TEST REPORT

No. I22N02642-WLAN 2.4GHz

TCL Communication Ltd.

Mobile Phone

Model Name: T507J

with

Hardware Version: 05

Software Version: vVK54

FCC ID: 2ACCJB186

Issued Date: 2023-01-12

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.

Test Laboratory:

Shenzhen Academy of Information and Communications Technology

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1. Summary of Test Report

1.1. Test Items

Description	Mobile Phone
Model Name	T507J
Applicant's name	TCL Communication Ltd.
Manufacturer's Name	TCL Communication Ltd.

1.2. Test Standards

FCC Part15-2019; ANSI C63.10-2013

1.3. Test Result

Pass

Please refer to 5.2 Test Results.

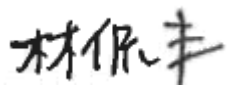
1.4. Testing Location

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

1.5. Project data

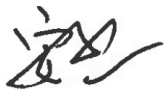
Testing Start Date:	2022-08-09
Testing End Date:	2022-09-05

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:	TCL Communication Ltd.
Address:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact Person	Annie Jiang
E-Mail	nianxiang.jiang@tcl.com
Telephone:	+86 755 3661 1621
Fax:	+86 755 3661 2000-81722

2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact Person	Annie Jiang
E-Mail	nianxiang.jiang@tcl.com
Telephone:	+86 755 3661 1621
Fax:	+86 755 3661 2000-81722

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

3.1. About EUT

Description	Mobile Phone
Model Name	T507J
RF Protocol	IEEE 802.11 b/g/n20/n40
Operating Frequency	2412MHz~2462MHz
Number of Channels	11
Antenna Type	Integrated
Antenna Gain	-1.21 dBi
Power Supply	3.85V DC by Battery
FCC ID	2ACCJB186
Condition of EUT as received	No abnormality in appearance

3.2. Internal Identification of EUT

EUT ID*	IMEI	HW Version	SW Version	Receive Date
UT01aa	350634890001540	05	vVK54	2022-08-09
UT18aa	353380540006466	05	vVK54	2022-08-16

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

*UT01aa is used for Conduction test; UT18aa 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	Battery	/
AE3	Charger	/
AE4	Charger	/

AE1

Model	TLp048A8
Manufacturer	Dongguan Ganfeng Electronics co., LTD
Capacity	5000mAh
Nominal Voltage	3.85V

AE2

Model	TLp048A7
Manufacturer	VEKEN
Capacity	5000mAh
Nominal Voltage	3.85V

AE3

Model	UT-681A-5200ZCY
Manufacturer	Shenzhen Baijunda Electronic Co., Ltd

AE4

Model	UC13US
Manufacturer	Puan

*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 Mobile Phone 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	2019
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/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.

According to the customer's description, T507J (I22N02642) is a variant product of T506A (I22N01585). All results were from the initial model.

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	LISN	ENV216	102067	R&S	2023-07-14	1 year
2	Test Receiver	ESCI	100702	R&S	2023-01-12	1 year
3	Loop Antenna	HLA6120	35779	TESEQ	2025-04-24	3 year
4	BiLog Antenna	3142E	0224831	ETS-Lindgren	2024-05-27	3 year
5	Horn Antenna	3117	00066577	ETS-Lindgren	2025-04-01	3 year
6	Test Receiver	ESR7	101676	R&S	2022-11-24	1 year
7	Spectrum Analyzer	FSV40	101192	R&S	2023-01-12	1 year
8	Chamber	FACT3-2.0	1285	ETS-Lindgren	2023-05-29	2 year
9	Antenna	QSH-SL-1 8-26-S-20	17013	Q-par	2023-01-06	3 year
10	Antenna	QSH-SL-1 8-40-K-SG	15979	Q-par	2023-01-06	3 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

Semi-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	> 2MΩ
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	< ±4 dB, 3 m distance, from 30 to 1000 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	> 2MΩ
Ground system resistance	< 4 Ω

Fully-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	> 2MΩ
Ground system resistance	< 4 Ω
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	30MHz≤f<1GHz	1.41dB
	1GHz≤f<7GHz	1.92dB
	7GHz≤f<13GHz	2.31dB
	13GHz≤f≤26GHz	2.61dB
5. Transmitter Spurious Emission - Radiated	9kHz≤f<30MHz	1.79dB
	30MHz≤f<1GHz	4.86dB
	1GHz≤f<18GHz	4.50dB
	18GHz≤f≤40GHz	2.90dB
6. AC Power line Conducted Emission	150kHz≤f≤30MHz	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 -1.21 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	15.71	15.92	15.72
	2	/	15.87	/
	5.5	/	15.86	/
	11	/	15.82	/
802.11g	6	13.75	13.69	13.33
	9	/	13.65	/
	12	/	13.64	/
	18	/	13.60	/
	24	/	13.58	/
	36	/	13.52	/
	48	/	13.47	/
	54	/	13.45	/

802.11n HT20 mode

Mode	Date Rate (Index)	Test Result (dBm)		
		2412MHz (CH1)	2437MHz (CH6)	2462MHz (CH11)
802.11n HT20	MCS 0	13.39	13.86	13.65
	MCS 1	/	13.52	/
	MCS 2	/	13.51	/
	MCS 3	/	13.48	/
	MCS 4	/	13.46	/
	MCS 5	/	13.41	/
	MCS 6	/	13.38	/
	MCS 7	/	13.37	/

802.11n HT40 mode

Mode	Date Rate (Index)	Test Result (dBm)		
		2422MHz (CH3)	2437MHz (CH6)	2452MHz (CH9)
802.11n HT40	MCS 0	14.13	14.04	13.81
	MCS 1	/	14.01	/
	MCS 2	/	13.96	/
	MCS 3	/	13.92	/
	MCS 4	/	13.88	/
	MCS 5	/	13.89	/
	MCS 6	/	13.85	/
	MCS 7	/	13.83	/

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	14.50	P
	CH 6	2437	14.71	P
	CH 11	2462	14.51	P
802.11g	CH 1	2412	12.54	P
	CH 6	2437	12.48	P
	CH 11	2462	12.12	P
802.11n HT20	CH 1	2412	12.18	P
	CH 6	2437	12.65	P
	CH 11	2462	12.44	P
802.11n HT40	CH 3	2422	12.92	P
	CH 6	2437	12.83	P
	CH 9	2452	12.60	P

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

A.2 Peak Power Spectral Density

Measurement Limit:

Standard	Limit
FCC CRF Part 15.247(e)	< 8 dBm/3 kHz

Measurement Results:

Mode	Channel	Frequency (MHz)	Test Results (dBm)		Conclusion
802.11b	CH 1	2412	Fig.1	-5.09	P
	CH 6	2437	Fig.2	-5.62	P
	CH 11	2462	Fig.3	-5.16	P
802.11g	CH 1	2412	Fig.4	-10.03	P
	CH 6	2437	Fig.5	-9.10	P
	CH 11	2462	Fig.6	-9.90	P
802.11n HT20	CH 1	2412	Fig.7	-10.67	P
	CH 6	2437	Fig.8	-11.08	P
	CH 11	2462	Fig.9	-10.96	P
802.11n HT40	CH 3	2422	Fig.10	-12.77	P
	CH 6	2437	Fig.11	-13.23	P
	CH 9	2452	Fig.12	-13.20	P

See below for test graphs.
Conclusion: PASS

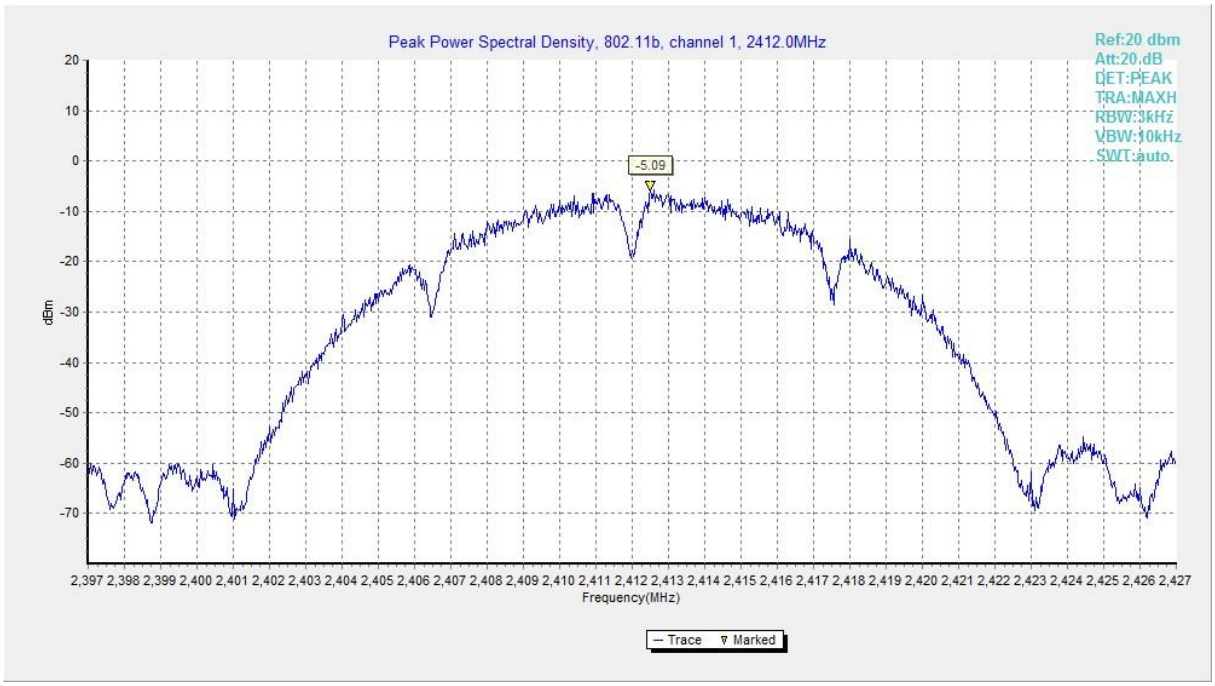


Fig.1 Power Spectral Density (802.11b, CH 1)

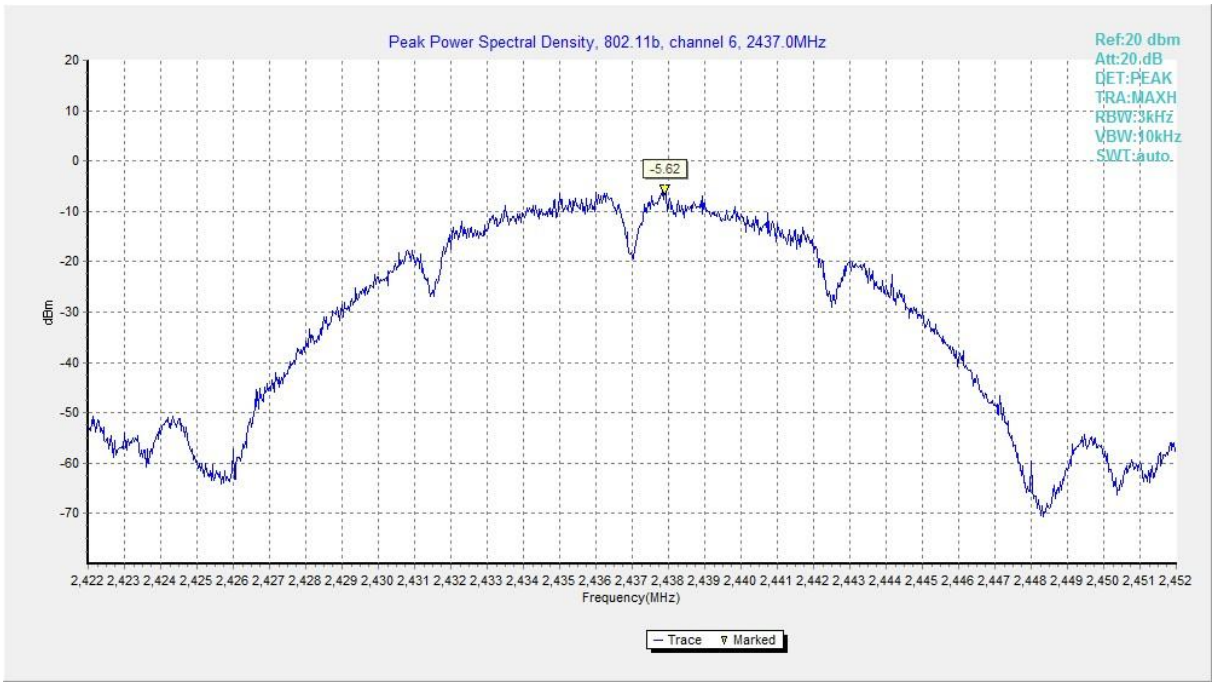


Fig.2 Power Spectral Density (802.11b, CH 6)

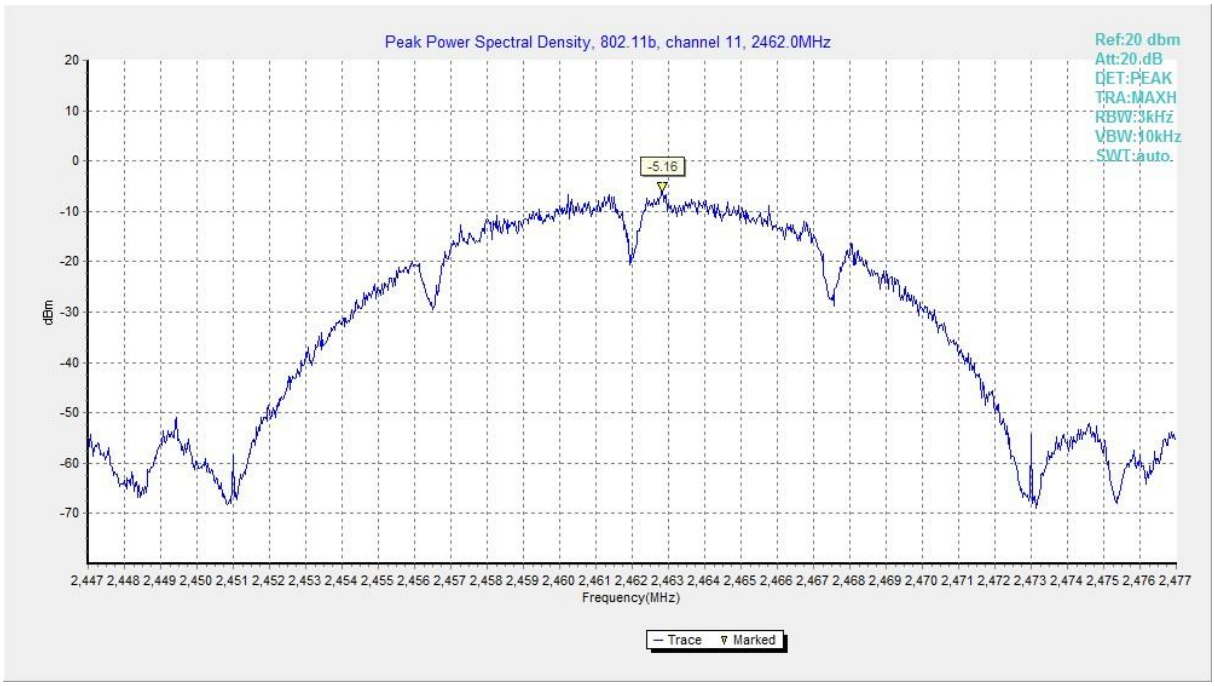


Fig.3 Power Spectral Density (802.11b, CH 11)

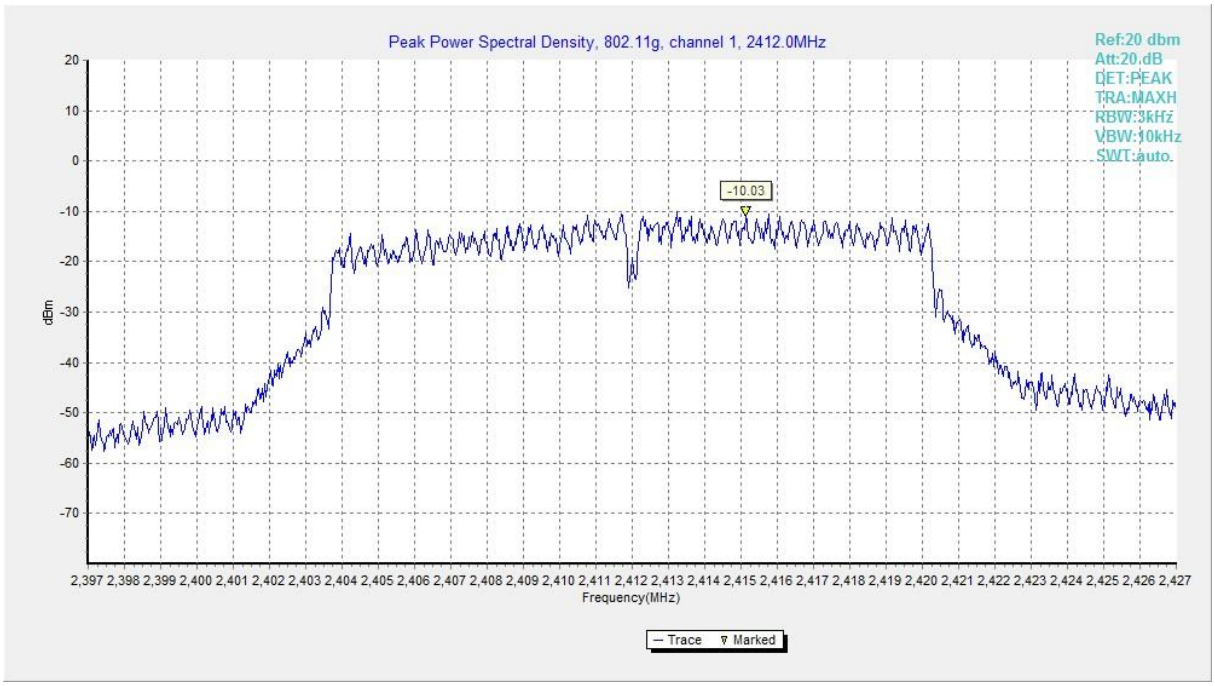


Fig.4 Power Spectral Density (802.11g, CH 1)

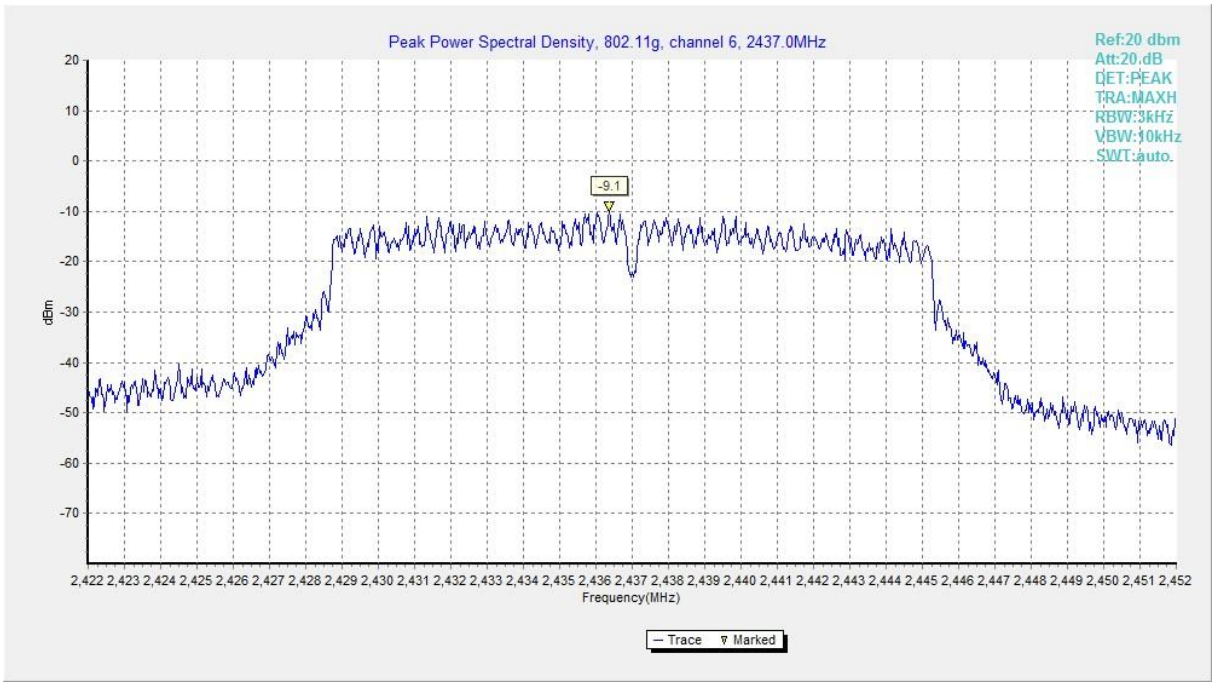


Fig.5 Power Spectral Density (802.11g, CH 6)

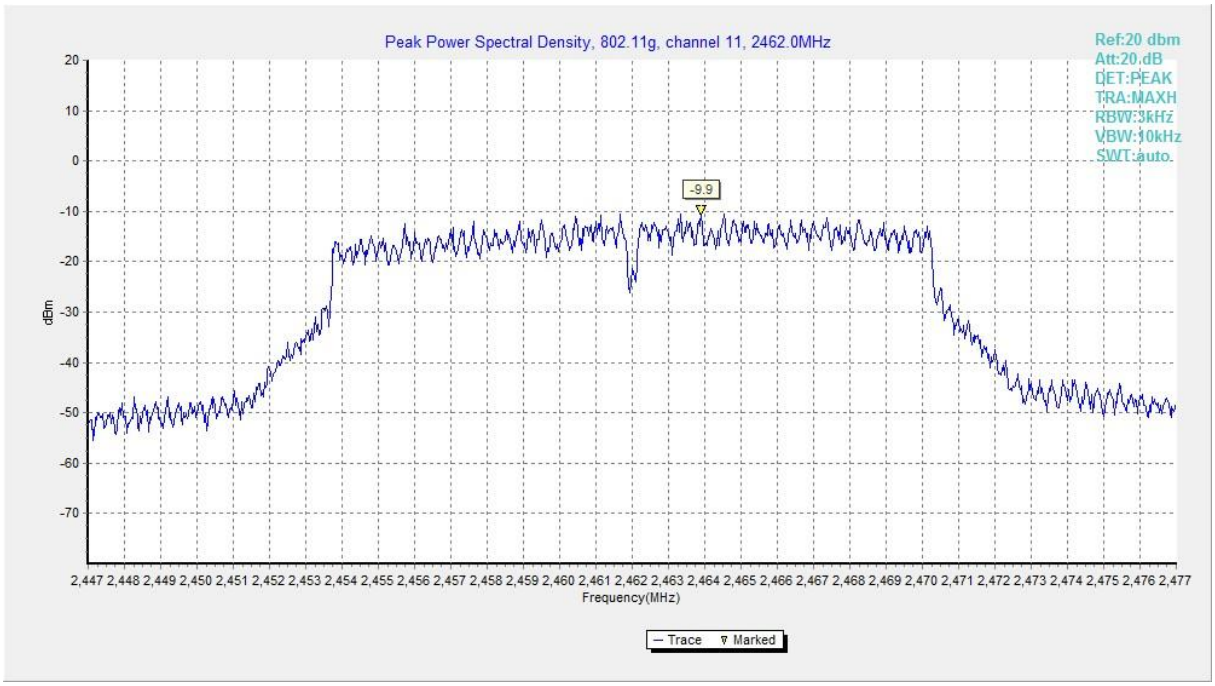


Fig.6 Power Spectral Density (802.11g, CH 11)

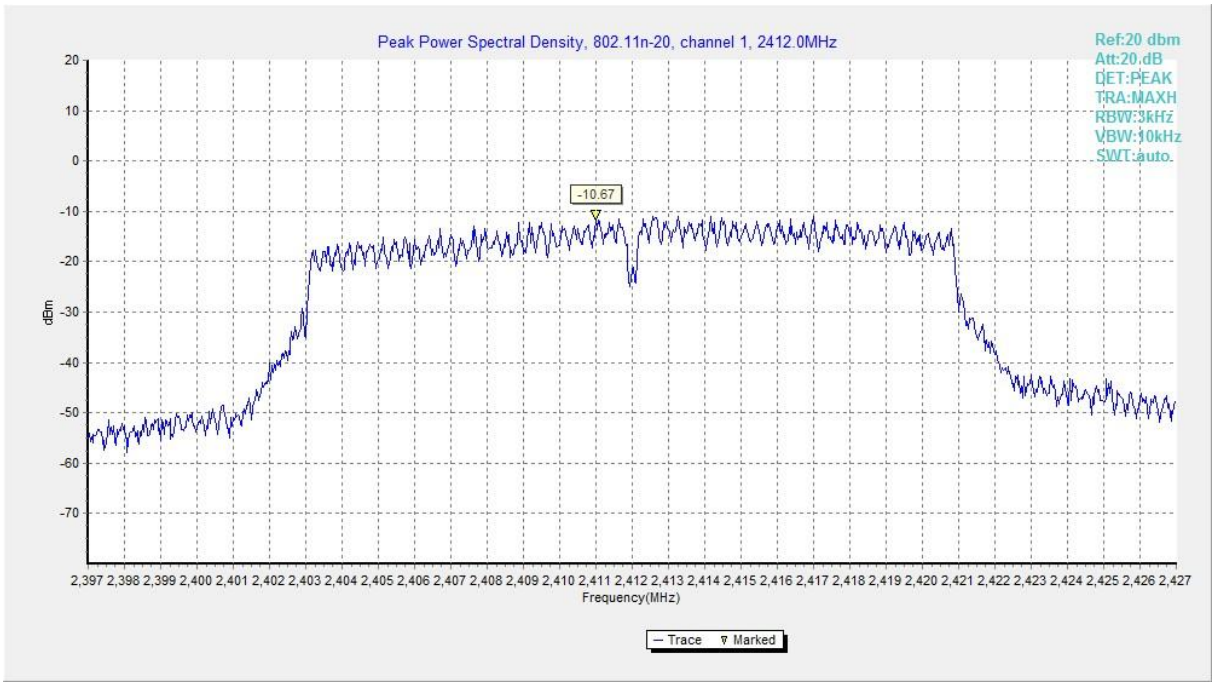


Fig.7 Power Spectral Density (802.11n HT20, CH 1)

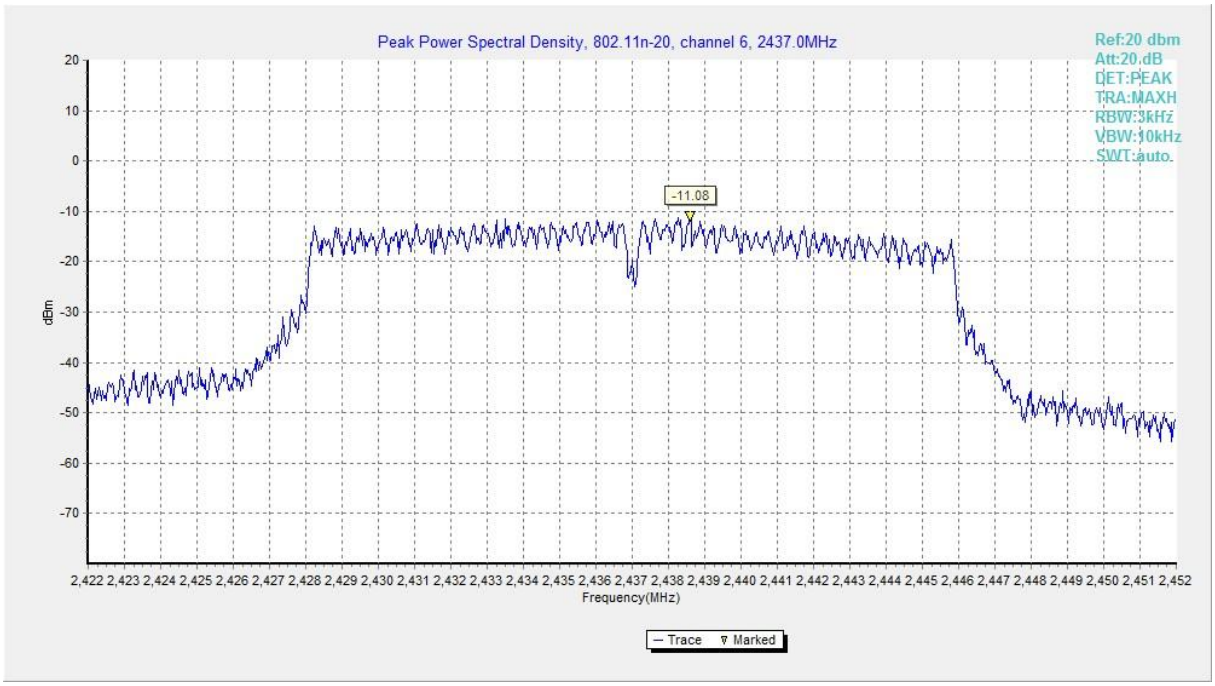


Fig.8 Power Spectral Density (802.11n HT20, CH 6)

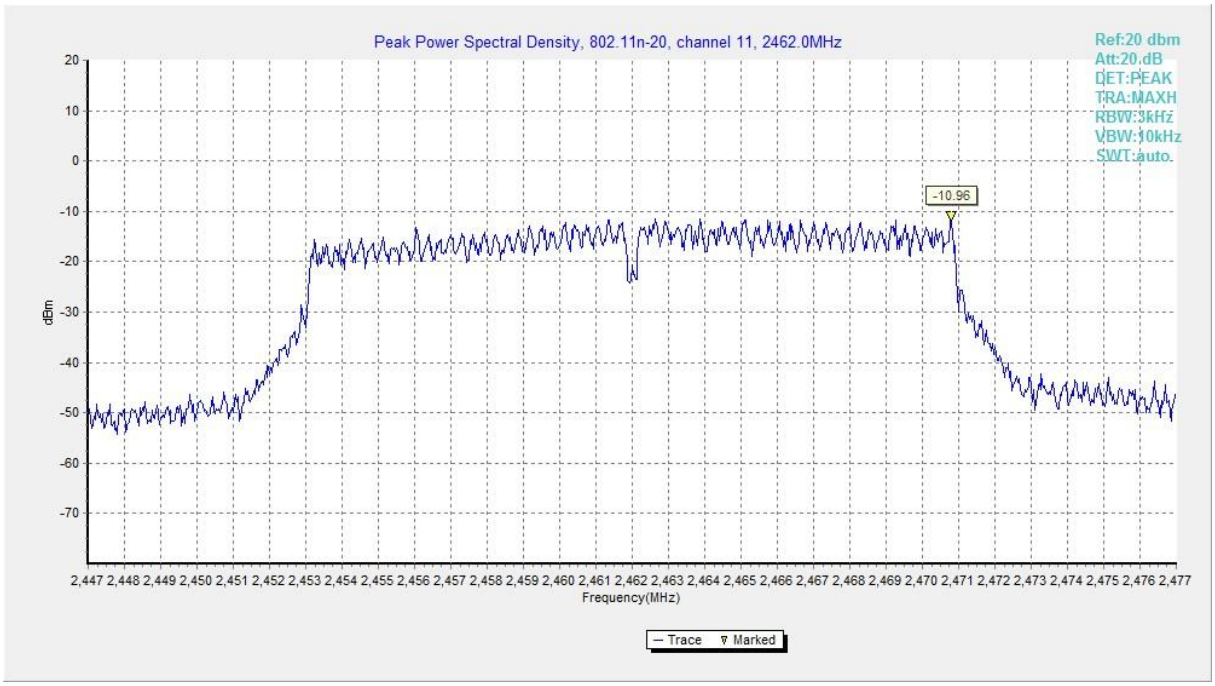


Fig.9 Power Spectral Density (802.11n HT20, CH 11)

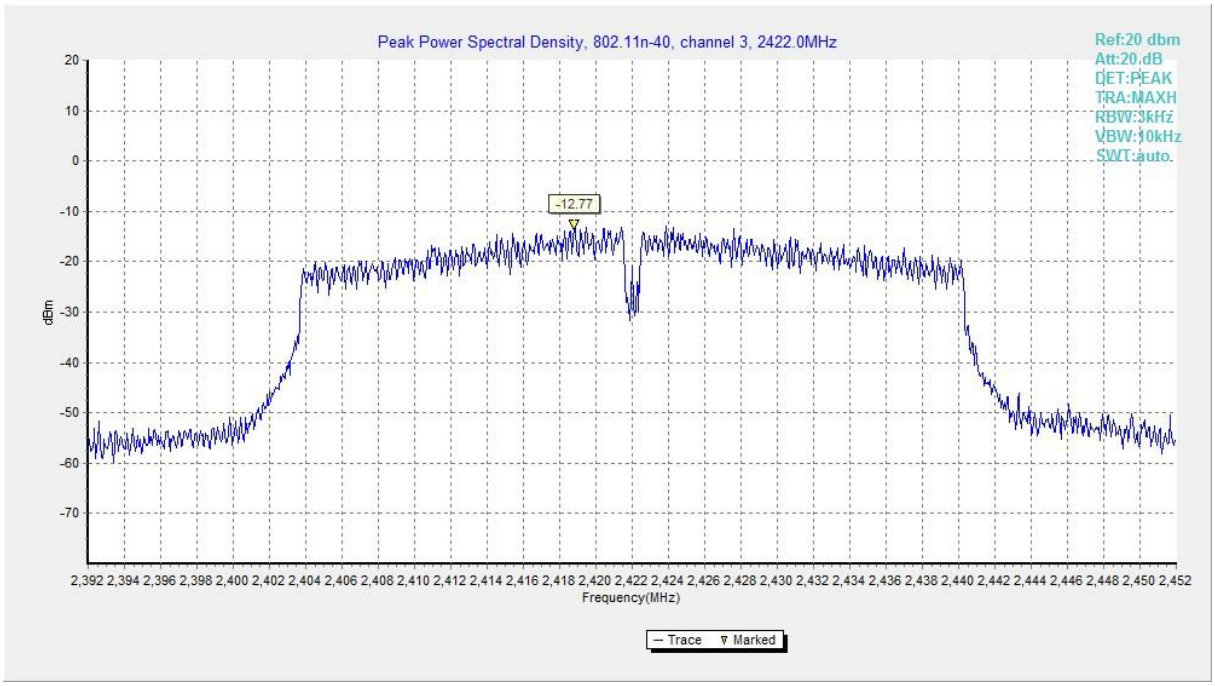


Fig.10 Power Spectral Density (802.11n HT40, CH 3)

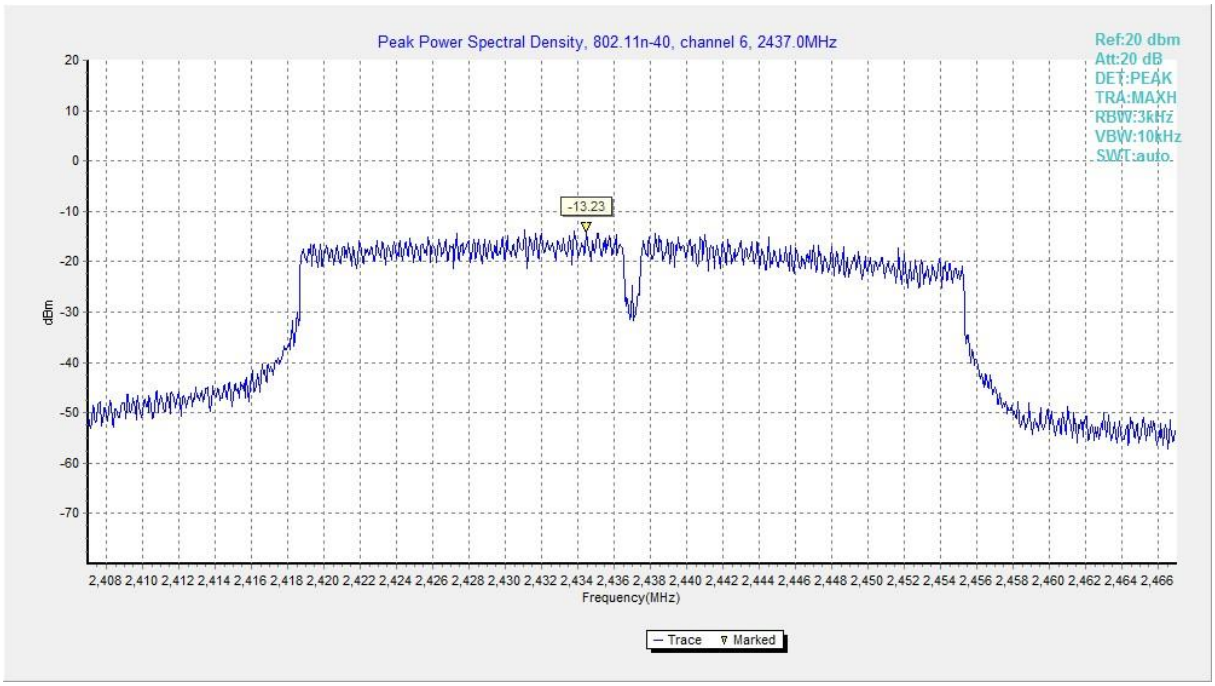


Fig.11 Power Spectral Density (802.11n HT40, CH 6)

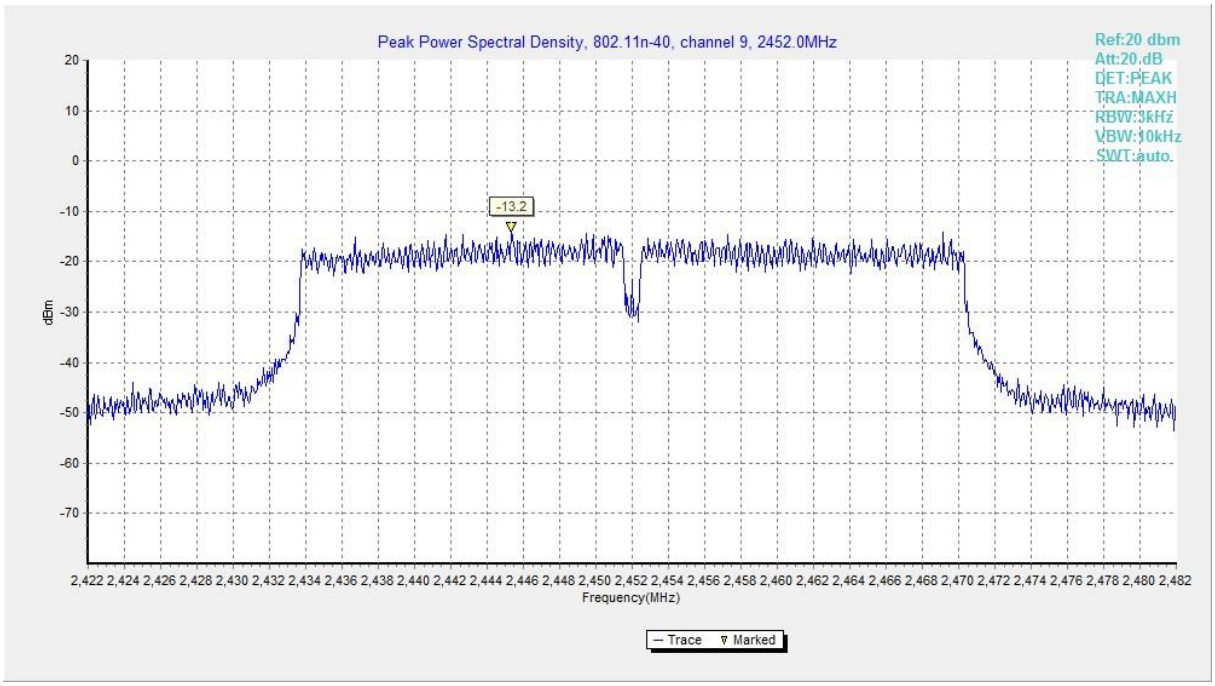


Fig.12 Power Spectral Density (802.11n HT40, CH 9)

A.3 6dB Bandwidth

Measurement Limit:

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

Measurement Result:

Mode	Channel	Frequency (MHz)	Test Results (kHz)		Conclusion
802.11b	CH 1	2412	Fig.13	8100	P
	CH 6	2437	Fig.14	8550	P
	CH 11	2462	Fig.15	8550	P
802.11g	CH 1	2412	Fig.16	15700	P
	CH 6	2437	Fig.17	15500	P
	CH 11	2462	Fig.18	15700	P
802.11n HT20	CH 1	2412	Fig.19	16000	P
	CH 6	2437	Fig.20	16100	P
	CH 11	2462	Fig.21	16350	P
802.11n HT40	CH 3	2422	Fig.22	28800	P
	CH 6	2437	Fig.23	35440	P
	CH 9	2452	Fig.24	35760	P

See below for test graphs.
Conclusion: PASS

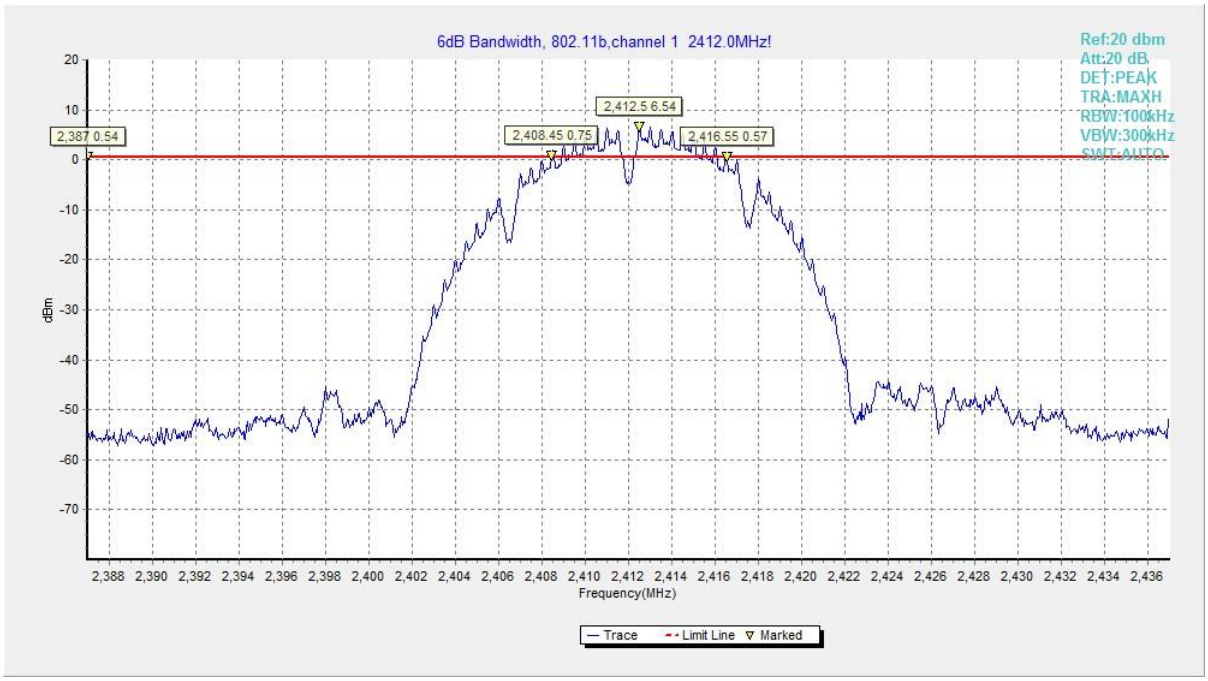


Fig.13 6dB Bandwidth (802.11b, CH 1)

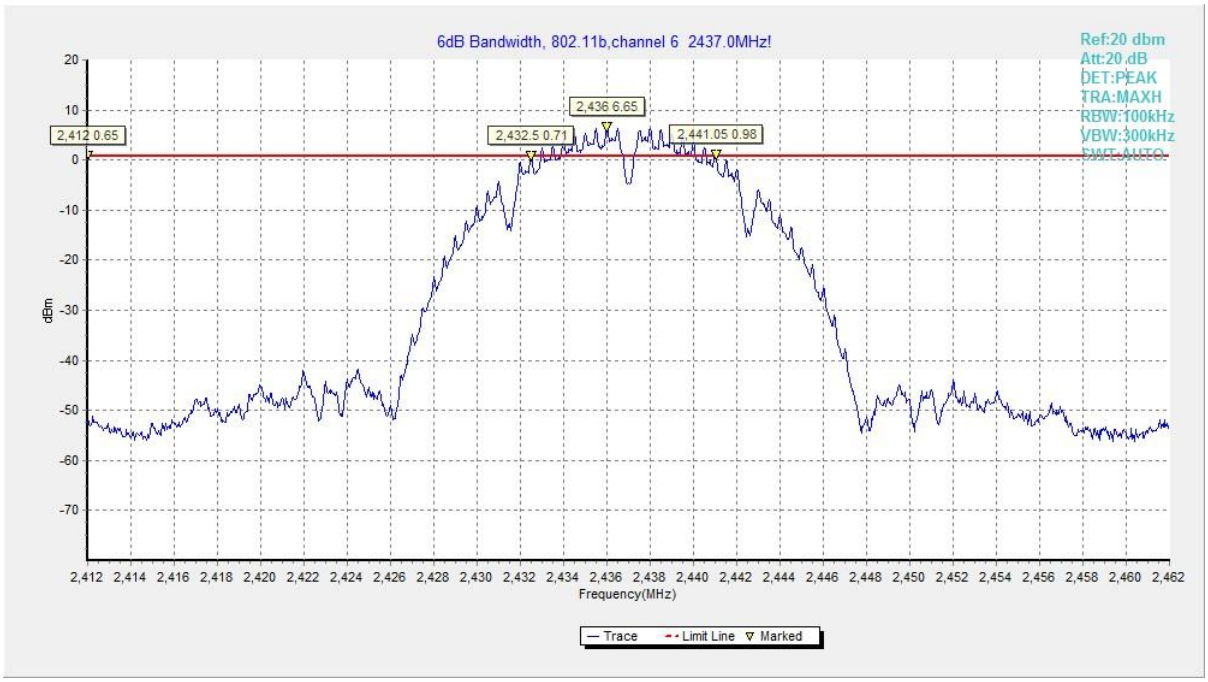


Fig.14 6dB Bandwidth (802.11b, CH 6)

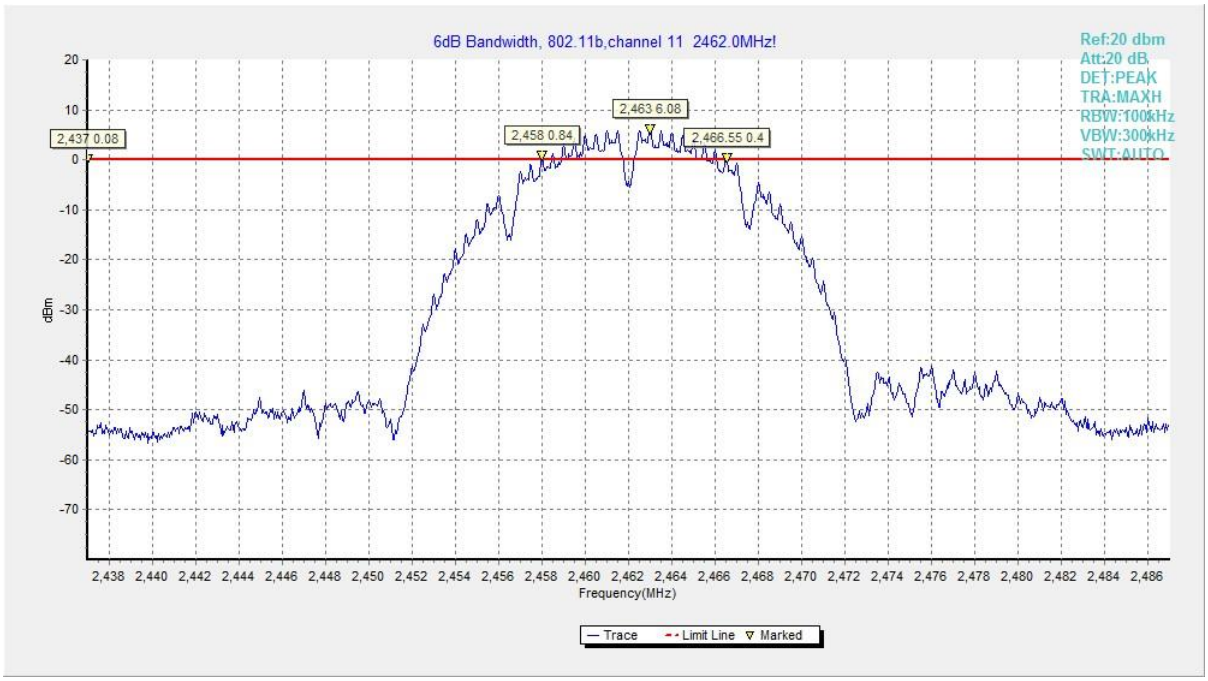


Fig.15 6dB Bandwidth (802.11b, CH 11)

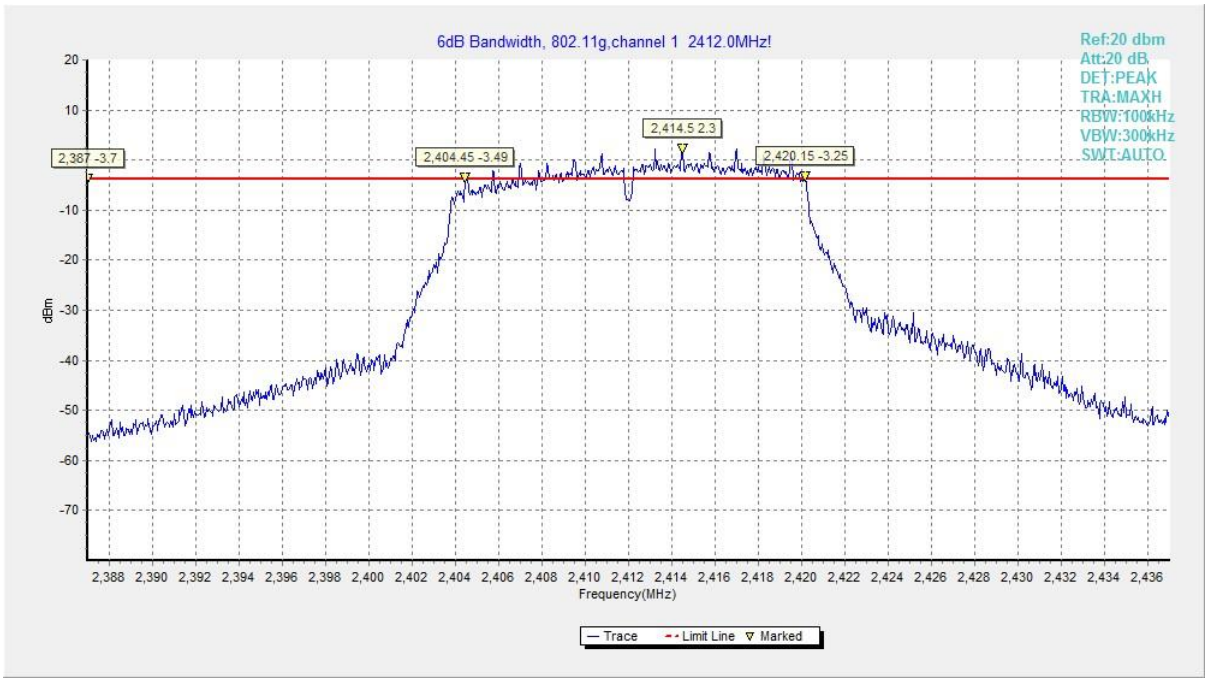


Fig.16 6dB Bandwidth (802.11g, CH 1)

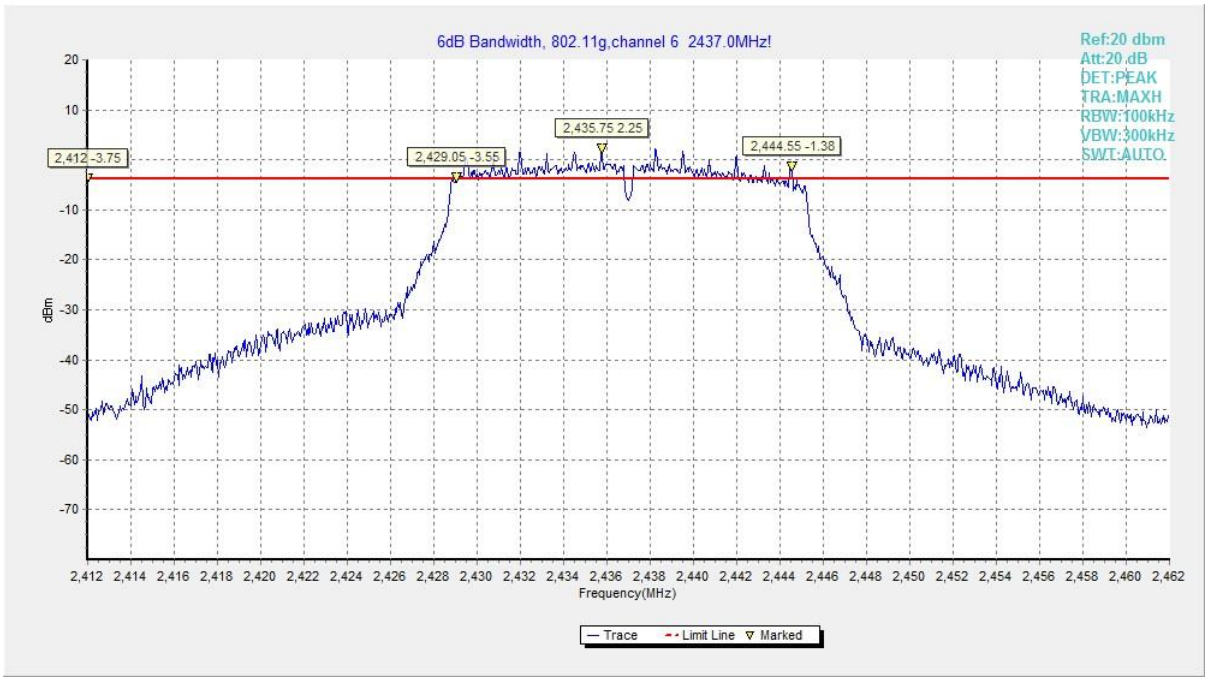


Fig.17 6dB Bandwidth (802.11g, CH 6)

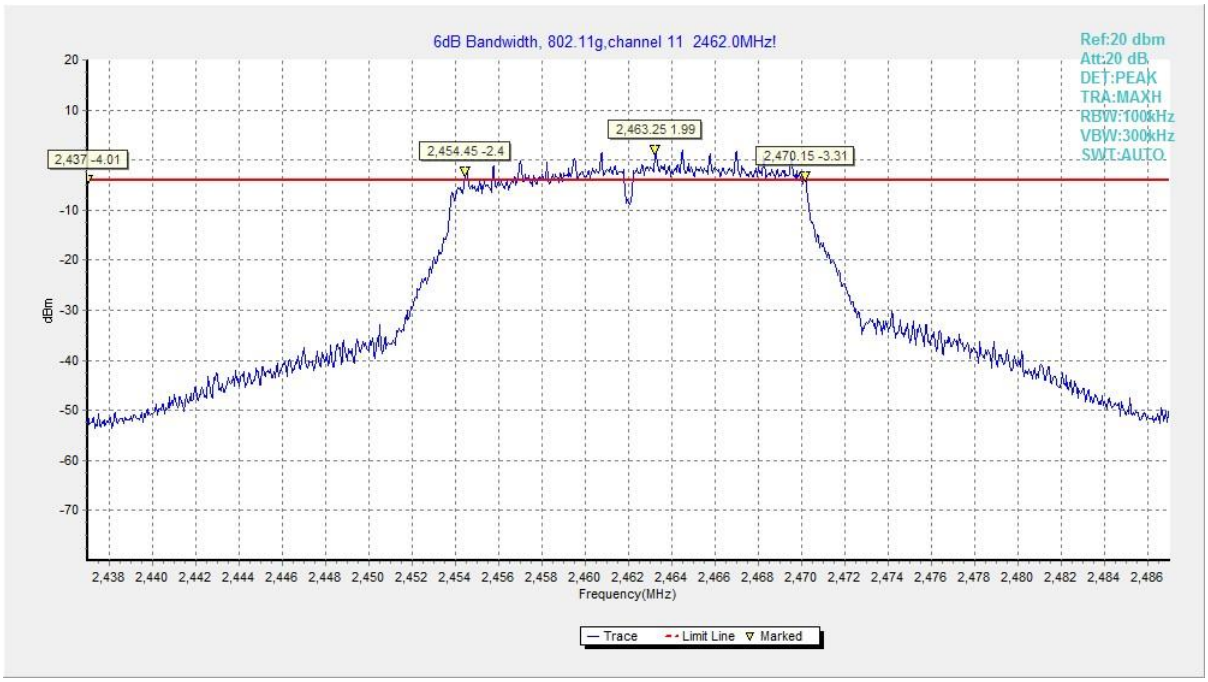


Fig.18 6dB Bandwidth (802.11g, CH 11)

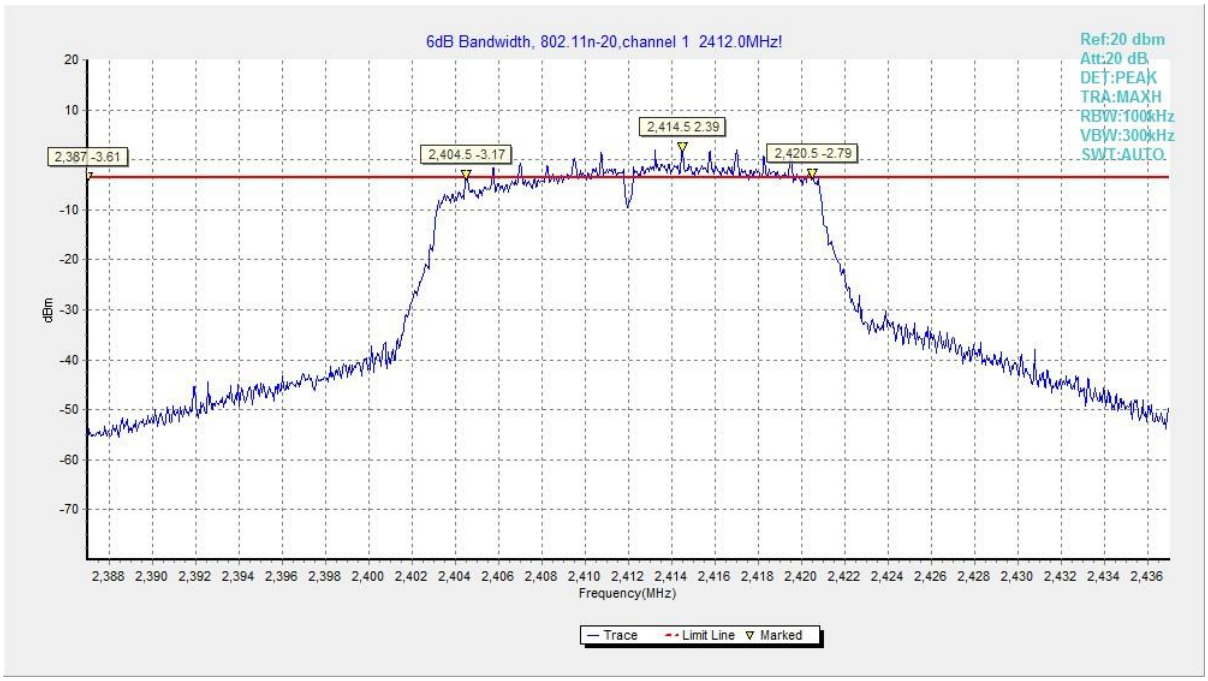


Fig.19 6dB Bandwidth (802.11n HT20, CH 1)

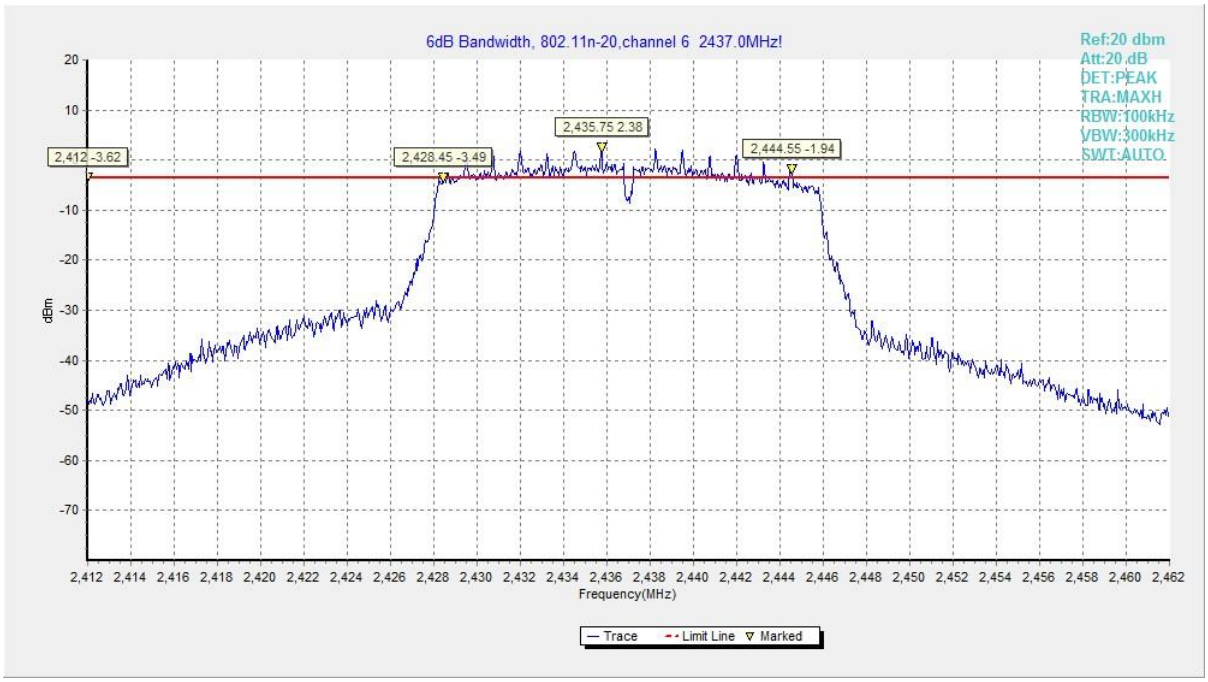


Fig.20 6dB Bandwidth (802.11n HT20, CH 6)

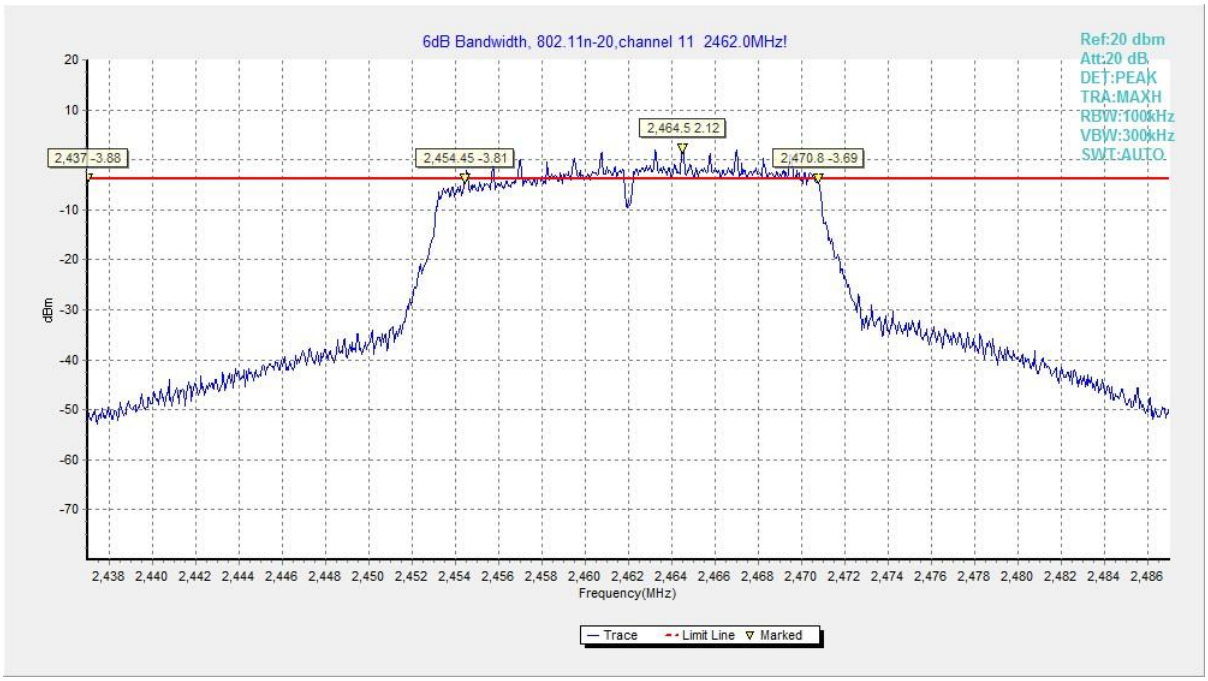


Fig.21 6dB Bandwidth (802.11n HT20, CH 11)

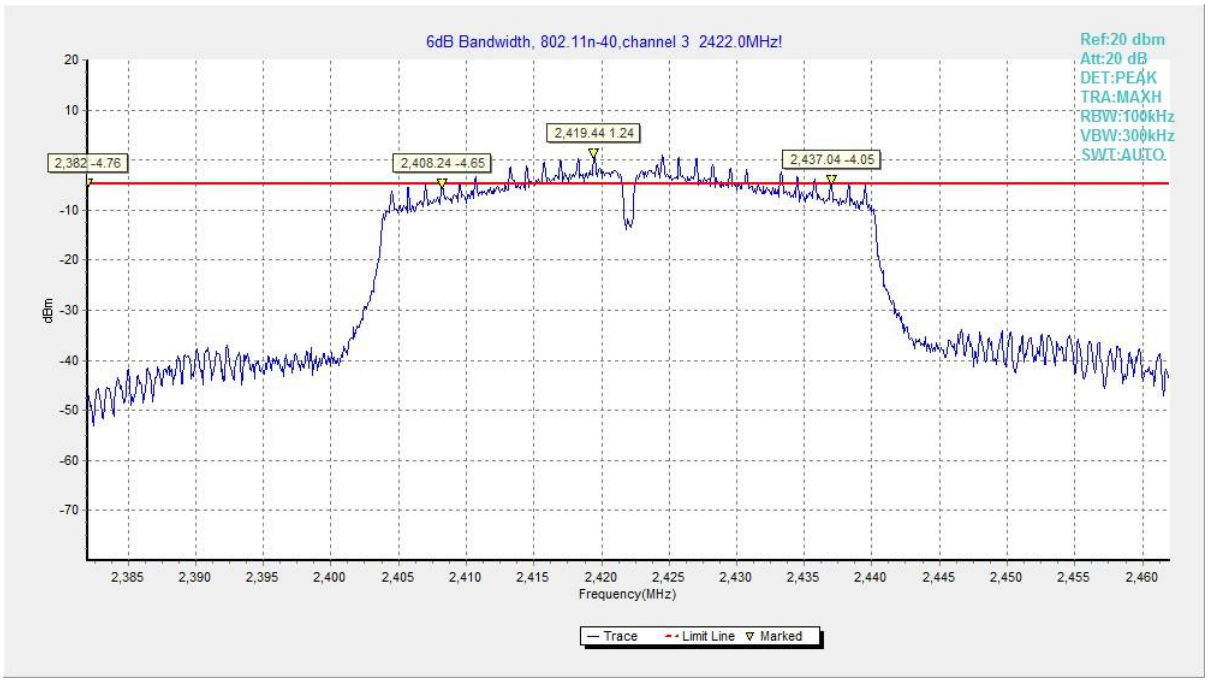


Fig.22 6dB Bandwidth (802.11n HT40, CH 3)

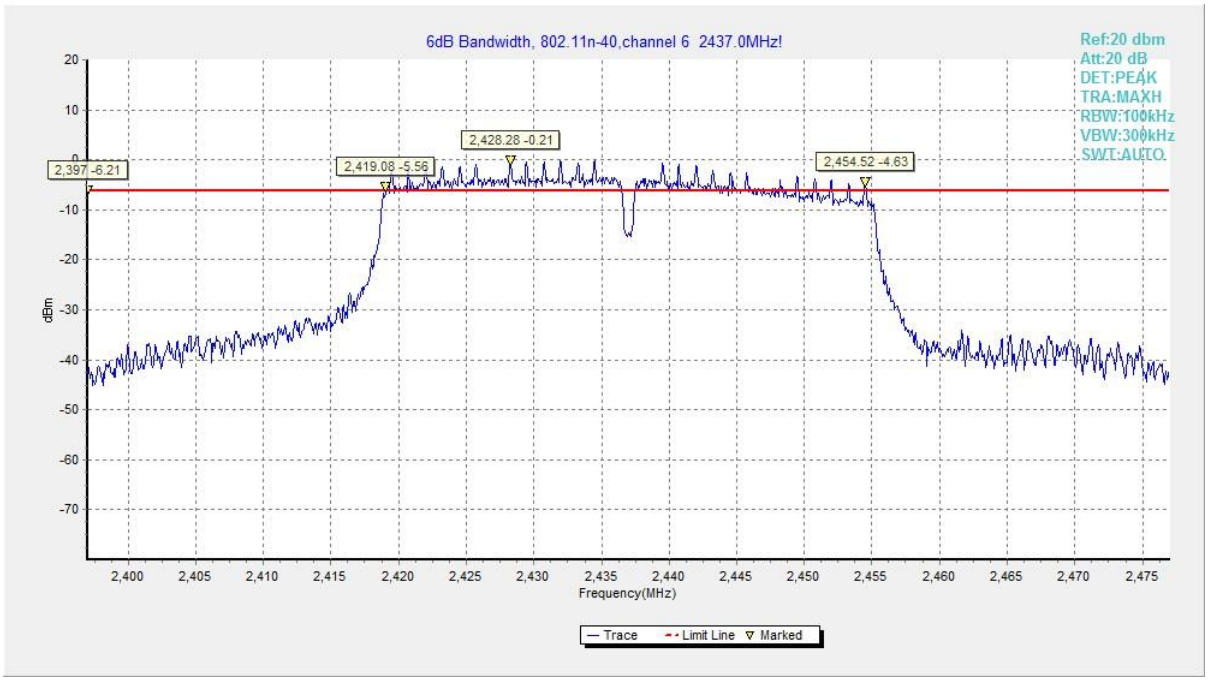


Fig.23 6dB Bandwidth (802.11n HT40, CH 6)

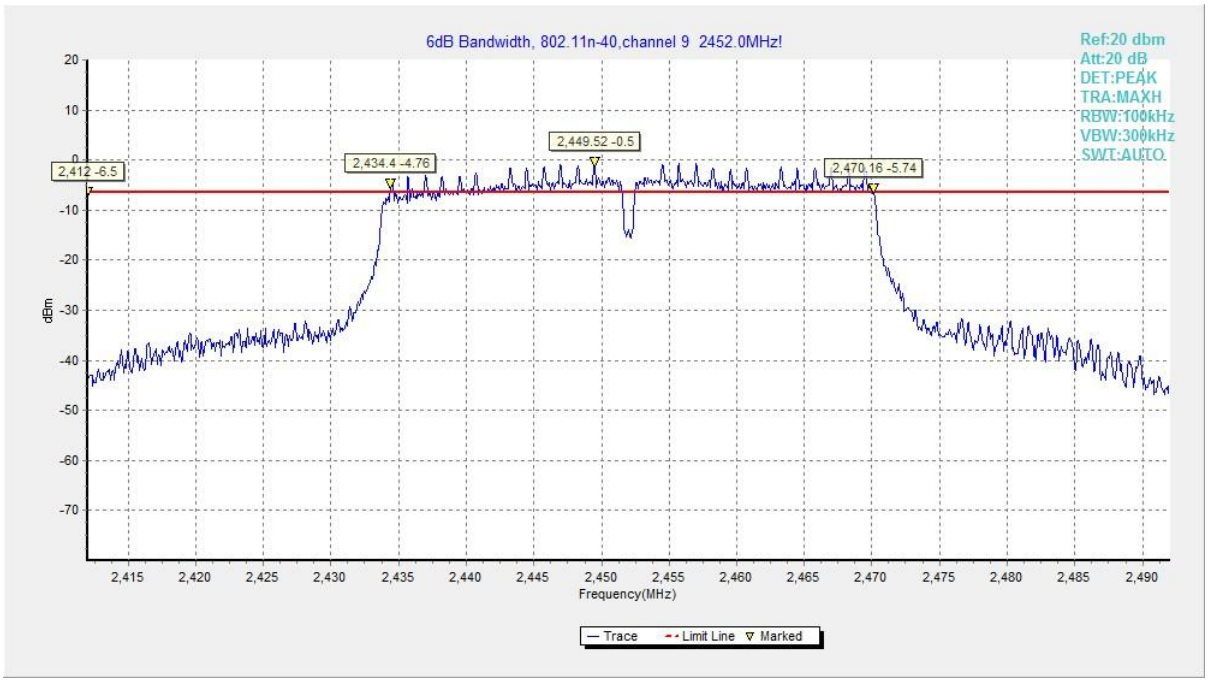


Fig.24 6dB Bandwidth (802.11n HT40, CH 9)

A.4 Band Edges Compliance

Measurement Limit:

Standard	Limit (dB)
FCC 47 CFR Part 15.247 (d)	> 20

Measurement Result:

Mode	Channel	Frequency (MHz)	Test Results (dB)		Conclusion
802.11b	CH 1	2412	Fig.25	57.09	P
	CH 11	2462	Fig.26	60.95	P
802.11g	CH 1	2412	Fig.27	42.00	P
	CH 11	2462	Fig.28	49.61	P
802.11n HT20	CH 1	2412	Fig.29	33.35	P
	CH 11	2462	Fig.30	42.22	P
802.11n HT40	CH 3	2422	Fig.31	42.78	P
	CH 9	2452	Fig.32	37.44	P

See below for test graphs.
Conclusion: PASS

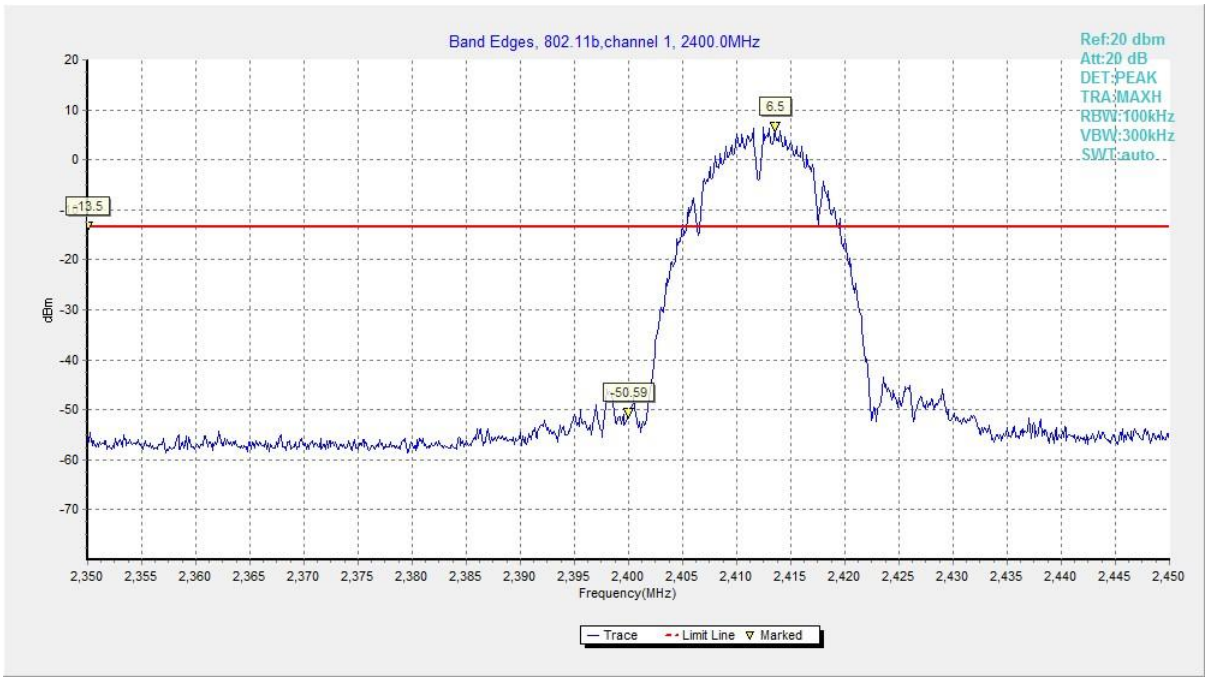


Fig.25 Band Edges (802.11b, CH 1)

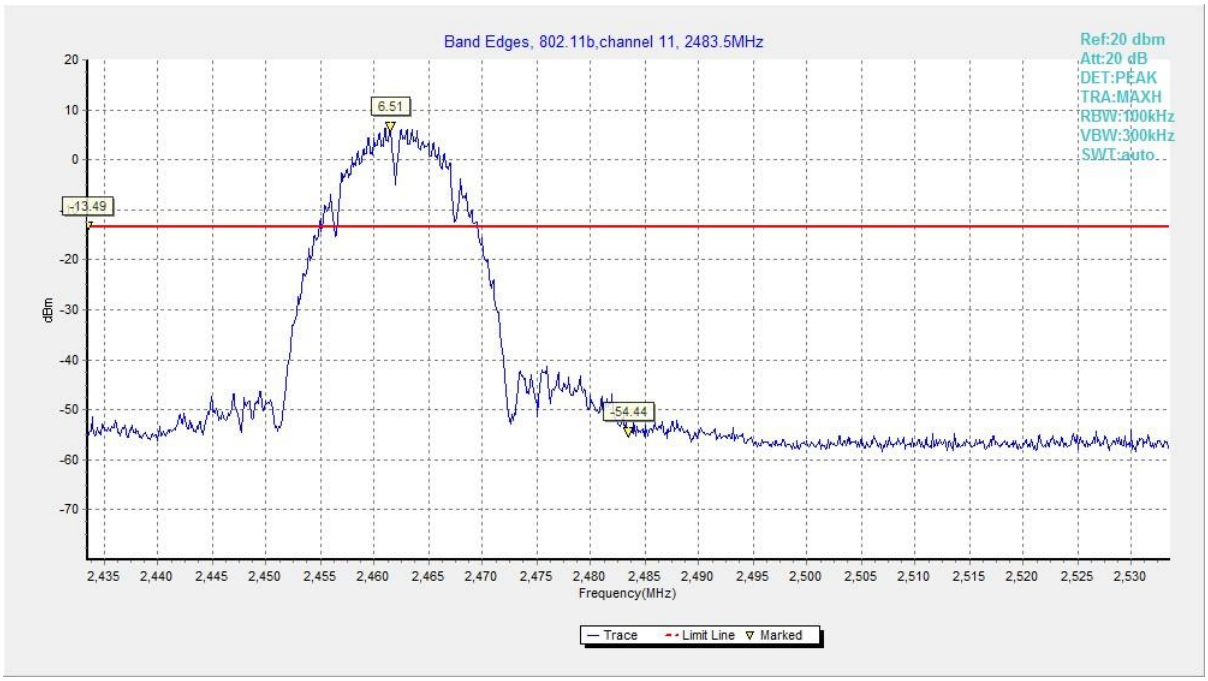


Fig.26 Band Edges (802.11b, CH 11)

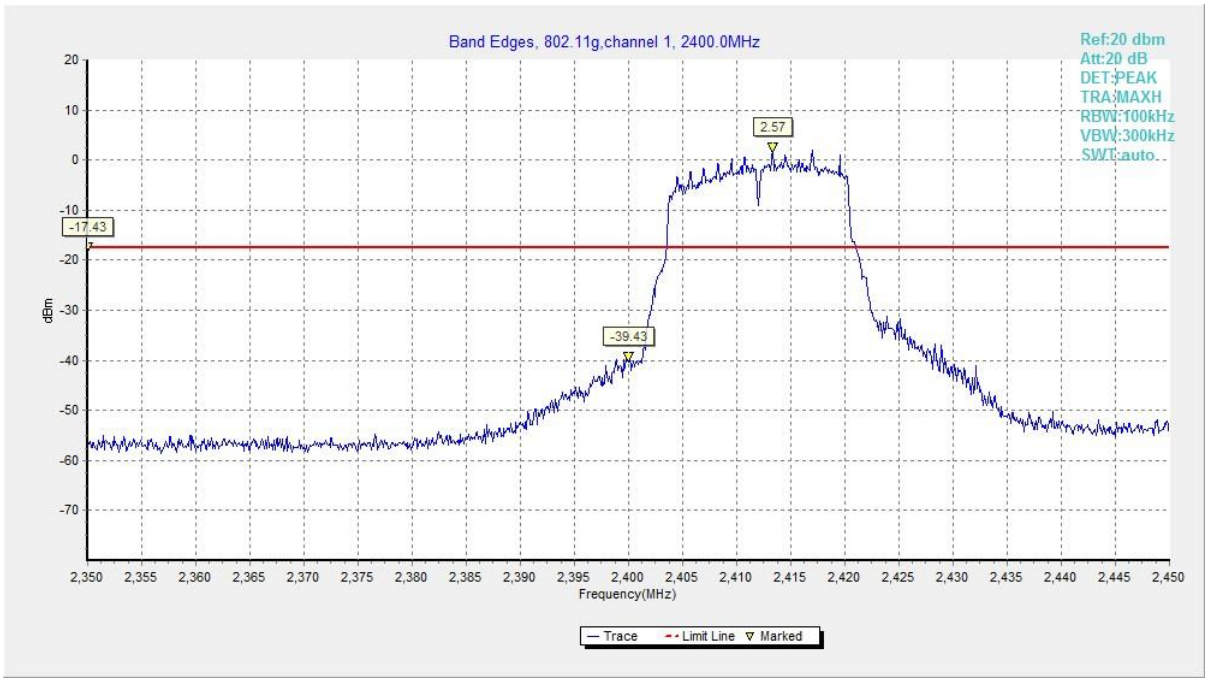


Fig.27 Band Edges (802.11g, CH 1)

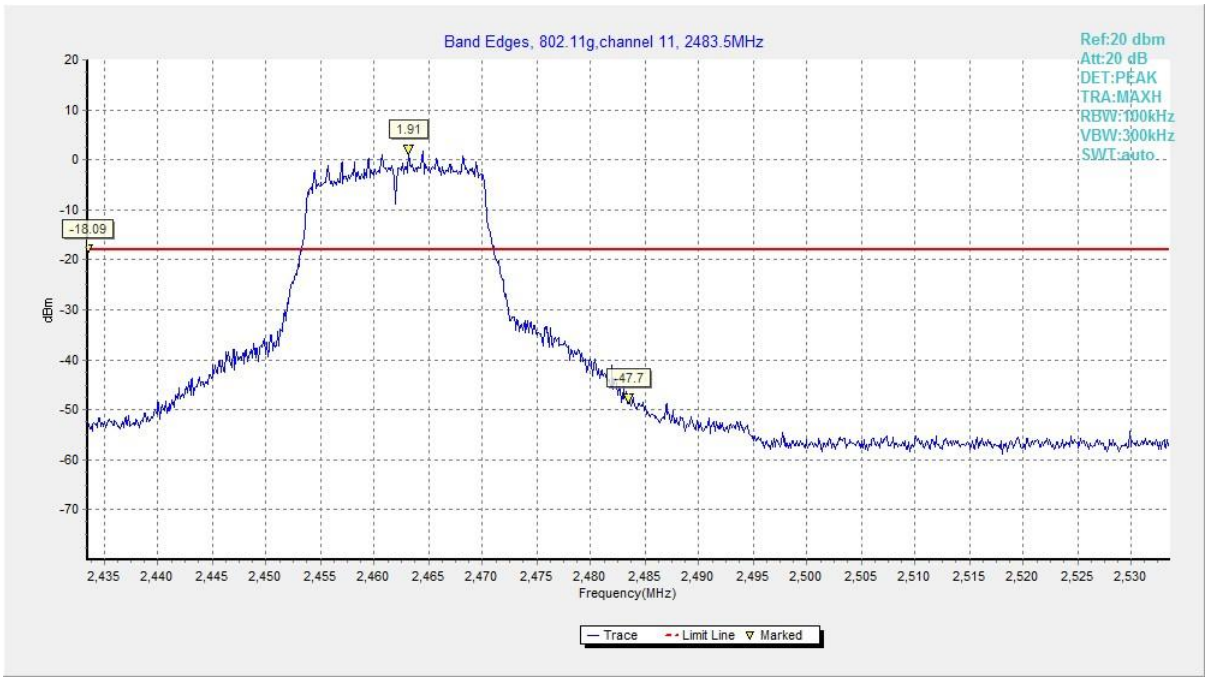


Fig.28 Band Edges (802.11g, CH 11)

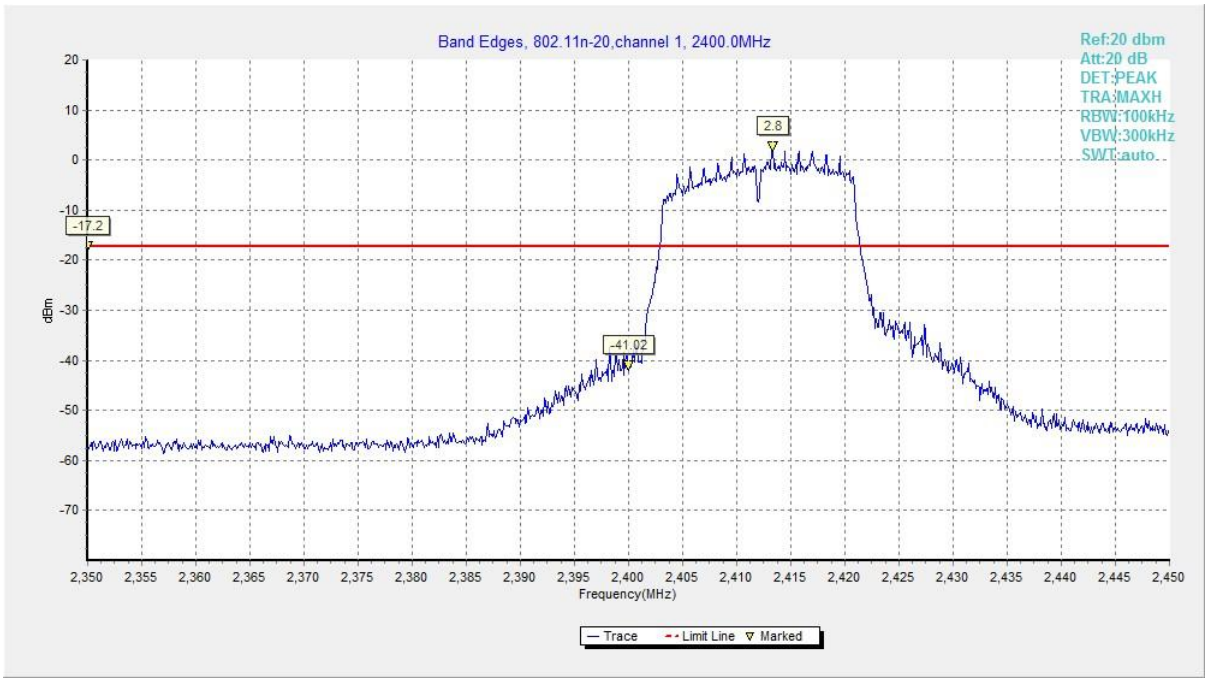


Fig.29 Band Edges (802.11n HT20, CH 1)

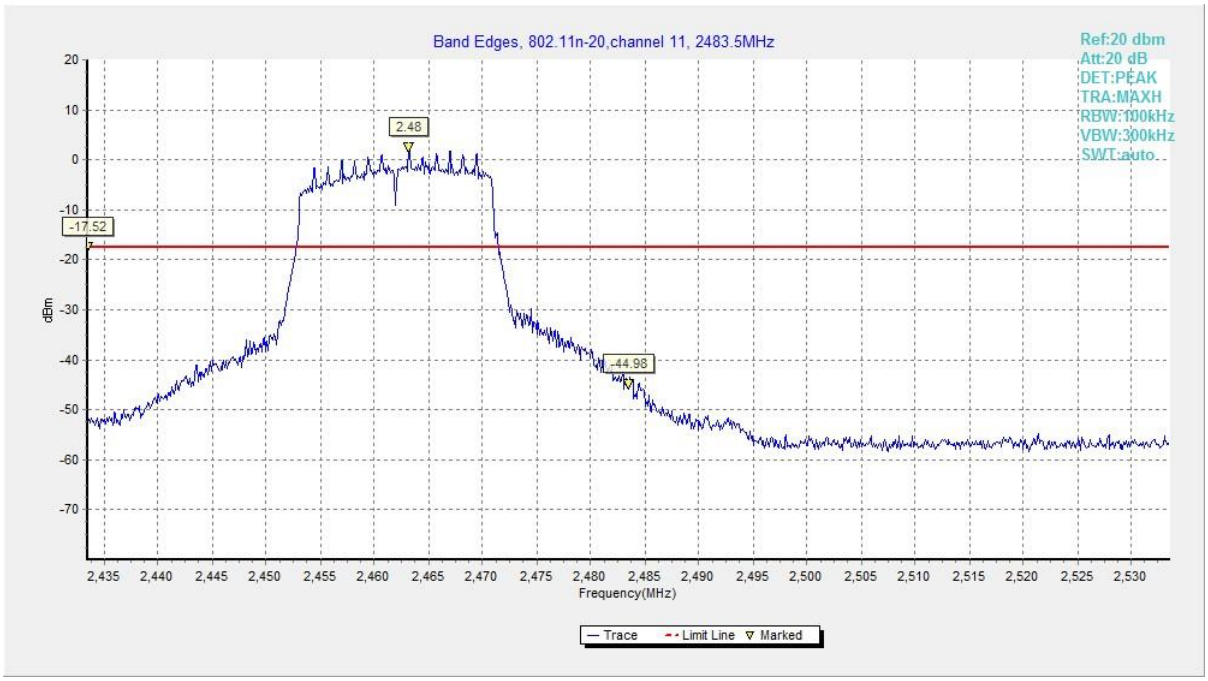


Fig.30 Band Edges (802.11n HT20, CH 11)

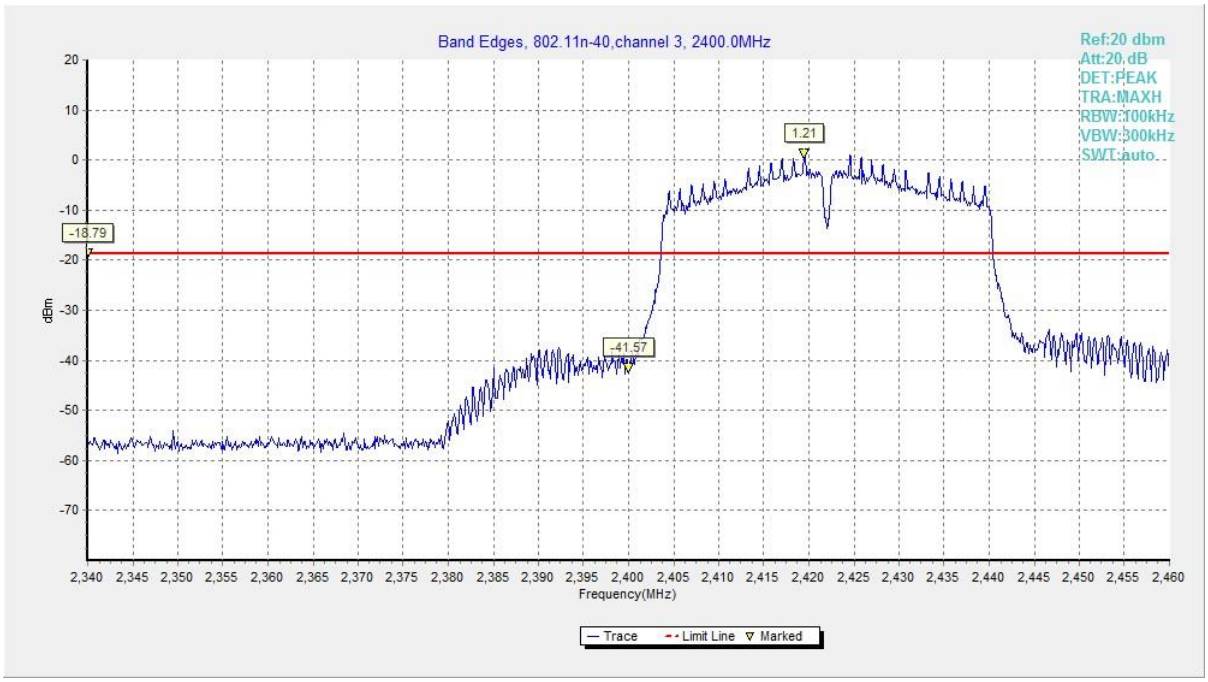


Fig.31 Band Edges (802.11n HT40, CH 3)

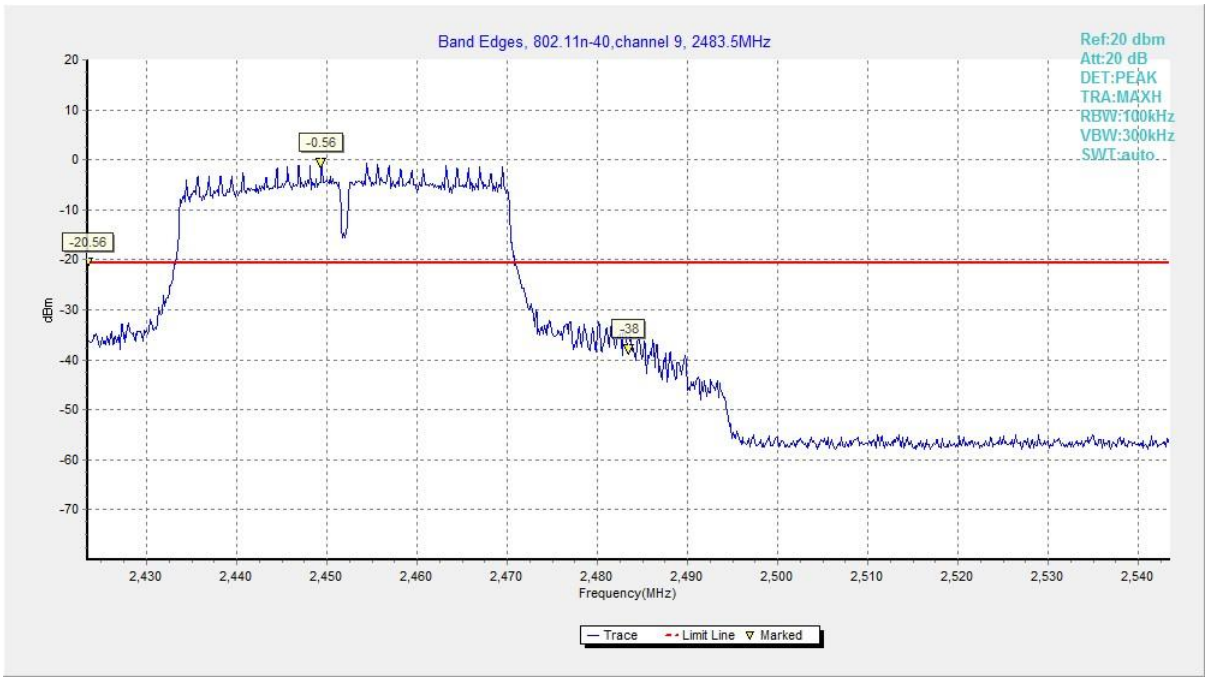


Fig.32 Band Edges (802.11n HT40, CH 9)

A.5 Conducted Emission

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.33	P
	CH 6	2437	30MHz-26GHz	Fig.34	P
	CH 11	2462	30MHz-26GHz	Fig.35	P
802.11g	CH 1	2412	30MHz-26GHz	Fig.36	P
	CH 6	2437	30MHz-26GHz	Fig.37	P
	CH 11	2462	30MHz-26GHz	Fig.38	P
802.11n HT20	CH 1	2412	30MHz-26GHz	Fig.39	P
	CH 6	2437	30MHz-26GHz	Fig.40	P
	CH 11	2462	30MHz-26GHz	Fig.41	P
802.11n HT40	CH 3	2422	30MHz-26GHz	Fig.42	P
	CH 6	2437	30MHz-26GHz	Fig.43	P
	CH 9	2452	30MHz-26GHz	Fig.44	P

See below for test graphs.
Conclusion: PASS

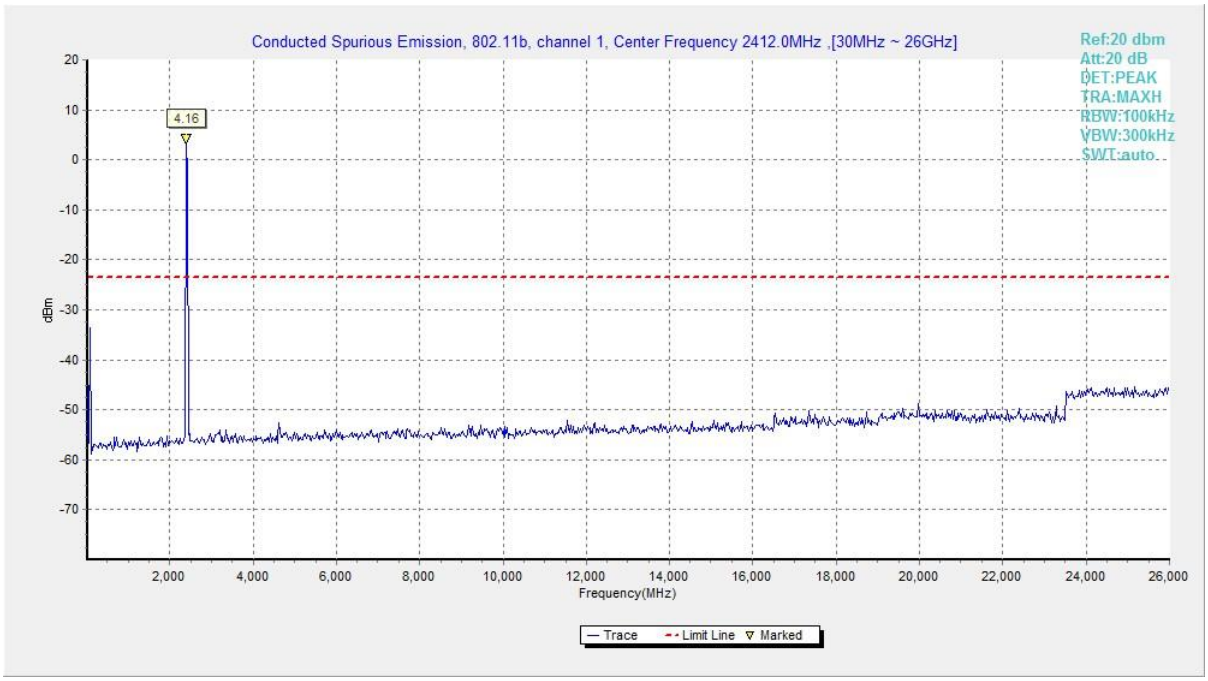


Fig.33 Conducted Spurious Emission (802.11b, CH1)

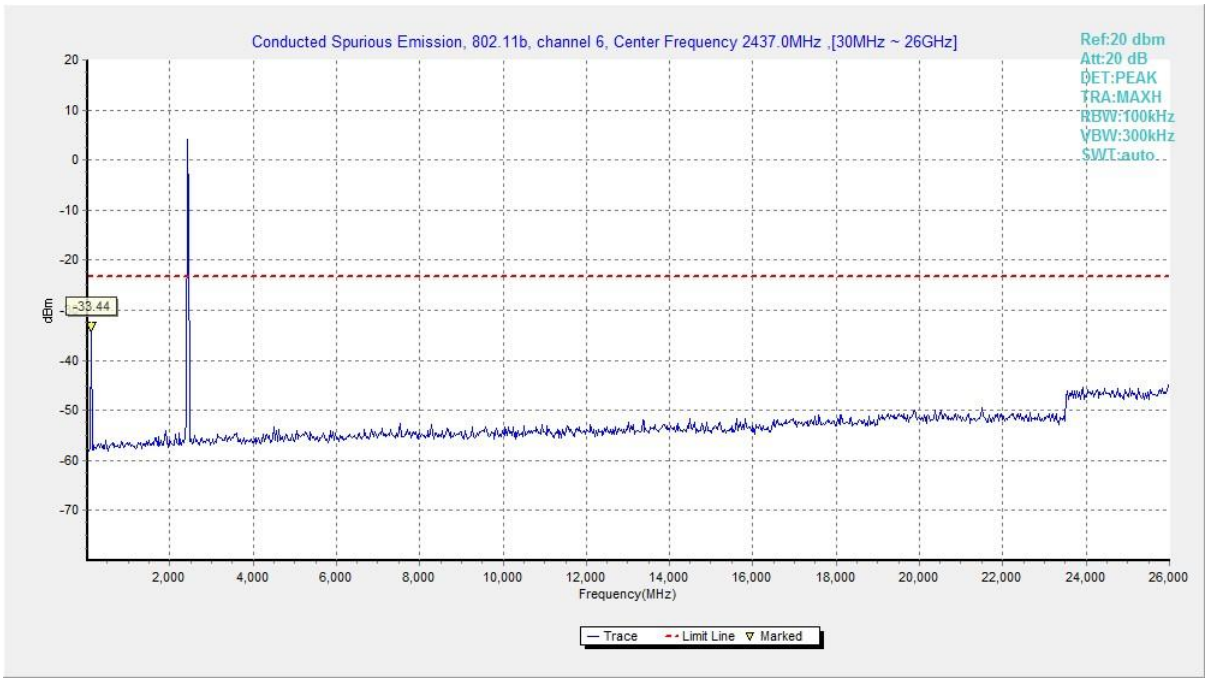


Fig.34 Conducted Spurious Emission (802.11b, CH6)

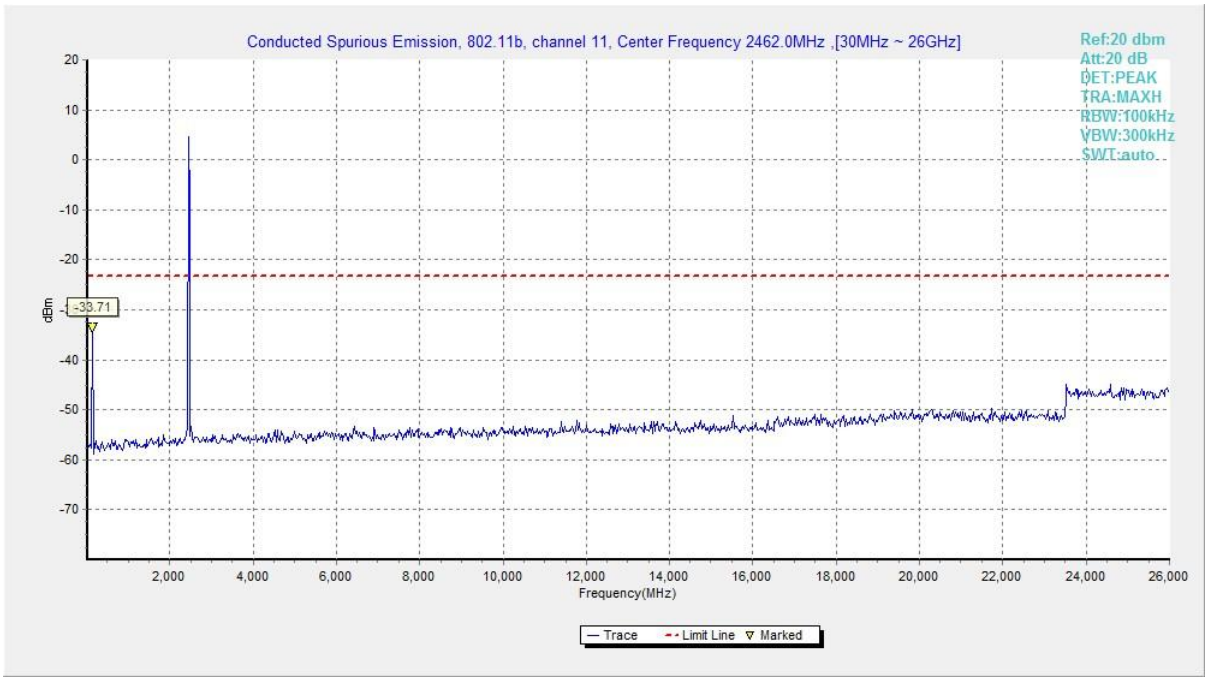


Fig.35 Conducted Spurious Emission (802.11b, CH11)

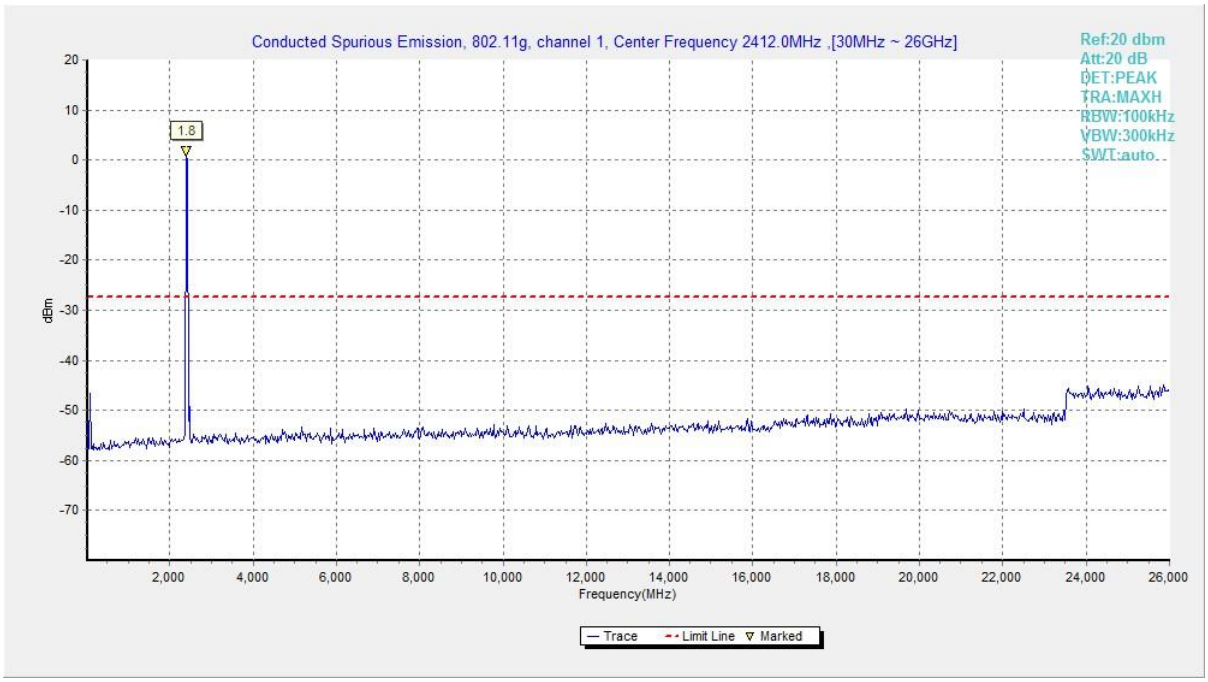


Fig.36 Conducted Spurious Emission (802.11g, CH1)

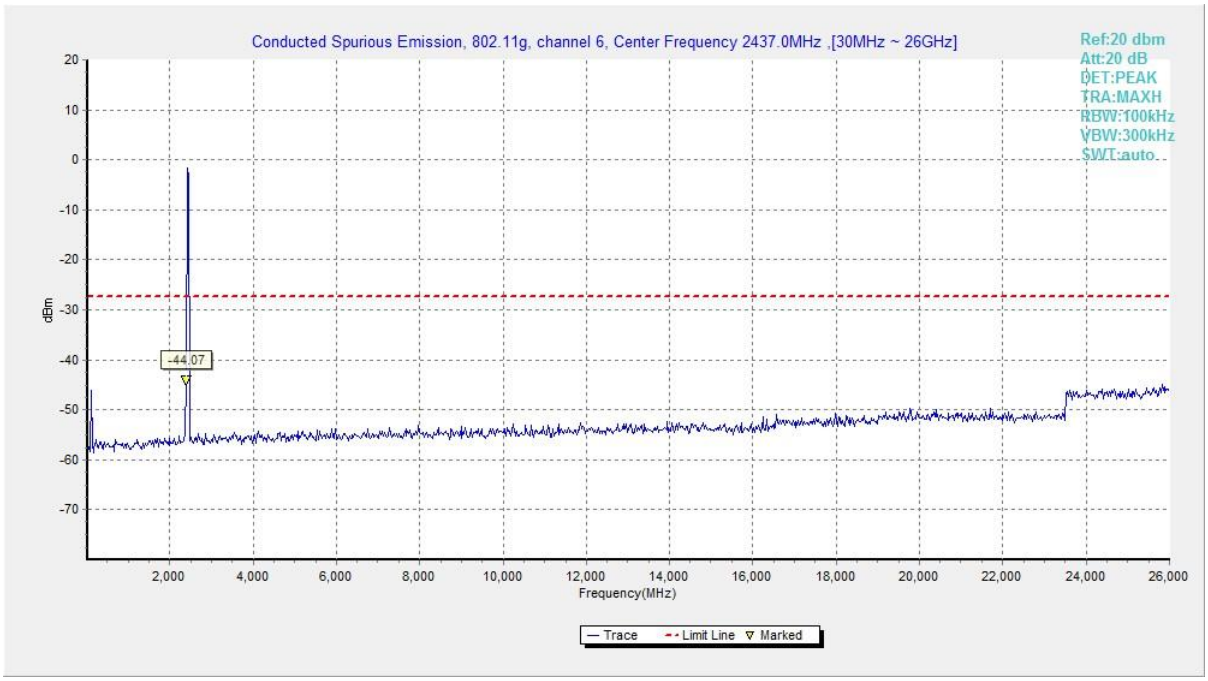


Fig.37 Conducted Spurious Emission (802.11g, CH6)

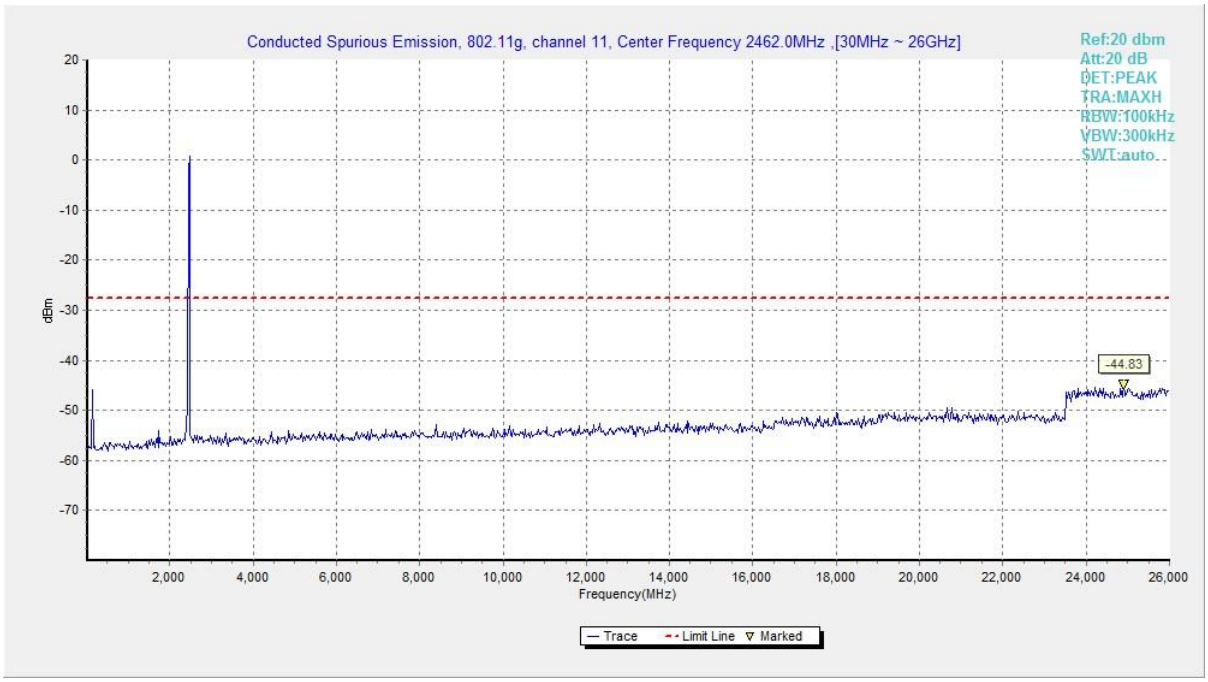


Fig.38 Conducted Spurious Emission (802.11g, CH11)

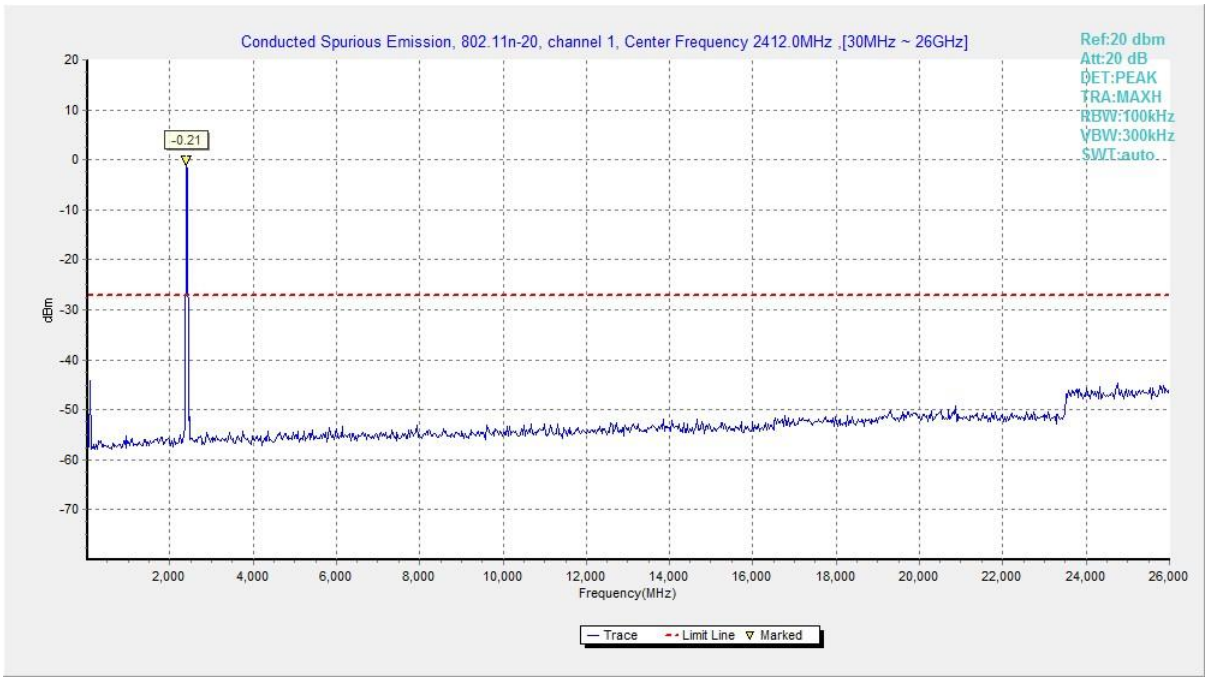


Fig.39 Conducted Spurious Emission (802.11n HT20, CH1)

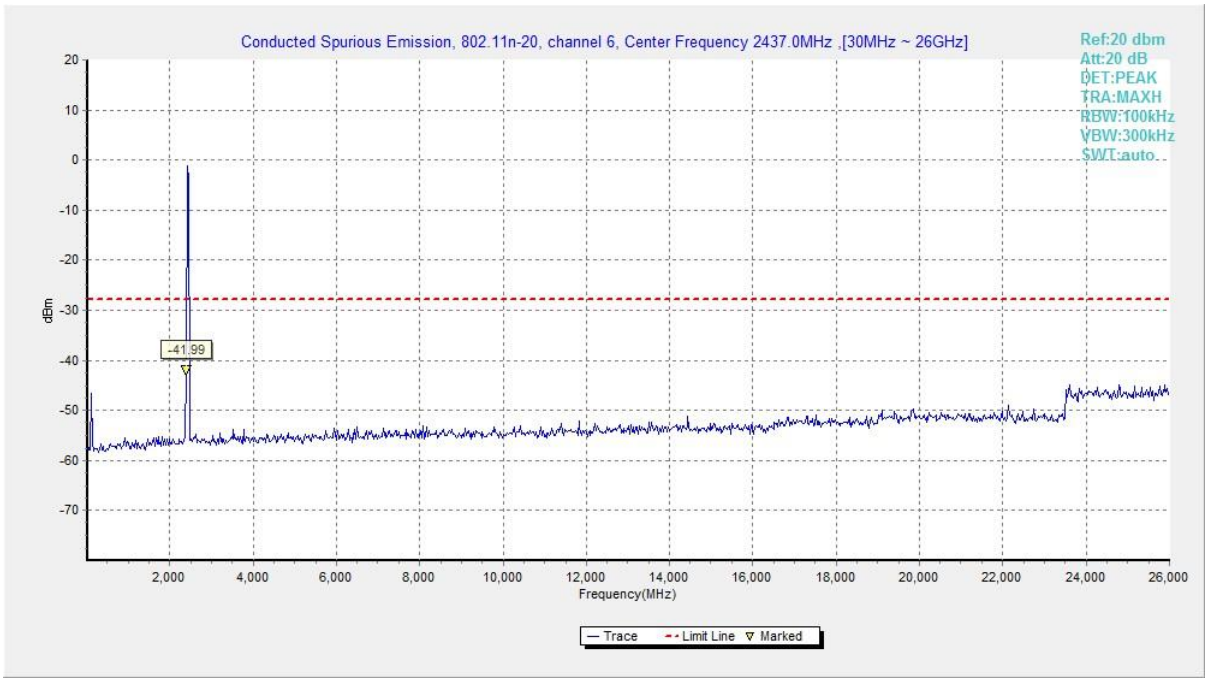


Fig.40 Conducted Spurious Emission (802.11n HT20, CH6)

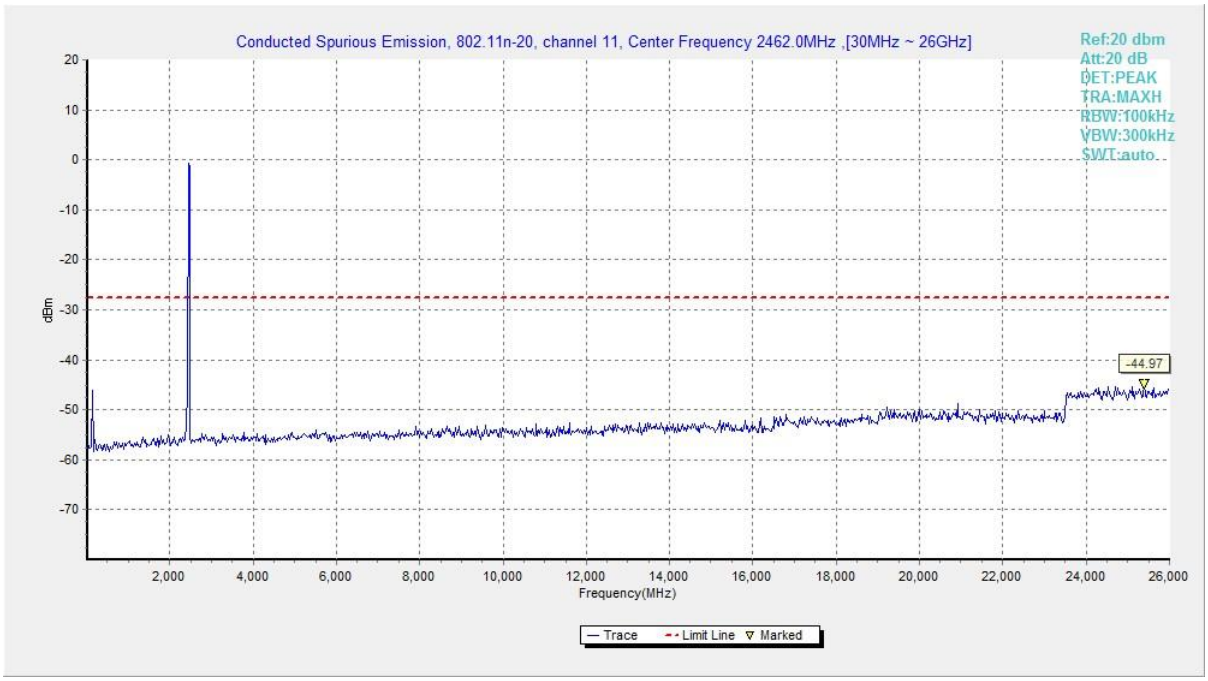


Fig.41 Conducted Spurious Emission (802.11n HT20, CH11)

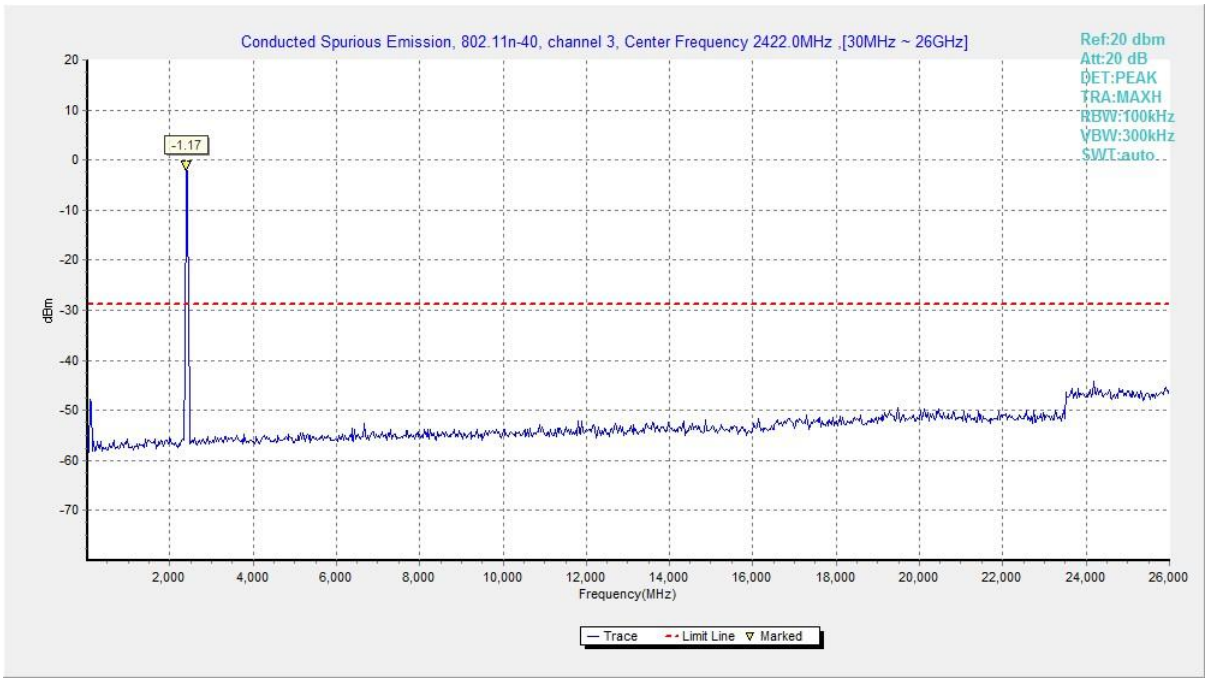


Fig.42 Conducted Spurious Emission (802.11n HT40, CH3)

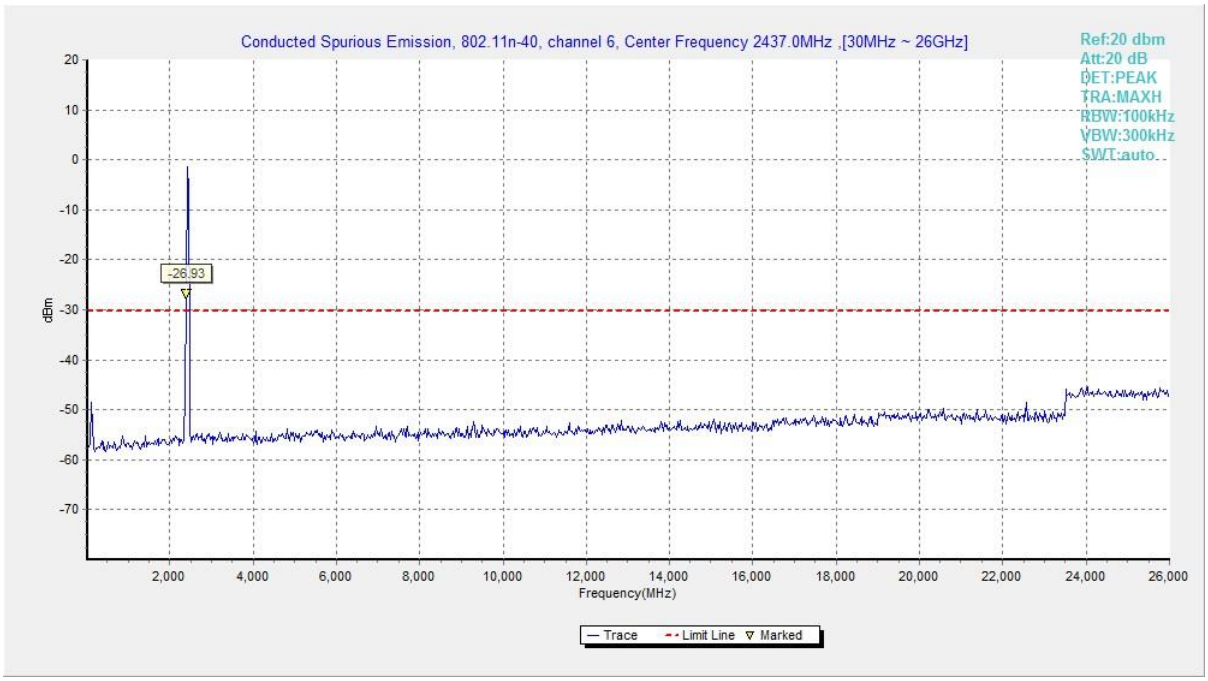


Fig.43 Conducted Spurious Emission (802.11n HT40, CH6)

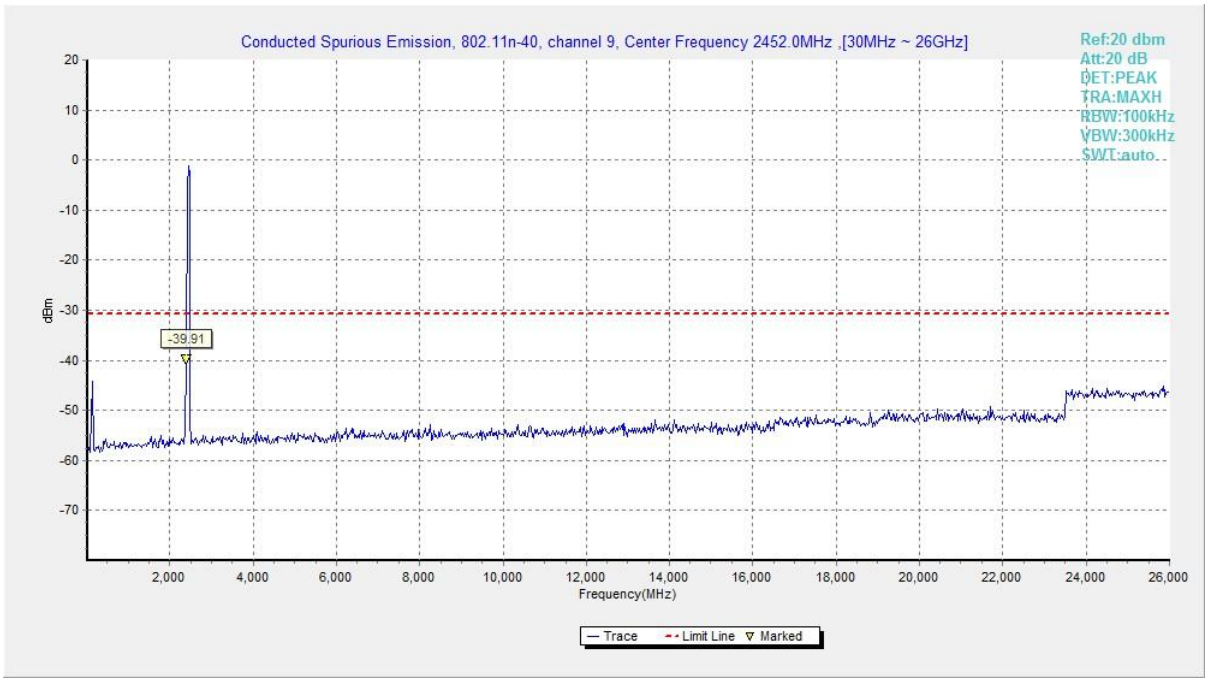


Fig.44 Conducted Spurious Emission (802.11n HT40, CH9)

A.6 Radiated Emission

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 (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.

Measurement Results:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	CH 1	1 GHz ~ 18 GHz	Fig.45	P
	CH 6	1 GHz ~ 18 GHz	Fig.46	P
	CH 11	1 GHz ~ 18 GHz	Fig.47	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.48	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.49	P
802.11g	CH 1	1 GHz ~ 18 GHz	Fig.50	P
	CH 6	1 GHz ~ 18 GHz	Fig.51	P
	CH 11	1 GHz ~ 18 GHz	Fig.52	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.53	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.54	P
802.11n HT20	CH 1	1 GHz ~ 18 GHz	Fig.55	P
	CH 6	1 GHz ~ 18 GHz	Fig.56	P
	CH 11	1 GHz ~ 18 GHz	Fig.57	P
	Restricted Band (CH1)	2.38 GHz ~ 2.45 GHz	Fig.58	P
	Restricted Band (CH11)	2.45 GHz ~ 2.5 GHz	Fig.59	P
802.11n HT40	CH 3	1 GHz ~ 18 GHz	Fig.60	P
	CH 6	1 GHz ~ 18 GHz	Fig.61	P
	CH 9	1 GHz ~ 18 GHz	Fig.62	P
	Restricted Band (CH3)	2.38 GHz ~ 2.45 GHz	Fig.63	P
	Restricted Band (CH9)	2.45 GHz ~ 2.5 GHz	Fig.64	P
/	All Channels	9 kHz ~ 30 MHz	Fig.65	P
		30 MHz ~ 1 GHz	Fig.66	P
		18 GHz ~ 26.5 GHz	Fig.67	P

Worst-Case Result:

802.11b CH6 (1-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
4873.500000	47.75	74.00	26.25	V	0.1
9874.000000	45.56	74.00	28.44	V	5.2
11298.500000	47.06	74.00	26.94	H	6.0
13111.500000	48.96	74.00	25.04	V	9.2
14521.500000	49.67	74.00	24.33	V	11.7
16929.500000	52.65	74.00	21.35	V	15.9

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
4874.000000	43.25	54.00	10.75	V	0.1
9748.000000	34.78	54.00	19.22	H	4.7
11427.000000	35.02	54.00	18.98	H	6.7
13098.000000	36.69	54.00	17.31	H	9.8
14500.000000	37.68	54.00	16.32	H	11.7
17952.000000	40.48	54.00	13.52	V	17.1

802.11g CH1 (1-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
4875.000000	48.58	74.00	25.42	H	0.1
9747.500000	45.68	74.00	28.32	H	4.7
11018.000000	46.62	74.00	27.38	V	6.0
12245.000000	47.91	74.00	26.09	V	8.5
15131.000000	48.69	74.00	25.31	H	11.8
16939.000000	52.04	74.00	21.96	H	15.9

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
4875.500000	38.08	54.00	15.92	H	0.1
9875.500000	33.71	54.00	20.29	V	5.3
11457.500000	34.72	54.00	19.28	H	6.9
13091.000000	36.77	54.00	17.23	V	9.5
14455.500000	37.15	54.00	16.85	H	11.7
17946.000000	40.50	54.00	13.50	H	17.3

802.11n HT20 CH6 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4867.500000	47.63	74.00	26.37	H	0.1
9684.500000	45.25	74.00	28.75	V	4.7
11474.000000	47.64	74.00	26.36	V	6.7
13241.500000	47.71	74.00	26.29	V	9.7
15311.000000	49.54	74.00	24.46	V	12.3
16840.000000	51.40	74.00	22.60	H	15.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4873.000000	35.86	54.00	18.14	H	0.1
9888.500000	33.89	54.00	20.11	H	5.3
10824.000000	34.67	54.00	19.33	V	6.4
12947.000000	36.36	54.00	17.64	V	9.3
15288.500000	37.43	54.00	16.57	H	12.4
17940.500000	40.09	54.00	13.91	V	17.2

802.11n HT40 CH3 (1-18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4919.500000	44.65	74.00	29.35	V	-0.2
9894.500000	45.60	74.00	28.40	V	5.3
11389.500000	46.23	74.00	27.77	V	6.6
12524.000000	48.04	74.00	25.96	H	8.7
14531.000000	48.75	74.00	25.25	H	11.7
17075.500000	51.80	74.00	22.20	V	15.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
4923.500000	33.98	54.00	20.02	H	-0.2
9885.000000	33.94	54.00	20.06	V	5.3
10852.500000	34.72	54.00	19.28	H	6.4
13097.500000	36.60	54.00	17.40	V	9.8
15270.500000	37.23	54.00	16.77	V	12.1
17952.000000	40.28	54.00	13.72	H	17.1

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

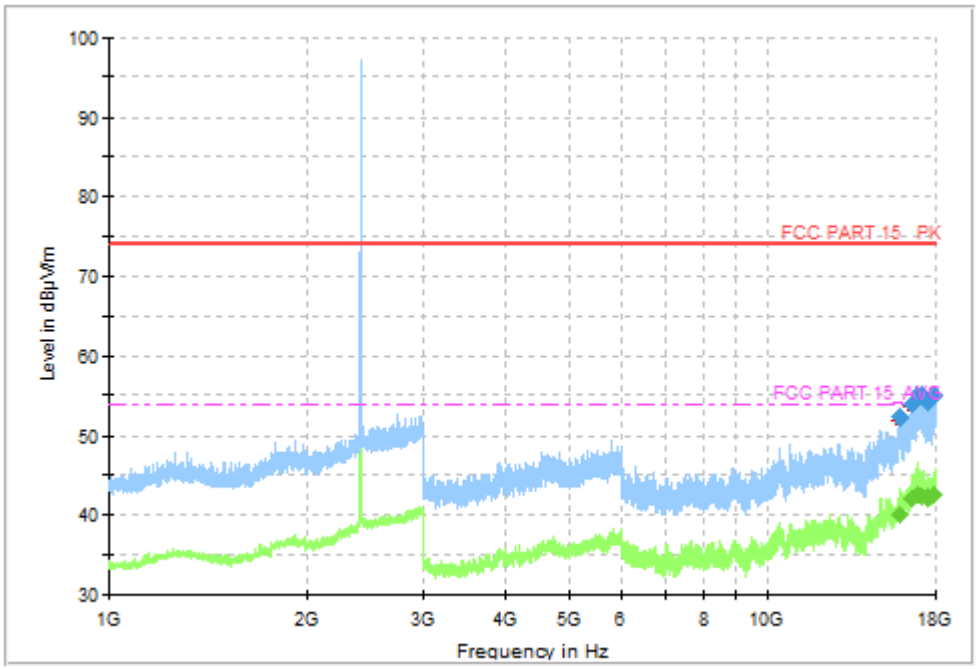


Fig.45 Radiated Spurious Emission (802.11b, CH1, 1GHz-18GHz)

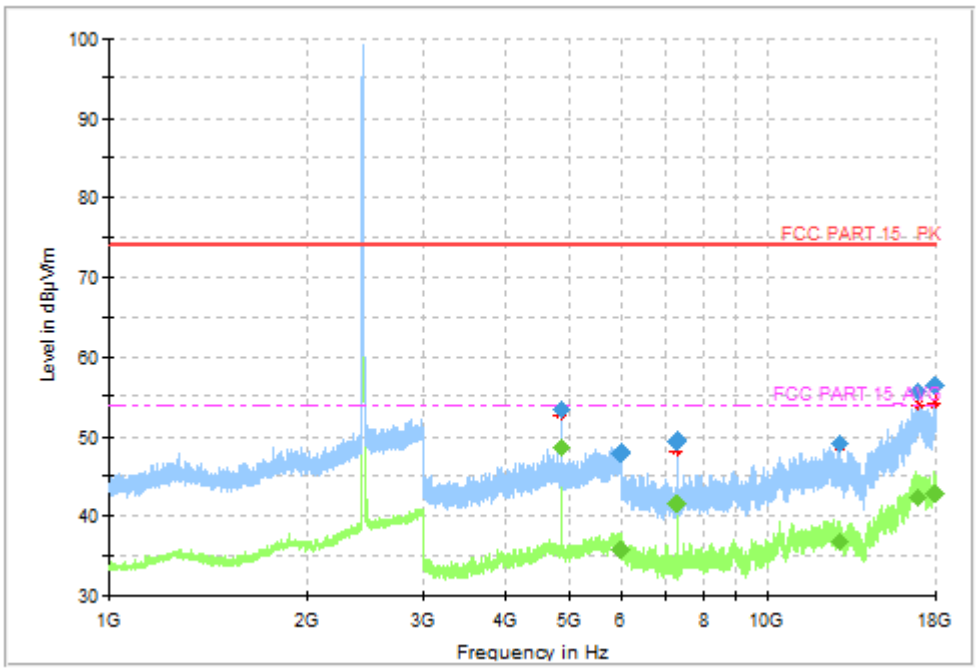


Fig.46 Radiated Spurious Emission (802.11b, CH6, 1GHz-18GHz)

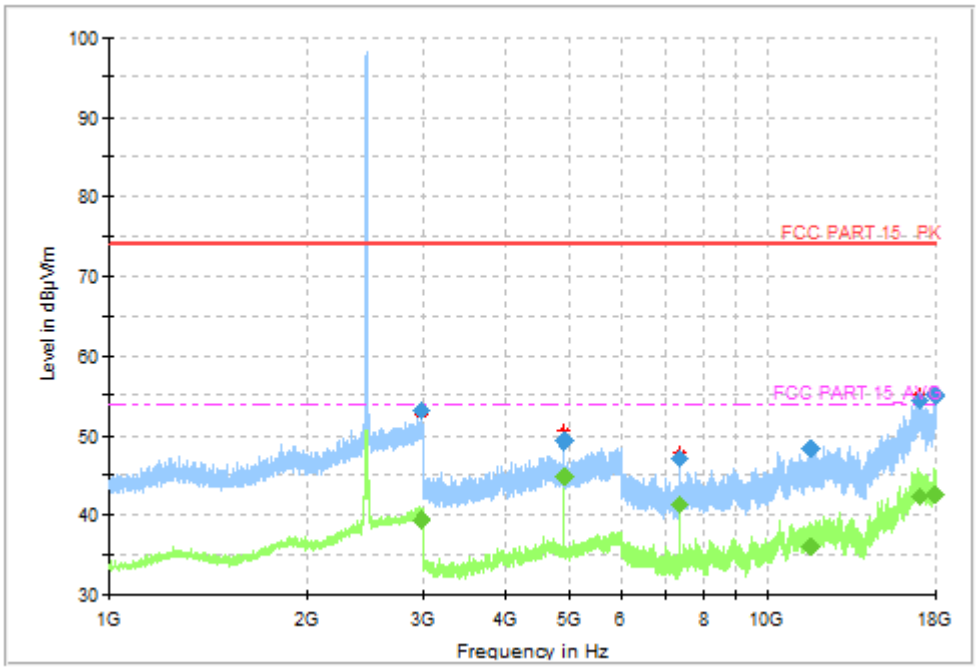


Fig.47 Radiated Spurious Emission (802.11b, CH11, 1GHz-18GHz)

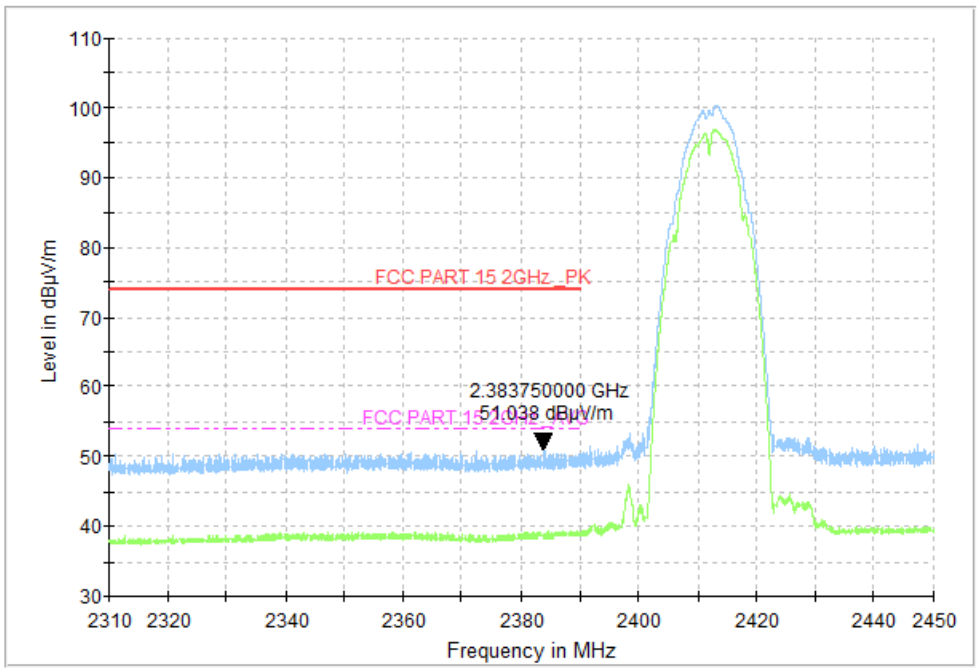


Fig.48 Radiated Restricted Band (802.11b, CH1, 2.38GHz~2.45GHz)

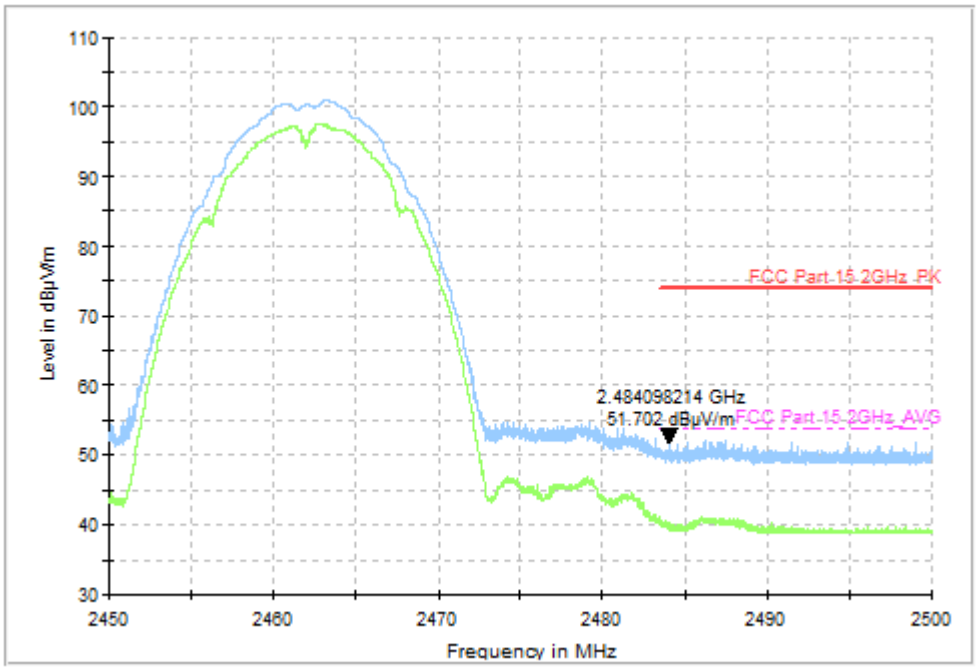


Fig.49 Radiated Restricted Band (802.11b, CH11, 2.45GHz~2.5GHz)

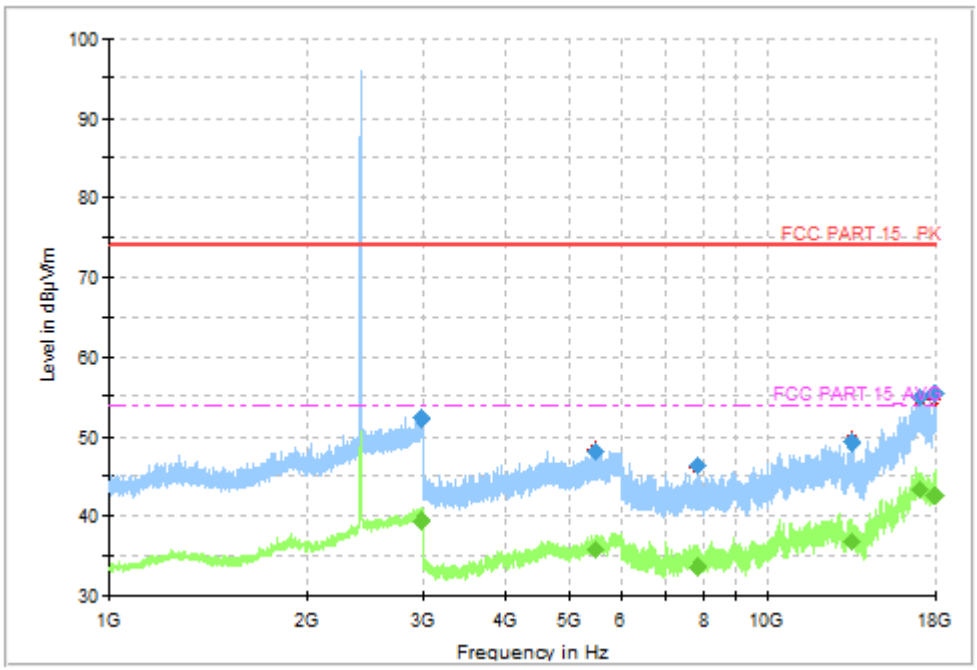


Fig.50 Radiated Spurious Emission (802.11g, CH1, 1GHz-18GHz)

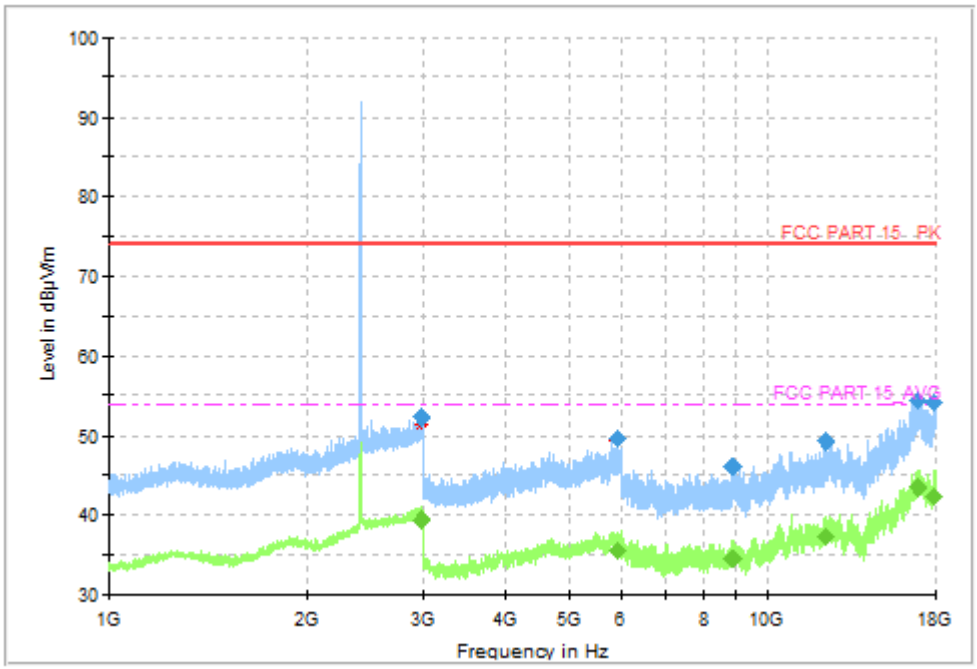


Fig.51 Radiated Spurious Emission (802.11g, CH6, 1GHz-18GHz)

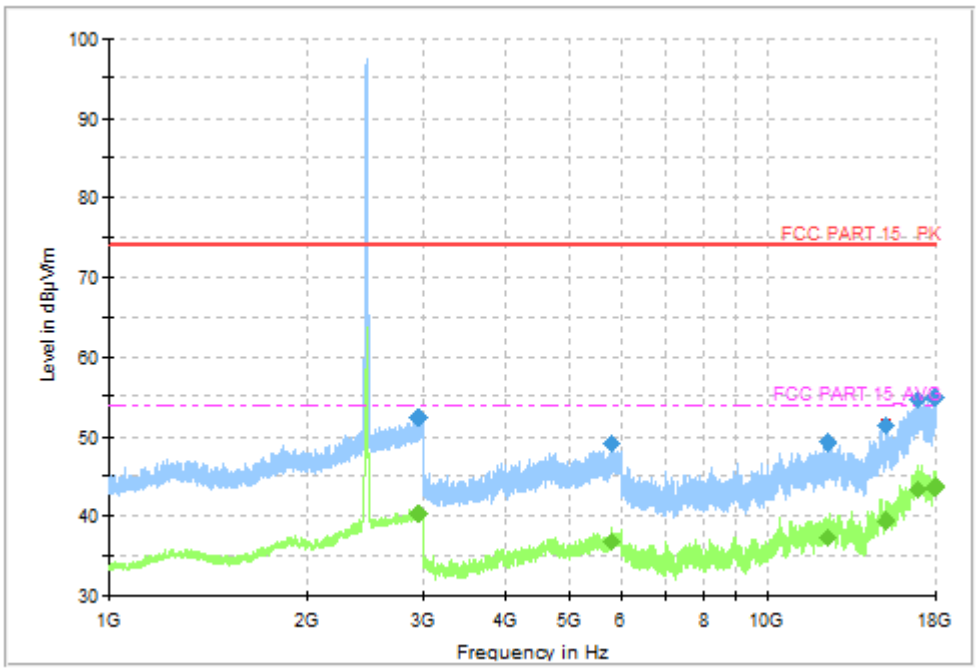


Fig.52 Radiated Spurious Emission (802.11g, CH11, 1GHz-18GHz)

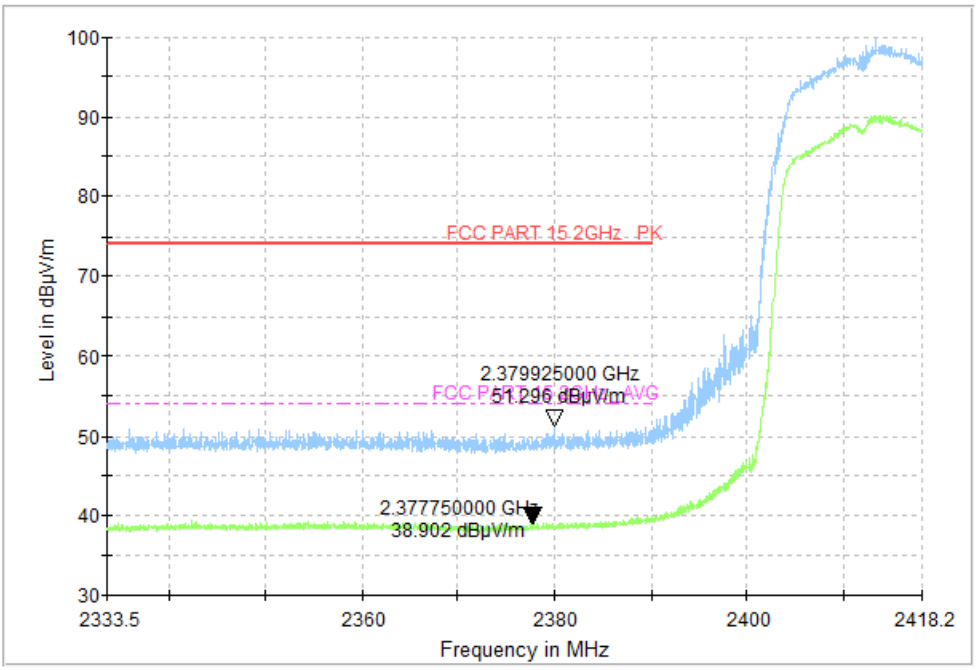


Fig.53 Radiated Restricted Band (802.11g, CH1, 2.38GHz~2.45GHz)

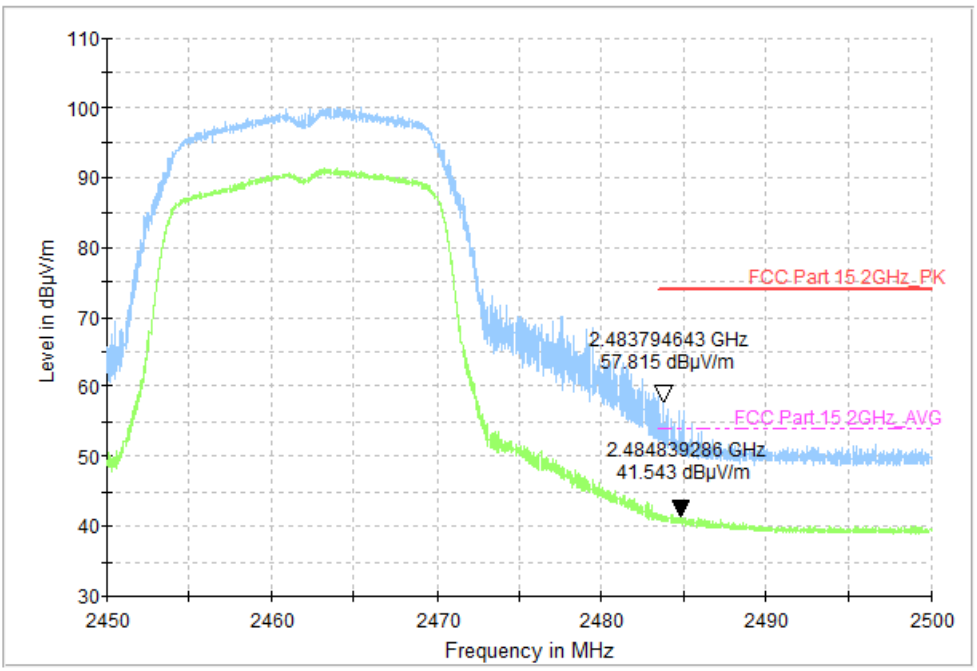


Fig.54 Radiated Restricted Band (802.11g, CH11, 2.45GHz~2.5GHz)

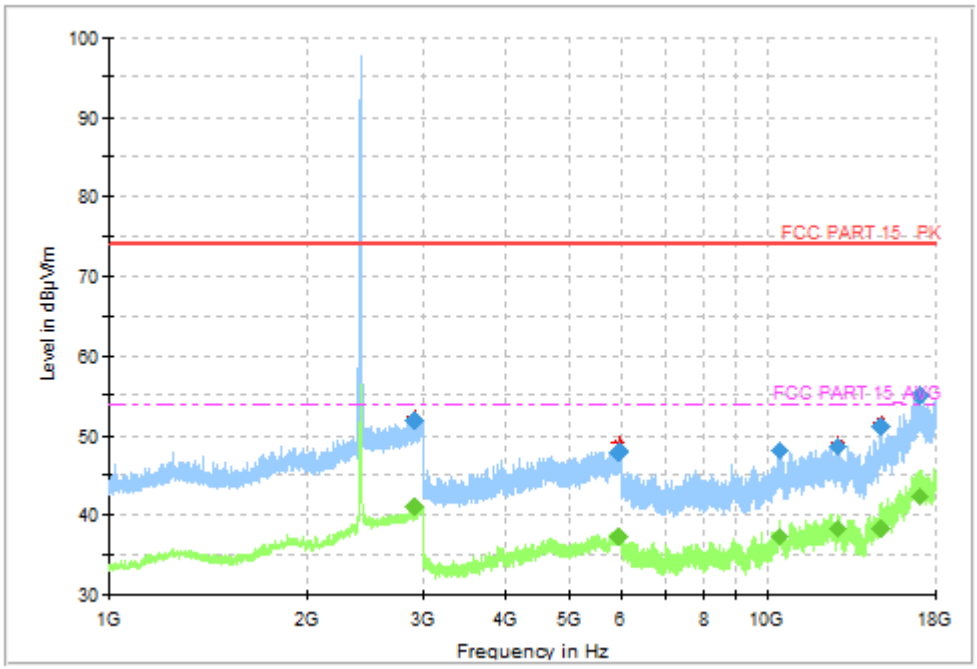


Fig.55 Radiated Spurious Emission (802.11n HT20, CH1, 1GHz-18GHz)

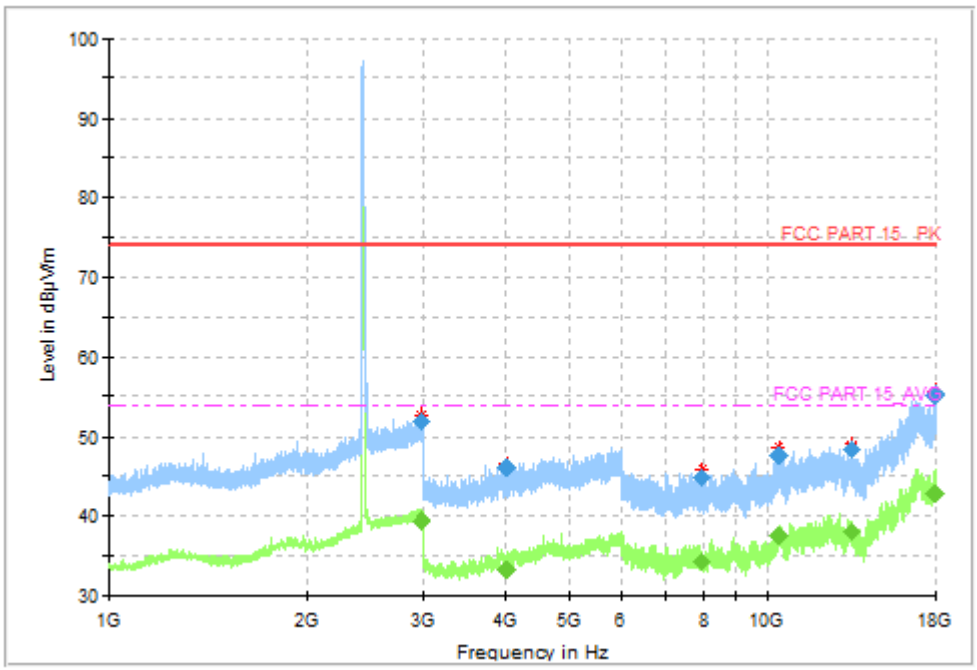


Fig.56 Radiated Spurious Emission (802.11n HT20, CH6, 1GHz-18GHz)

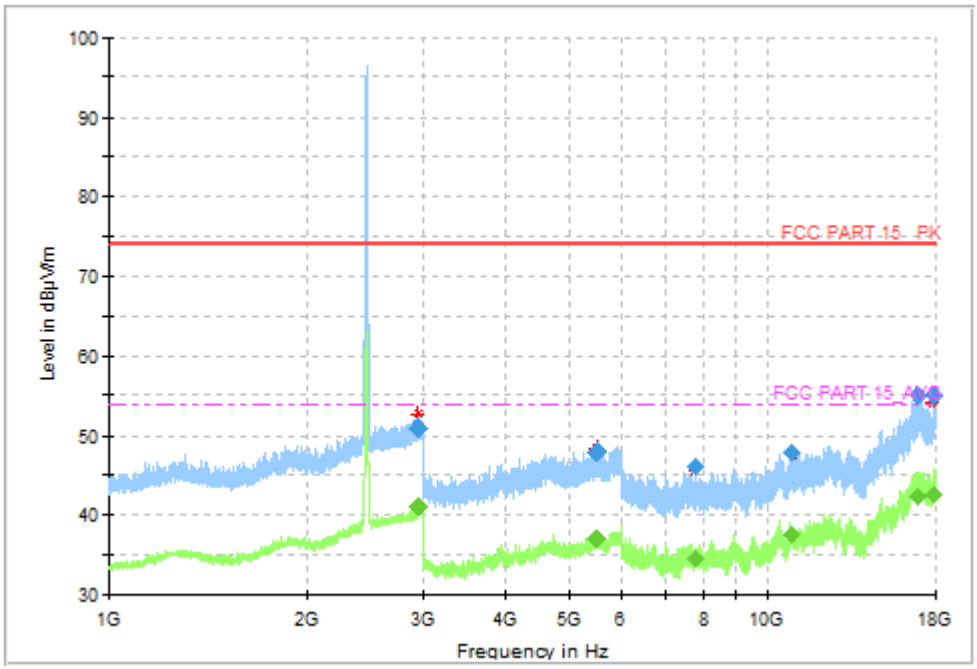


Fig.57 Radiated Spurious Emission (802.11n HT20, CH11, 1GHz-18GHz)

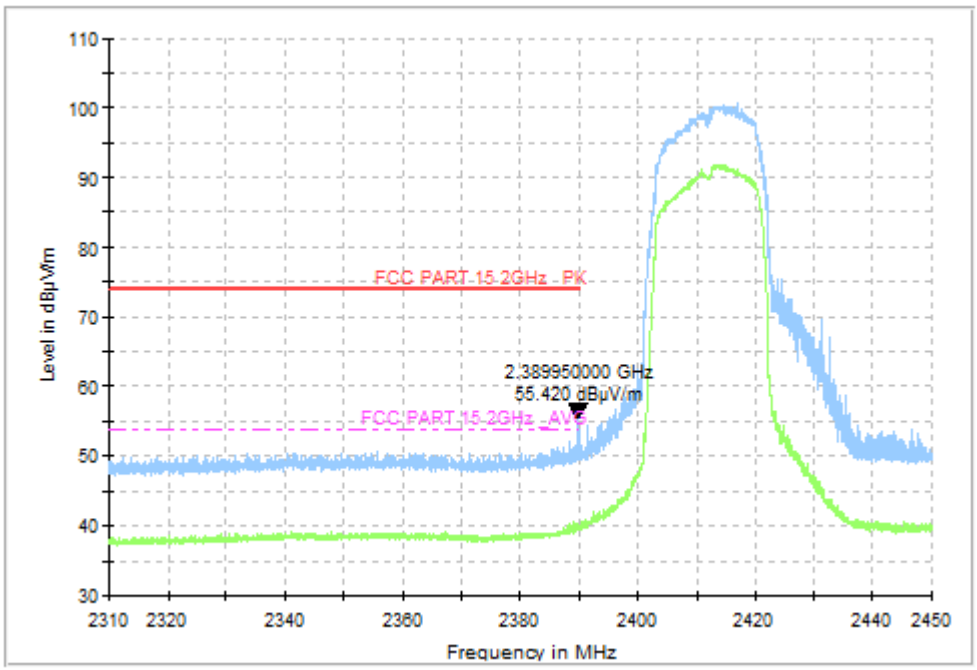


Fig.58 Radiated Restricted Band (802.11n HT20, CH1, 2.38GHz~2.45GHz)

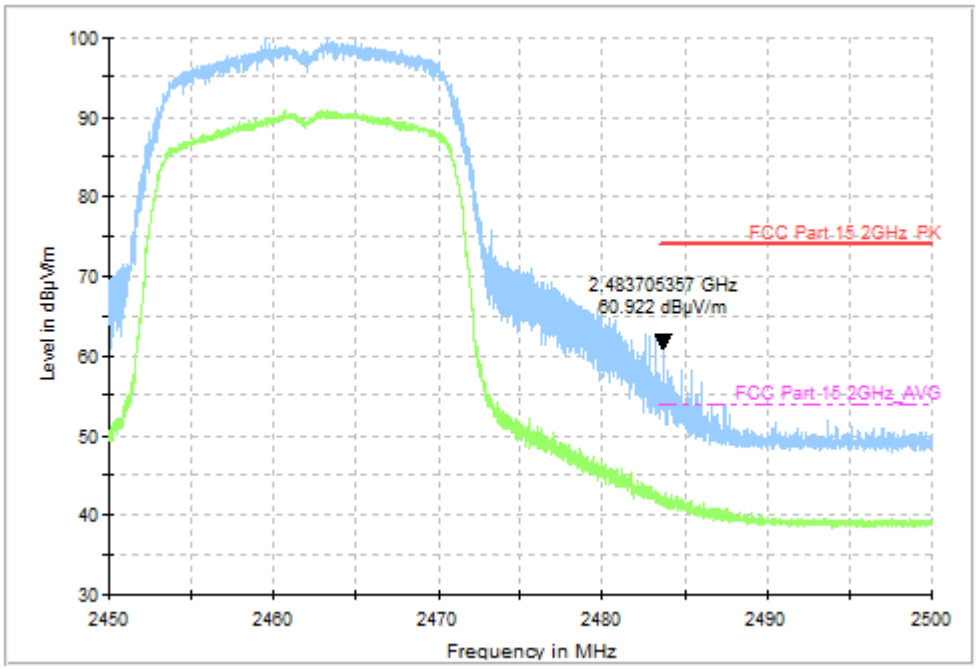


Fig.59 Radiated Restricted Band (802.11n HT20, CH11, 2.45GHz~2.5GHz)

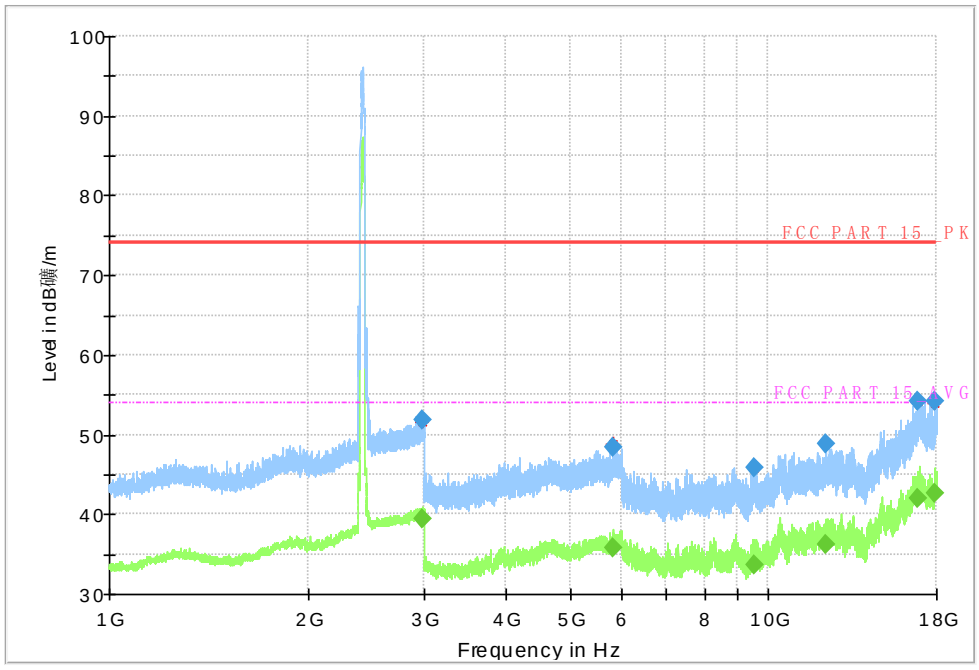


Fig.60 Radiated Spurious Emission (802.11n HT40, CH3, 1GHz-18GHz)

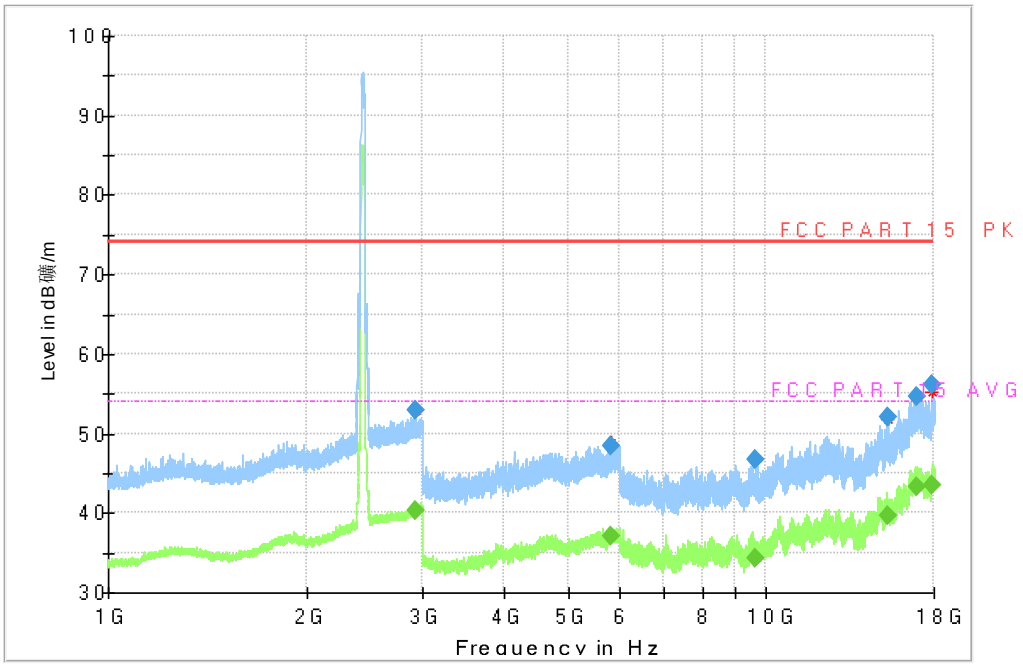


Fig.61 Radiated Spurious Emission (802.11n HT40, CH6, 1GHz-18GHz)

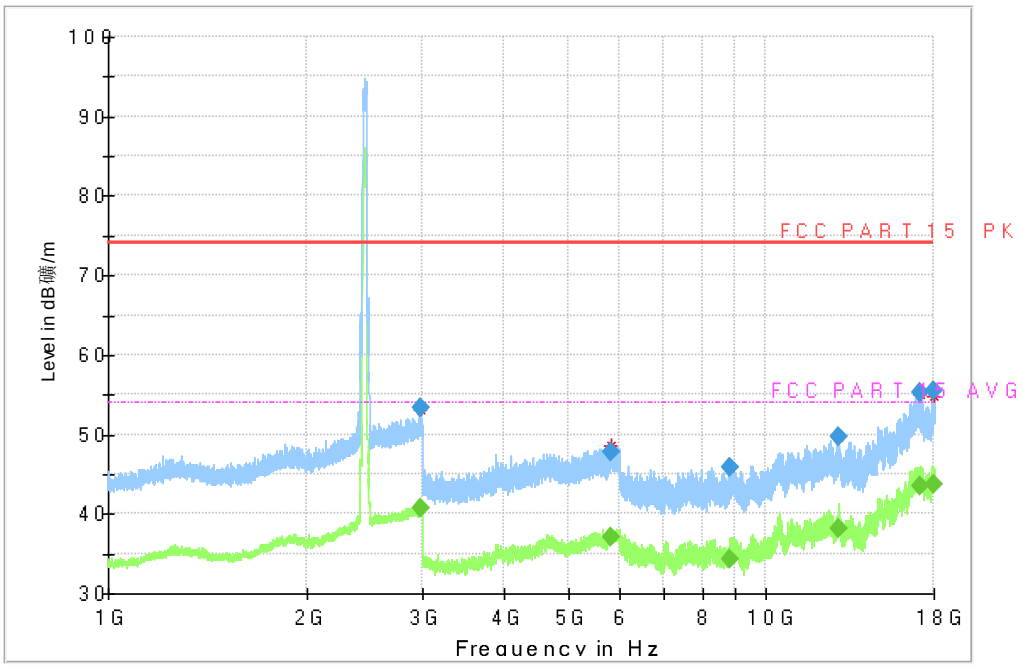


Fig.62 Radiated Spurious Emission (802.11n HT40, CH9, 1GHz-18GHz)

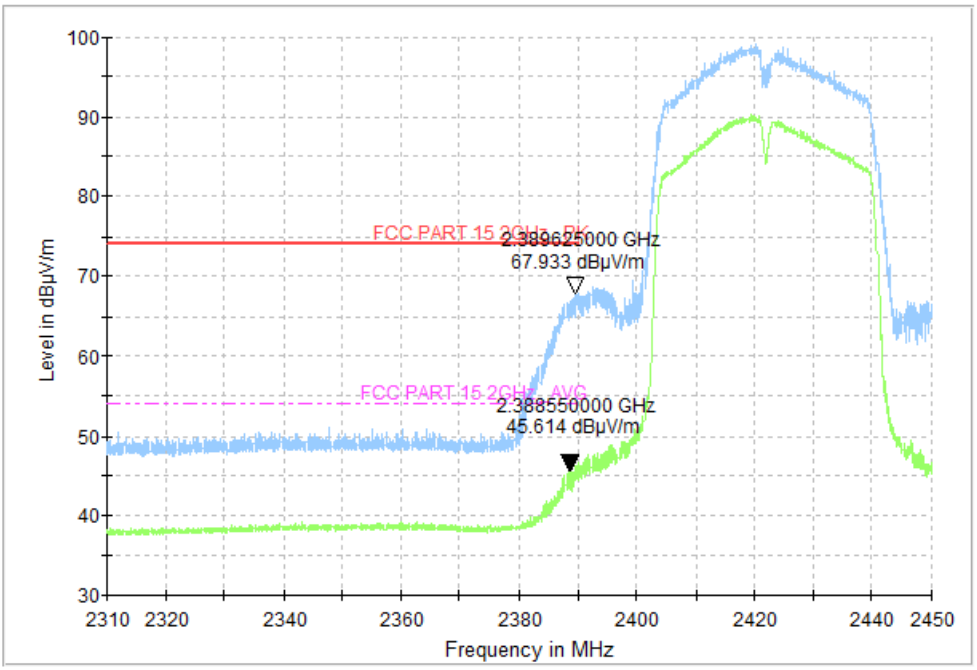


Fig.63 Radiated Restricted Band (802.11n HT40, CH3, 2.38GHz~2.45GHz)

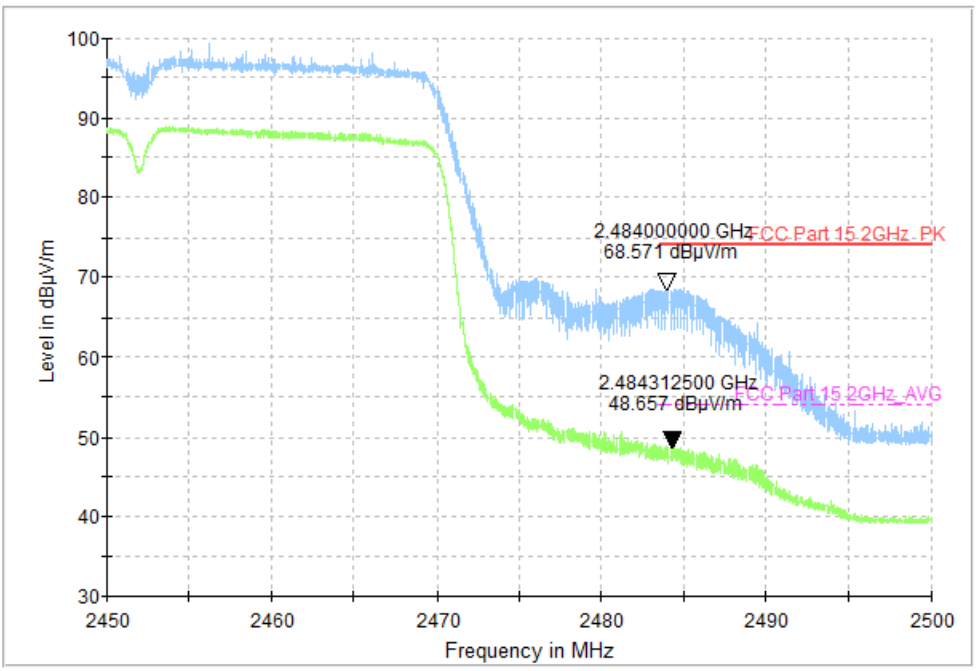


Fig.64 Radiated Restricted Band (802.11n HT40, CH9, 2.45GHz~2.5GHz)

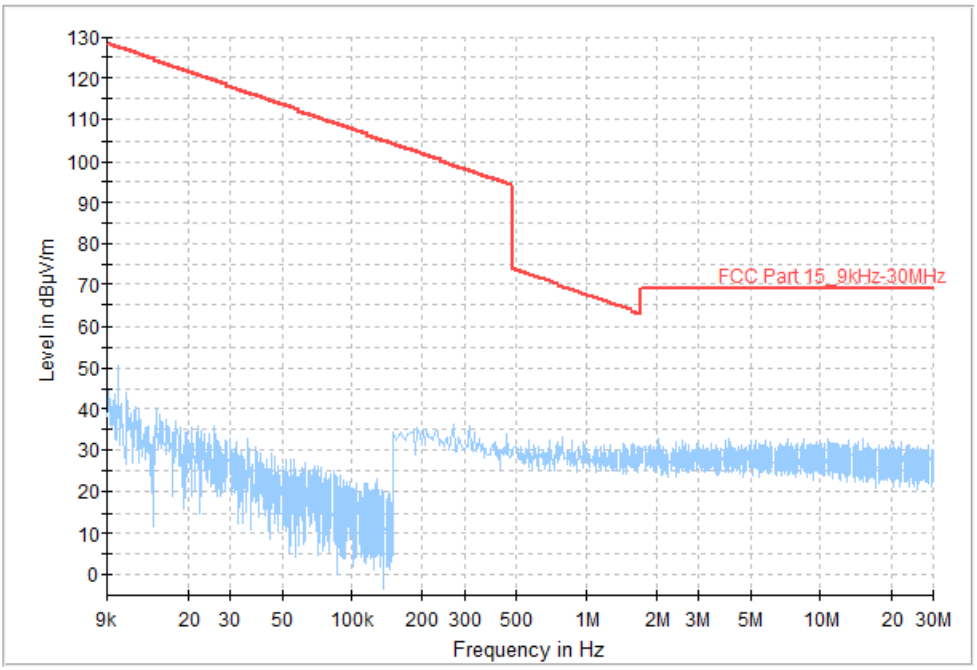


Fig.65 Radiated Spurious Emission (All Channels, 9KHz-30MHz)

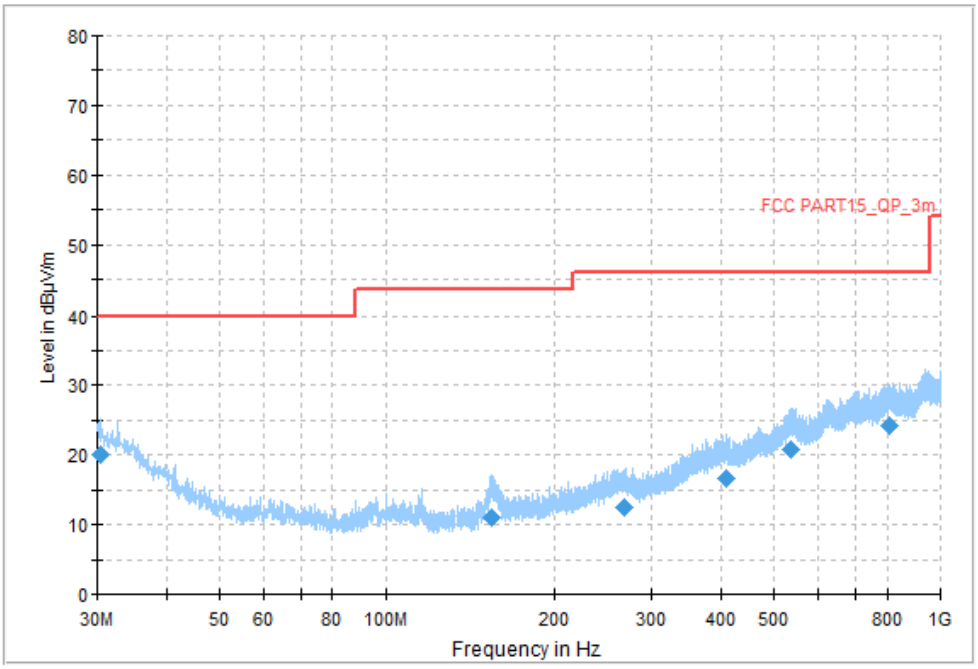


Fig.66 Radiated Spurious Emission (All Channels, 30MHz-1GHz)

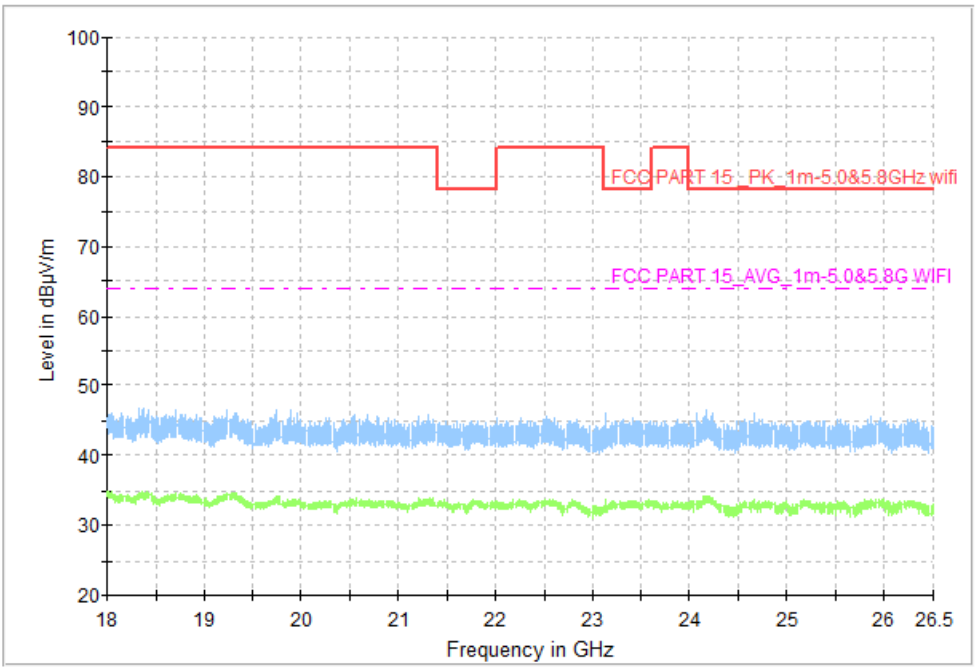


Fig.67 Radiated Spurious Emission (All Channels, 18GHz-26.5GHz)

A.7 AC Power line Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

WLAN (Quasi-peak Limit) - AE3

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	66 to 56	Fig.68	Fig.69	P
0.5 to 5	56			
5 to 30	60			
Note: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit) - AE3

Frequency range (MHz)	Average-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	56 to 46	Fig.68	Fig.69	P
0.5 to 5	46			
5 to 30	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

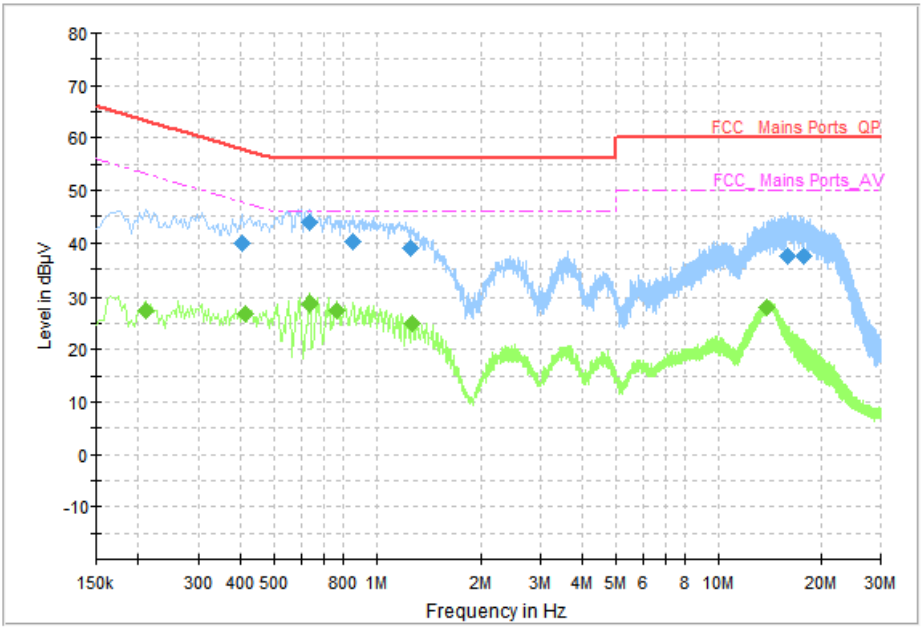


Fig.68 AC Power line Conducted Emission (Traffic, AE3, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.402000	39.79	57.81	18.02	N	ON	10
0.634000	43.95	56.00	12.05	L1	ON	10
0.850000	40.15	56.00	15.85	L1	ON	10
1.266000	38.91	56.00	17.10	L1	ON	10
15.926000	37.62	60.00	22.38	N	ON	11
17.762000	37.60	60.00	22.40	N	ON	11

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.210000	27.37	53.21	25.84	L1	ON	10
0.410000	26.66	47.65	20.98	N	ON	10
0.634000	28.67	46.00	17.33	L1	ON	10
0.766000	27.45	46.00	18.55	L1	ON	10
1.278000	24.84	46.00	21.16	L1	ON	10
13.910000	28.05	50.00	21.95	N	ON	11

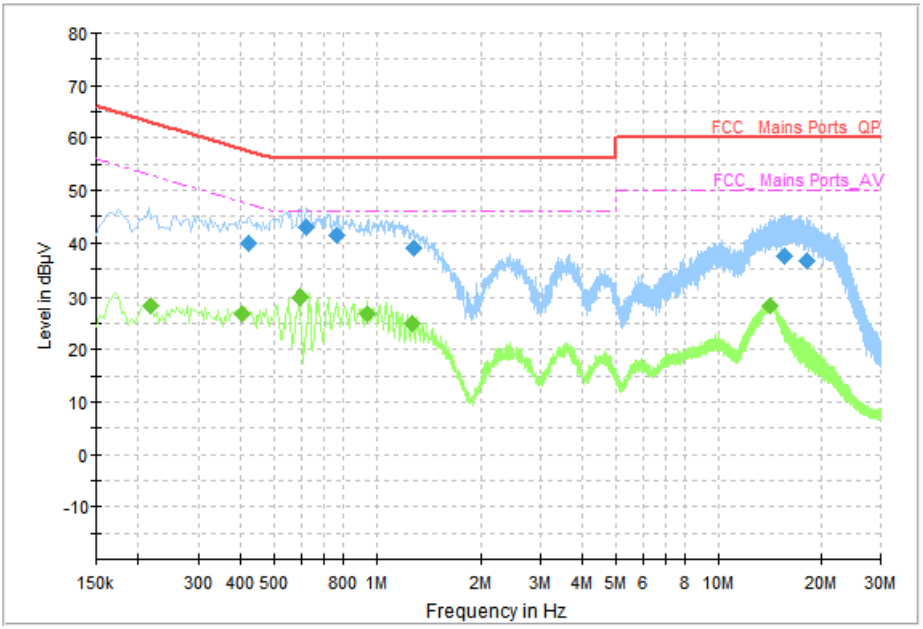


Fig.69 AC Power line Conducted Emission (Idle, AE3, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.422000	39.79	57.41	17.62	N	ON	10
0.622000	42.90	56.00	13.10	L1	ON	10
0.766000	41.59	56.00	14.41	L1	ON	10
1.286000	39.09	56.00	16.91	L1	ON	10
15.694000	37.64	60.00	22.36	N	ON	11
18.146000	36.62	60.00	23.38	N	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.218000	28.24	52.90	24.66	N	ON	10
0.402000	26.85	47.81	20.96	N	ON	10
0.594000	29.88	46.00	16.12	N	ON	10
0.942000	26.89	46.00	19.11	L1	ON	10
1.278000	24.89	46.00	21.11	L1	ON	10
14.206000	28.38	50.00	21.62	N	ON	11

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