



TEST REPORT

No. I22N01939-WLAN 2.4GHz

for

FEITIAN Technologies Co., Ltd.

Android POS Terminal

Model Name: F310

with

Hardware Version: V1.01

Software Version: F310_OS_1.01.06.00

FCC ID: ZD3FTF310

Issued Date: 2022-11-10

Designation Number: CN1210

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.

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I22N01939-WLAN 2.4GHz	Rev.0	1st edition	2022-11-10

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



1. Summary of Test Report

1.1. Test Items

Description	Android POS Terminal
Model Name	F310
Code Name	F310
Applicant's name	FEITIAN Technologies Co., Ltd.
Manufacturer's Name	FEITIAN Technologies Co., Ltd.

1.2. Test Standards

FCC Part15-2021; ANSI C63.10-2013

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:	2022-10-18
Testing End Date:	2022-11-03

1.6. Signature

Ma Rui

(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: FEITIAN Technologies Co., Ltd.
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2.2. Manufacturer Information

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E-Mail feiqiong@ftsafe.com
Telephone: 13811812336
Fax: +86 10 62304477



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

3.1. About EUT

Description	Android POS Terminal
Model Name	F310
RF Protocol	IEEE 802.11 b/g/n20
Operating Frequency	2412MHz~2462MHz
Number of Channels	11
Antenna Type	Integrated
Antenna Gain	1.27 dBi
Power Supply	3.8V DC by Battery
FCC ID	ZD3FTF310
Condition of EUT as received	No abnormality in appearance

Note: Photographs of EUT are shown in ANNEX A of this test report. 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*	IMEI	HW Version	SW Version	Date of Receipt
UT10aa	864255060100091	V1.01	F310_OS_1.01.06.00	2022-10-18
UT08aa	867400020316612	V1.01	F310_OS_1.01.06.00	2022-09-24

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

*UT10aa is used for Conduction test; UT08aa is used for Radiation test and AC Power line Conducted Emission test.

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	Battery	/
AE2	Charger	/
AE3	USB Cable	/

AE1-1

Model	25001
Manufacturer	Dongguan HongDe Battery Co.,Ltd
Capacity	3000mAh
Nominal Voltage	3.8 V

AE1-2

Model	F310
Manufacturer	Shenzhen Aerospace Electronic Co.,Ltd.
Capacity	3000mAh
Nominal Voltage	3.8 V



AE2-1

Model TPA-46050200UU
Manufacturer Shenzhen Tianyin Electronics Co.,Ltd

AE2-2

Model TPA-147C050100UU01
Manufacturer Shenzhen Tianyin Electronics Co.,Ltd

AE3-1

Model USB A-C L=1000MM 1QA035_F310_RO
Manufacturer SiChuan RTT Electronic Technology .,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 Android POS Terminal 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.



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

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	Verdict
0	Antenna Requirement	15.203	P
1	Maximum Output Power	15.247 (b)	P
2	Peak Power Spectral Density	15.247 (e)	P
3	6dB Bandwidth	15.247 (a)	P
4	Band Edges Compliance	15.247 (d)	P
5	Conducted Emission	15.247 (d)	P
6	Radiated Emission	15.247, 15.205, 15.209	P
7	AC Power line Conducted	15.107, 15.207	P

See **ANNEX A** for details.

5.3. Statements

SAICT has evaluated the test cases requested by the applicant/manufacture 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	2022-12-29	1 year
2	Power Sensor	U2021XA	MY55430013	Keysight	2022-12-29	1 year
3	Data Acquisiton	U2531A	TW55443507	Keysight	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due Date	Calibration Period
1	Test Receiver	ESR7	101676	R&S	2022-11-24	1year
2	BiLog Antenna	3142E	0224831	ETS-lindgren	2024-05-27	3years
3	Horn Antenna	3117	00066577	ETS-lindgren	2025-04-17	1year
4	Anechoic Chamber	FACT3-2.0	1285	ETS-Lindgren	2023-05-29	2year
5	Spectrum Analyzer	FSV40	101192	R&S	2023-01-12	1year
6	Loop Antenna	HLA6120	35779	TESEQ	2025-05-10	3 years
7	Horn Antenna	QSH-SL-1 8-26-S-20	17013	Q-par	2023-01-06	3 years
8	Test Receiver	ESCI	100702	R&S	2023-01-12	1 year
9	LISN	ENV216	102067	R&S	2023-07-14	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

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	> 2M Ω
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

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	> 2M Ω
Ground system resistance	< 4 Ω

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	$9\text{kHz} \leq f < 30\text{MHz}$	1.79dB
	$30\text{MHz} \leq f < 1\text{GHz}$	4.86dB
	$1\text{GHz} \leq f < 18\text{GHz}$	4.82dB
	$18\text{GHz} \leq f \leq 40\text{GHz}$	2.90dB
6. AC Power line Conducted Emission	$150\text{kHz} \leq f \leq 30\text{MHz}$	2.62dB



ANNEX A: Detailed Test Results

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 is 1.27 dBi. 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 AVGPM-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)	< 30	< 36

Measurement Results:

802.11b/g mode

Mode	Date Rate (Mbps)	Test Result (dBm)		
		2412MHz (CH1)	2437MHz (CH6)	2462MHz (CH11)
802.11b	1	15.55	13.98	15.36
	2	/	13.95	/
	5.5	/	13.90	/
	11	/	13.88	/
802.11g	6	11.03	12.29	13.39
	9	/	12.27	/
	12	/	12.25	/
	18	/	12.24	/
	24	/	12.18	/
	36	/	12.16	/
	48	/	12.13	/
	54	/	12.11	/

802.11n HT20 mode

Mode	Date Rate (Index)	Test Result (dBm)		
		2412MHz (CH1)	2437MHz (CH6)	2462MHz (CH11)
802.11n HT20	MCS 0	11.38	10.86	11.86
	MCS 1	/	10.83	/
	MCS 2	/	10.78	/
	MCS 3	/	10.76	/
	MCS 4	/	10.74	/
	MCS 5	/	10.72	/
	MCS 6	/	10.71	/
	MCS 7	/	10.65	/



Note: The data rate 1Mbps (11b mode), 6Mbps (11g mode) and MCS0 (11n mode) are selected as the Worst-Case. 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%.

E.I.R.P

Mode	Channel	Frequency (MHz)	E.I.R.P (dBm)	Conclusion
802.11b	CH 1	2412	16.82	P
	CH 6	2437	15.25	P
	CH 11	2462	16.63	P
802.11g	CH 1	2412	12.30	P
	CH 6	2437	13.56	P
	CH 11	2462	14.66	P
802.11n HT20	CH 1	2412	12.65	P
	CH 6	2437	12.13	P
	CH 11	2462	13.13	P

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

A.2 Peak Power Spectral Density

Method of Measurement: See ANSI C63.10-clause 11.10.2.

Measurement Limit:

Standard	Limit (dBm/10 kHz)
FCC CRF Part 15.247(e)	< 8

Measurement Results:

Mode	Channel	Frequency (MHz)	Test Results (dBm)		Conclusion
			Fig.	Value	
802.11b	CH 1	2412	Fig.1	1.65	P
	CH 6	2437	Fig.2	-12.28	P
	CH 11	2462	Fig.3	-2.16	P
802.11g	CH 1	2412	Fig.4	-17.62	P
	CH 6	2437	Fig.5	-15.02	P
	CH 11	2462	Fig.6	-15.12	P
802.11n HT20	CH 1	2412	Fig.7	-15.60	P
	CH 6	2437	Fig.8	-16.55	P
	CH 11	2462	Fig.9	-16.00	P

See below for test graphs.

Conclusion: PASS

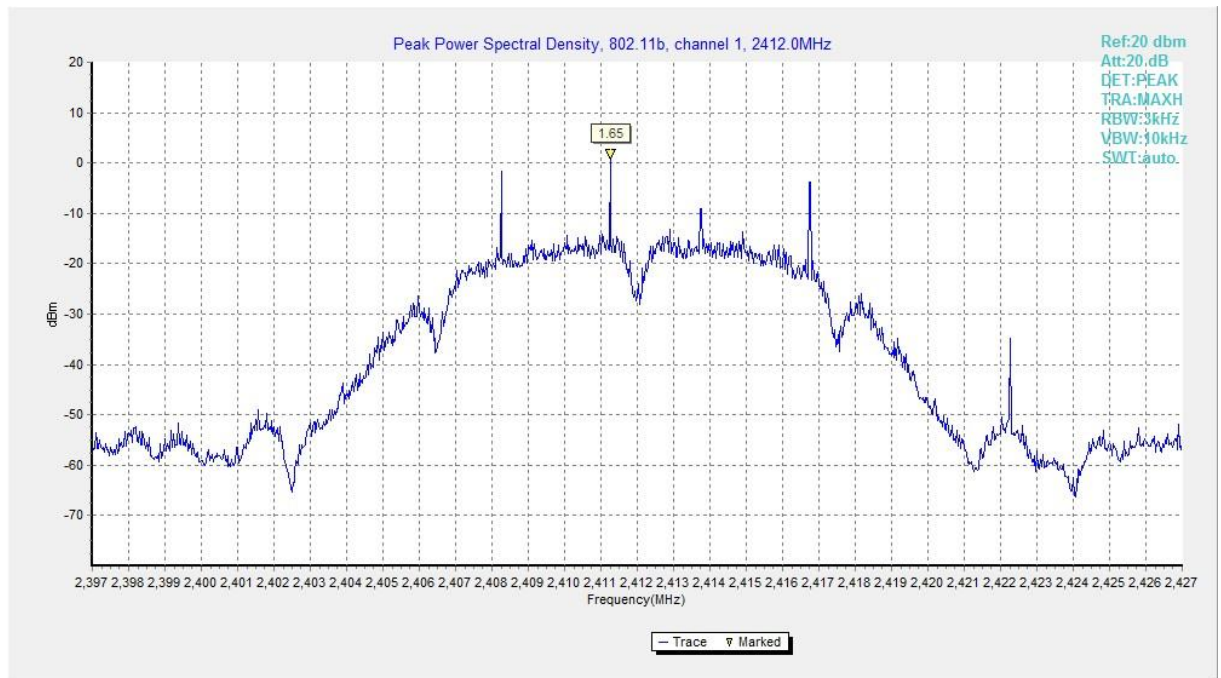


Fig.1 Power Spectral Density (802.11b, CH 1)

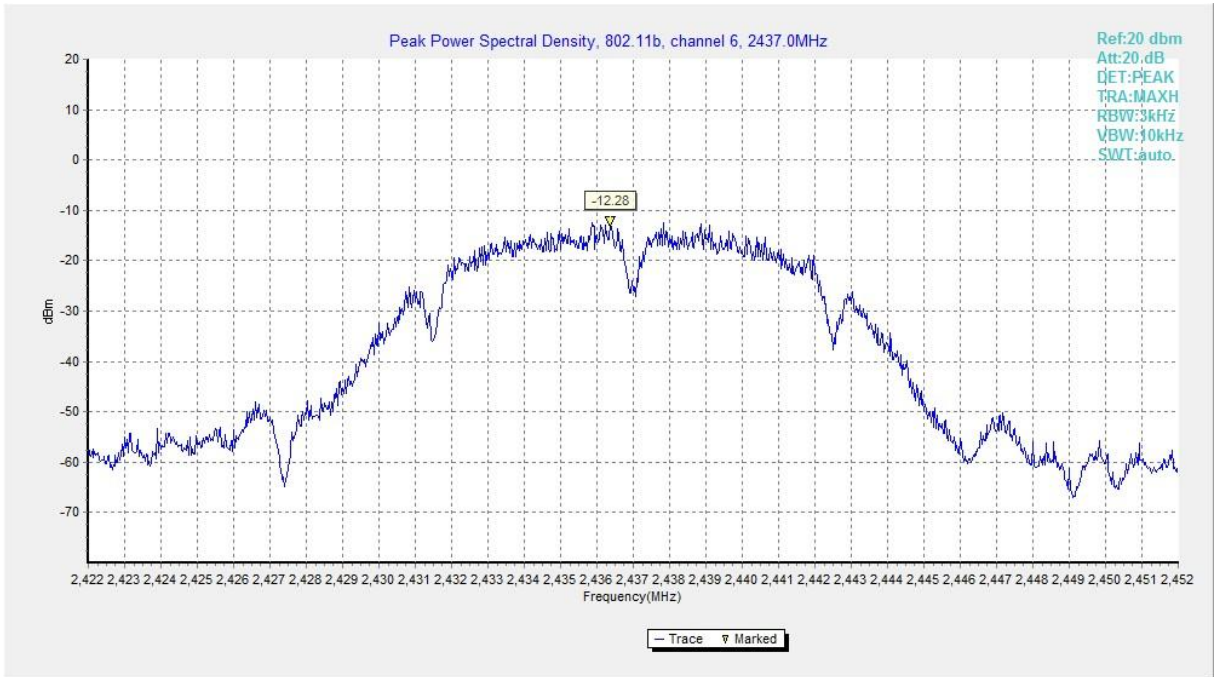


Fig.2 Power Spectral Density (802.11b, CH 6)

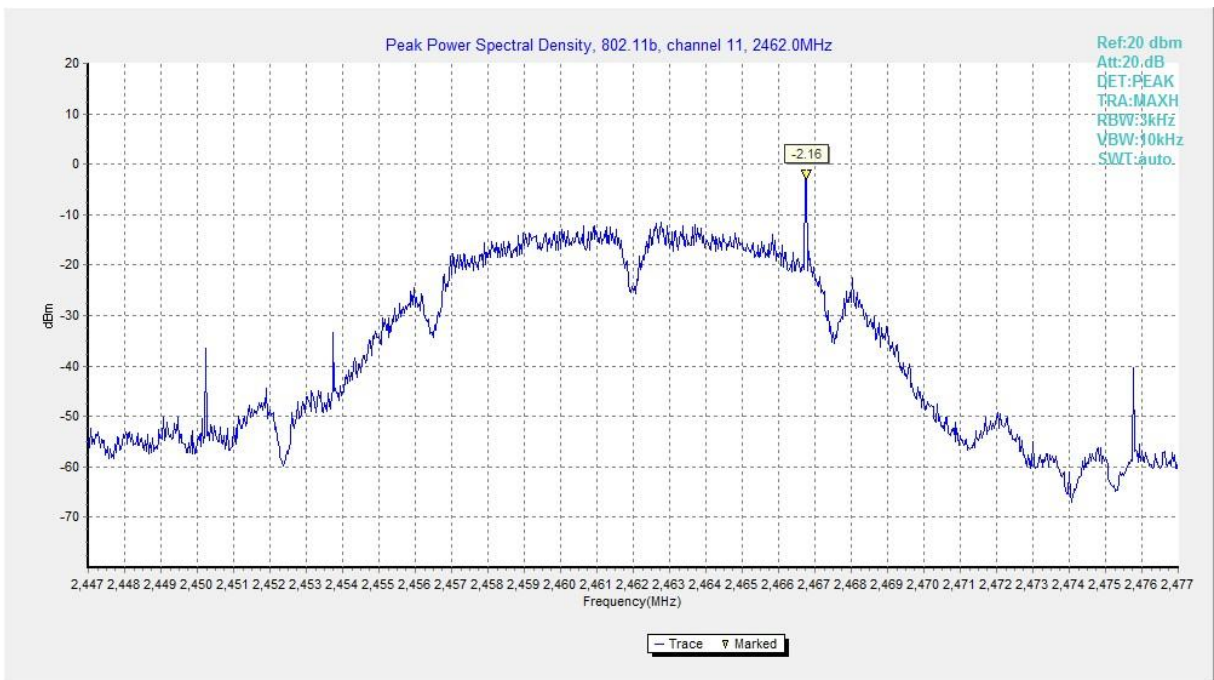


Fig.3 Power Spectral Density (802.11b, CH 11)

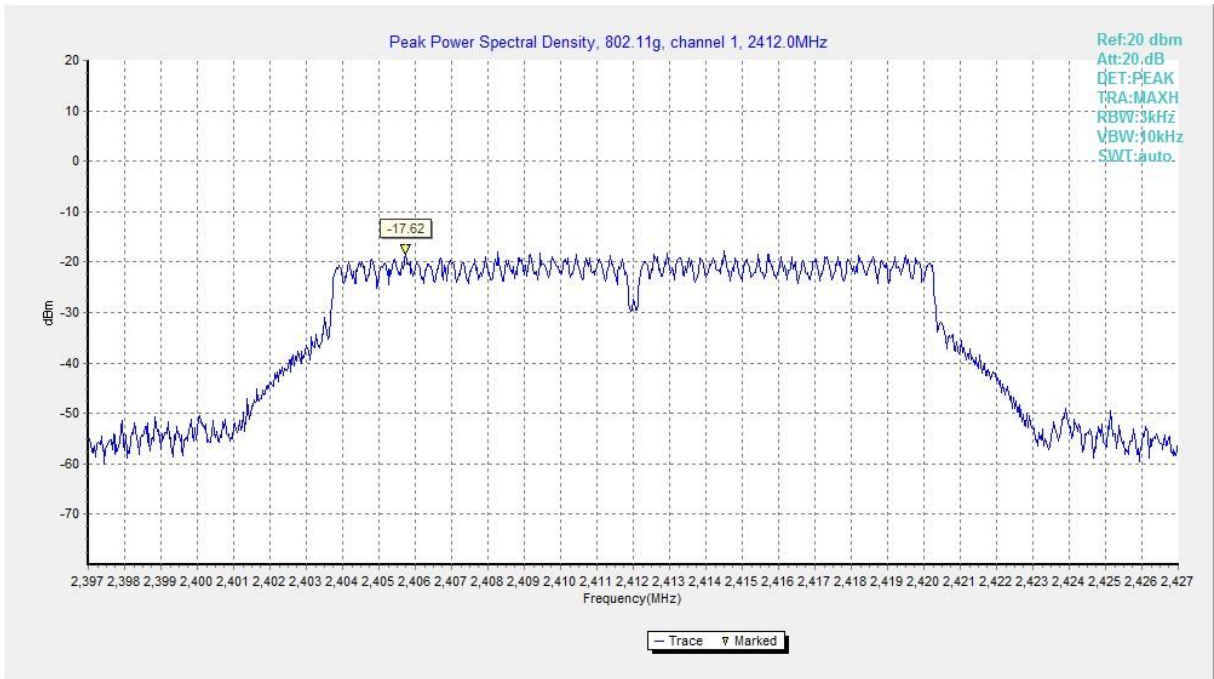


Fig.4 Power Spectral Density (802.11g, CH 1)

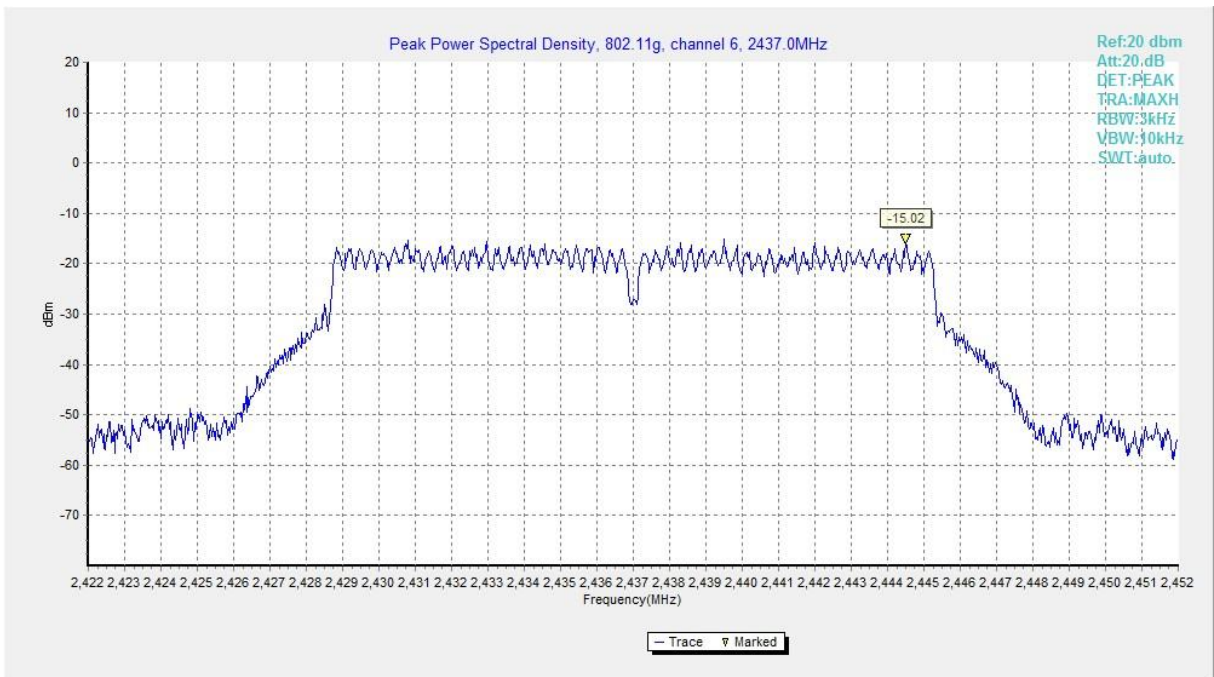


Fig.5 Power Spectral Density (802.11g, CH 6)

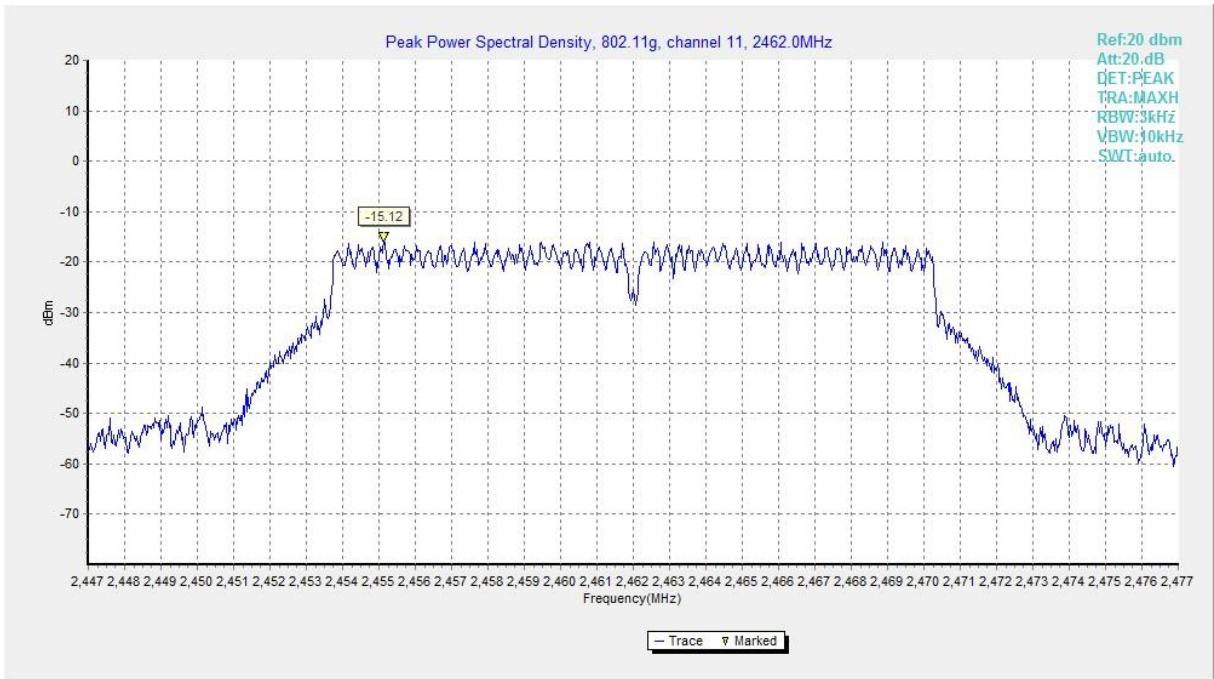


Fig.6 Power Spectral Density (802.11g, CH 11)

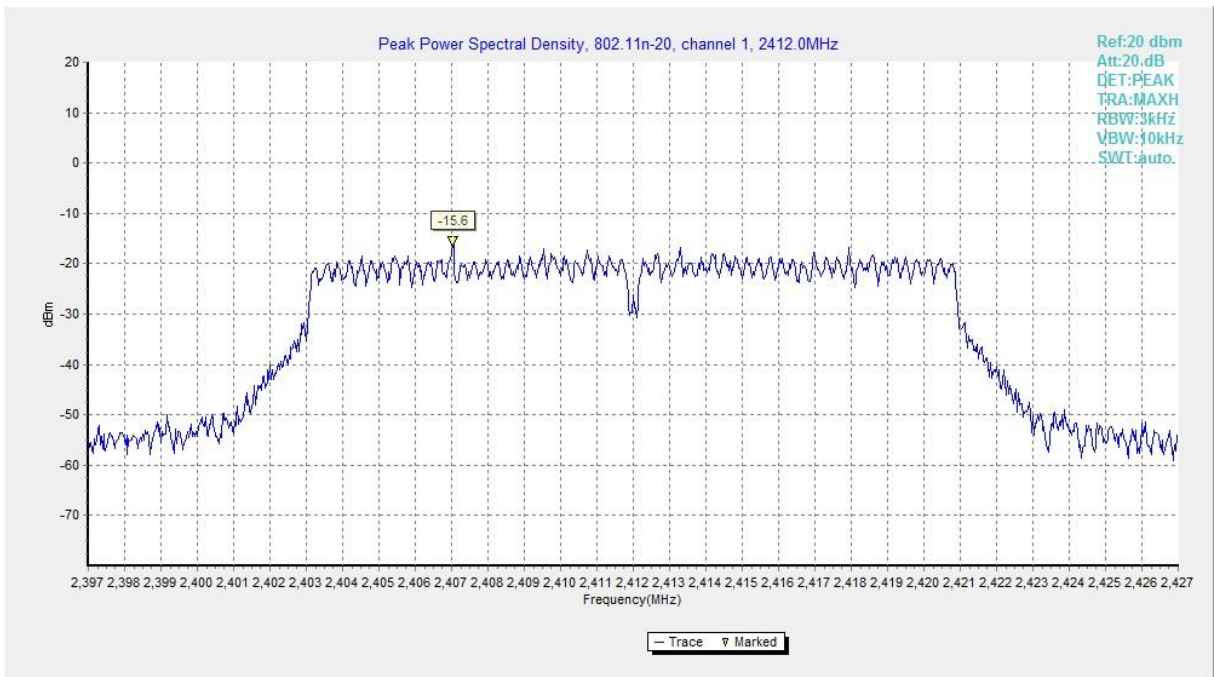


Fig.7 Power Spectral Density (802.11n HT20, CH 1)

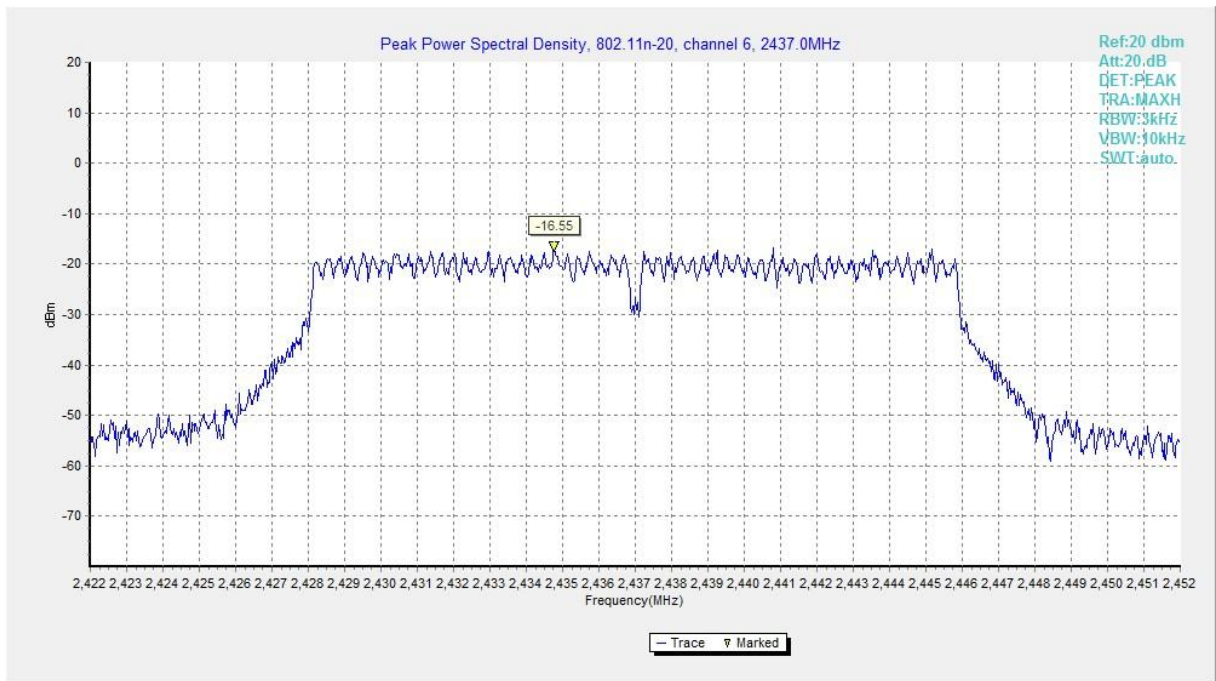


Fig.8 Power Spectral Density (802.11n HT20, CH 6)

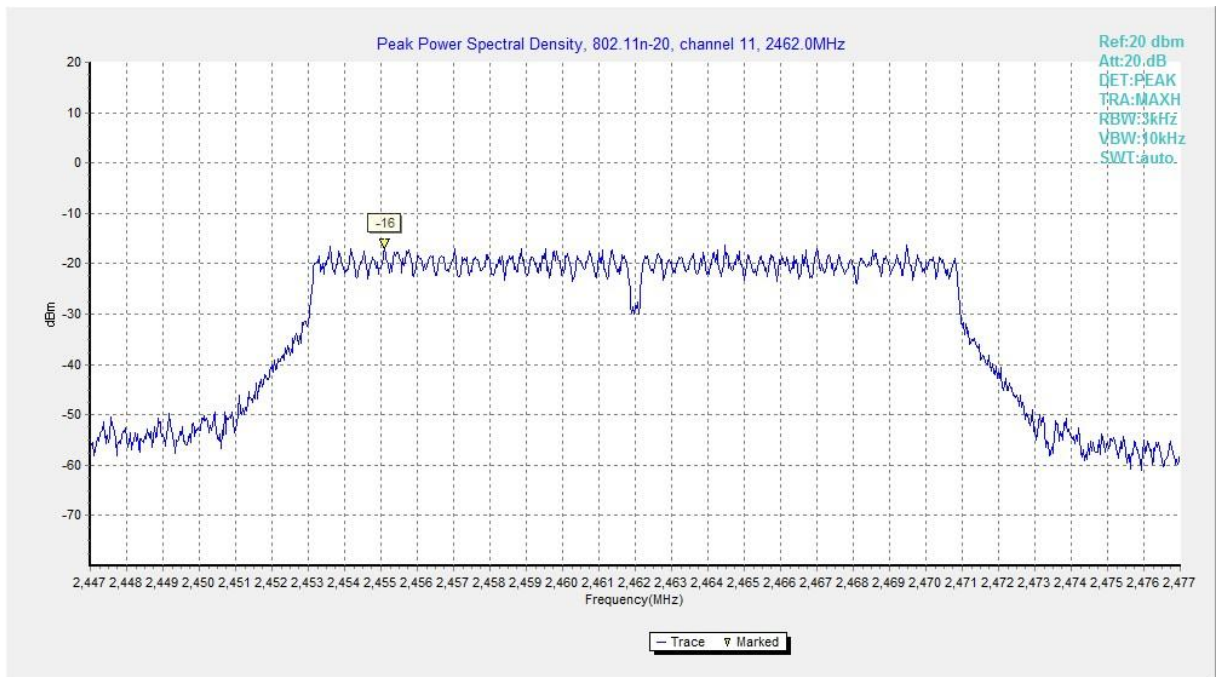


Fig.9 Power Spectral Density (802.11n HT20, CH 11)

A.3 6dB Bandwidth

Method of Measurement: See ANSI C63.10-clause 11.8.2.

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	≥ 500

Measurement Result:

Mode	Channel	Frequency (MHz)	Test Results (kHz)		Conclusion
			Fig.	Value	
802.11b	CH 1	2412	Fig.10	8600	P
	CH 6	2437	Fig.11	9100	P
	CH 11	2462	Fig.12	9100	P
802.11g	CH 1	2412	Fig.13	16350	P
	CH 6	2437	Fig.14	16300	P
	CH 11	2462	Fig.15	16400	P
802.11n HT20	CH 1	2412	Fig.16	17600	P
	CH 6	2437	Fig.17	17600	P
	CH 11	2462	Fig.18	17600	P

See below for test graphs.

Conclusion: PASS

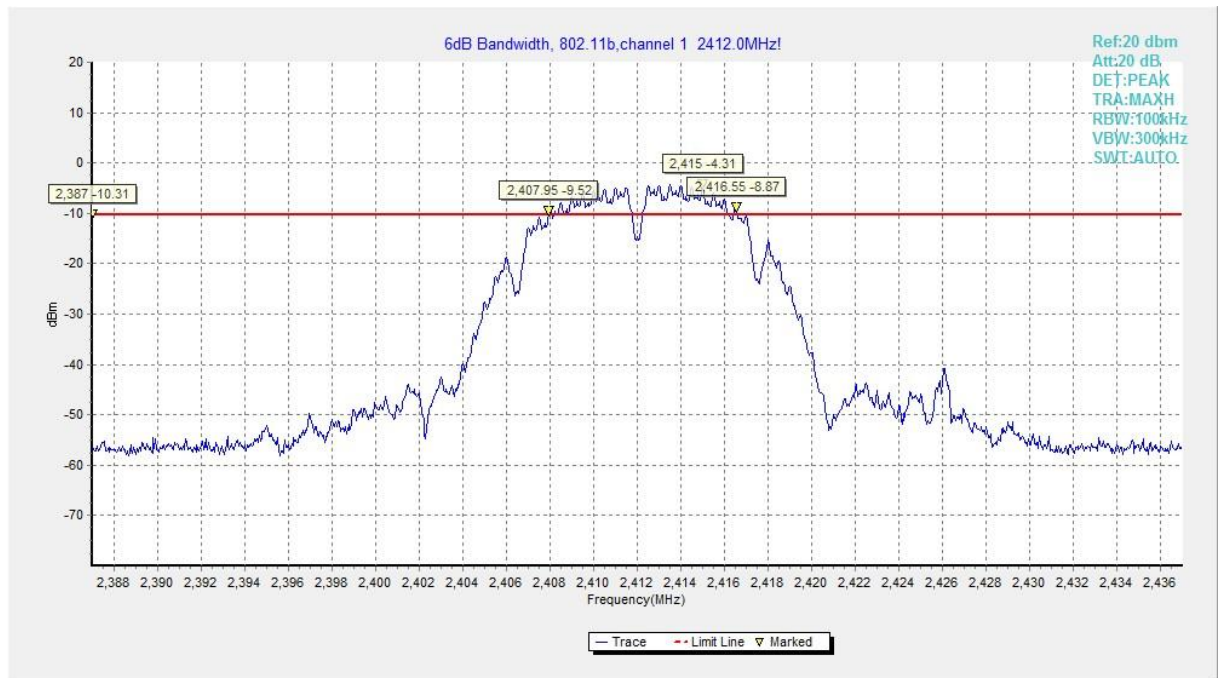


Fig.10 6dB Bandwidth (802.11b, CH 1)

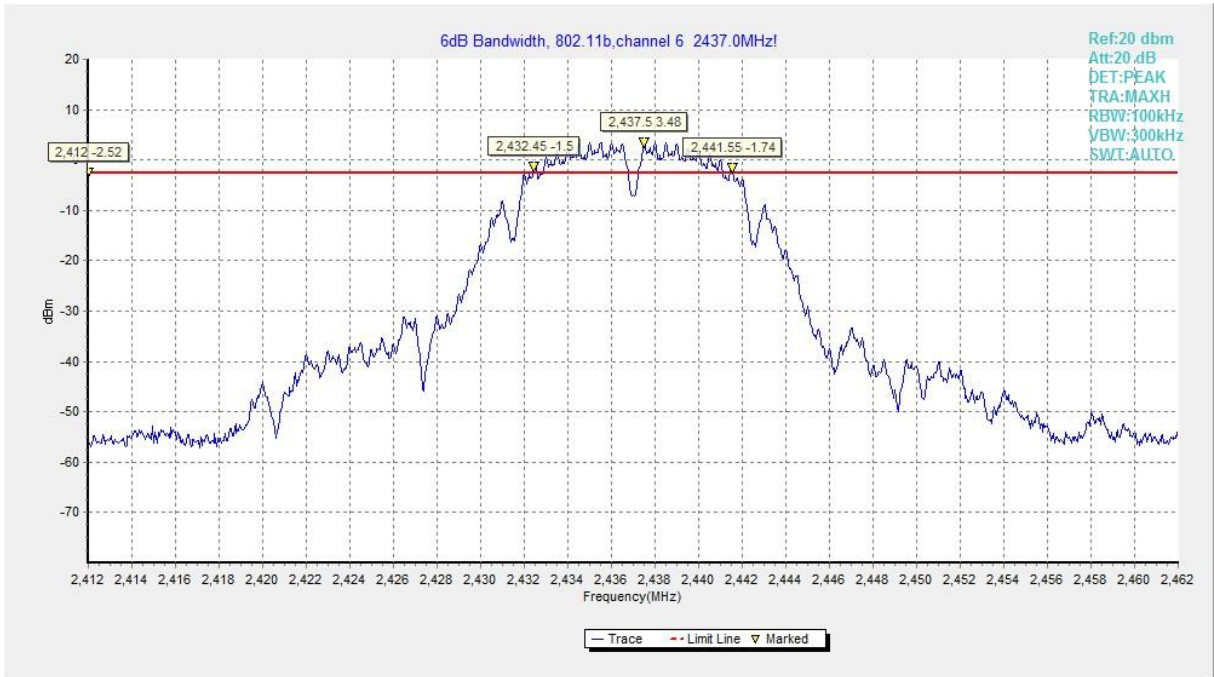


Fig.11 6dB Bandwidth (802.11b, CH 6)

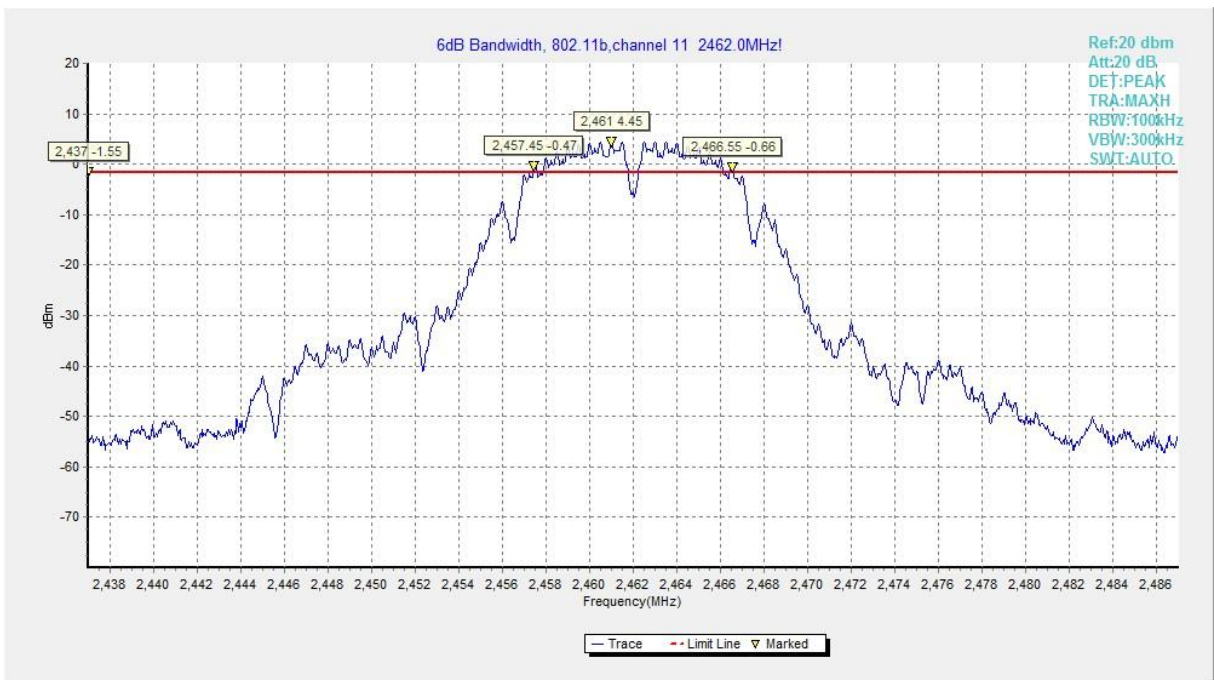


Fig.12 6dB Bandwidth (802.11b, CH 11)

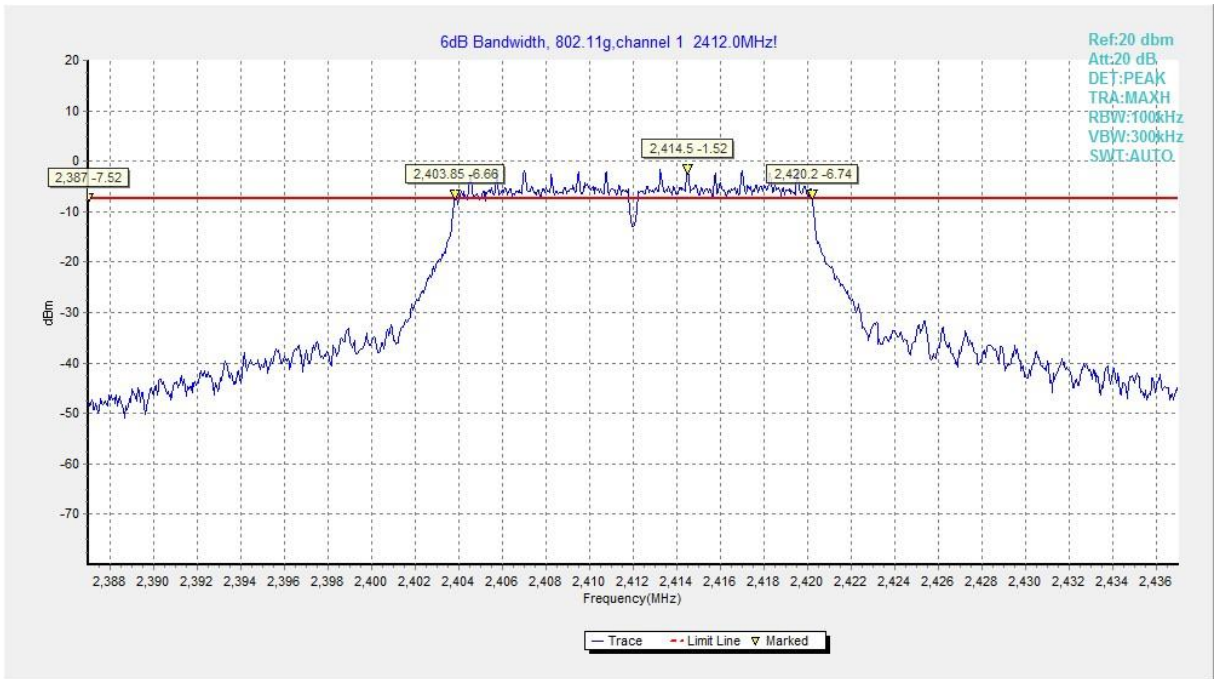


Fig.13 6dB Bandwidth (802.11g, CH 1)

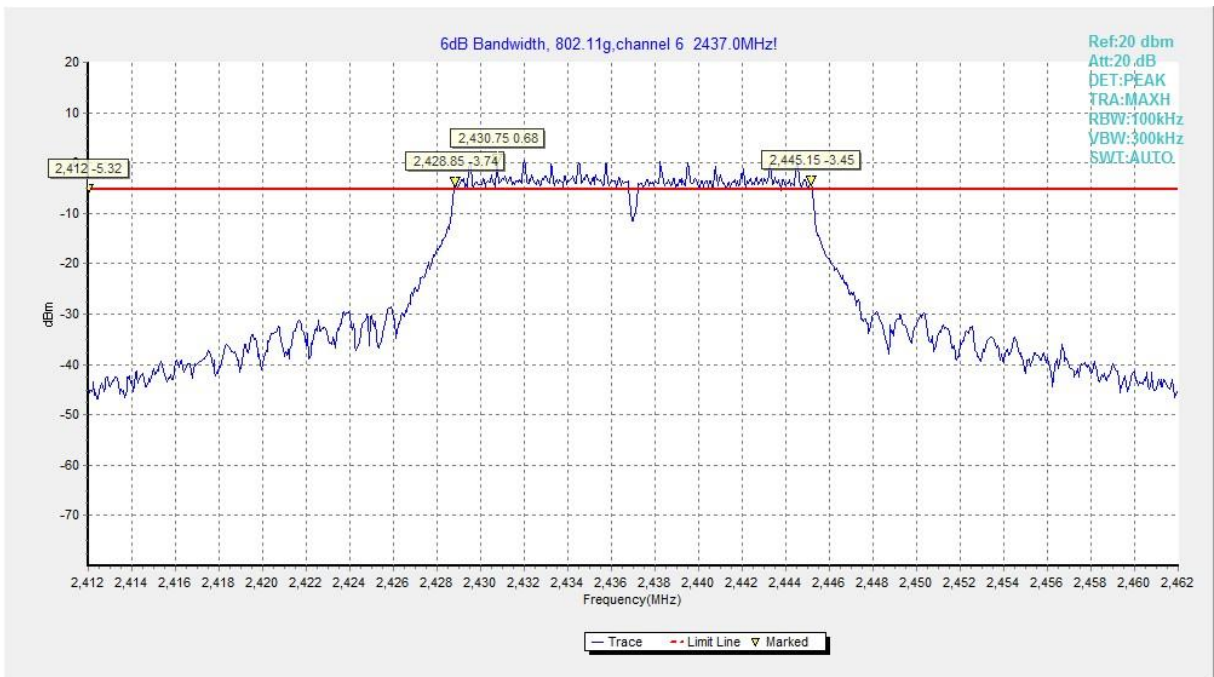


Fig.14 6dB Bandwidth (802.11g, CH 6)

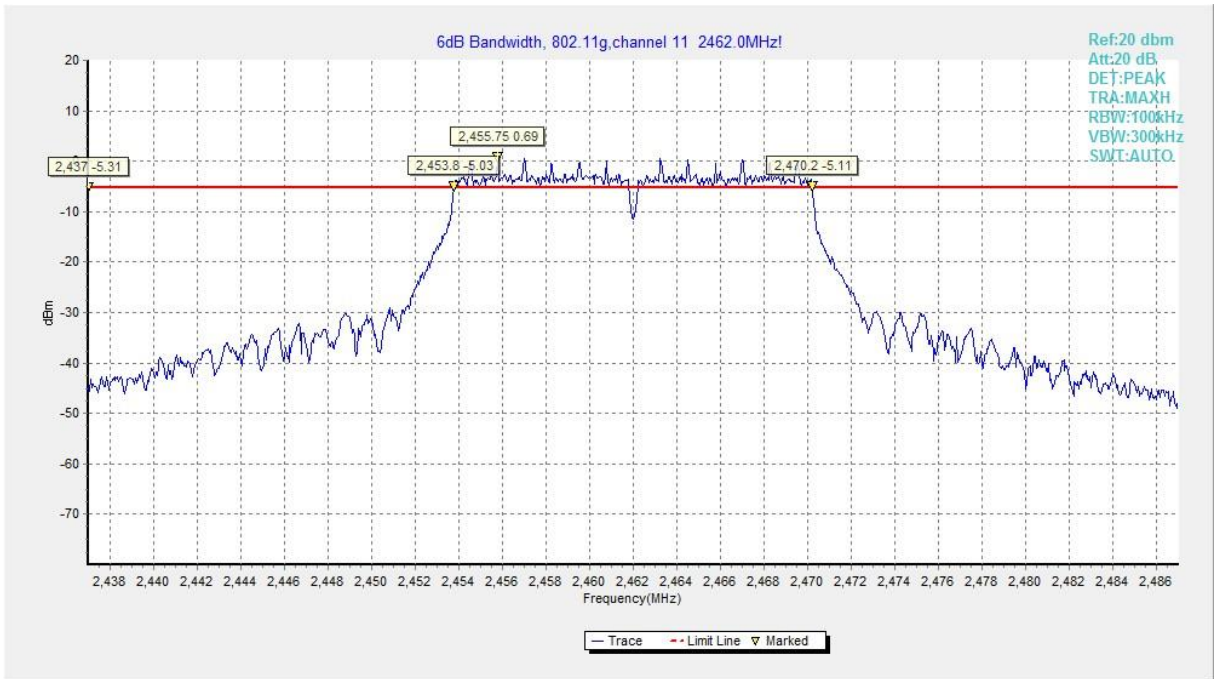


Fig.15 6dB Bandwidth (802.11g, CH 11)

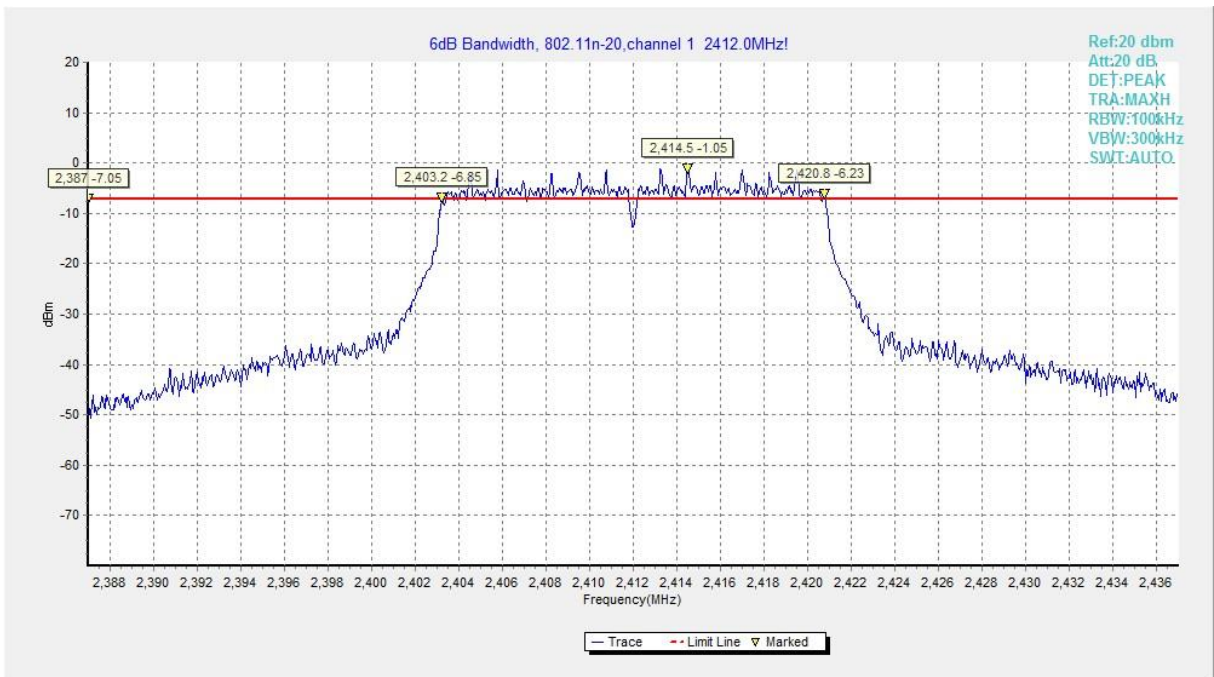


Fig.16 6dB Bandwidth (802.11n HT20, CH 1)

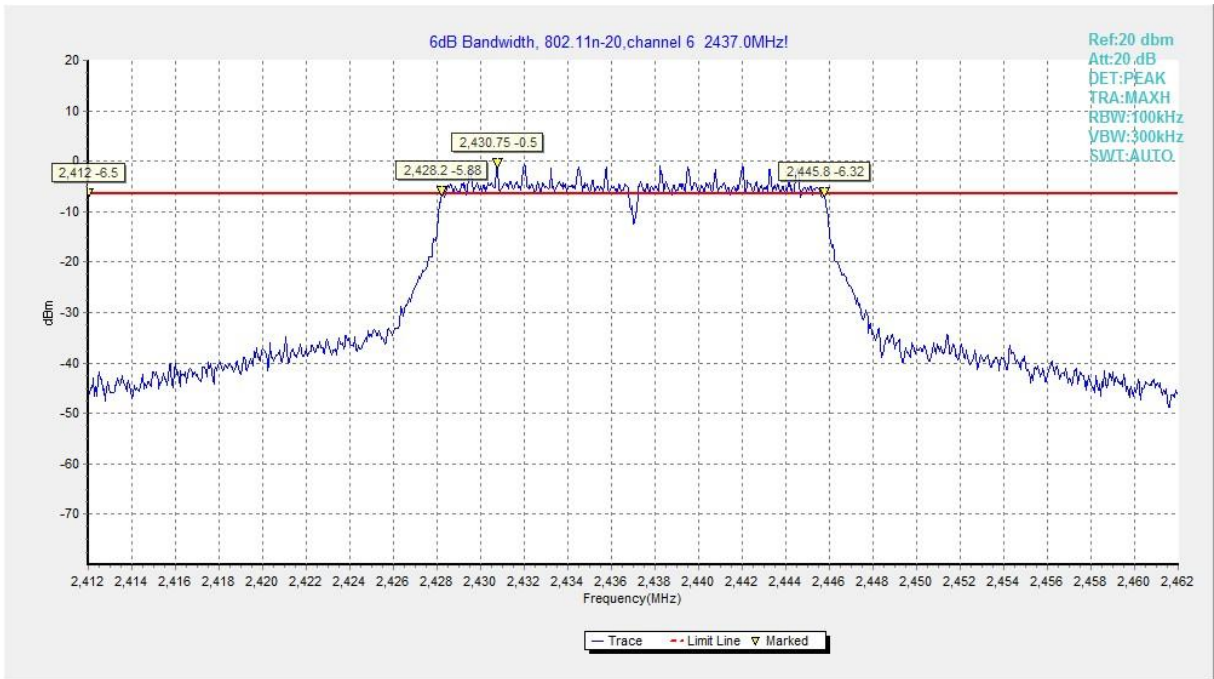


Fig.17 6dB Bandwidth (802.11n HT20, CH 6)

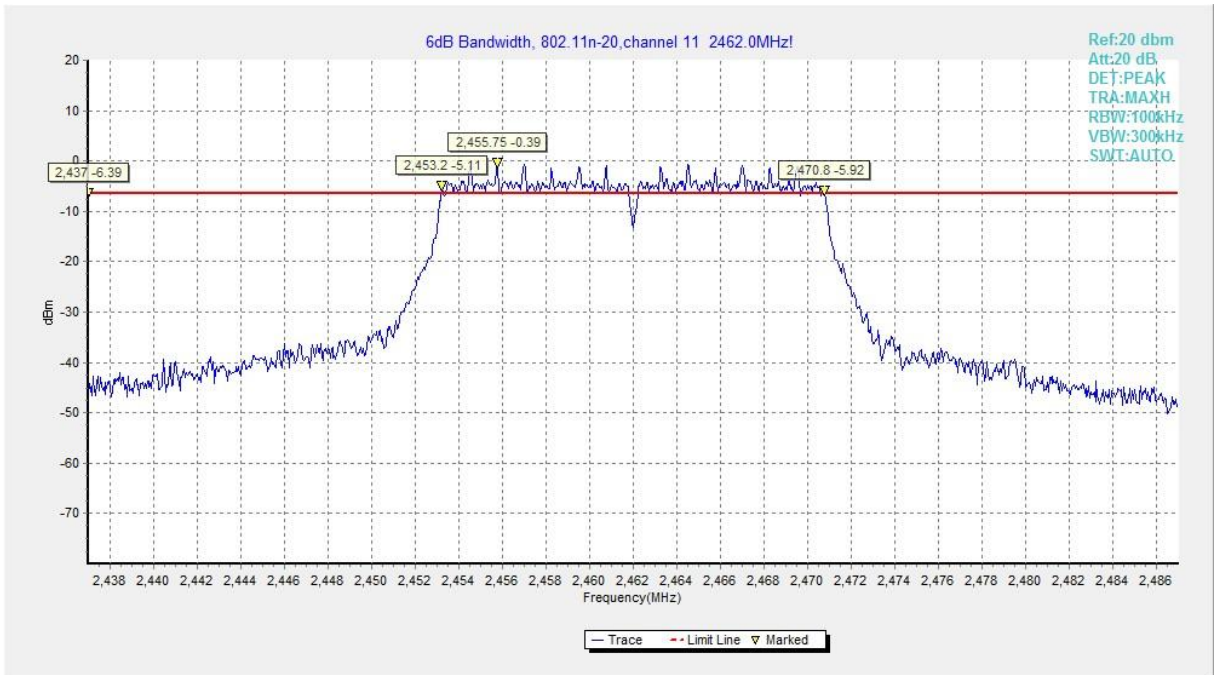


Fig.18 6dB Bandwidth (802.11n HT20, CH 11)



A.4 Band Edges Compliance

Method of Measurement: See ANSI C63.10-clause 11.13.3.2.

Measurement Limit:

Standard	Limit (dBc)
FCC 47 CFR Part 15.247 (d)	> 30

Measurement Result:

Mode	Channel	Frequency (MHz)	Test Results (dB)		Conclusion
			Fig.	Value	
802.11b	CH 1	2412	Fig.19	40.09	P
	CH 11	2462	Fig.20	56.82	P
802.11g	CH 1	2412	Fig.21	34.53	P
	CH 11	2462	Fig.22	44.98	P
802.11n HT20	CH 1	2412	Fig.23	34.12	P
	CH 11	2462	Fig.24	45.50	P

See below for test graphs.

Conclusion: PASS



Fig.19 Band Edges (802.11b, CH 1)

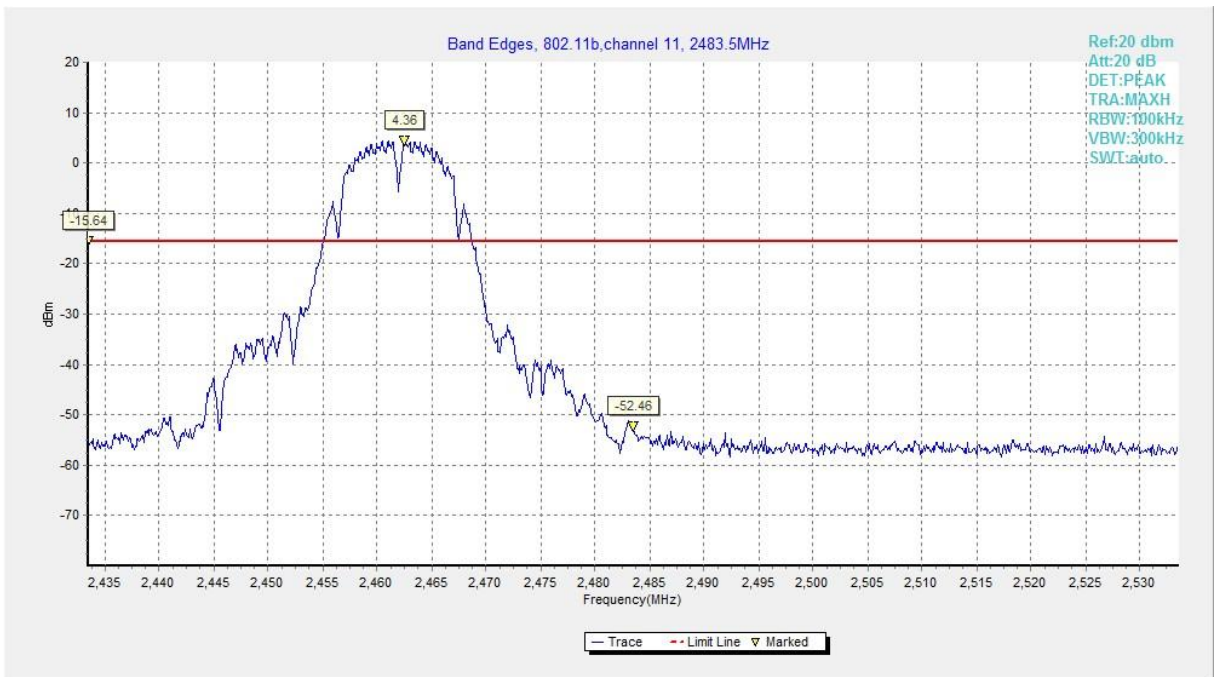


Fig.20 Band Edges (802.11b, CH 11)

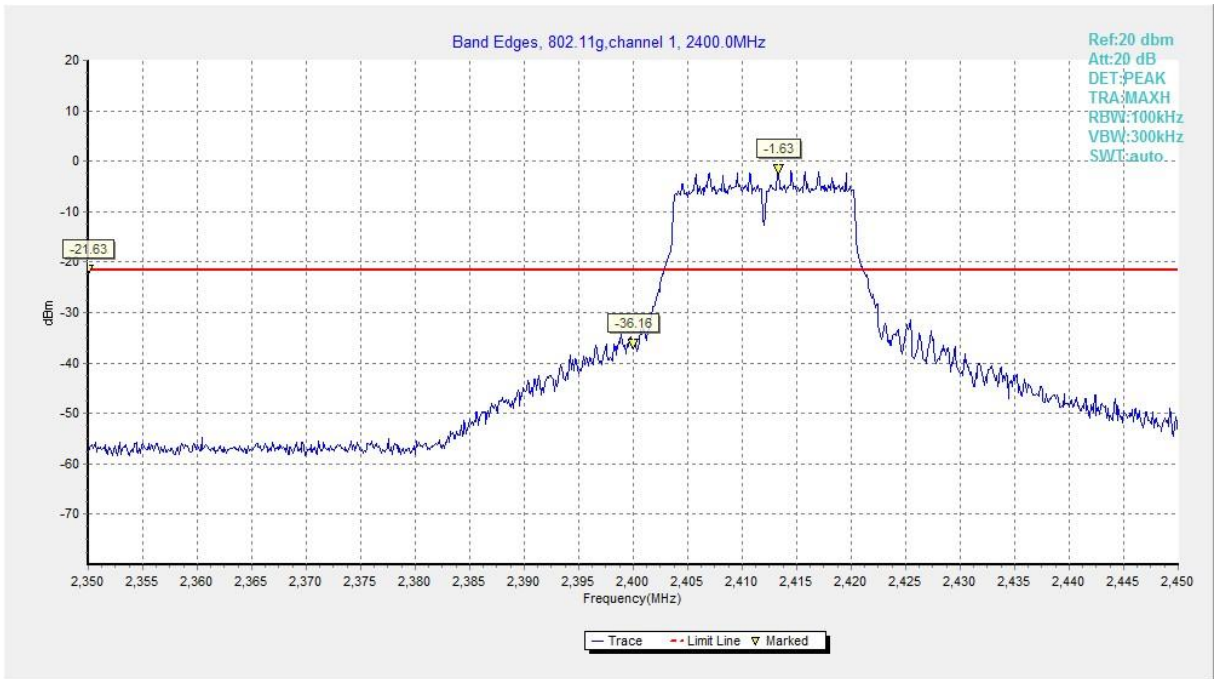


Fig.21 Band Edges (802.11g, CH 1)

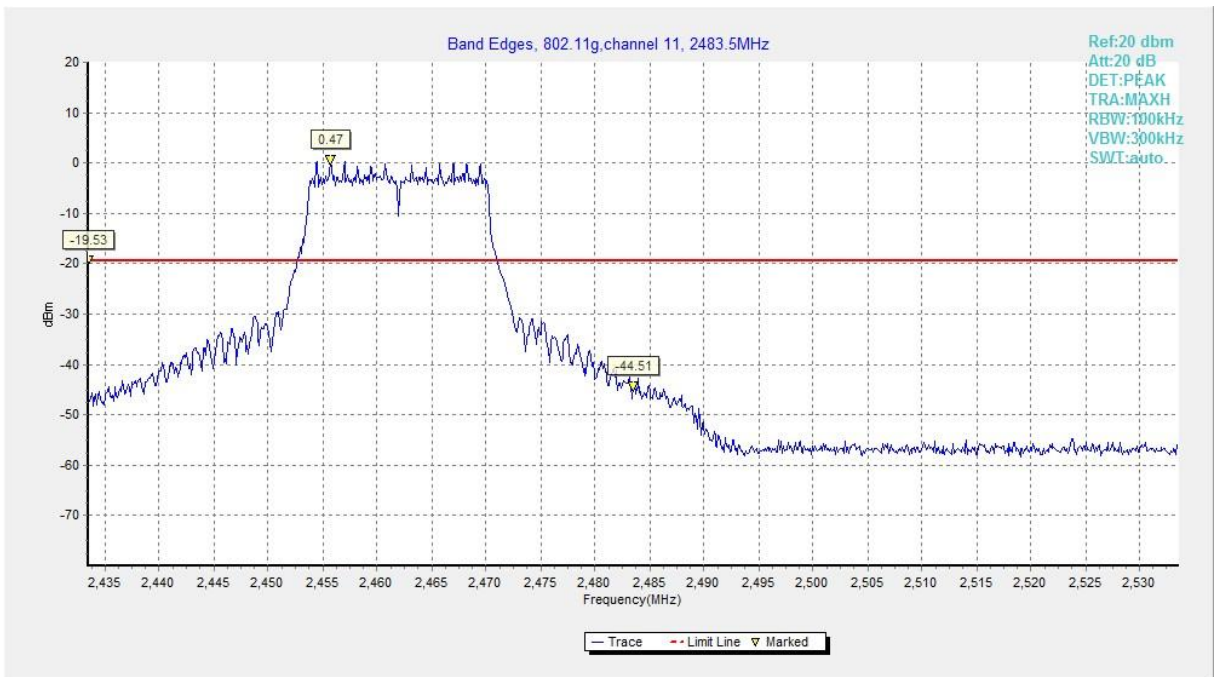


Fig.22 Band Edges (802.11g, CH 11)

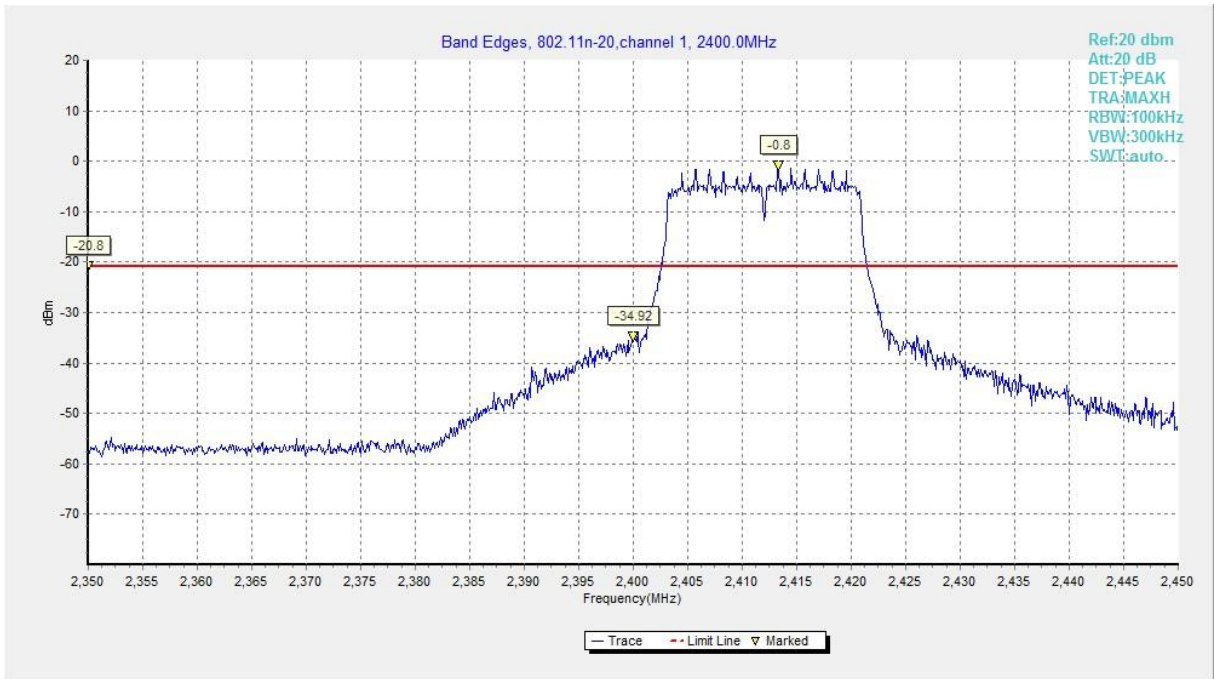


Fig.23 Band Edges (802.11n HT20, CH 1)

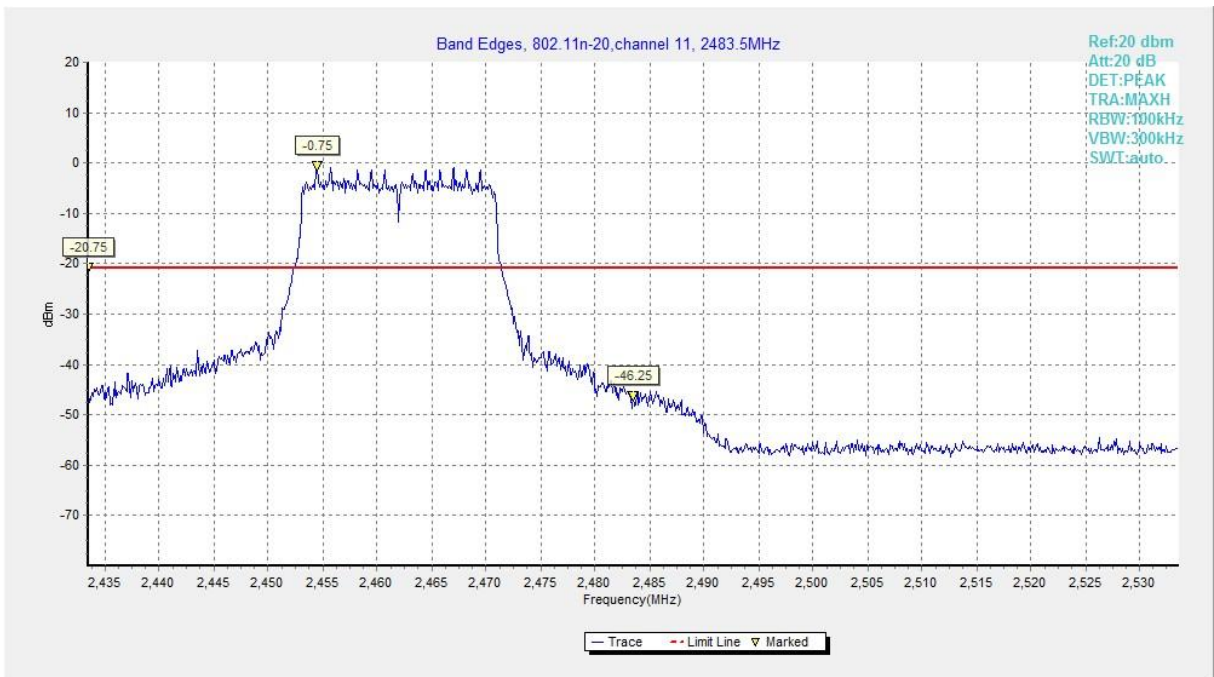


Fig.24 Band Edges (802.11n HT20, CH 11)



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)	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.25	P
	CH 6	2437	30MHz-26GHz	Fig.26	P
	CH 11	2462	30MHz-26GHz	Fig.27	P
802.11g	CH 1	2412	30MHz-26GHz	Fig.28	P
	CH 6	2437	30MHz-26GHz	Fig.29	P
	CH 11	2462	30MHz-26GHz	Fig.30	P
802.11n HT20	CH 1	2412	30MHz-26GHz	Fig.31	P
	CH 6	2437	30MHz-26GHz	Fig.32	P
	CH 11	2462	30MHz-26GHz	Fig.33	P

See below for test graphs.

Conclusion: PASS

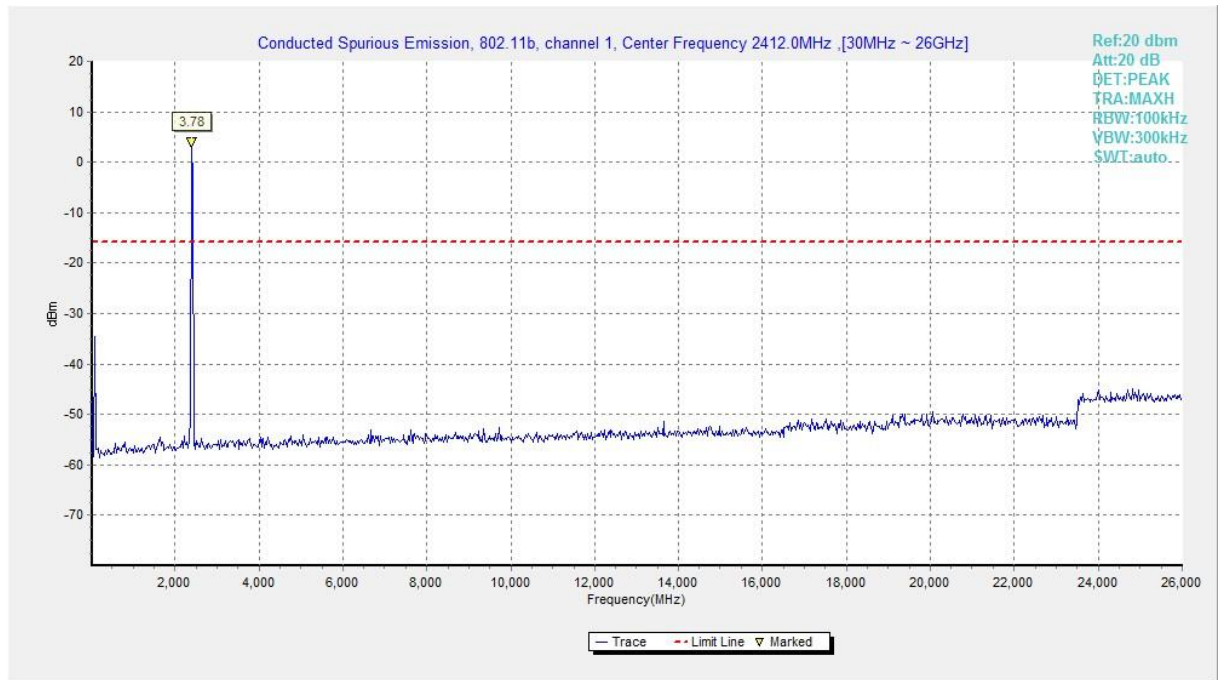


Fig.25 Conducted Spurious Emission (802.11b, CH1)

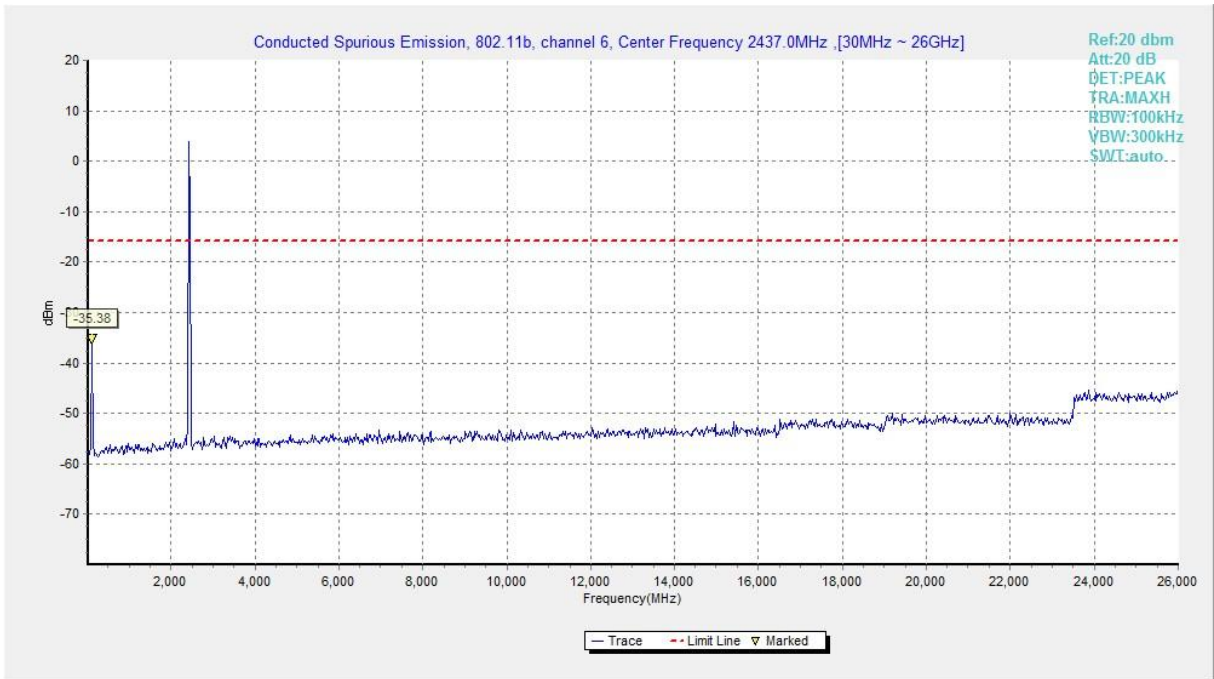


Fig.26 Conducted Spurious Emission (802.11b, CH6)

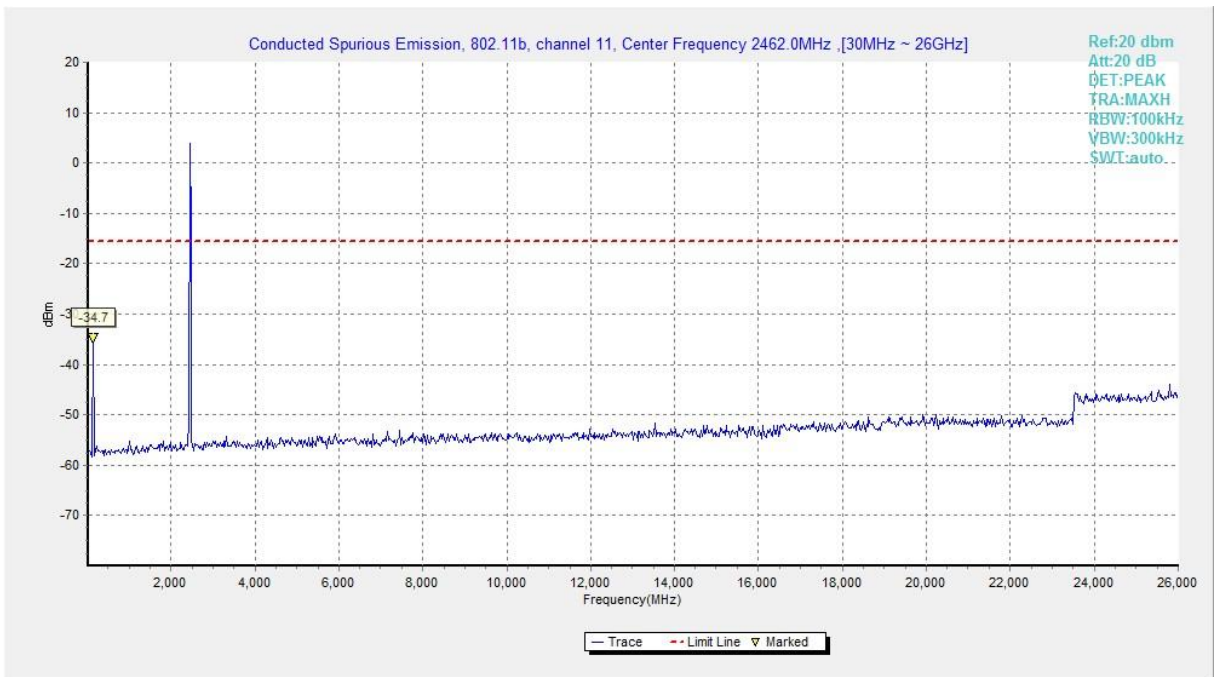


Fig.27 Conducted Spurious Emission (802.11b, CH11)

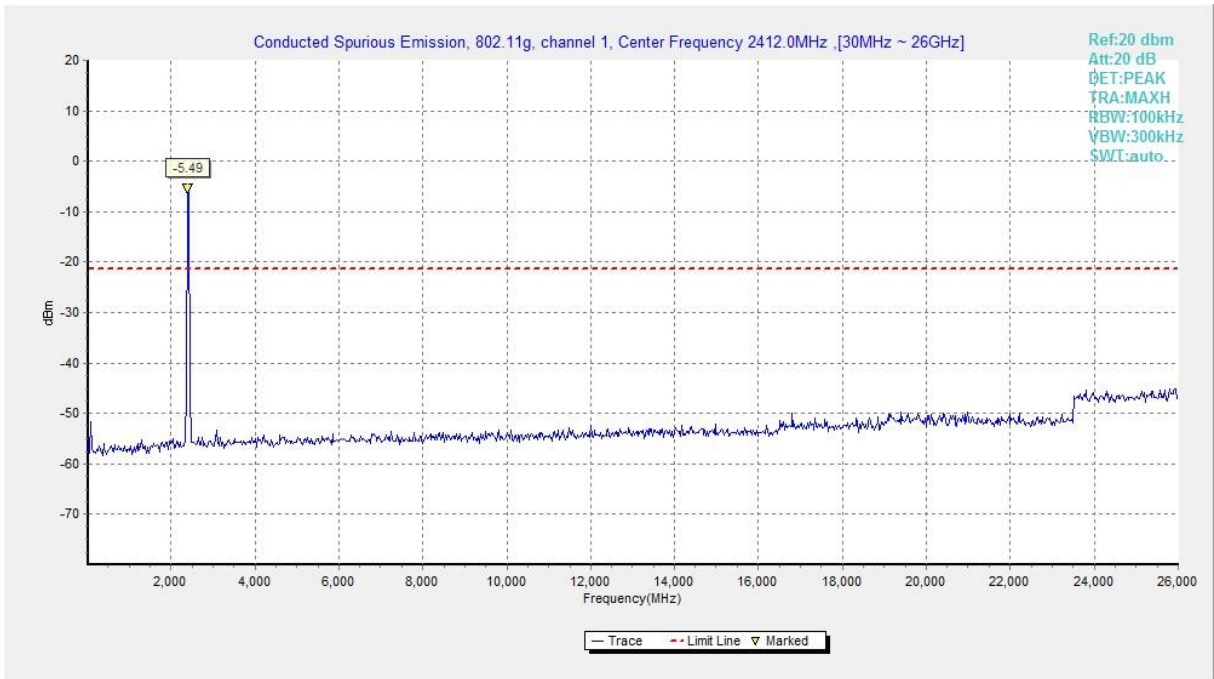


Fig.28 Conducted Spurious Emission (802.11g, CH1)

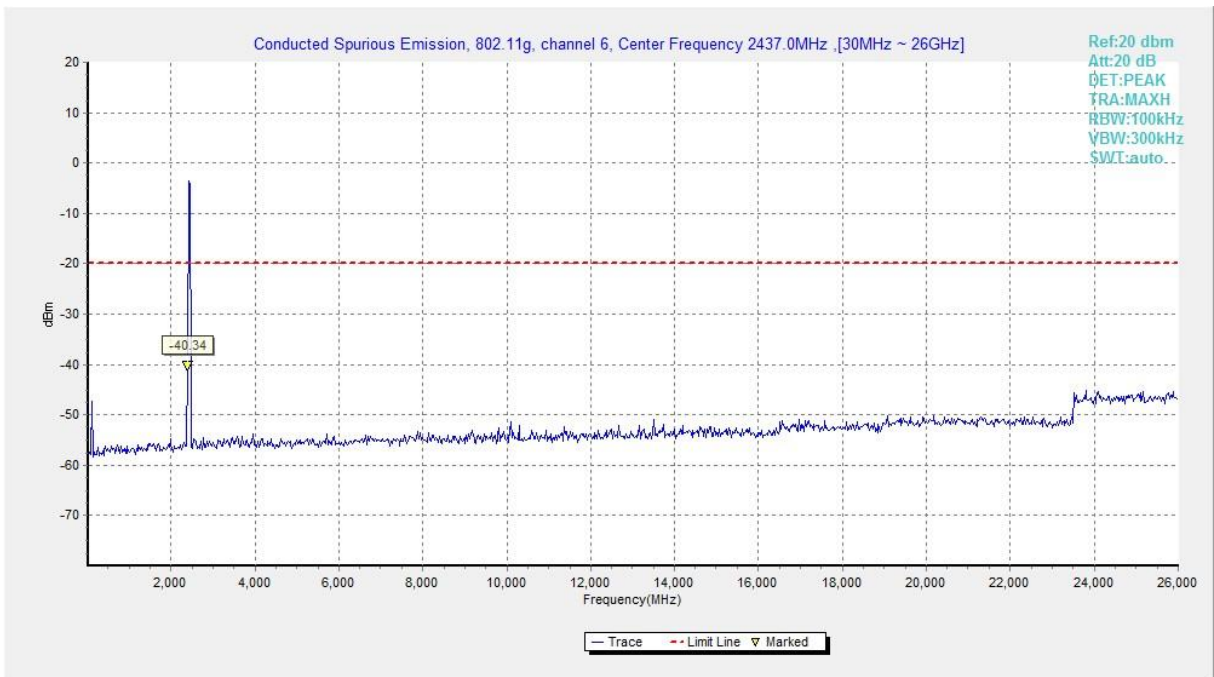


Fig.29 Conducted Spurious Emission (802.11g, CH6)

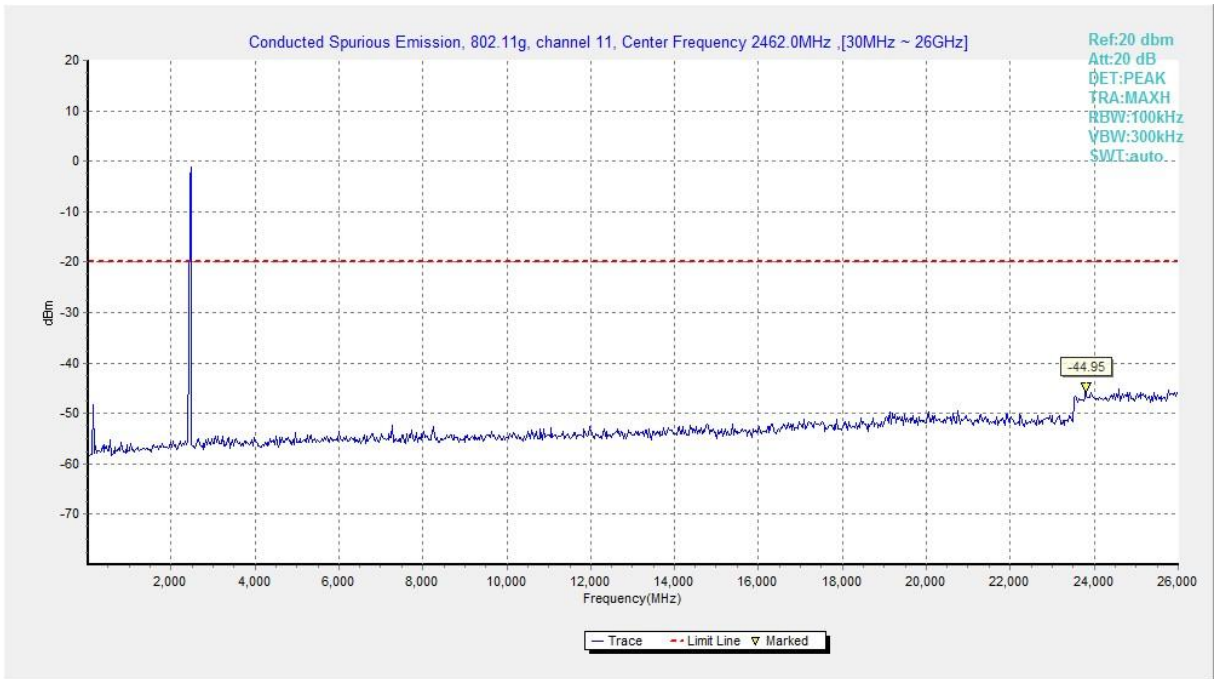


Fig.30 Conducted Spurious Emission (802.11g, CH11)

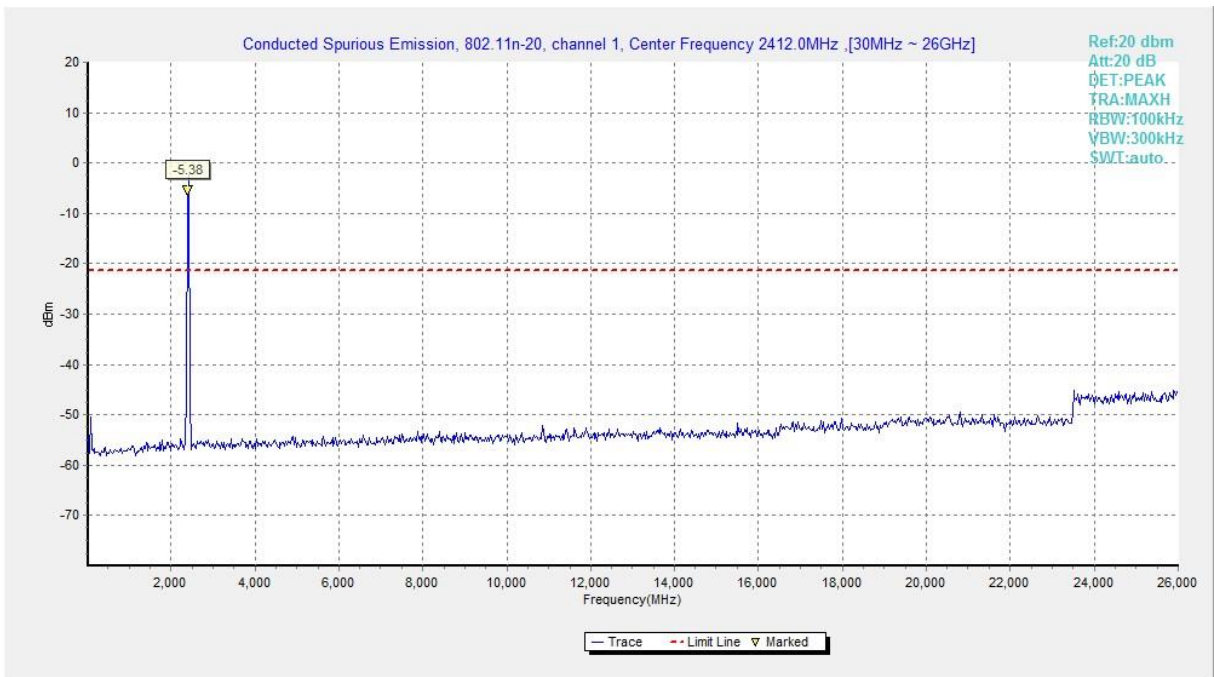


Fig.31 Conducted Spurious Emission (802.11n HT20, CH1)

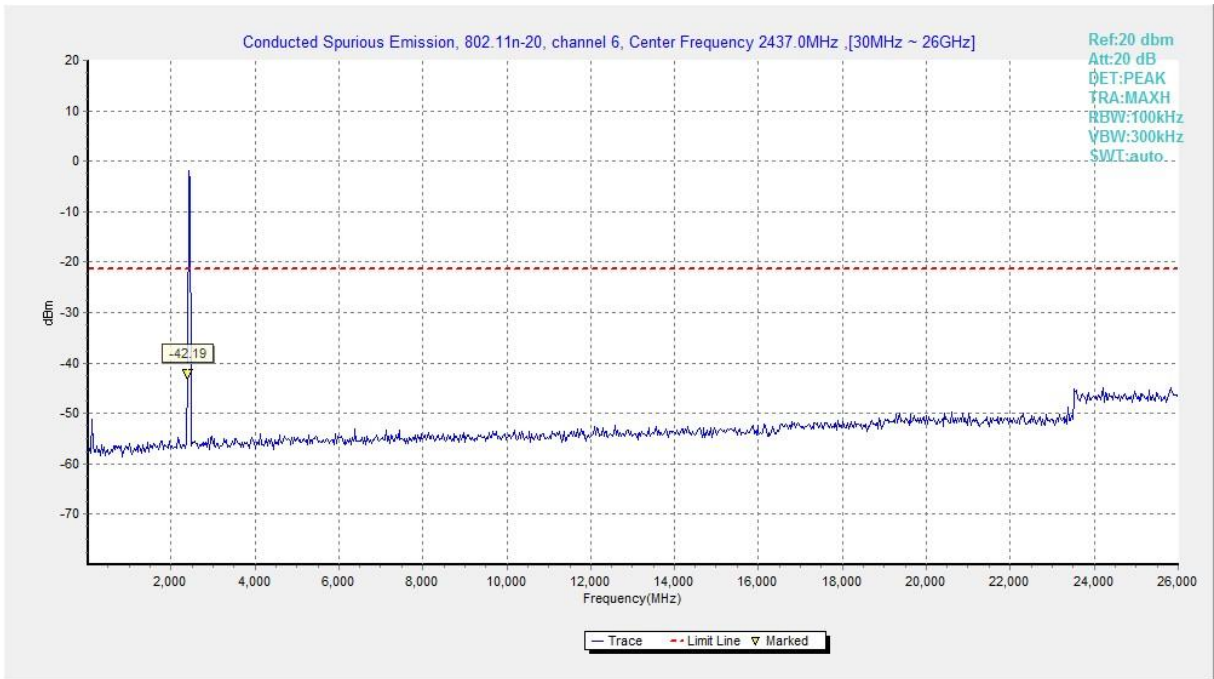


Fig.32 Conducted Spurious Emission (802.11n HT20, CH6)

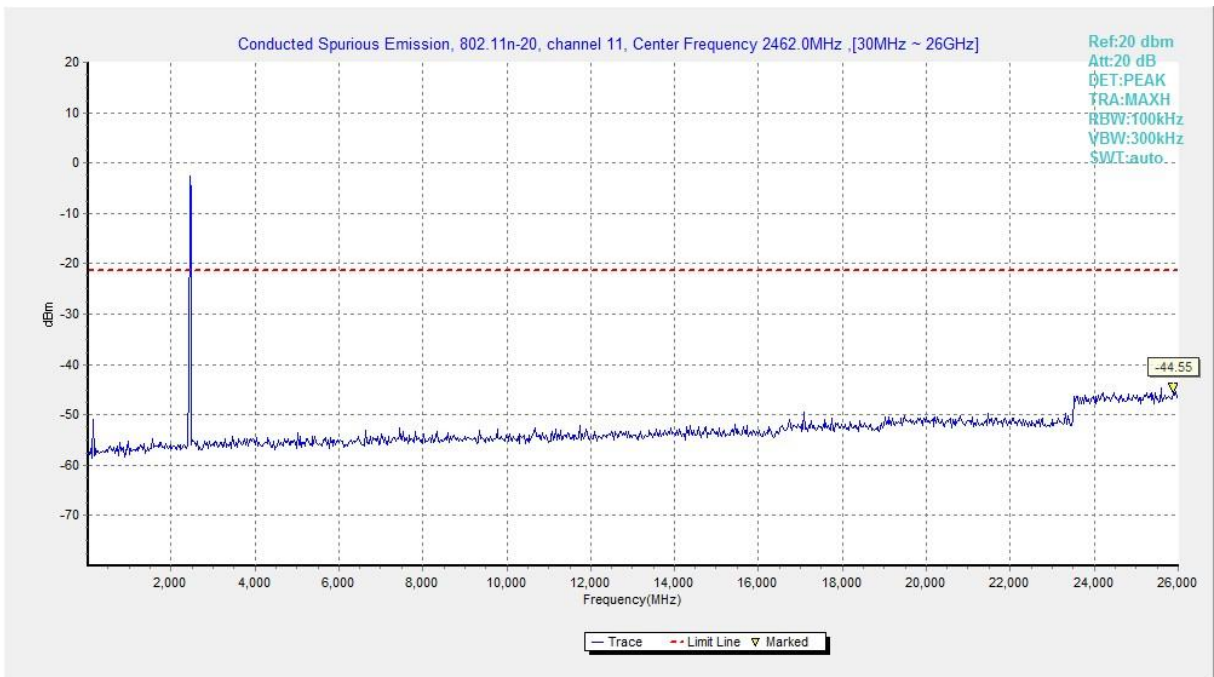


Fig.33 Conducted Spurious Emission (802.11n HT20, CH11)

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	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 ($\mu\text{V}/\text{m}$)	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:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	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
802.11g	CH 1	1 GHz ~ 18 GHz	Fig.39	P
	CH 6	1 GHz ~ 18 GHz	Fig.40	P
	CH 11	1 GHz ~ 18 GHz	Fig.41	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.42	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.43	P
802.11n HT20	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
/	All Channels	9 kHz ~ 30 MHz	Fig.49	P
		30 MHz ~ 1 GHz	Fig.50	P
		18 GHz ~ 26.5 GHz	Fig.51	P



Worst-Case Result:

802.11b CH6 (1-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
4253.400000	46.04	74.00	27.96	V	2.6
5987.400000	48.42	74.00	25.58	H	5.0
8901.428572	45.48	74.00	28.52	H	6.5
13362.000000	48.48	74.00	25.52	V	11.4
17057.142857	54.74	74.00	19.26	H	18.5
17985.000000	55.22	74.00	18.78	V	19.2

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
4253.400000	33.48	54.00	20.52	V	2.6
5987.400000	35.79	54.00	18.21	H	5.0
8901.428572	33.09	54.00	20.91	H	6.5
13362.000000	35.95	54.00	18.05	V	11.4
17057.142857	42.18	54.00	11.82	H	18.5
17985.000000	42.75	54.00	11.25	V	19.2

802.11g CH1 (1-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
5293.800000	46.89	74.00	27.11	H	4.0
5941.800000	47.15	74.00	26.85	H	4.5
7627.285714	44.73	74.00	29.27	V	5.7
10428.428572	47.29	74.00	26.71	H	9.0
16794.000000	53.61	74.00	20.39	V	17.8
17915.142857	54.87	74.00	19.13	H	18.9

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
5293.800000	35.47	54.00	19.53	H	4.0
5941.800000	36.28	54.00	18.72	H	4.5
7627.285714	33.67	54.00	21.33	V	5.7
10428.428572	36.04	54.00	18.96	H	9.0
16794.000000	42.81	54.00	12.19	V	17.8
17915.142857	43.71	54.00	11.29	H	18.9

**802.11n HT20 CH6 (1-18GHz)**

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
4533.600000	46.74	74.00	27.26	H	4.1
5923.800000	47.57	74.00	26.43	V	4.6
8265.000000	45.64	74.00	28.36	V	5.9
10423.285714	46.95	74.00	27.05	V	9.0
16937.571429	54.52	74.00	19.48	H	18.2
17911.714286	55.64	74.00	18.36	V	18.9

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB)
4533.600000	35.33	54.00	19.67	H	4.1
5923.800000	36.59	54.00	18.41	V	4.6
8265.000000	34.10	54.00	20.90	V	5.9
10423.285714	36.07	54.00	18.93	V	9.0
16937.571429	43.31	54.00	11.69	H	18.2
17911.714286	43.64	54.00	11.36	V	18.9

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

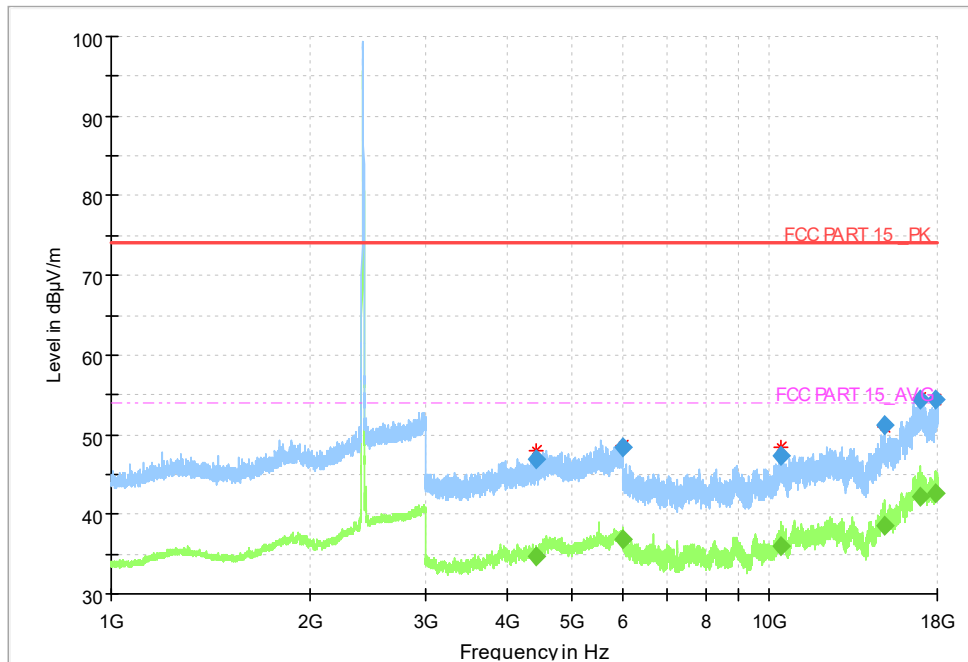


Fig.34 Radiated Spurious Emission (802.11b, CH1, 1GHz-18GHz)

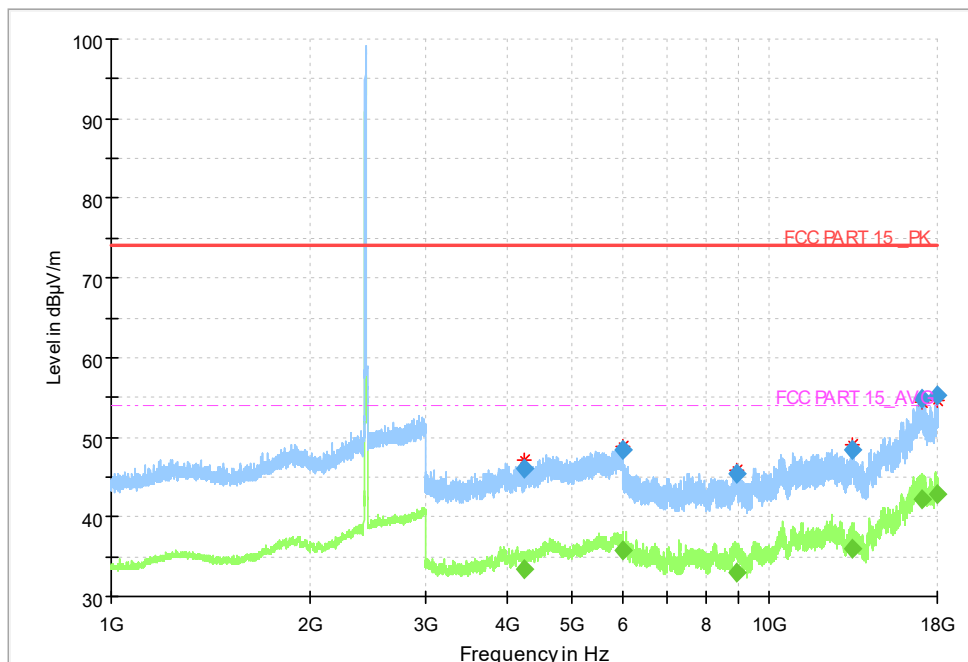


Fig.35 Radiated Spurious Emission (802.11b, CH6, 1GHz-18GHz)

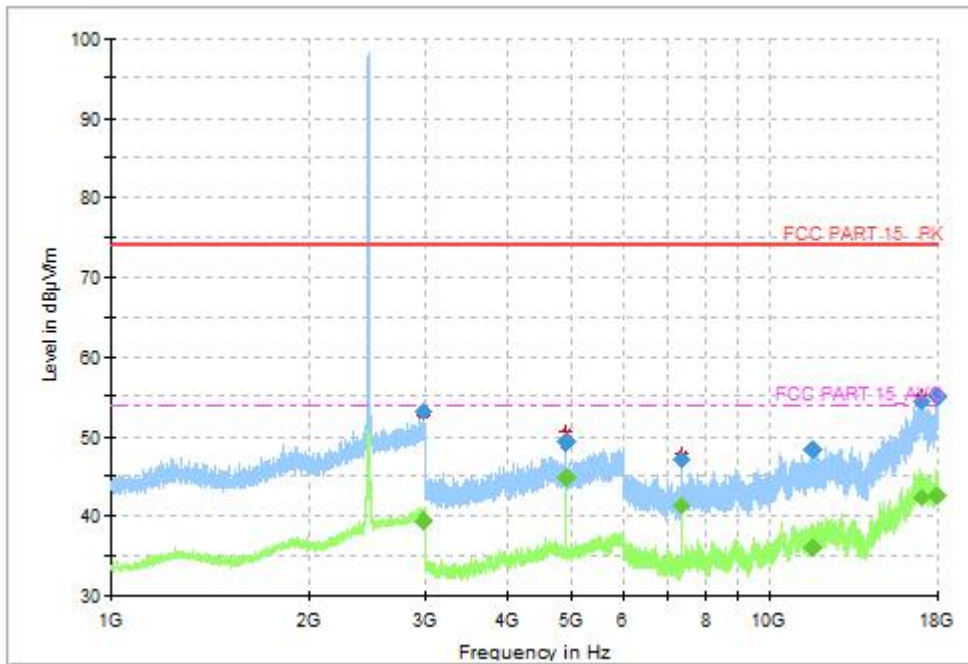


Fig.36 Radiated Spurious Emission (802.11b, CH11, 1GHz-18GHz)

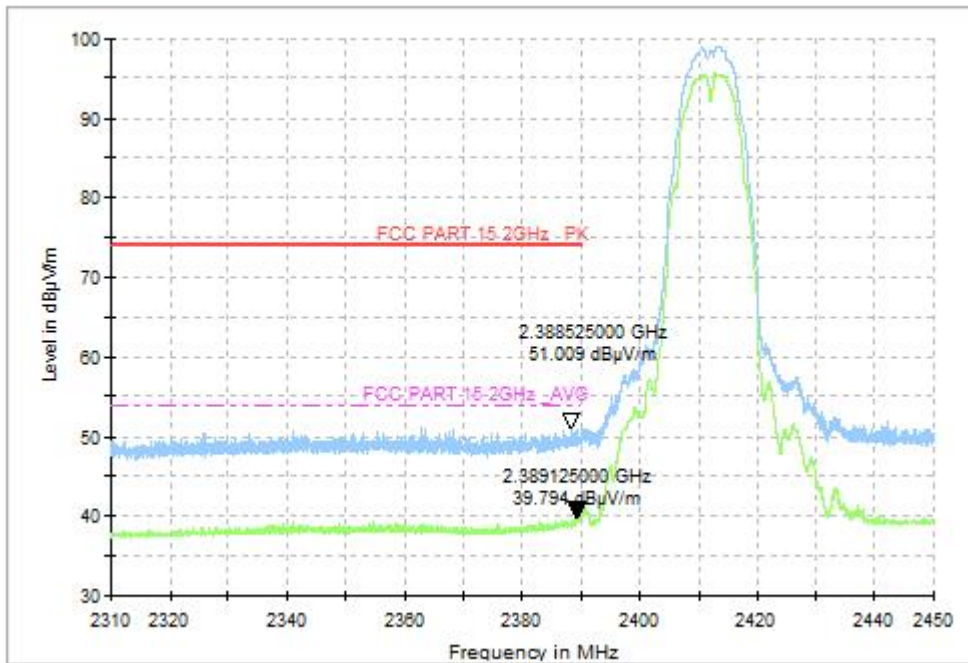


Fig.37 Radiated Restricted Band (802.11b, CH1, 2.38GHz~2.45GHz)

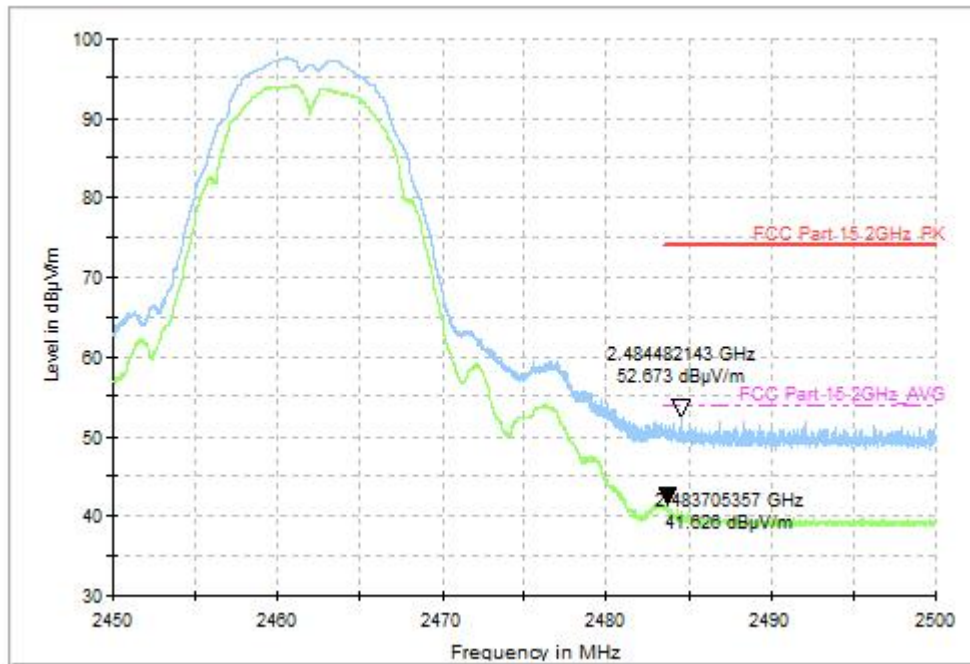


Fig.38 Radiated Restricted Band (802.11b, CH11, 2.45GHz~2.5GHz)

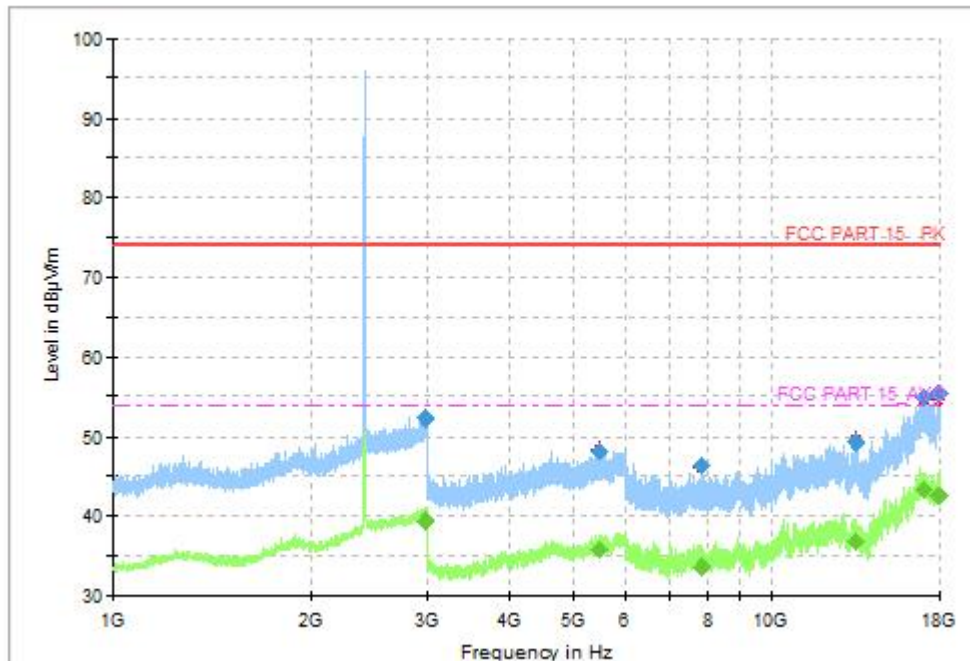


Fig.39 Radiated Spurious Emission (802.11g, CH1, 1GHz-18GHz)

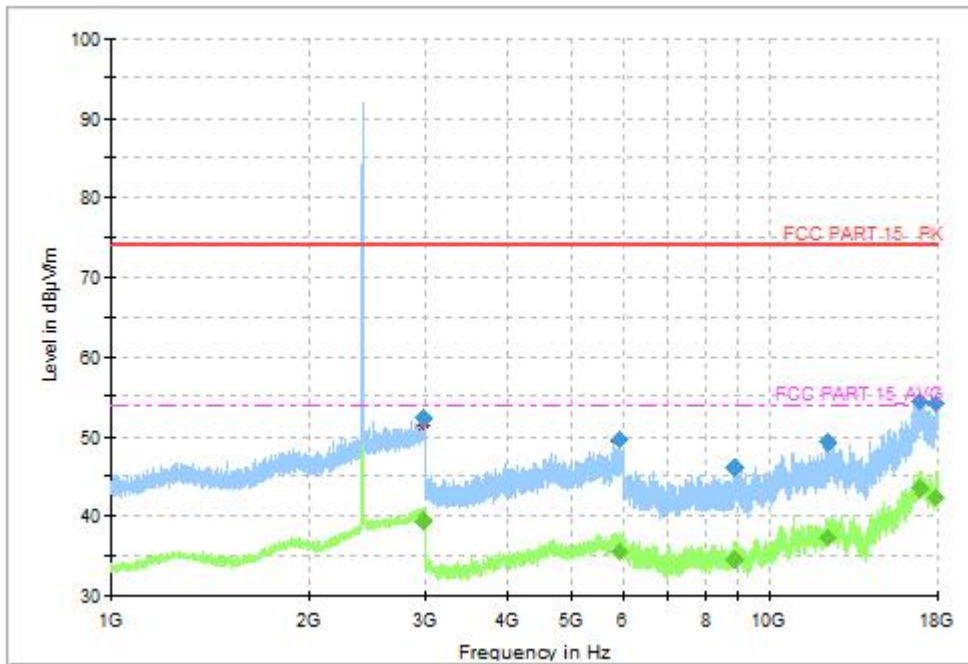


Fig.40 Radiated Spurious Emission (802.11g, CH6, 1GHz-18GHz)

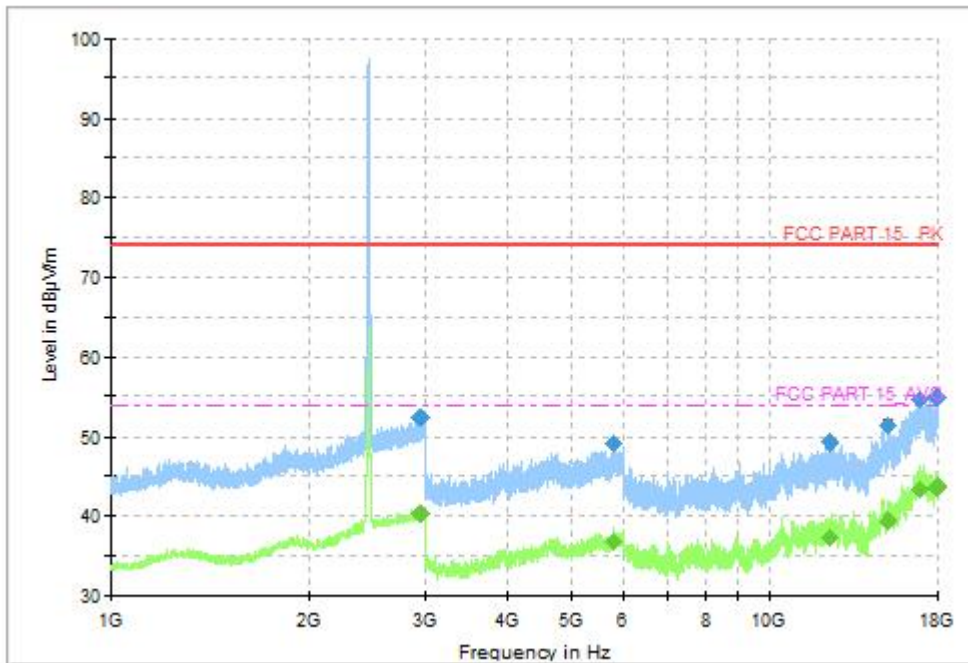


Fig.41 Radiated Spurious Emission (802.11g, CH11, 1GHz-18GHz)

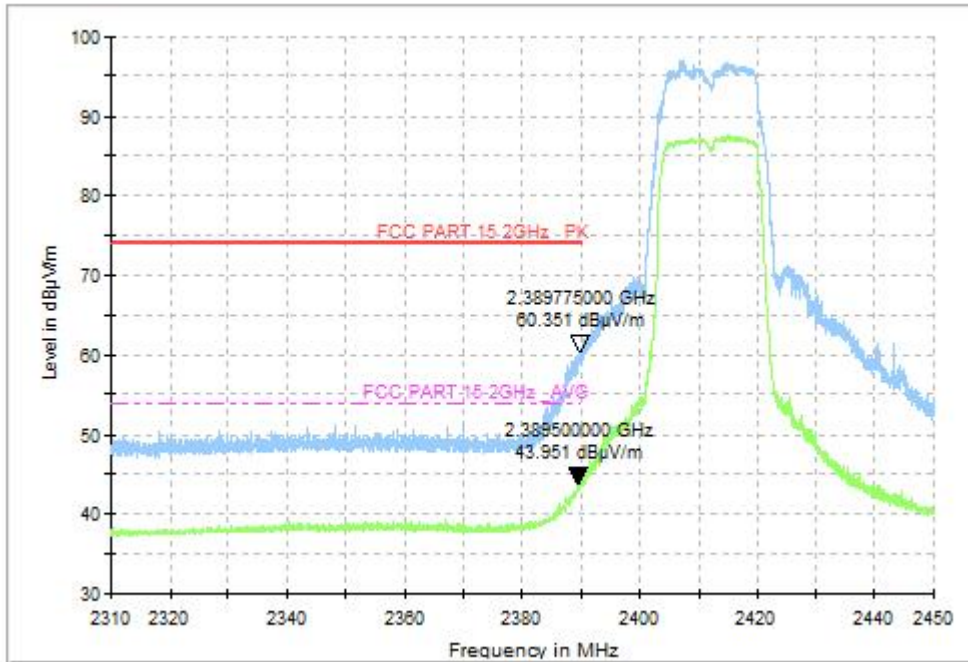


Fig.42 Radiated Restricted Band (802.11g, CH1, 2.38GHz~2.45GHz)

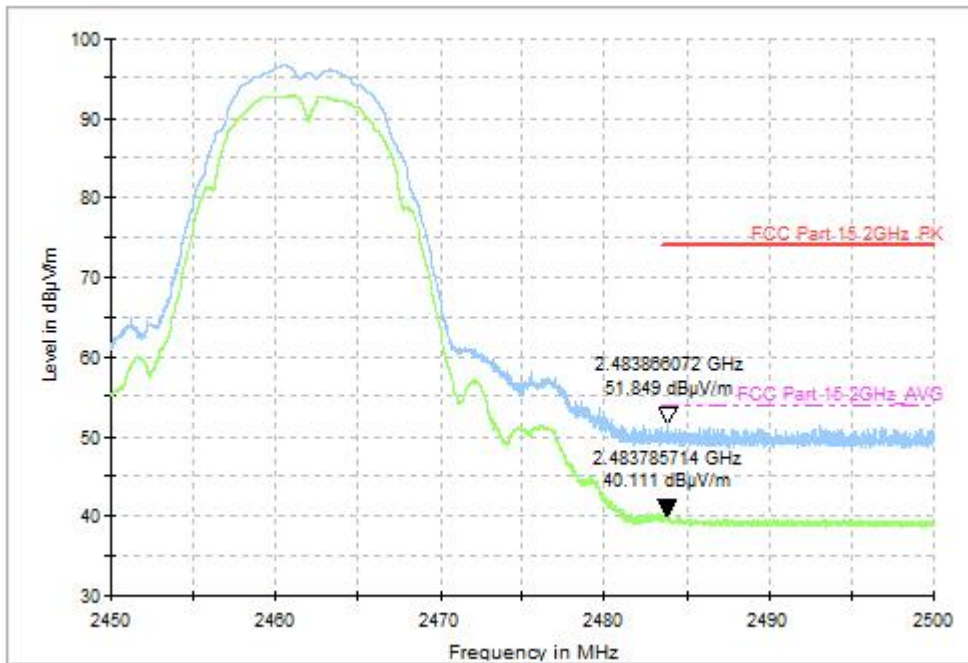


Fig.43 Radiated Restricted Band (802.11g, CH11, 2.45GHz~2.5GHz)

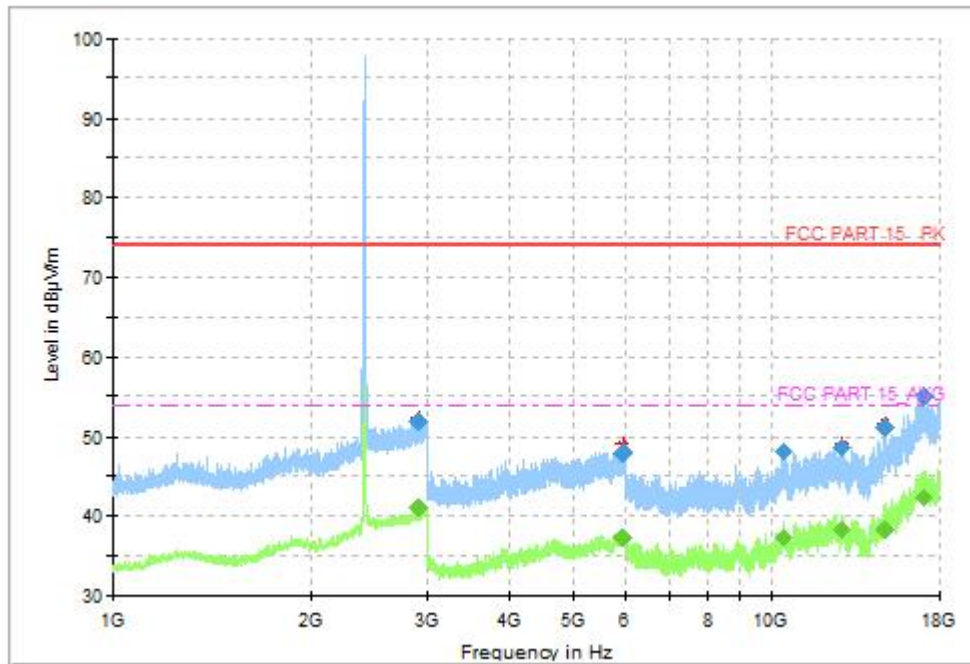


Fig.44 Radiated Spurious Emission (802.11n HT20, CH1, 1GHz-18GHz)

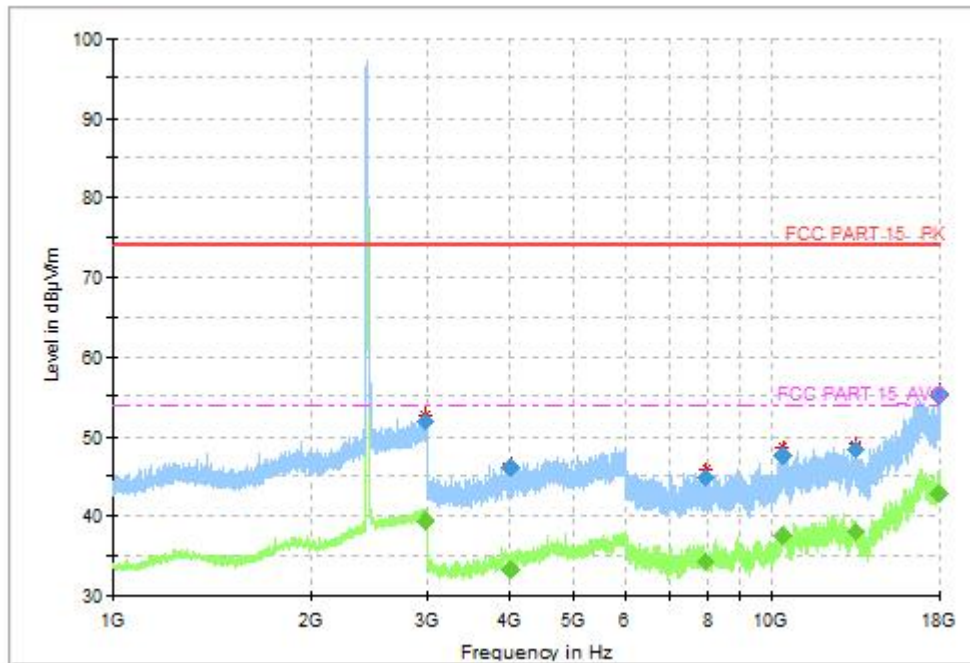


Fig.45 Radiated Spurious Emission (802.11n HT20, CH6, 1GHz-18GHz)

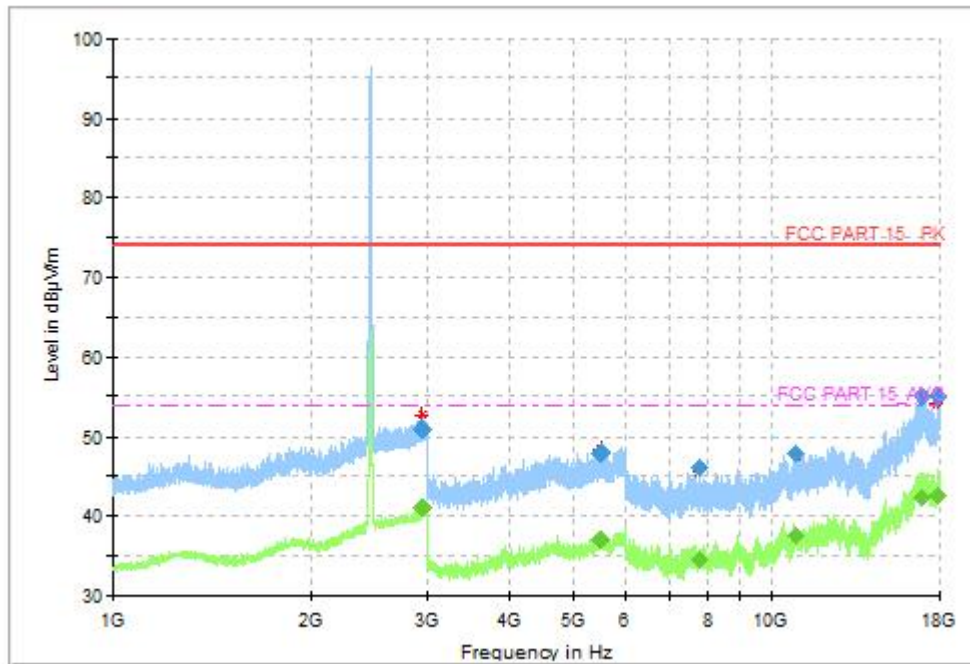


Fig.46 Radiated Spurious Emission (802.11n HT20, CH11, 1GHz-18GHz)

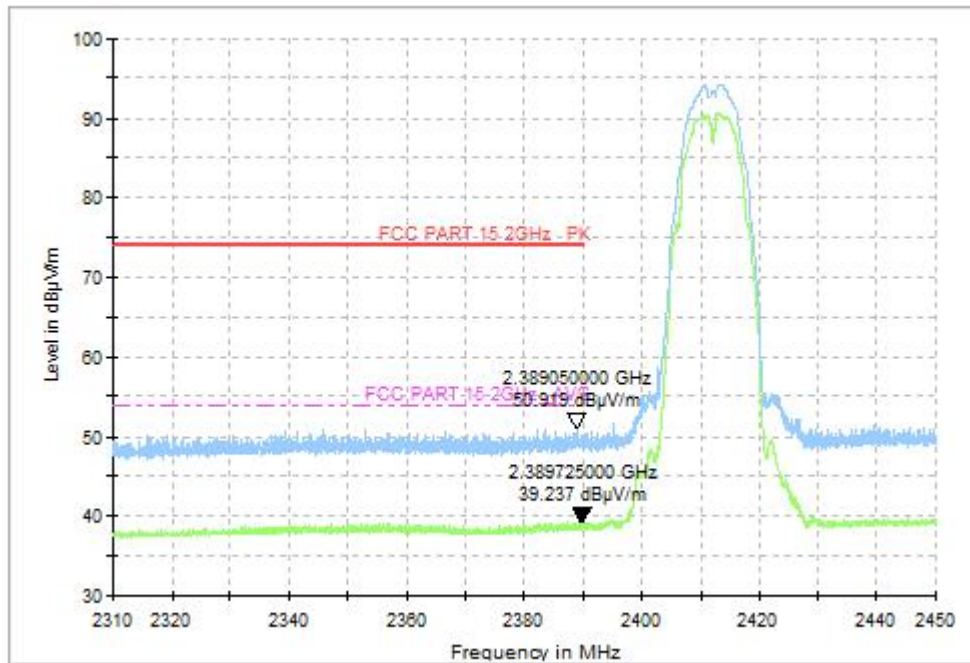


Fig.47 Radiated Restricted Band (802.11n HT20, CH1, 2.38GHz~2.45GHz)

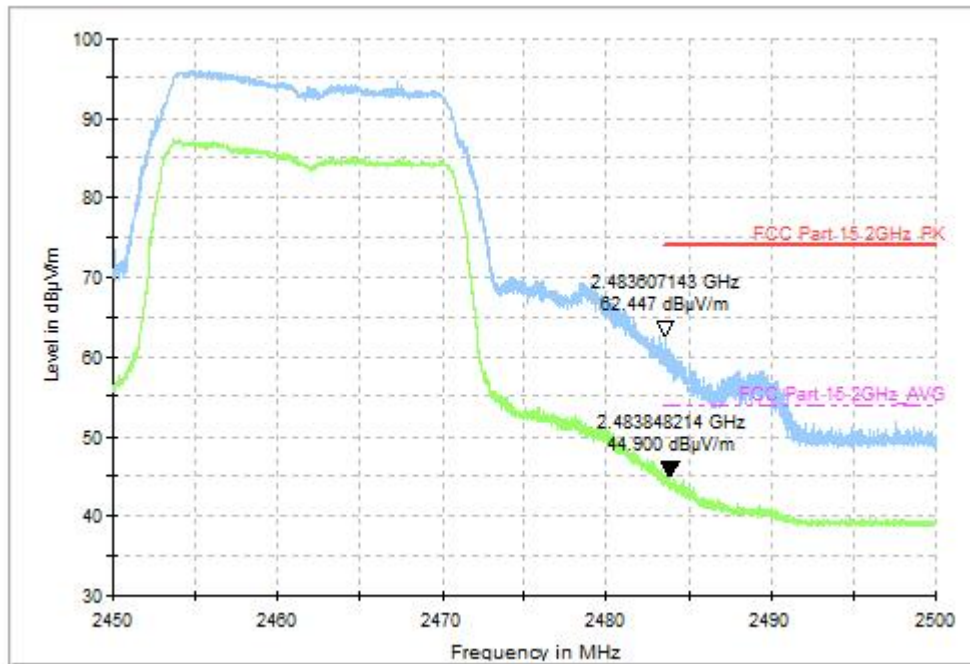


Fig.48 Radiated Restricted Band (802.11n HT20, CH11, 2.45GHz~2.5GHz)

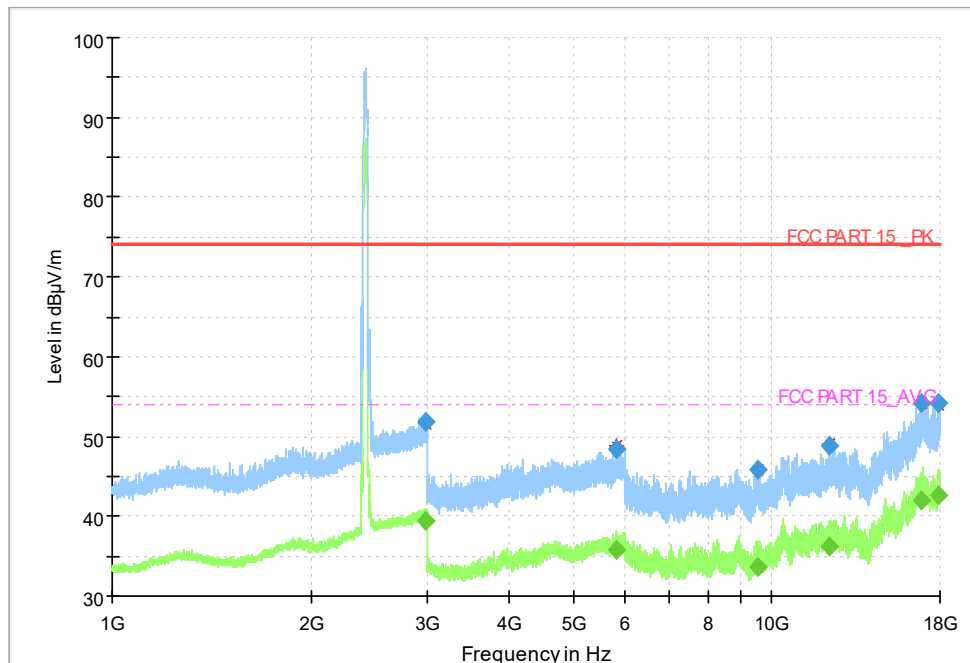


Fig.49 Radiated Spurious Emission (All Channels, 9KHz-30MHz)

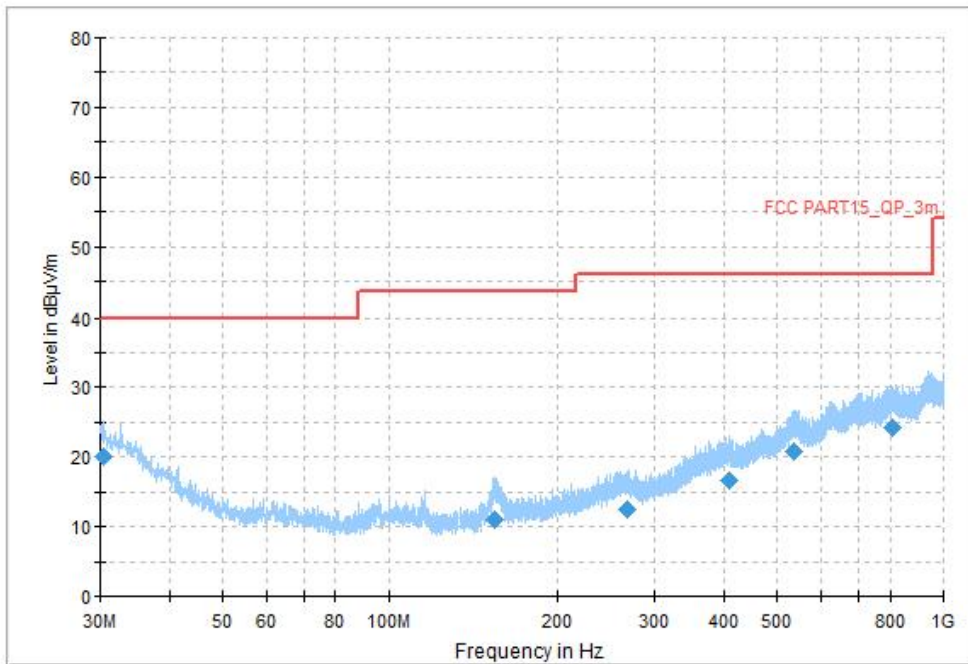


Fig.50 Radiated Spurious Emission (All Channels, 30MHz-1GHz)

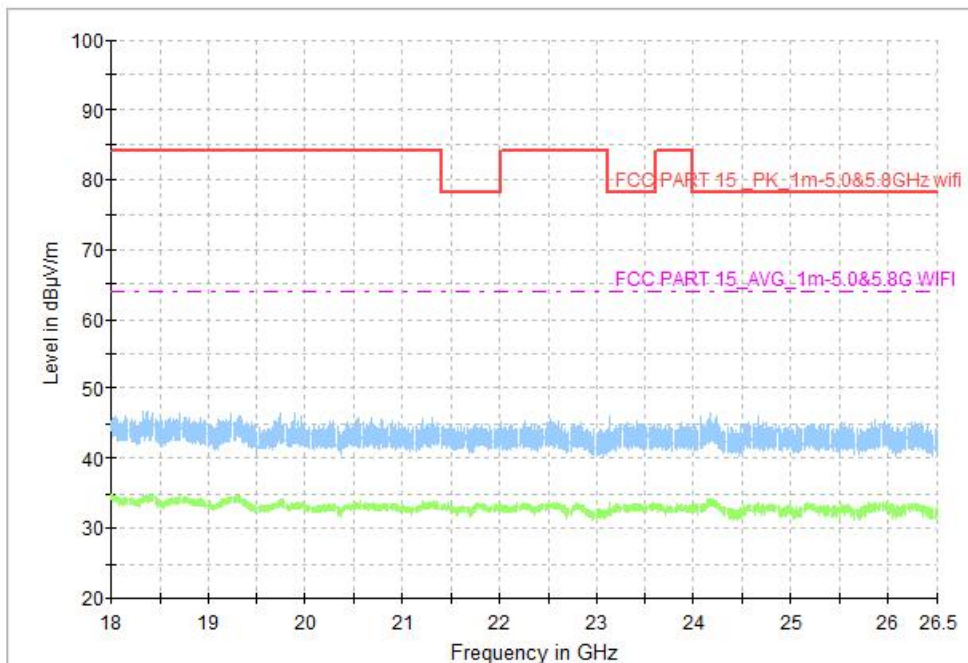


Fig.51 Radiated Spurious Emission (All Channels, 18GHz-26.5GHz)



A.7 AC Power line Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

WLAN 2.4G

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Average-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
			Traffic	Idle	
0.15 to 0.5	66 to 56	56 to 46	Fig.52	Fig.53	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

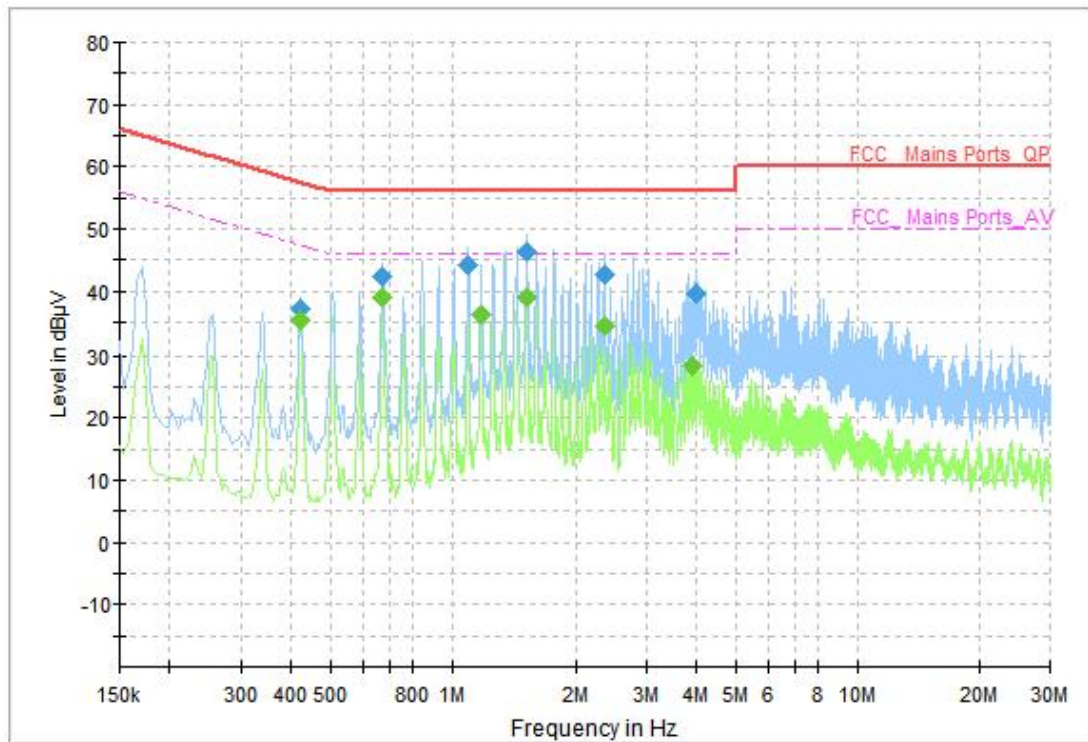


Fig.52 AC Power line Conducted Emission (Traffic, AE3, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.422000	37.25	57.41	20.16	N	ON	10
0.674000	42.35	56.00	13.65	L1	ON	10
1.098000	44.26	56.00	11.74	L1	ON	10
1.518000	46.32	56.00	9.68	L1	ON	10
2.362000	42.72	56.00	13.28	L1	ON	10
3.962000	39.55	56.00	16.45	L1	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.422000	35.42	47.41	11.99	N	ON	10
0.674000	39.17	46.00	6.83	N	ON	10
1.182000	36.41	46.00	9.59	N	ON	10
1.514000	39.08	46.00	6.92	N	ON	10
2.358000	34.41	46.00	11.59	N	ON	10
3.878000	28.27	46.00	17.73	N	ON	10

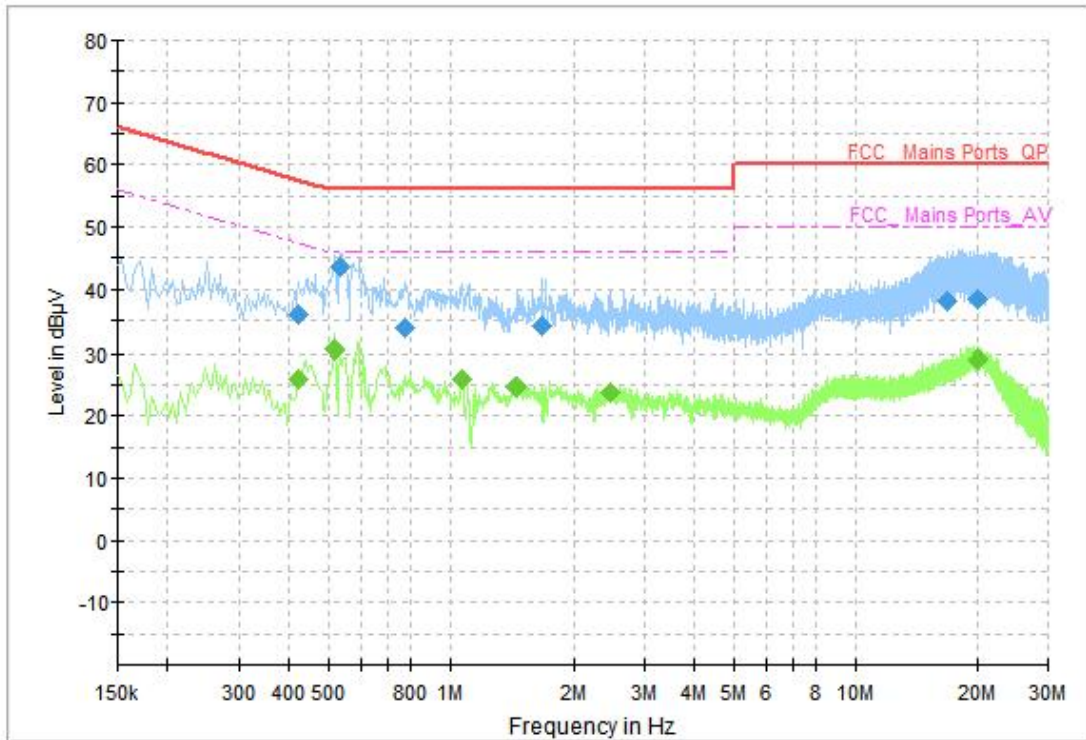


Fig.53 AC Power line Conducted Emission (Idle, AE3, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.422000	36.04	57.41	21.37	N	ON	10
0.534000	43.67	56.00	12.33	N	ON	10
0.770000	33.71	56.00	22.29	N	ON	10
1.666000	34.26	56.00	21.74	N	ON	10
16.926000	38.14	60.00	21.86	N	ON	11
20.126000	38.42	60.00	21.58	N	ON	11

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.422000	25.80	47.41	21.61	N	ON	10
0.518000	30.47	46.00	15.53	N	ON	10
1.074000	25.98	46.00	20.02	N	ON	10
1.458000	24.66	46.00	21.34	N	ON	10
2.462000	23.64	46.00	22.36	N	ON	10
20.130000	28.98	50.00	21.02	N	ON	11

END OF REPORT