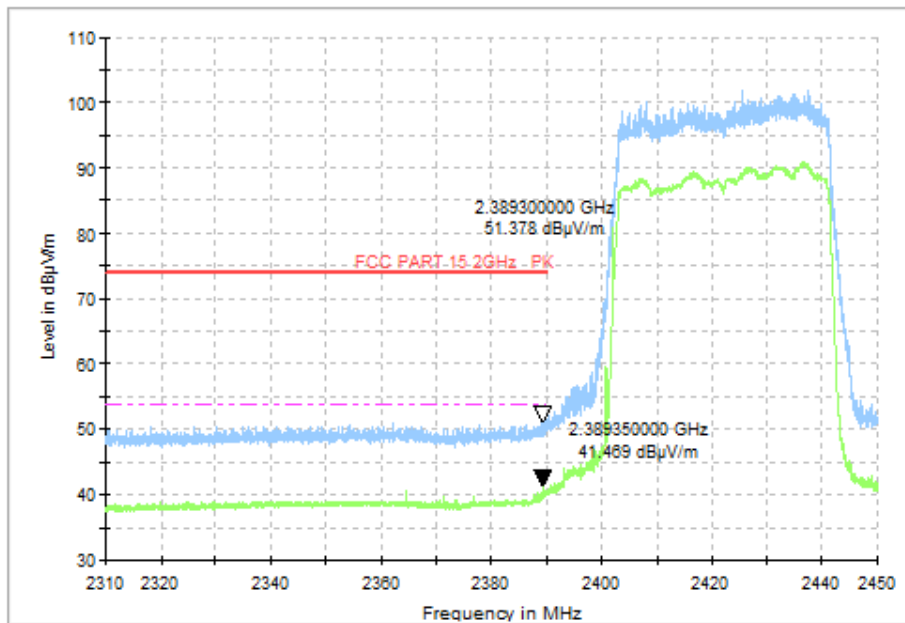


Fig.52 Radiated Restricted Band (802.11ax-HE40, CH3, 2.38GHz~2.45GHz),MIMO

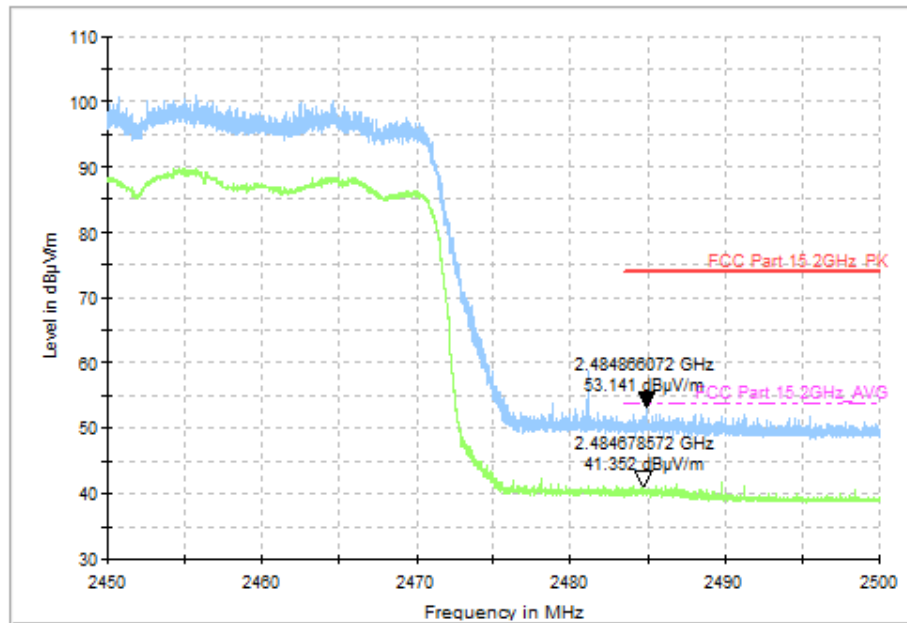


Fig.53 Radiated Restricted Band (802.11ax-HE40, CH9, 2.45GHz~2.5GHz),MIMO

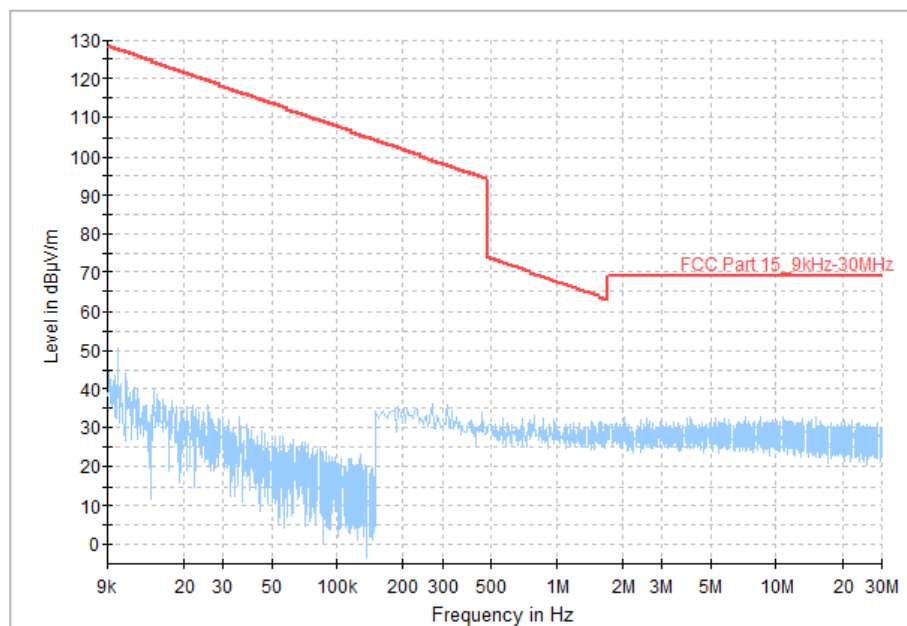


Fig.54 Radiated Spurious Emission (All Channels, 9KHz-30MHz),MIMO

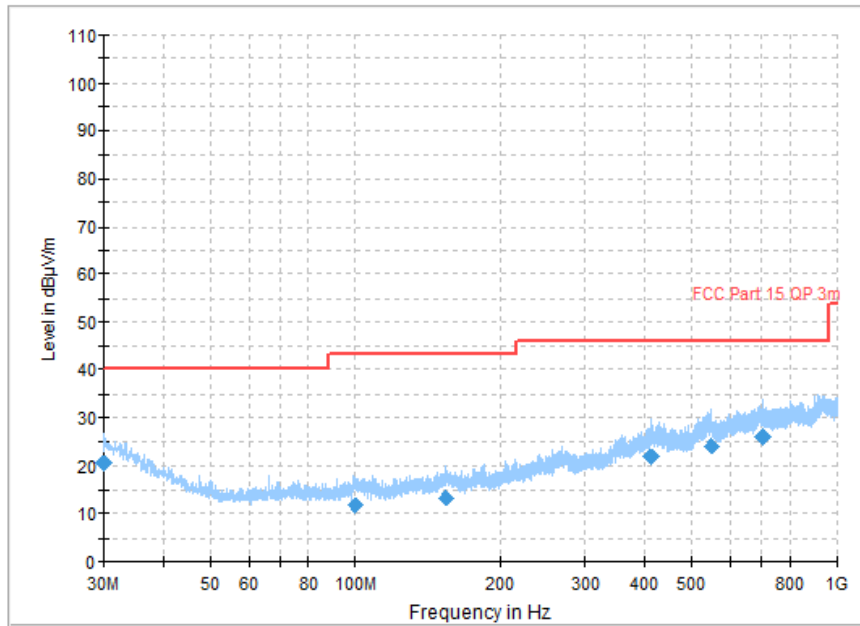


Fig.55 Radiated Spurious Emission (All Channels, 30MHz-1GHz),MIMO

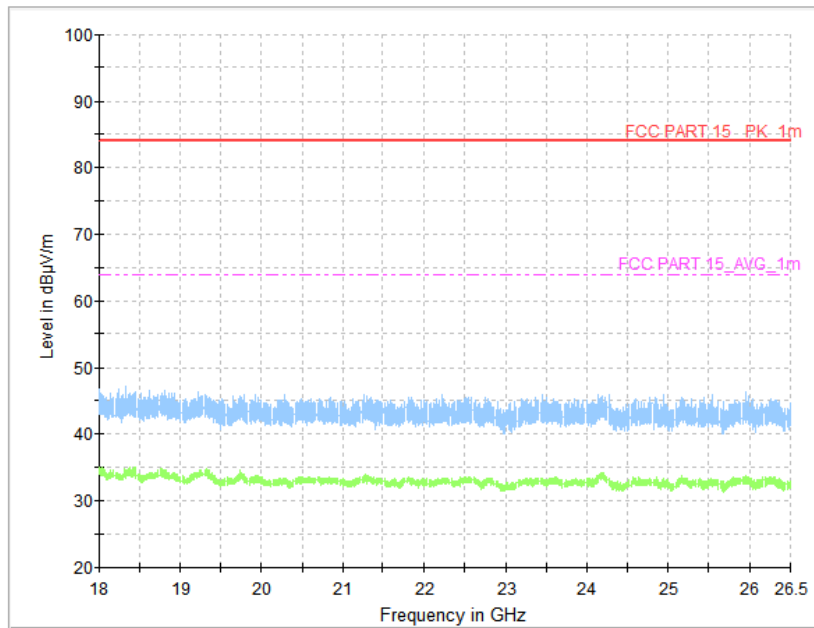


Fig.56 Radiated Spurious Emission (All Channels, 18GHz-26.5GHz),MIMO



A.7 AC Power line Conducted Emission

Method of Measurement: See ANSI C63.10-clause 6.2.

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

Frequency range (MHz)	Quasi-peak Limit (dBµV)	Average-peak Limit (dBµV)	Result (dBµV)		Conclusion
			Traffic	Idle	
0.15 to 0.5	66 to 56	56 to 46	Fig.1	Fig.2	P
0.5 to 5	56	46			
5 to 30	60	50			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Note: The measurement results include the L1 and N measurements.

See below for test graphs.

Conclusion: PASS

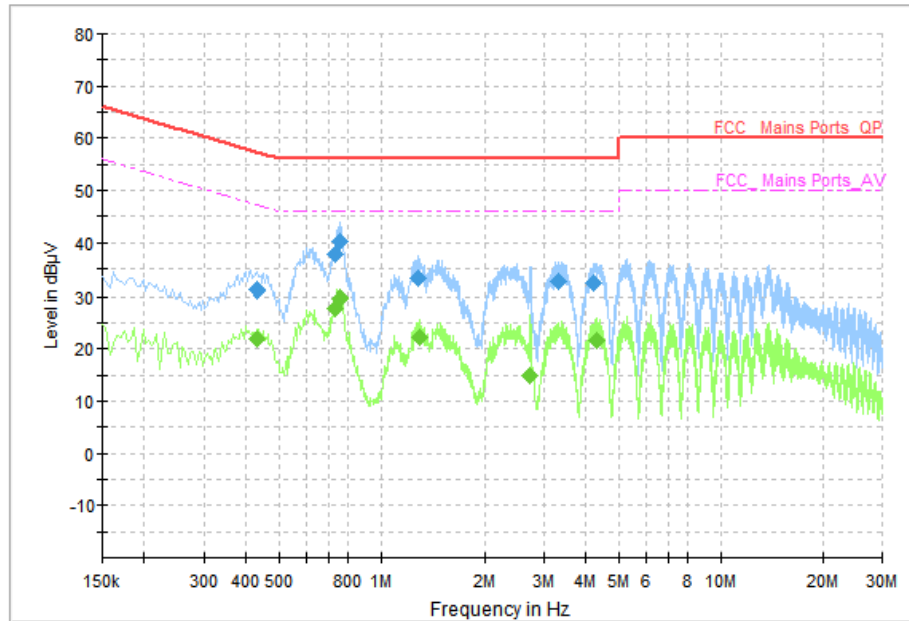


Fig.1 AC Power line Conducted Emission (Traffic, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.430000	31.02	57.25	26.23	L1	ON	10
0.734000	37.81	56.00	18.19	N	ON	10
0.754000	40.23	56.00	15.77	N	ON	10
1.282000	33.22	56.00	22.78	N	ON	10
3.322000	32.70	56.00	23.30	N	ON	10
4.226000	32.40	56.00	23.60	N	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.430000	21.85	47.25	25.40	L1	ON	10
0.734000	27.81	46.00	18.19	L1	ON	10
0.754000	29.39	46.00	16.61	N	ON	10
1.302000	22.31	46.00	23.69	N	ON	10
2.726000	14.83	46.00	31.17	L1	ON	10
4.298000	21.71	46.00	24.29	N	ON	10

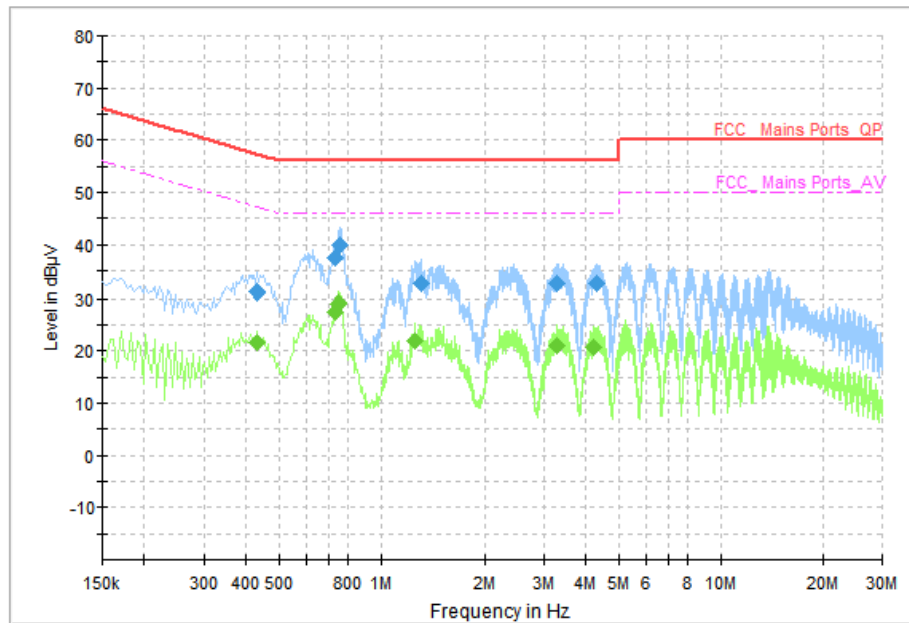


Fig.2 AC Power line Conducted Emission (Idle, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.430000	31.16	57.25	26.10	L1	ON	10
0.734000	37.58	56.00	18.42	N	ON	10
0.758000	39.82	56.00	16.18	N	ON	10
1.310000	32.60	56.00	23.40	N	ON	10
3.282000	32.69	56.00	23.31	N	ON	10
4.314000	32.55	56.00	23.45	N	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.430000	21.57	47.25	25.68	L1	ON	10
0.734000	27.29	46.00	18.71	L1	ON	10
0.746000	28.88	46.00	17.12	N	ON	10
1.266000	21.80	46.00	24.20	N	ON	10
3.282000	21.13	46.00	24.87	N	ON	10
4.210000	20.81	46.00	25.19	N	ON	10

**A.8 99% Occupied Bandwidth****Method of Measurement: See RSS-Gen- section 6.7.****Measurement Limit:**

Standard	Limit
RSS-Gen section 6.7	/

Measurement Result:

Mode	Channel	Frequency (MHz)	Test Results (MHz)	Conclusion
802.11b	CH 1	2412	13.20	P
	CH 6	2437	13.08	P
	CH 11	2462	13.12	P
802.11g	CH 1	2412	16.34	P
	CH 6	2437	16.56	P
	CH 11	2462	16.60	P
802.11n- HT20	CH 1	2412	17.80	P
	CH 6	2437	17.76	P
	CH 11	2462	17.80	P
802.11n- HT40	CH 3	2422	36.48	P
	CH 6	2437	36.40	P
	CH 9	2452	36.48	P
802.11ax- HE20	CH 1	2412	19.08	P
	CH 6	2437	19.04	P
	CH 11	2462	19.08	P
802.11ax- HE40	CH 3	2422	38.08	P
	CH 6	2437	38.00	P
	CH 9	2452	38.08	P

See below for test graphs.**Conclusion: PASS**



Fig.1 99% Occupied Bandwidth (802.11b, CH 1)



Fig.2 99% Occupied Bandwidth (802.11b, CH 6)



Fig.3 99% Occupied Bandwidth (802.11b, CH 11)

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