TEST REPORT

No. I21N00294-WLAN

TCL Communication Ltd.

Tablet

Model Name: 9317G

with

Hardware Version: PIO

Software Version: EN1

FCC ID: 2ACCJB150

Issued Date: 2021-03-02

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:

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1. Summary of Test Report

1.1. Test Items

Description	Tablet
Model Name	9317G
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:	2021-01-29
Testing End Date:	2021-02-10

1.6. Signature

Lin Kanfeng

(Prepared this test report)

Tang Weisheng

(Reviewed this test report)

Zhang Bojun

(Approved this test report)

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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	Gong Zhizhou
E-Mail	zhizhou.gong@tcl.com
Telephone:	0086-755-36611722
Fax:	/

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	Gong Zhizhou
E-Mail	zhizhou.gong@tcl.com
Telephone:	0086-755-36611722
Fax:	/

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

3.1. About EUT

Description	Tablet
Model Name	9317G
RF Protocol	IEEE 802.11 b/g/n20/n40
Operating Frequency	2412MHz~2462MHz
Number of Channels	11
Antenna Type	Integrated
Antenna Gain	-0.8 dBi
Power Supply	3.8V DC by Battery
FCC ID	2ACCJB150
Condition of EUT as received	No abnormality in appearance

3.2. Internal Identification of EUT

EUT ID*	IMEI	HW Version	SW Version	Receive Date
UT06aa	DC9BD64608B5221	PIO	EN1	2021-01-29
UT01aa	DC9BD64608B5128	PIO	EN1	2021-01-29

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

*UT06aa is used for Conduction test; UT01aa is used for Radiation test and AC Power line Conducted Emission test.

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	Battery	CAC2580038C7
AE2	Battery	CAC2580046CA
AE3	Charger	CBA0058AGAC7
AE4	Charger	CBA0058AGAC5

AE1

Model	TLp025F7
Manufacturer	VEKEN
Capacity	2580mAh
Nominal Voltage	3.8v

AE2

Model	TLp025FA
Manufacturer	Tianmao
Capacity	2580mAh
Nominal Voltage	3.8v

AE3

Model	UC11US
Manufacturer	CHENYANG

AE4

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Model	UC11US
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 Tablet 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.

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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

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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.

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6. Test Equipments Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Date	Calibration Period
1	Vector Signal Analyzer	FSV40	100903	Rohde & Schwarz	2022-01-14	1 year
2	Power Sensor	U2021XA	MY55430013	Agilent	2022-01-14	1 year
3	Data Acquisiton	U2531A	TW55443507	Agilent	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Date	Calibration Period
1	LISN	ESH2-Z5	100196	R&S	2022-01-01	1 year
2	Test Receiver	ESCI	100701	R&S	2021-08-05	1 year
3	Loop Antenna	HLA6120	35779	TESEQ	2022-05-01	3 year
4	BiLog Antenna	VULB9163	9163 329	Schwarzbeck	2024-02-15	3 year
5	Horn Antenna	3117	00066585	ETS-Lindgren	2022-03-04	3 year
6	Test Receiver	ESR7	101675	R&S	2021-07-17	1 year
7	Spectrum Analyzer	FSP 40	100378	R&S	2021-12-11	1 year
8	Chamber	FACT5-2.0	4166	ETS-Lindgren	2021-05-12	3 year
9	Antenna	QSH-SL-1 8-26-S-20	17013	Q-par	2024-01-13	3 year
10	Antenna	QSH-SL-2 6-40-K-20	17014	Q-par	2024-01-09	3 year

Test software

No.	Equipment	Manufacturer	Version
1	TechMgr Software	CAICT	2.1.1
2	EMC32	Rohde & Schwarz	8.53.0
3	EMC32	Rohde & Schwarz	10.01.00

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

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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-1000MHz>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

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8. Measurement Uncertainty

Test Name	Uncertainty *(k=2)*	
1. RF Output Power - Conducted	1.32dB	
2. Power Spectral Density - Conducted	2.32dB	
3. Occupied channel bandwidth - Conducted	66Hz	
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	1.70dB
	30MHz≤f<1GHz	4.90dB
	1GHz≤f<18GHz	4.60dB
	18GHz≤f≤40GHz	4.10dB
6. AC Power line Conducted Emission	150kHz≤f≤30MHz	3.00dB

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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 -0.8dBi. The RF transmitter uses an integrate antenna without connector.

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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	14.74	14.38	14.55
	2	/	14.32	/
	5.5	/	14.30	/
	11	/	14.27	/
802.11g	6	14.66	14.33	14.48
	9	/	14.31	/
	12	/	14.25	/
	18	/	14.23	/
	24	/	14.18	/
	36	/	14.21	/
	48	/	13.77	/
	54	/	13.76	/

802.11n HT20 mode

Mode	Date Rate (Index)	Test Result (dBm)		
		2412MHz (CH1)	2437MHz (CH6)	2462MHz (CH11)
802.11n HT20	MCS 0	14.43	14.32	14.36
	MCS 1	/	14.26	/
	MCS 2	/	14.27	/
	MCS 3	/	14.22	/
	MCS 4	/	14.20	/
	MCS 5	/	14.15	/
	MCS 6	/	13.71	/
	MCS 7	/	13.68	/

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802.11n HT40 mode

Mode	Date Rate (Index)	Test Result (dBm)		
		2422MHz (CH3)	2437MHz (CH6)	2452MHz (CH9)
802.11n HT40	MCS 0	13.93	14.01	14.04
	MCS 1	/	13.93	/
	MCS 2	/	13.88	/
	MCS 3	/	13.85	/
	MCS 4	/	13.84	/
	MCS 5	/	13.79	/
	MCS 6	/	13.02	/
	MCS 7	/	13.00	/

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	13.94	P
	CH 6	2437	13.58	P
	CH 11	2462	13.75	P
802.11g	CH 1	2412	13.86	P
	CH 6	2437	13.53	P
	CH 11	2462	13.68	P
802.11n HT20	CH 1	2412	13.63	P
	CH 6	2437	13.52	P
	CH 11	2462	13.56	P
802.11n HT40	CH 3	2422	13.13	P
	CH 6	2437	13.21	P
	CH 9	2452	13.24	P

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

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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	-8.09	P
	CH 6	2437	Fig.2	-8.25	P
	CH 11	2462	Fig.3	-8.63	P
802.11g	CH 1	2412	Fig.4	-10.36	P
	CH 6	2437	Fig.5	-10.33	P
	CH 11	2462	Fig.6	-10.40	P
802.11n HT20	CH 1	2412	Fig.7	-10.66	P
	CH 6	2437	Fig.8	-10.29	P
	CH 11	2462	Fig.9	-10.05	P
802.11n HT40	CH 3	2422	Fig.10	-13.12	P
	CH 6	2437	Fig.11	-13.72	P
	CH 9	2452	Fig.12	-13.77	P

See below for test graphs.
Conclusion: PASS

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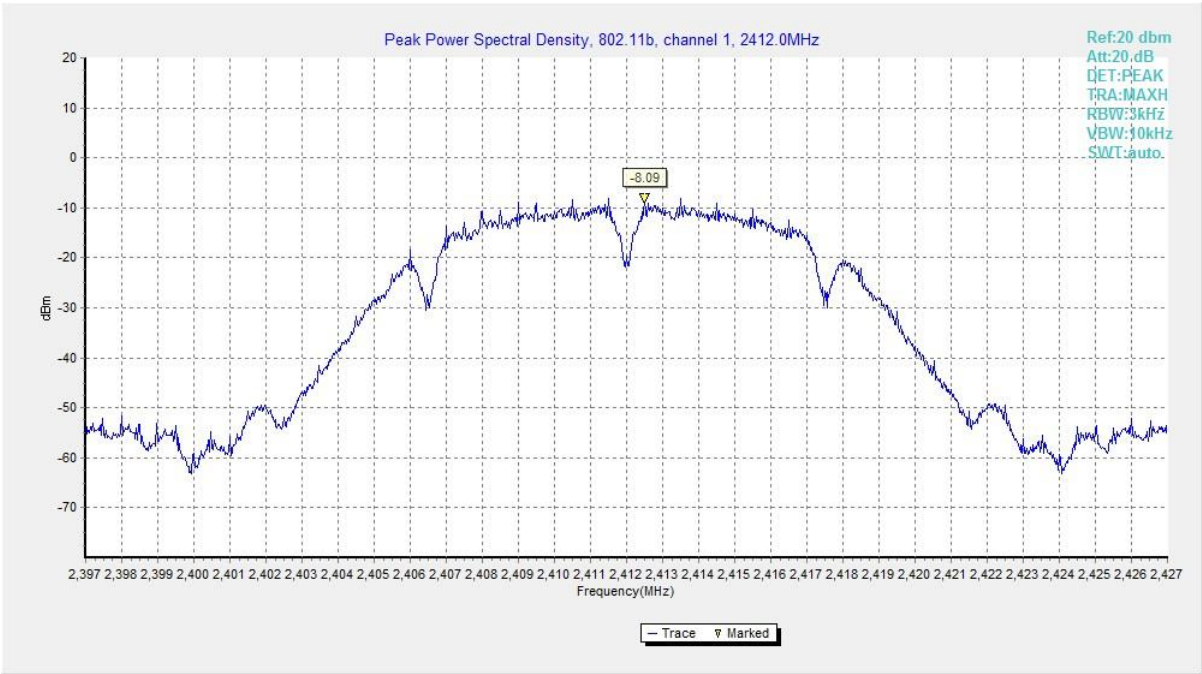

Fig.1 Power Spectral Density (802.11b, CH 1)

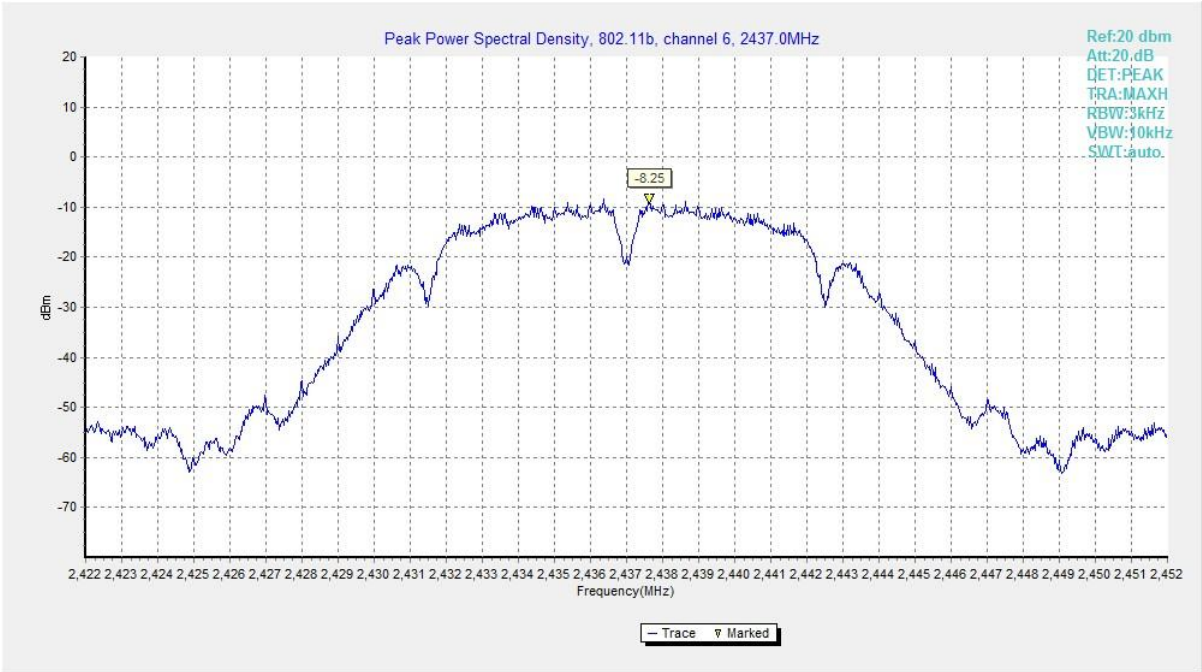

Fig.2 Power Spectral Density (802.11b, CH 6)

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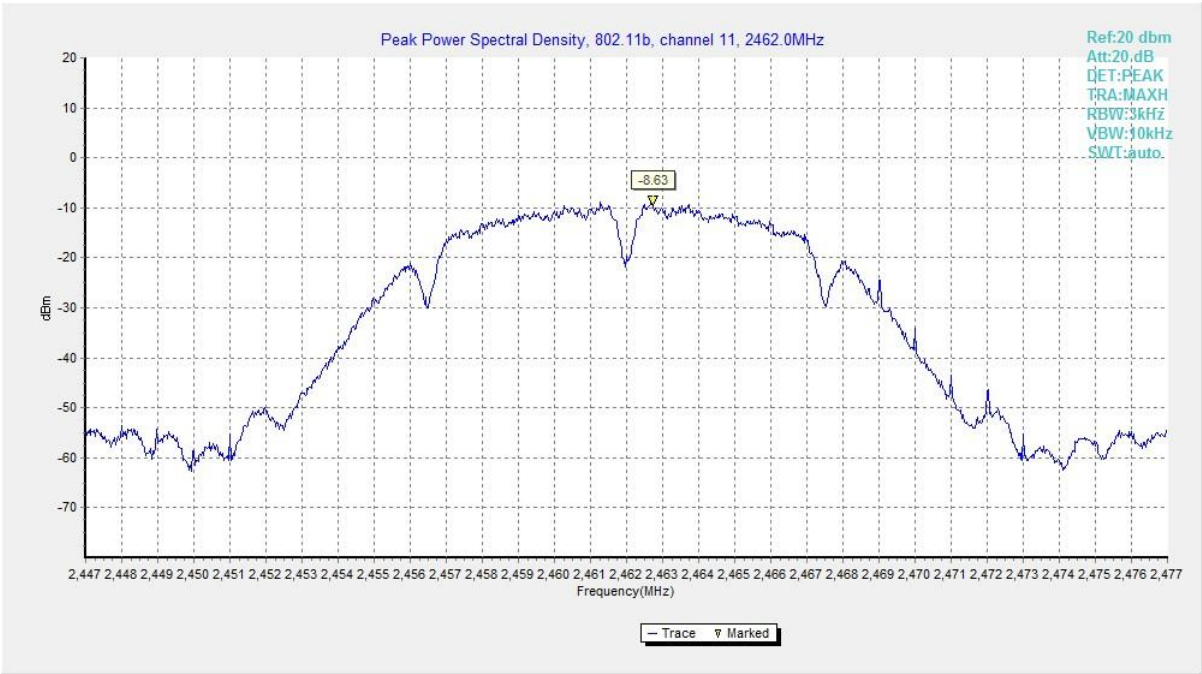

Fig.3 Power Spectral Density (802.11b, CH 11)

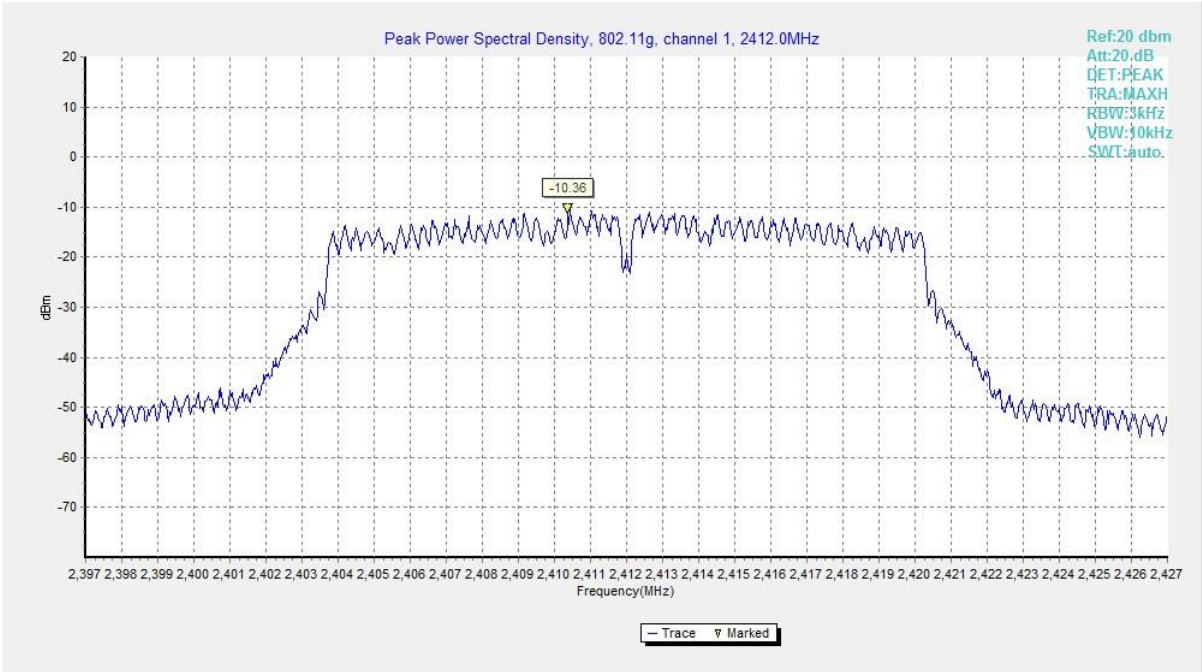

Fig.4 Power Spectral Density (802.11g, CH 1)

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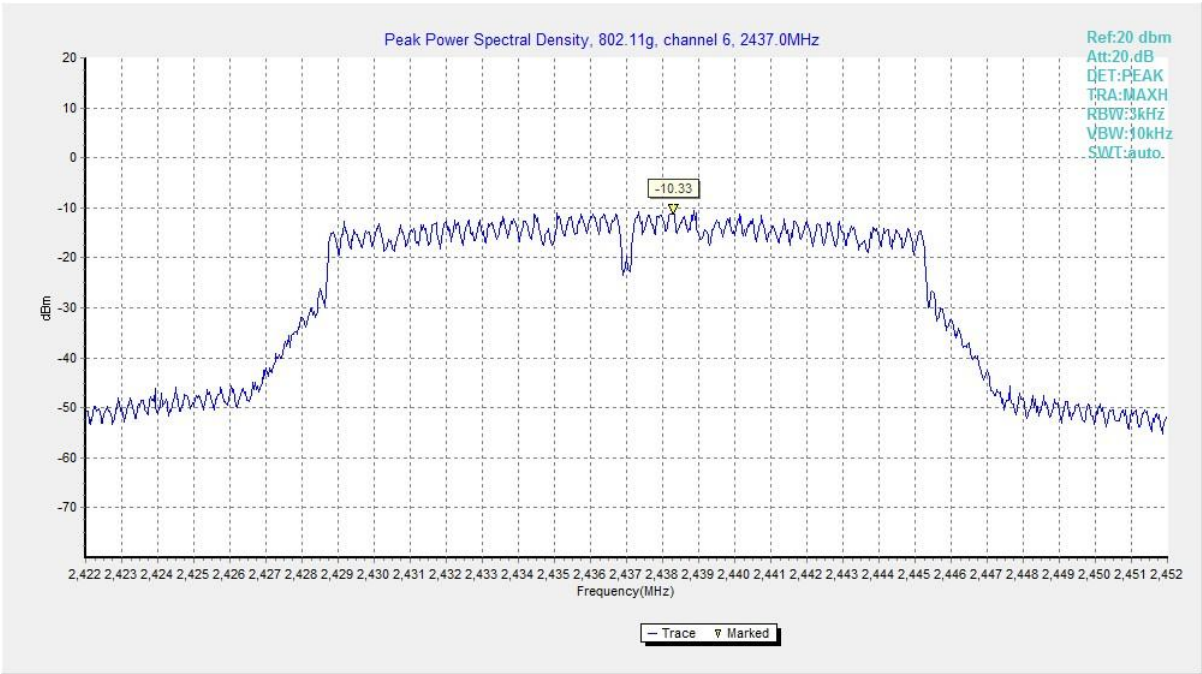

Fig.5 Power Spectral Density (802.11g, CH 6)

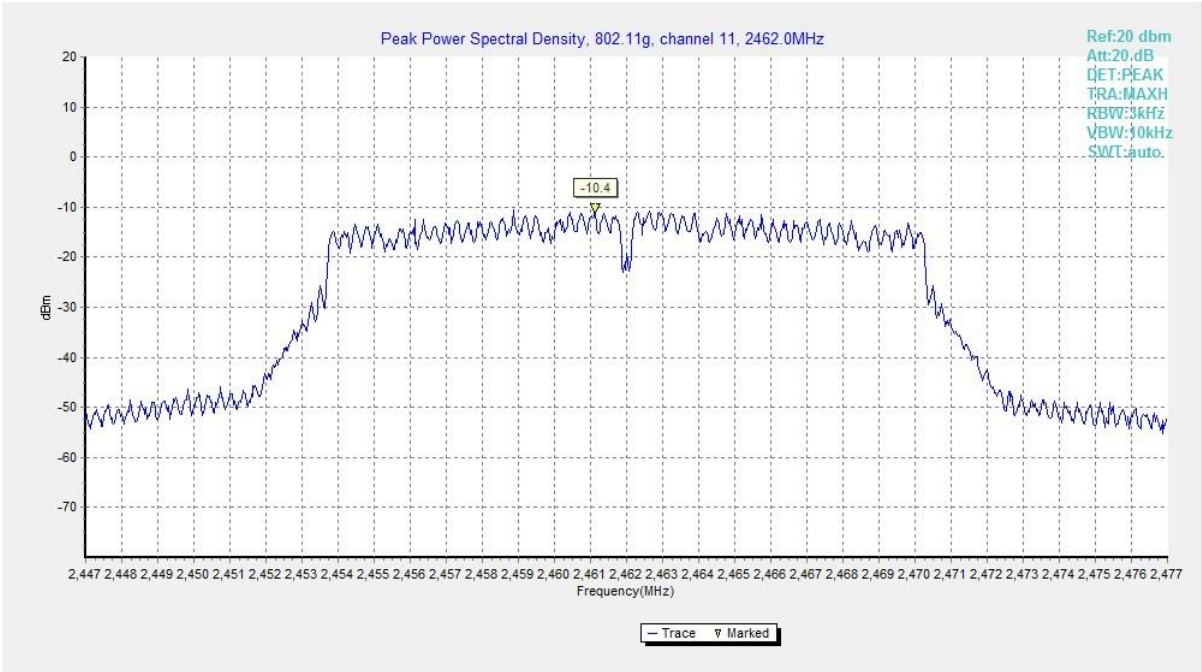

Fig.6 Power Spectral Density (802.11g, CH 11)

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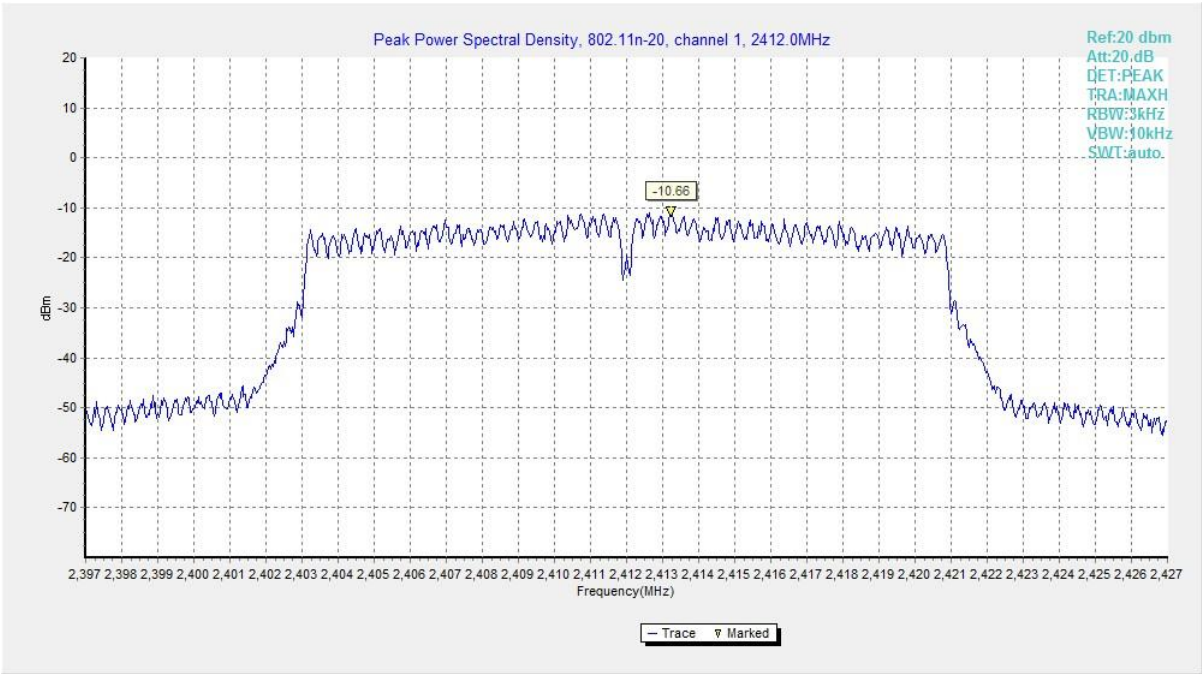

Fig.7 Power Spectral Density (802.11n HT20, CH 1)

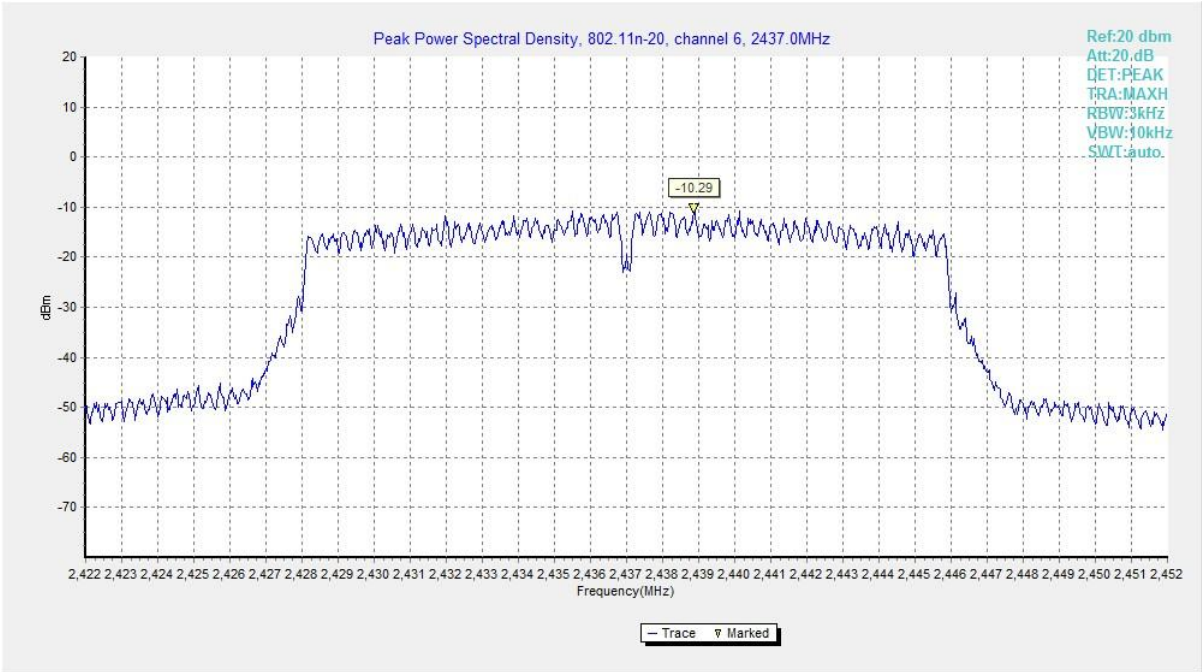

Fig.8 Power Spectral Density (802.11n HT20, CH 6)

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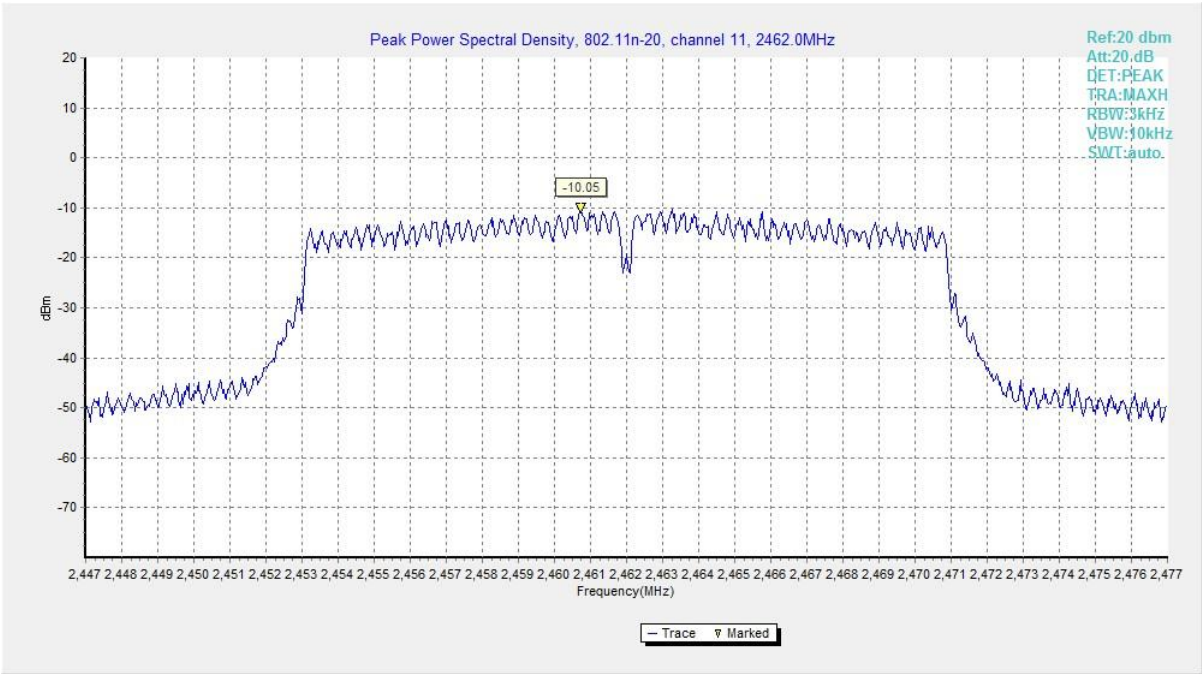

Fig.9 Power Spectral Density (802.11n HT20, CH 11)

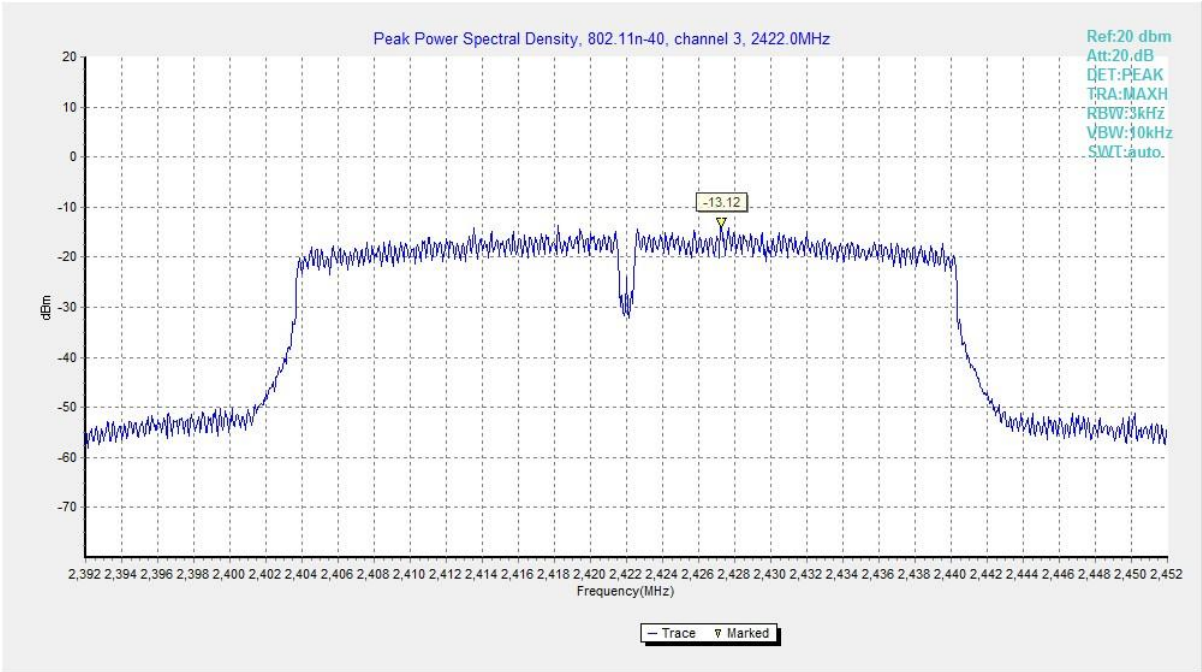

Fig.10 Power Spectral Density (802.11n HT40, CH 3)

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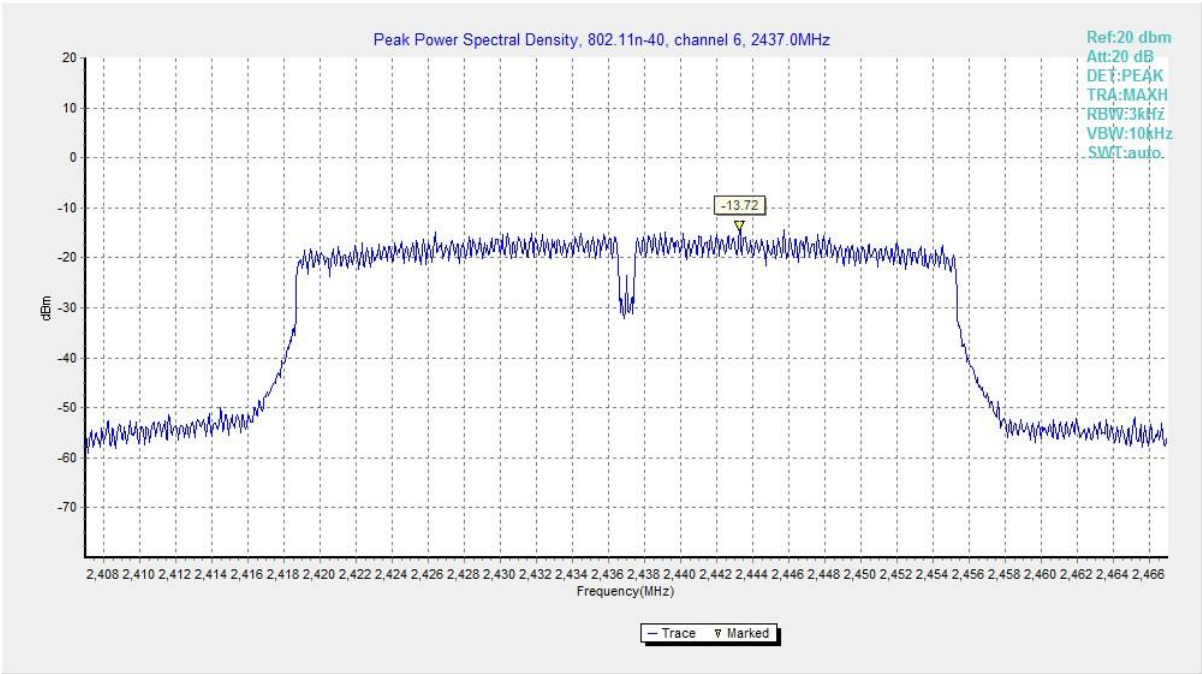

Fig.11 Power Spectral Density (802.11n HT40, CH 6)

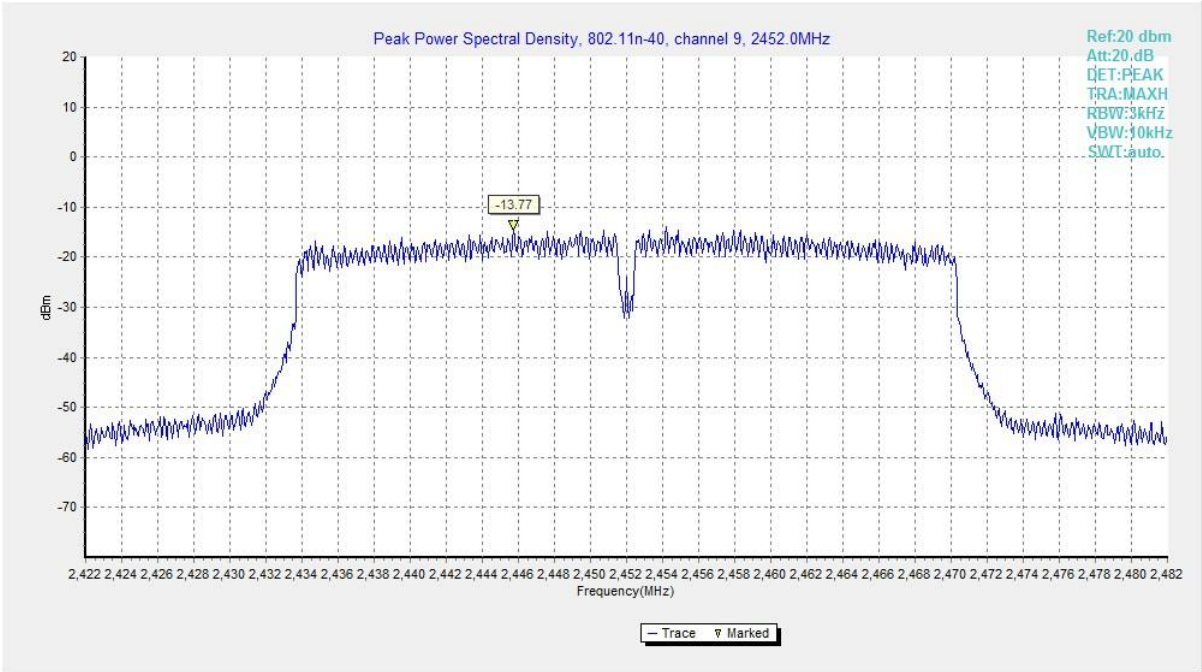

Fig.12 Power Spectral Density (802.11n HT40, CH 9)

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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	9050	P
	CH 6	2437	Fig.14	9500	P
	CH 11	2462	Fig.15	9550	P
802.11g	CH 1	2412	Fig.16	15150	P
	CH 6	2437	Fig.17	15150	P
	CH 11	2462	Fig.18	15300	P
802.11n HT20	CH 1	2412	Fig.19	15150	P
	CH 6	2437	Fig.20	15100	P
	CH 11	2462	Fig.21	15150	P
802.11n HT40	CH 3	2422	Fig.22	35120	P
	CH 6	2437	Fig.23	35200	P
	CH 9	2452	Fig.24	35120	P

See below for test graphs.

Conclusion: PASS

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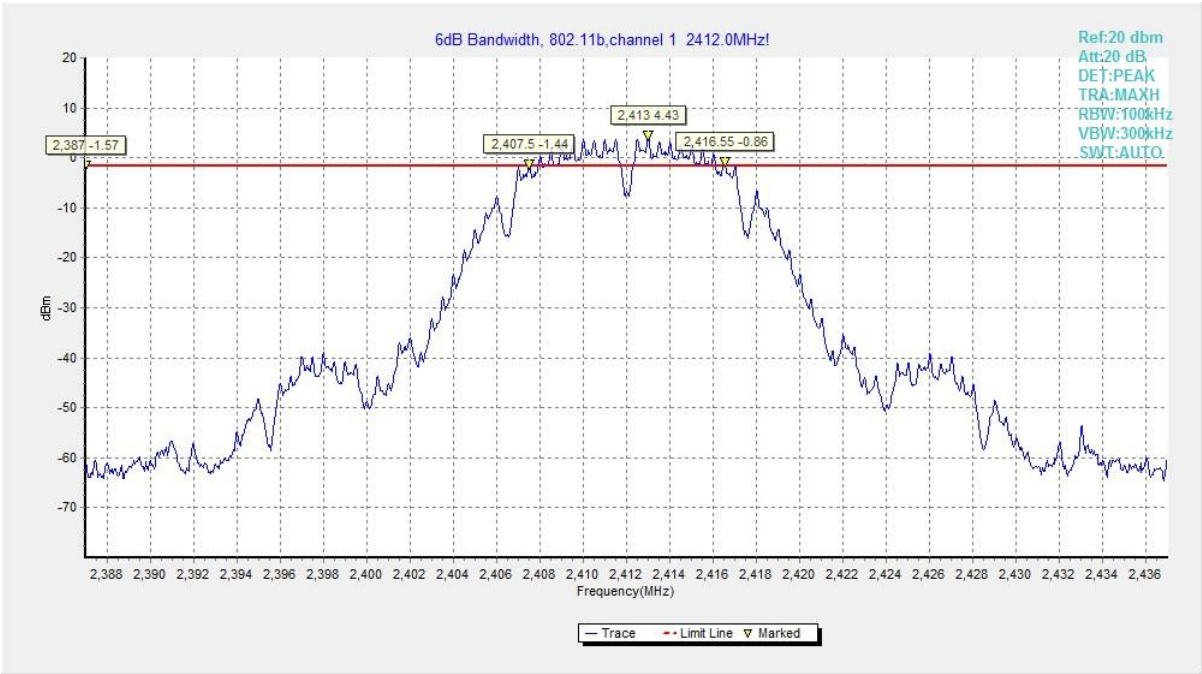

Fig.13 6dB Bandwidth (802.11b, CH 1)

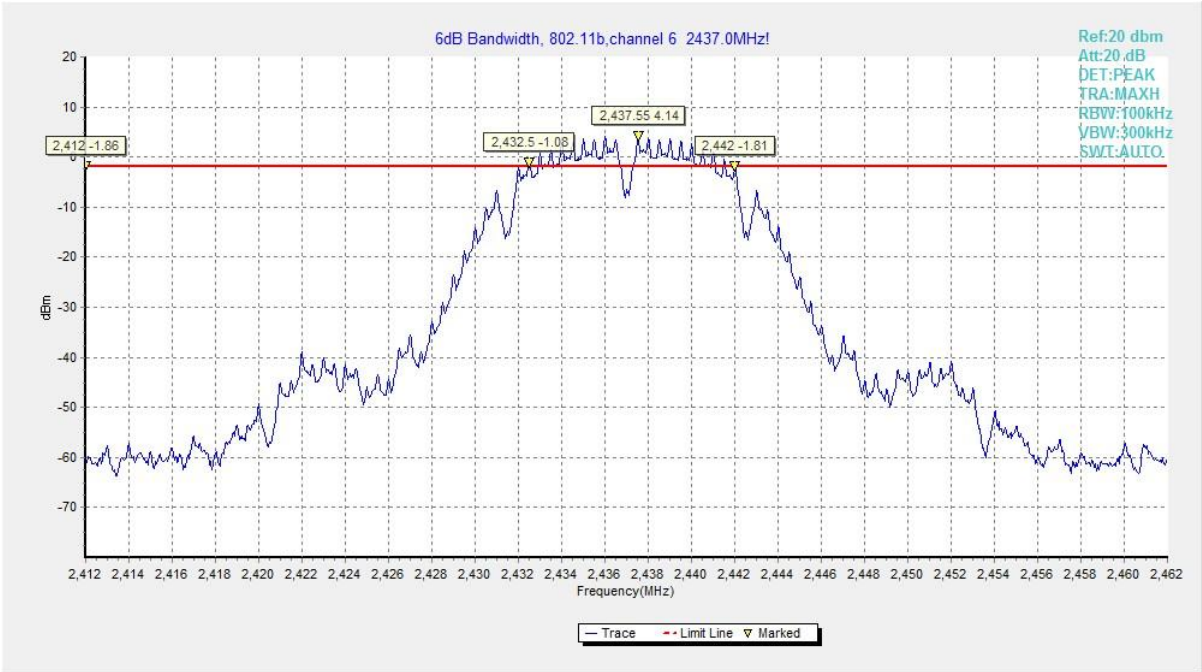

Fig.14 6dB Bandwidth (802.11b, CH 6)

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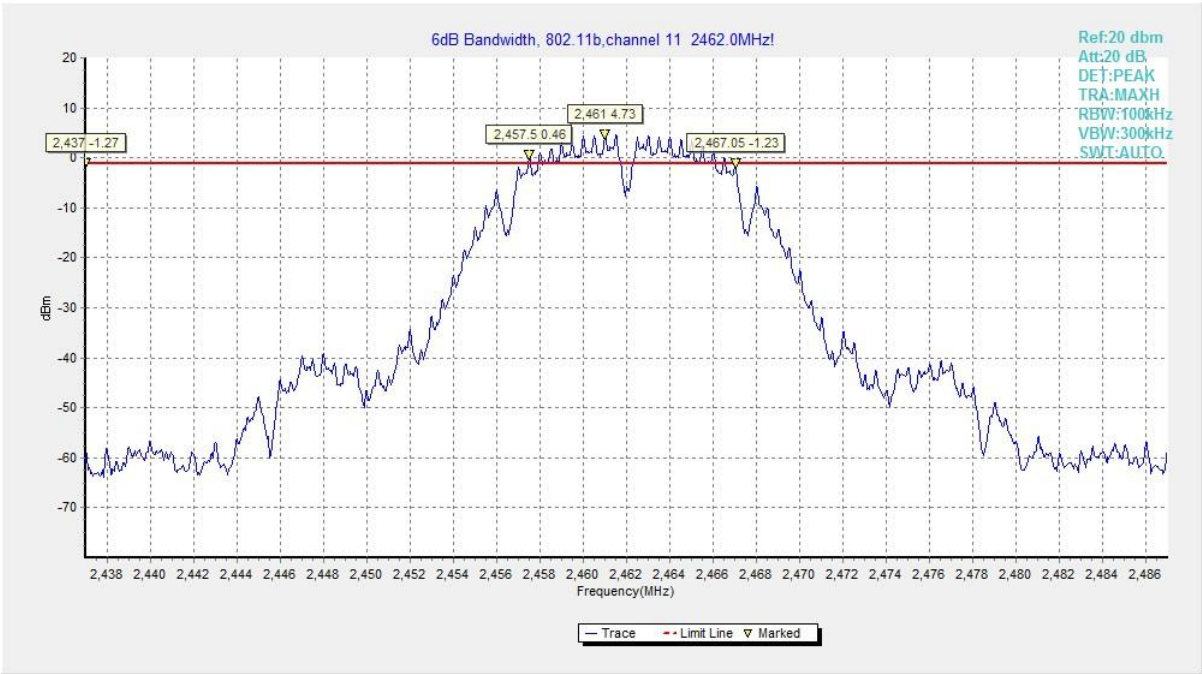

Fig.15 6dB Bandwidth (802.11b, CH 11)

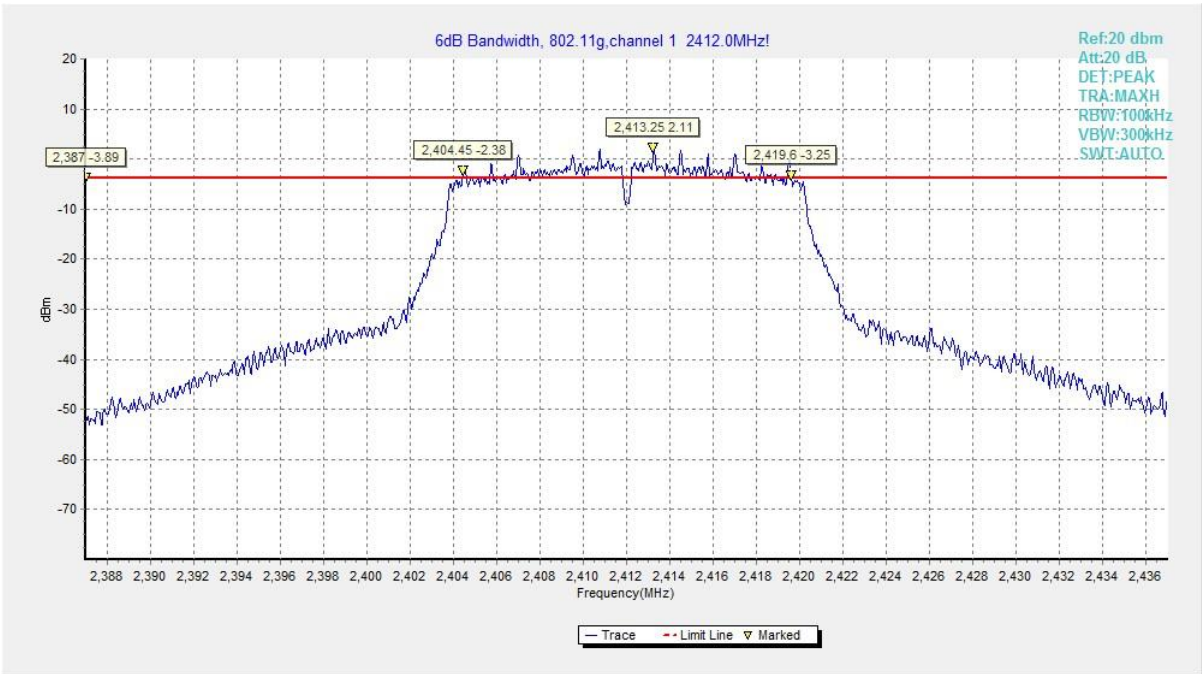

Fig.16 6dB Bandwidth (802.11g, CH 1)

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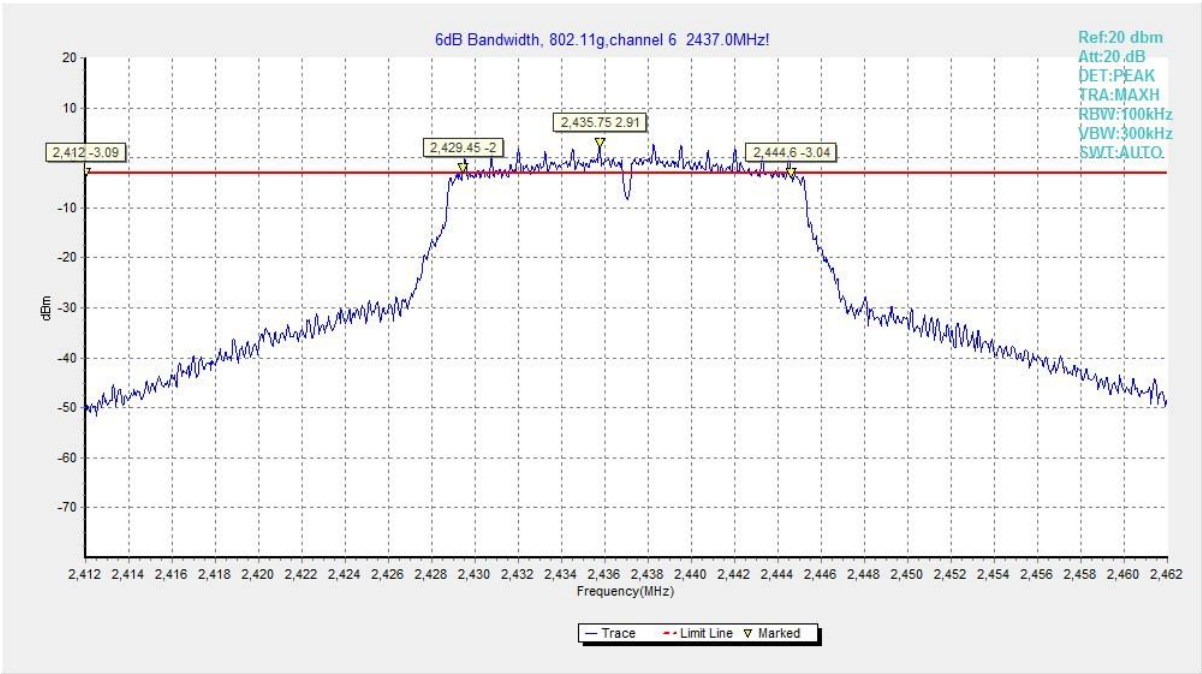

Fig.17 6dB Bandwidth (802.11g, CH 6)

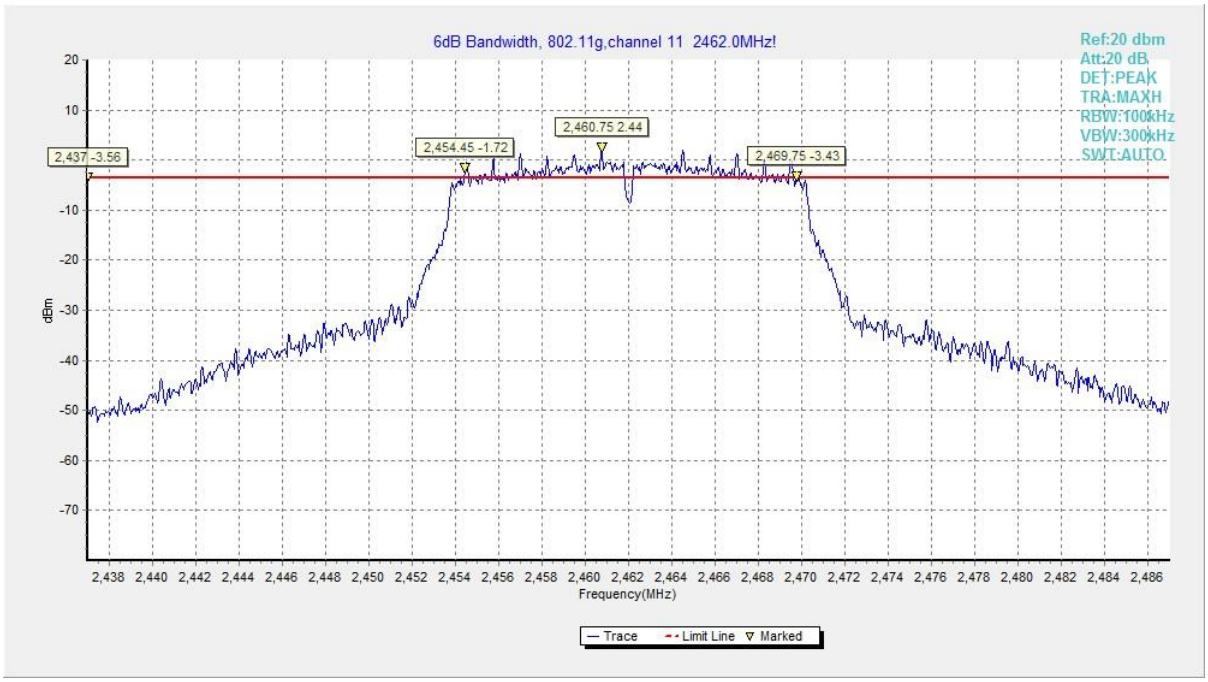

Fig.18 6dB Bandwidth (802.11g, CH 11)

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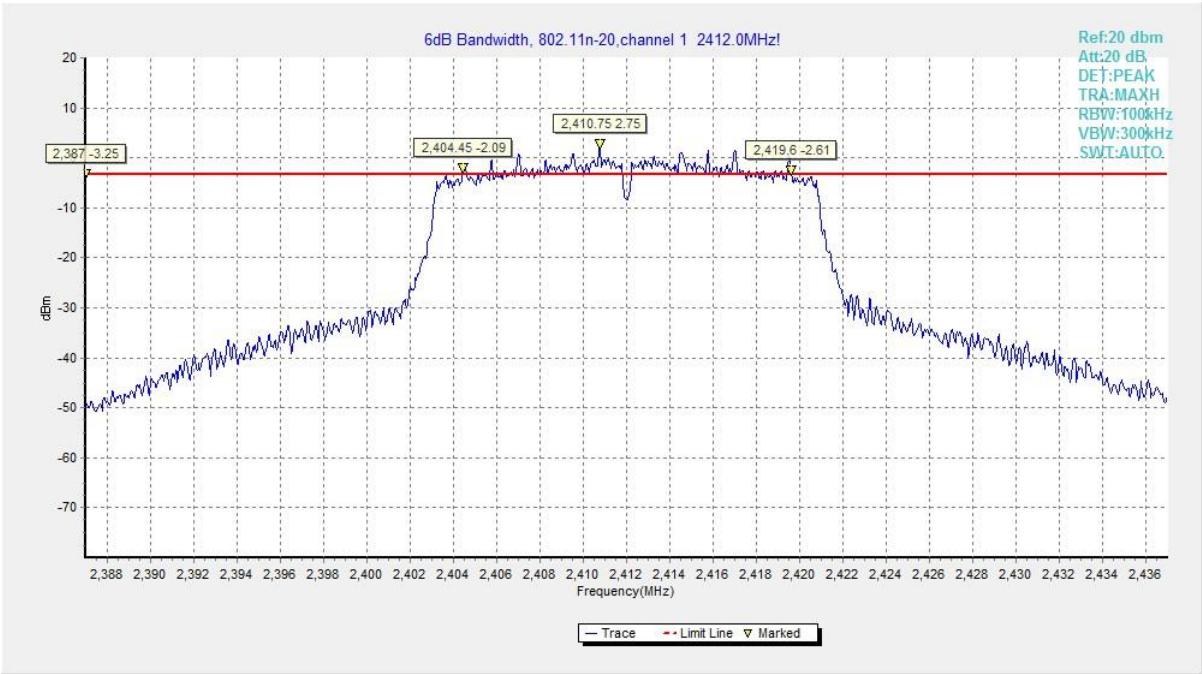

Fig.19 6dB Bandwidth (802.11n HT20, CH 1)

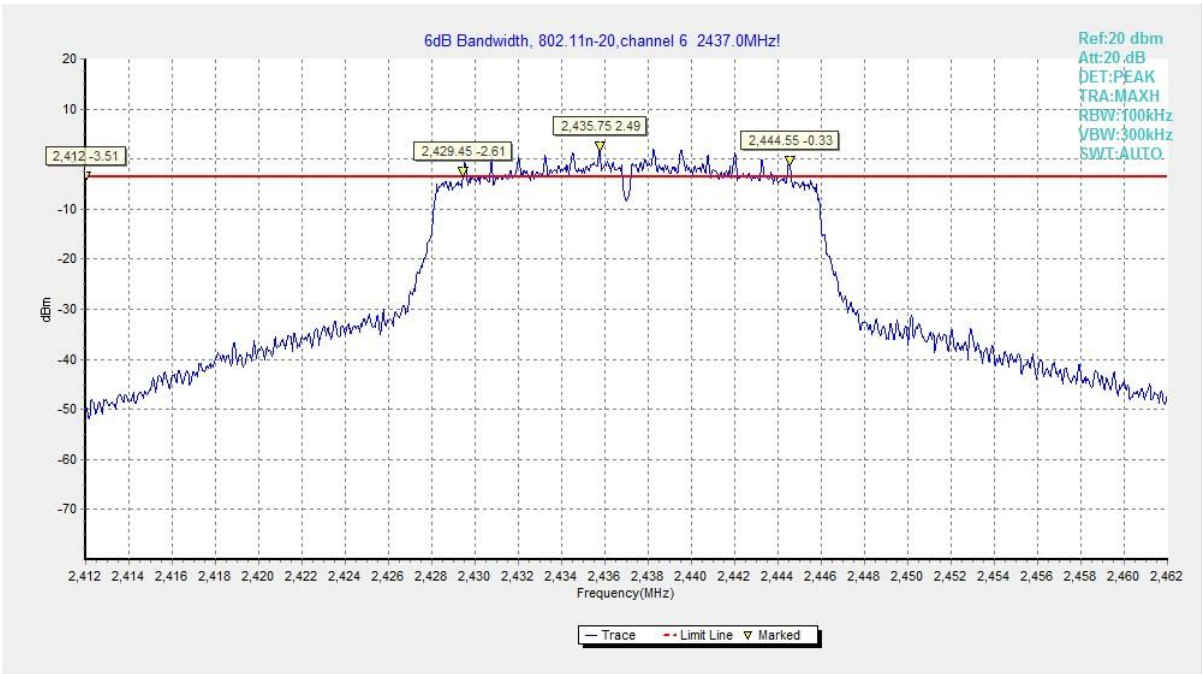

Fig.20 6dB Bandwidth (802.11n HT20, CH 6)

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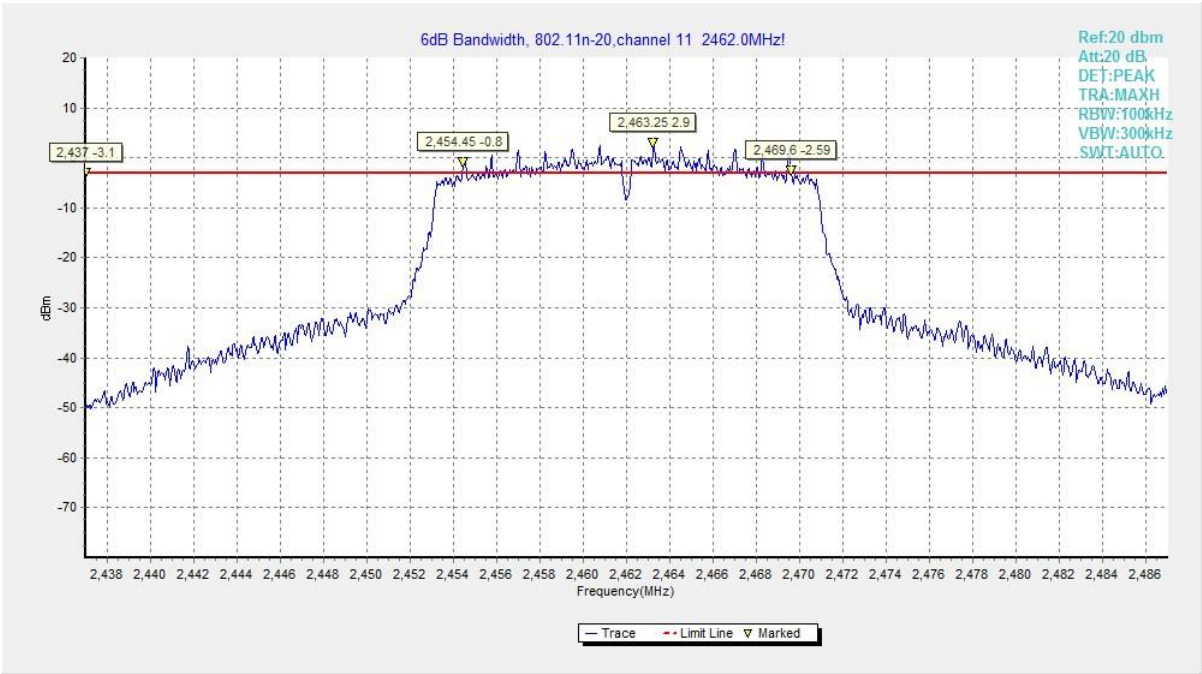

Fig.21 6dB Bandwidth (802.11n HT20, CH 11)

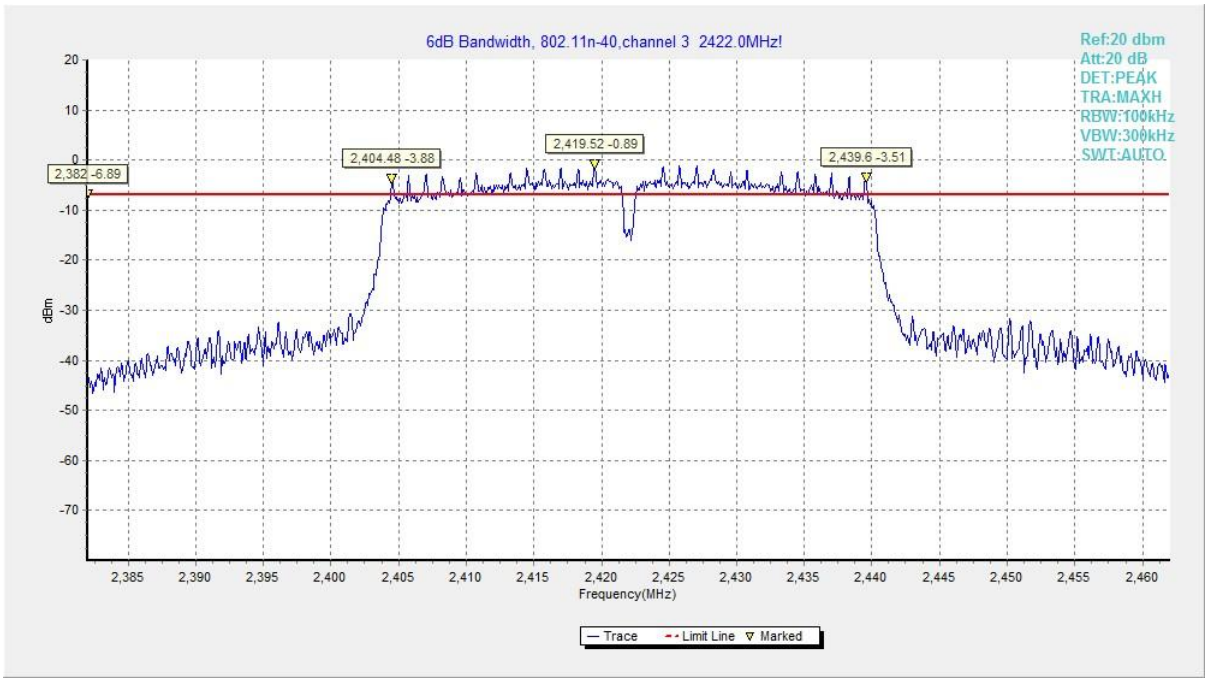

Fig.22 6dB Bandwidth (802.11n HT40, CH 3)

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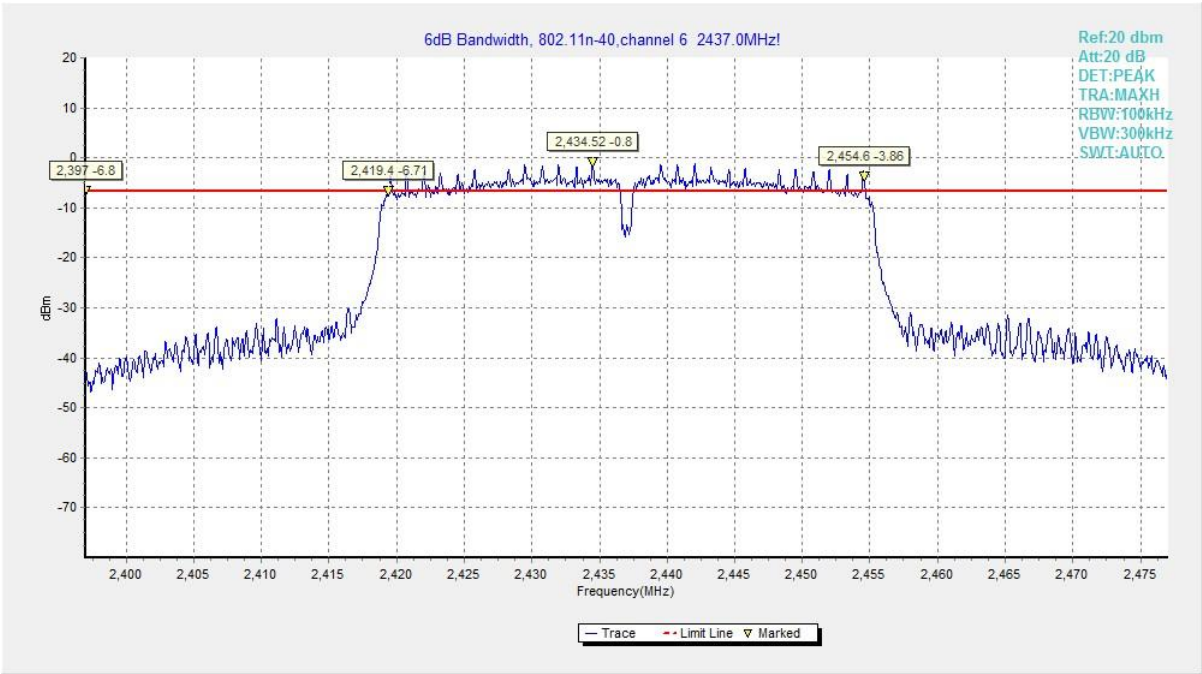

Fig.23 6dB Bandwidth (802.11n HT40, CH 6)

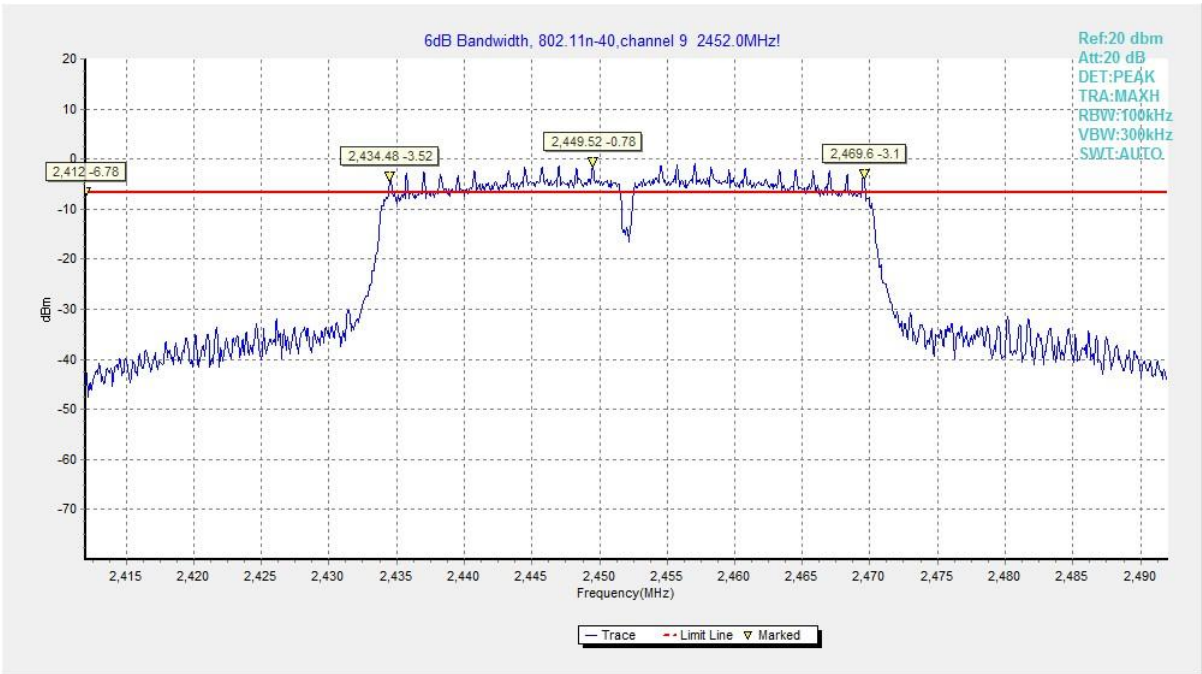

Fig.24 6dB Bandwidth (802.11n HT40, CH 9)

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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	52.76	P
	CH 11	2462	Fig.26	63.27	P
802.11g	CH 1	2412	Fig.27	35.08	P
	CH 11	2462	Fig.28	46.21	P
802.11n HT20	CH 1	2412	Fig.29	36.57	P
	CH 11	2462	Fig.30	45.57	P
802.11n HT40	CH 3	2422	Fig.31	33.72	P
	CH 9	2452	Fig.32	37.51	P

See below for test graphs.
Conclusion: PASS

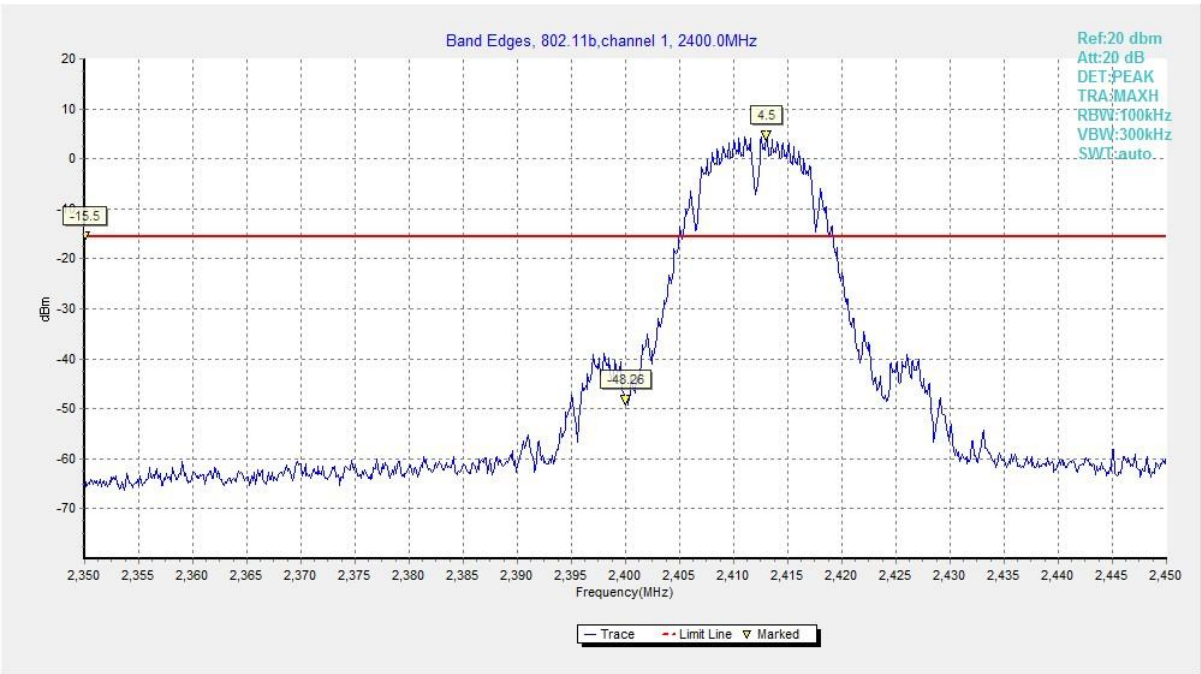

Fig.25 Band Edges (802.11b, CH 1)

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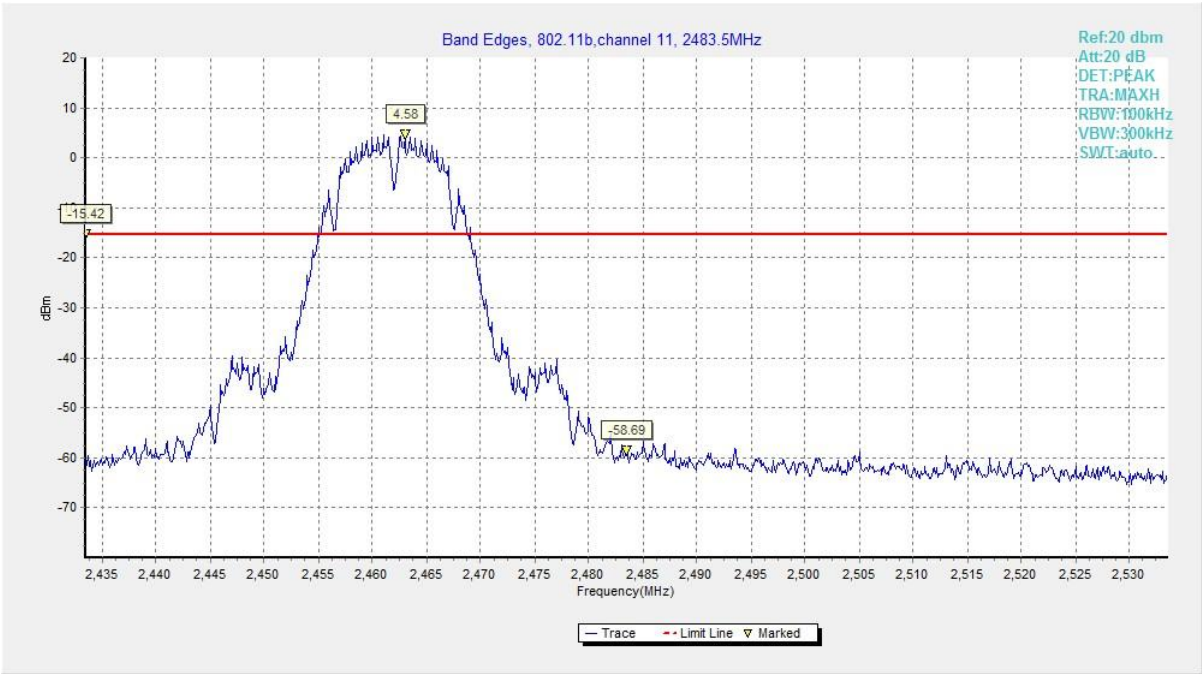

Fig.26 Band Edges (802.11b, CH 11)

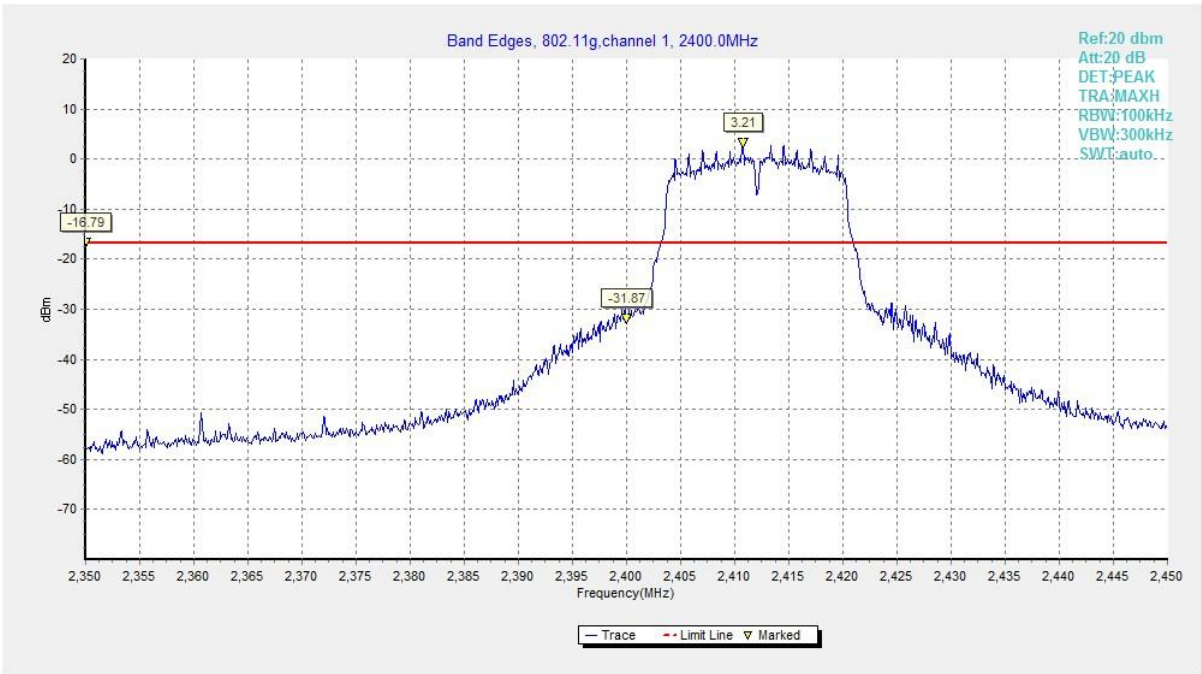

Fig.27 Band Edges (802.11g, CH 1)

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

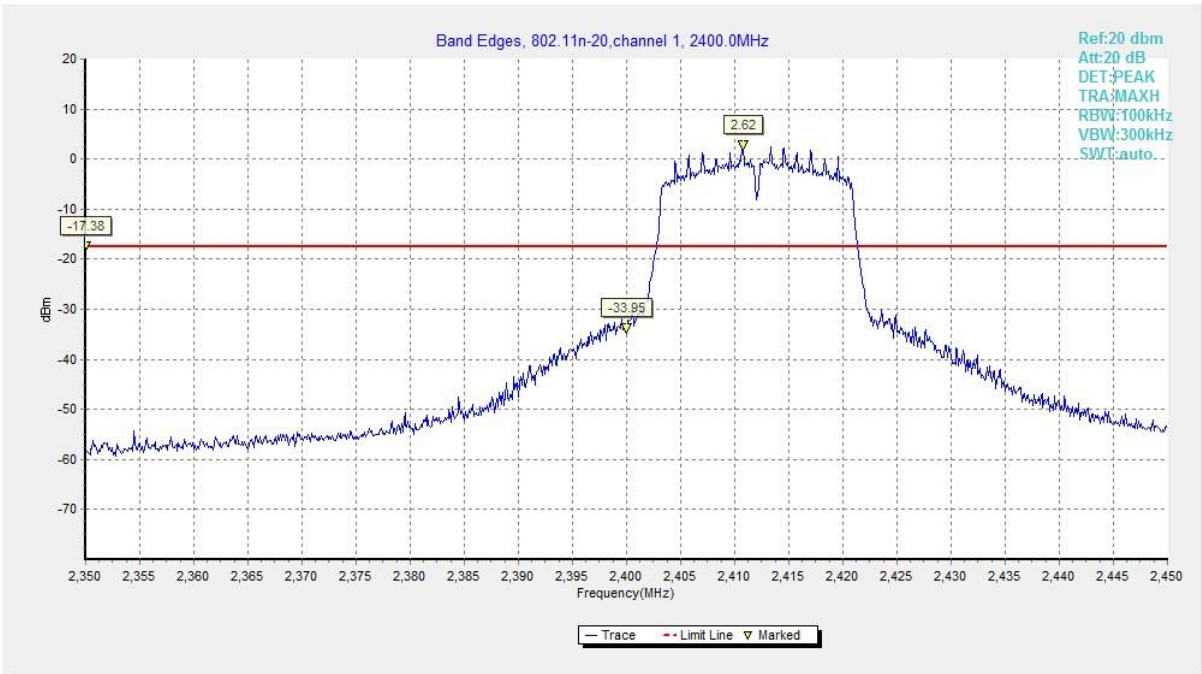

Fig.29 Band Edges (802.11n HT20, CH 1)

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

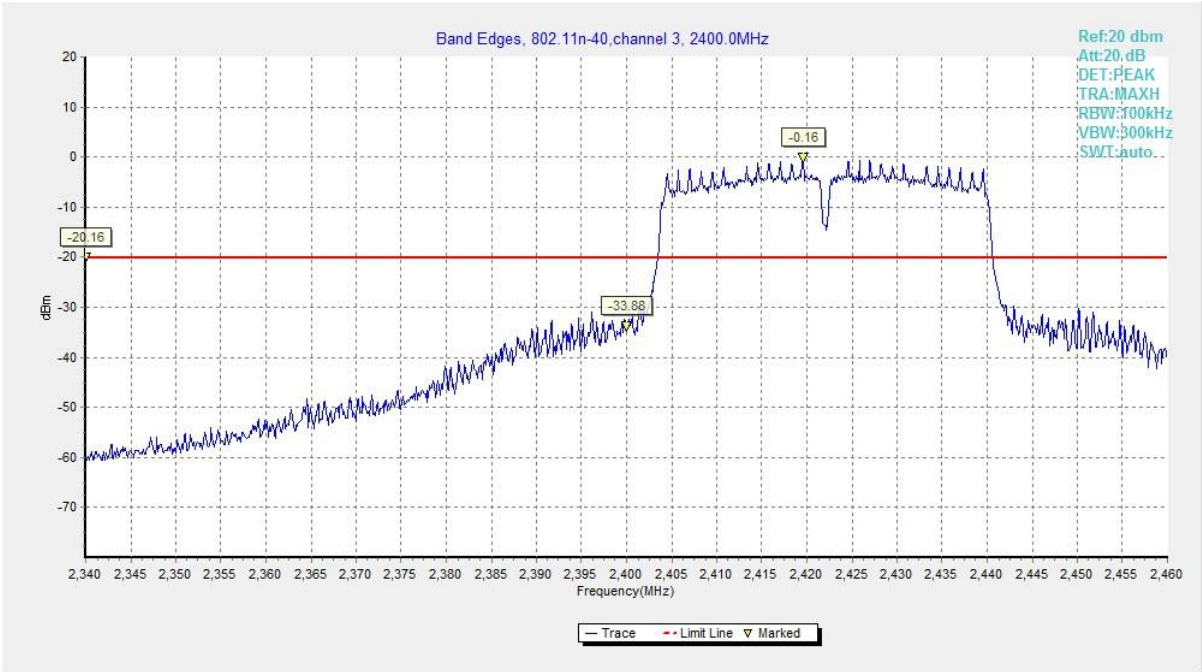

Fig.31 Band Edges (802.11n HT40, CH 3)

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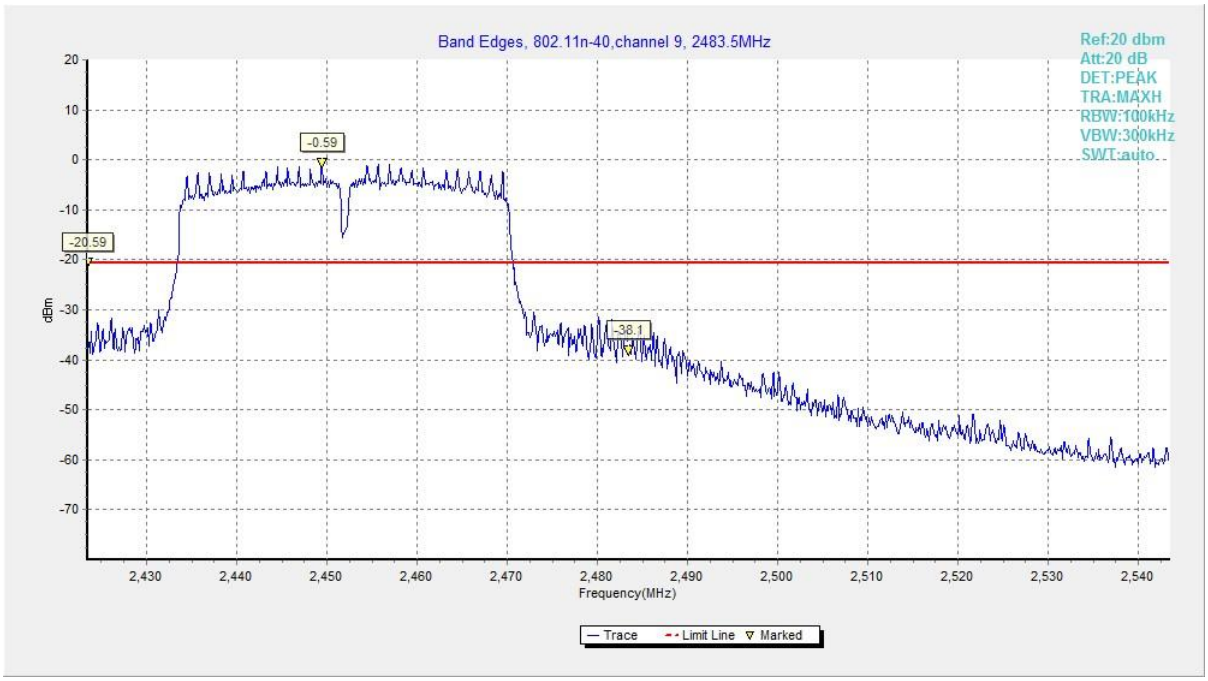

Fig.32 Band Edges (802.11n HT40, CH 9)

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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

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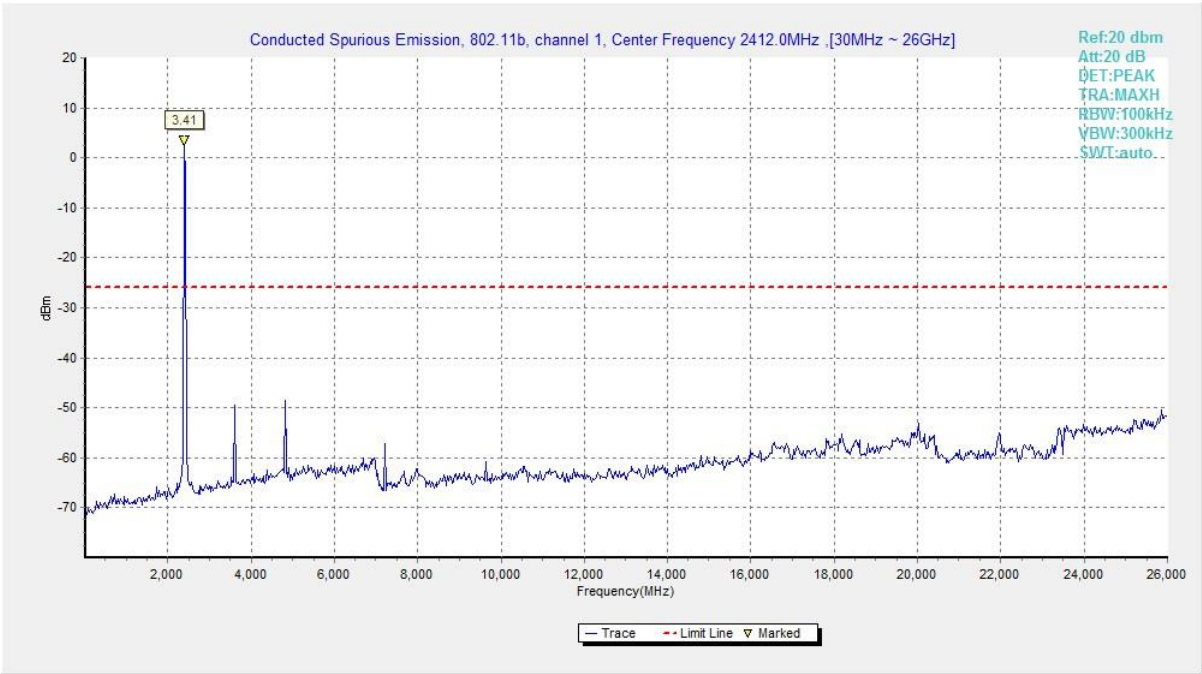

Fig.33 Conducted Spurious Emission (802.11b, CH1)

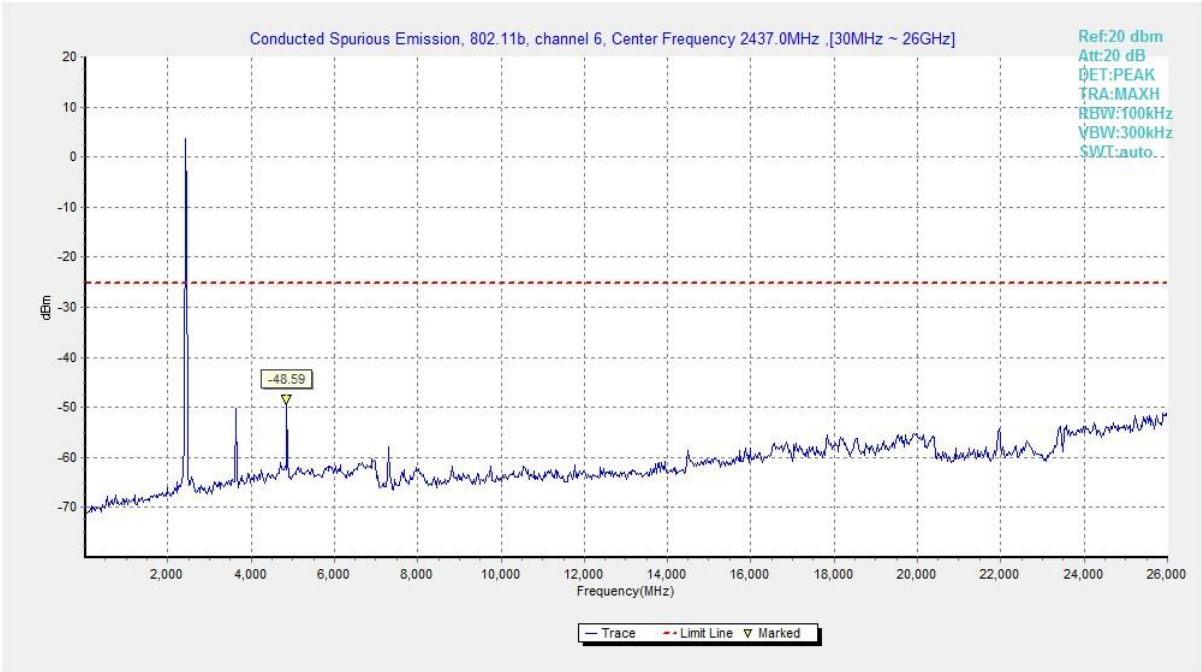

Fig.34 Conducted Spurious Emission (802.11b, CH6)

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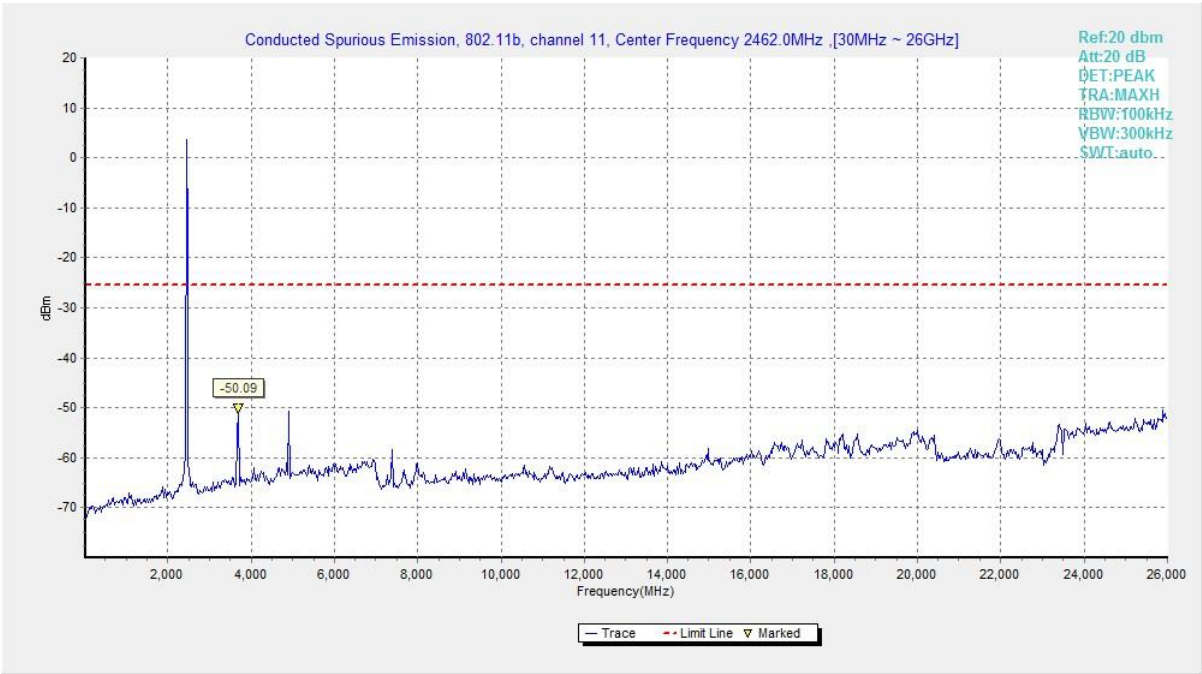

Fig.35 Conducted Spurious Emission (802.11b, CH11)

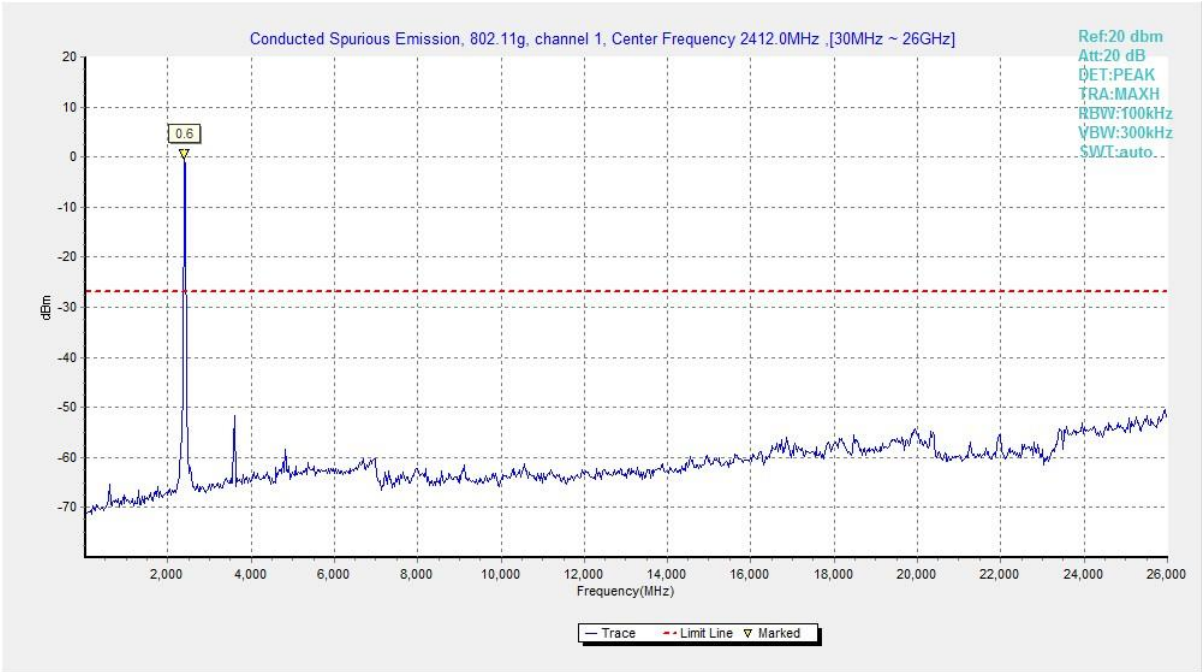

Fig.36 Conducted Spurious Emission (802.11g, CH1)

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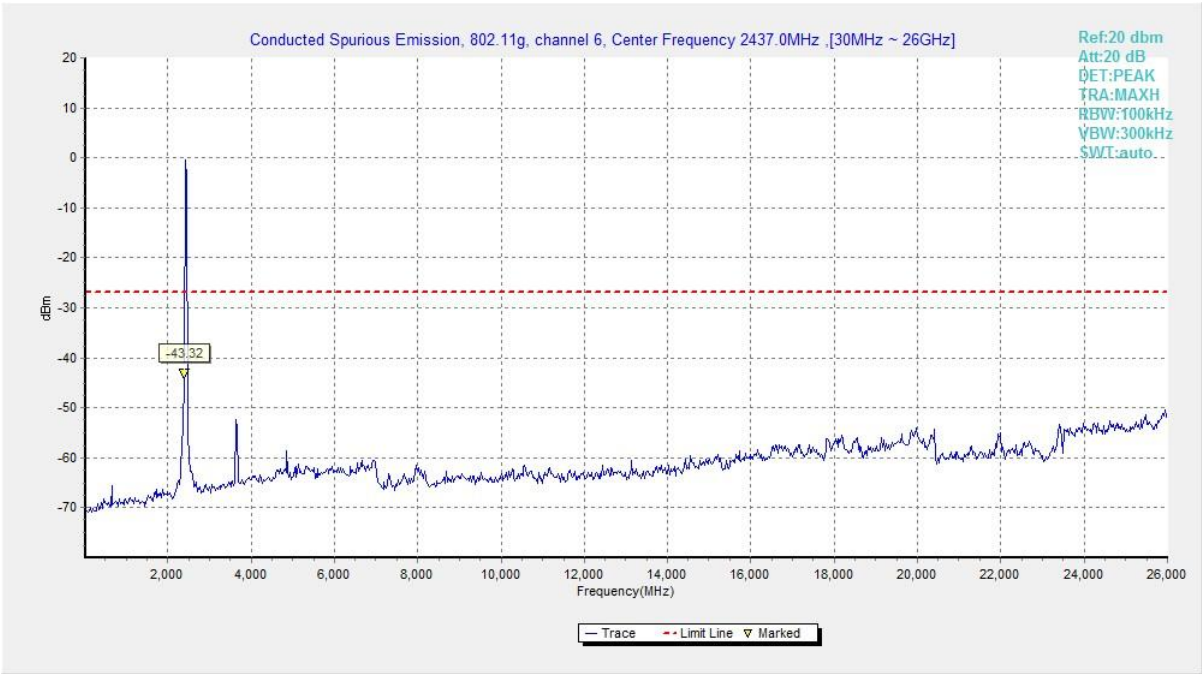

Fig.37 Conducted Spurious Emission (802.11g, CH6)

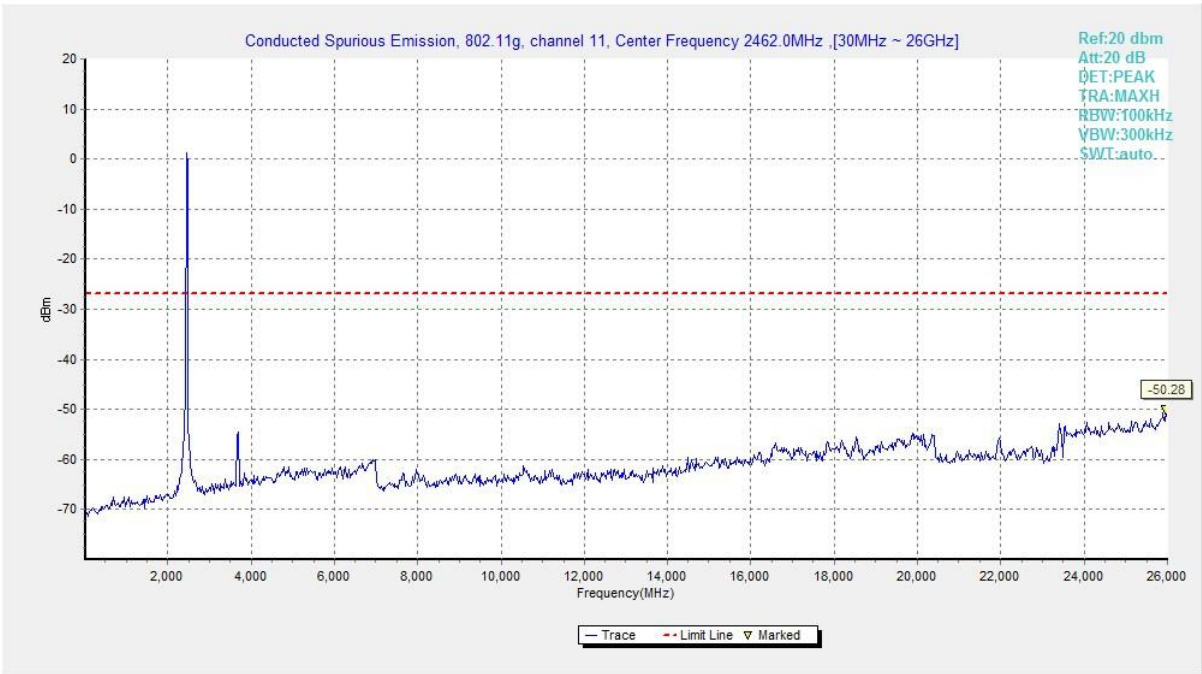

Fig.38 Conducted Spurious Emission (802.11g, CH11)

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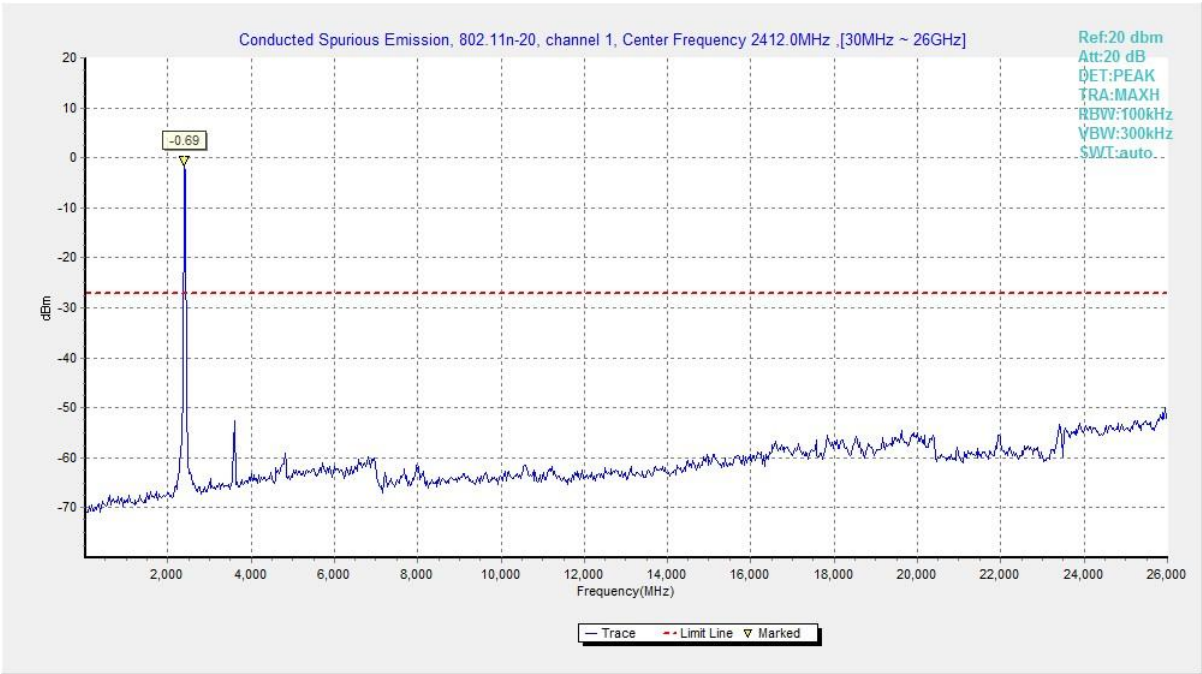

Fig.39 Conducted Spurious Emission (802.11n HT20, CH1)

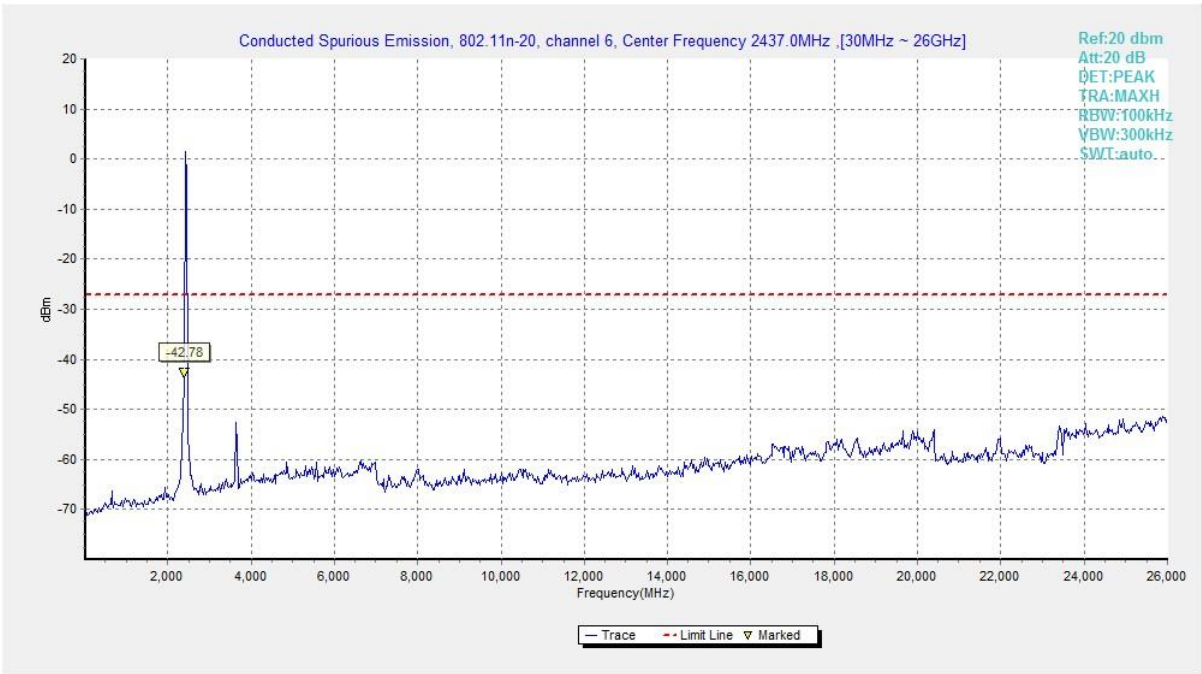

Fig.40 Conducted Spurious Emission (802.11n HT20, CH6)

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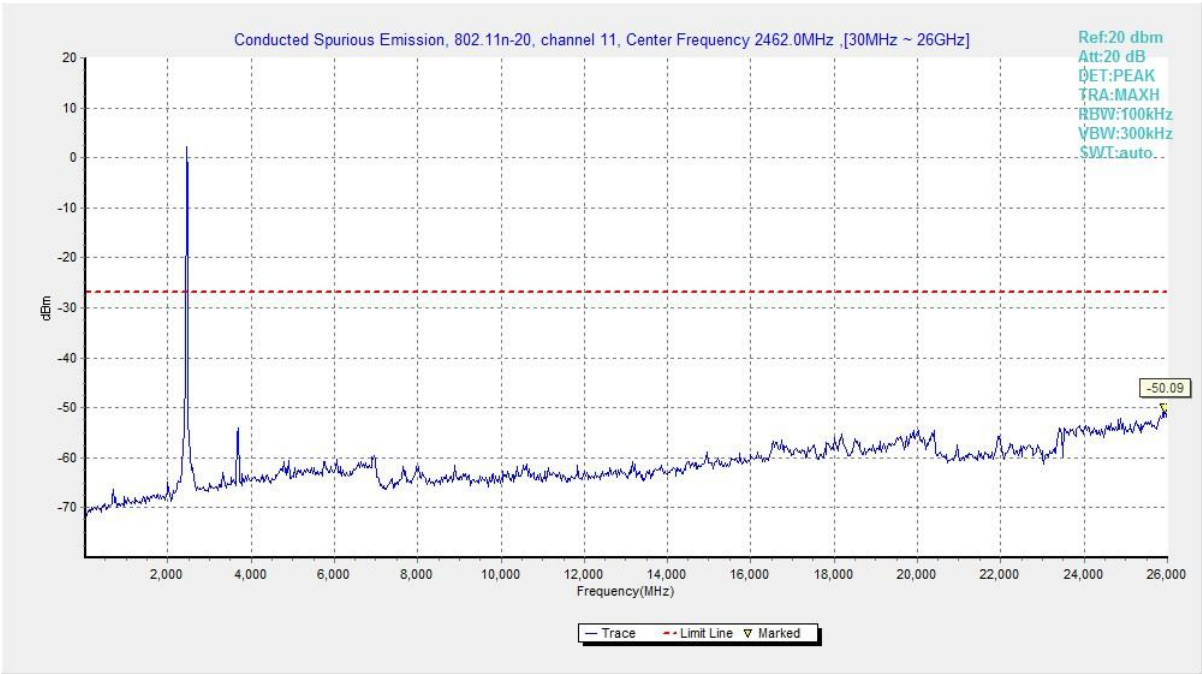

Fig.41 Conducted Spurious Emission (802.11n HT20, CH11)

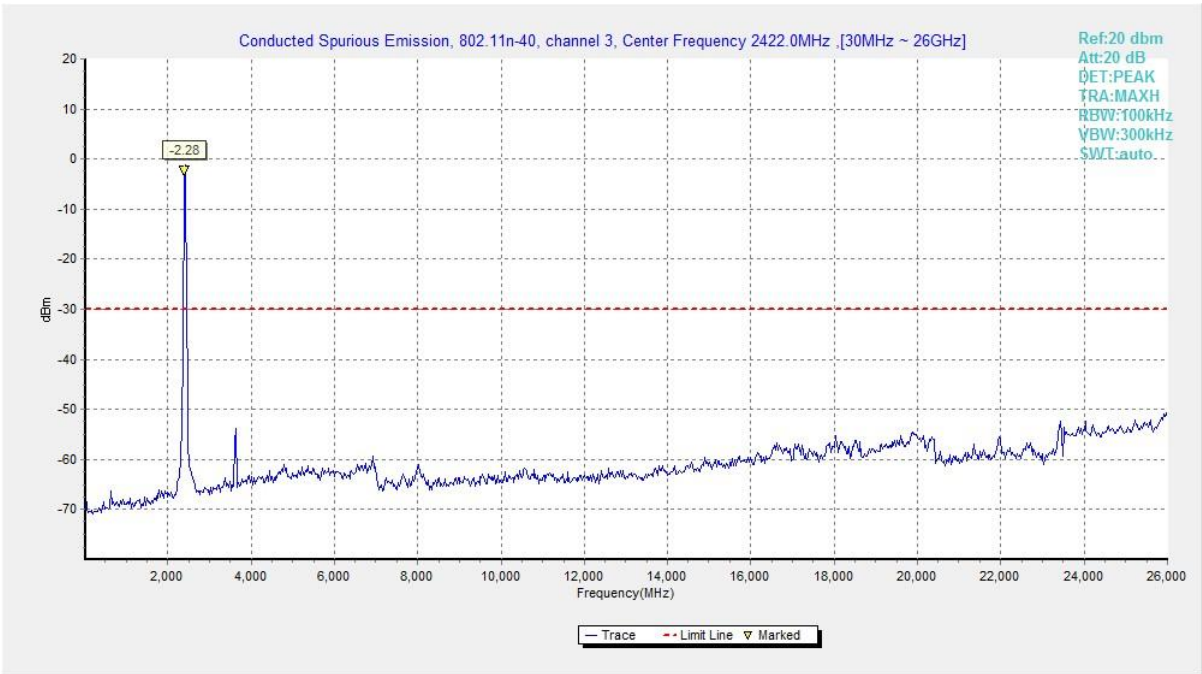

Fig.42 Conducted Spurious Emission (802.11n HT40, CH3)

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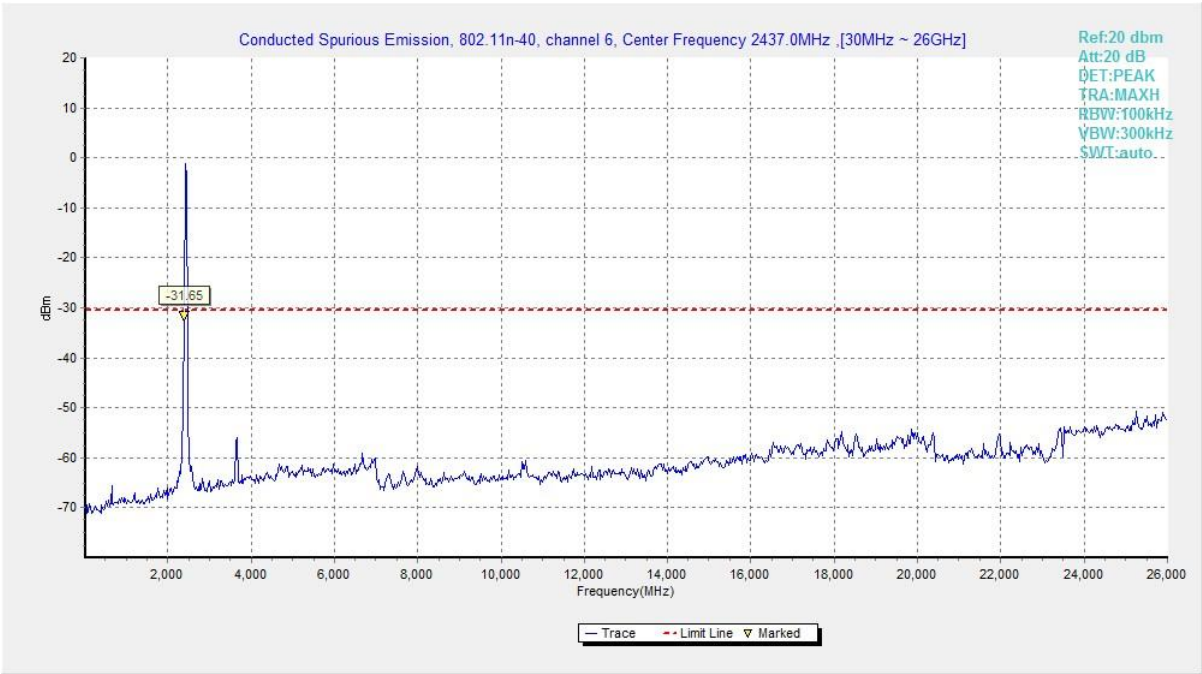

Fig.43 Conducted Spurious Emission (802.11n HT40, CH6)

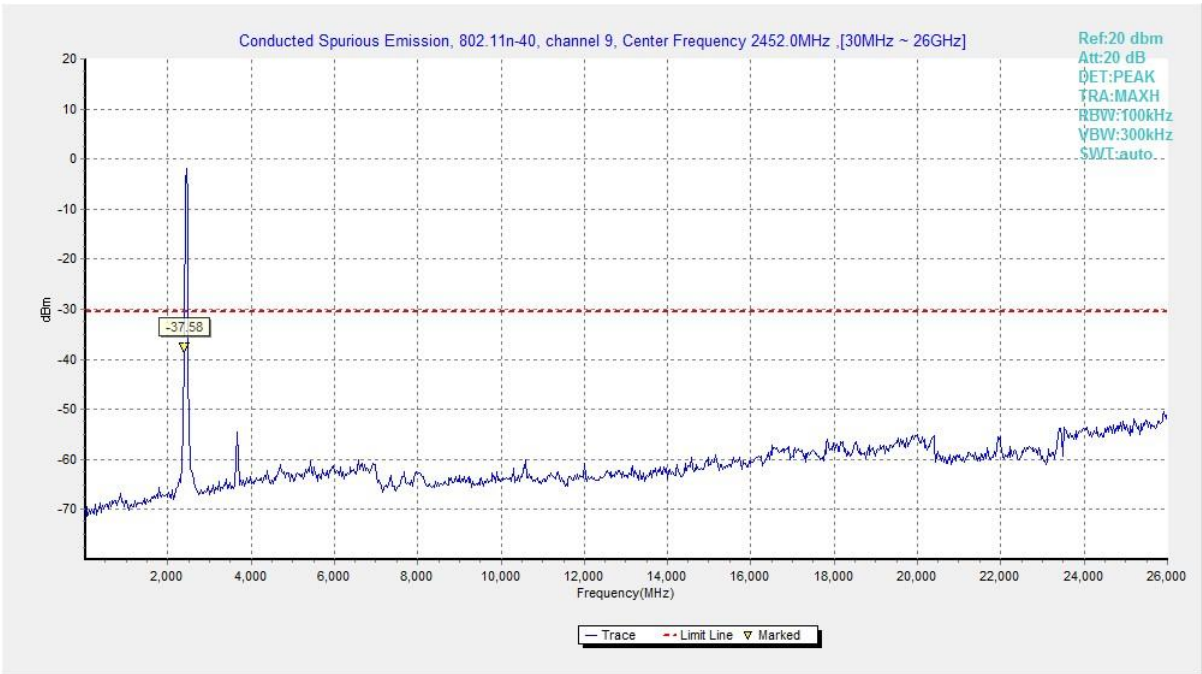

Fig.44 Conducted Spurious Emission (802.11n HT40, CH9)

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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.

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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

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Worst-Case Result:

802.11b CH1 (1-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
4824.000000	54.08	74.00	19.92	H	13.6
6214.000000	52.42	74.00	21.58	H	18.7
7292.762500	40.64	74.00	33.36	V	5.3
12395.787500	45.79	74.00	28.21	V	11.4
14506.125000	47.12	74.00	26.88	V	13.0
17286.875000	50.07	74.00	23.93	V	16.9

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
4824.000000	49.96	54.00	4.04	H	13.6
6197.000000	41.38	54.00	12.62	H	18.9
7292.762500	30.55	54.00	23.45	V	5.3
12408.687500	35.23	54.00	18.77	V	11.4
14412.062500	36.60	54.00	17.40	V	13.0
17204.625000	39.25	54.00	14.75	H	17.0

802.11g CH1 (1-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
5114.500000	47.89	74.00	26.11	V	14.6
6193.500000	51.63	74.00	22.37	H	18.9
7292.762500	46.06	74.00	27.94	V	5.3
12425.887500	46.00	74.00	28.00	H	11.4
14601.062500	47.93	74.00	26.07	H	12.9
17131.562500	49.77	74.00	24.23	H	17.0

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
5122.000000	38.25	54.00	15.75	V	14.6
6196.000000	41.77	54.00	12.23	V	18.9
7292.762500	34.19	54.00	19.81	V	5.3
12467.275000	35.35	54.00	18.65	V	11.4
14513.562500	37.17	54.00	16.83	H	13.0
16960.500000	39.36	54.00	14.64	H	16.4

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802.11n HT20 CH1 (1-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
5262.500000	49.03	74.00	24.97	H	14.7
6212.000000	51.83	74.00	22.17	H	18.7
7293.300000	48.67	74.00	25.33	V	5.3
8695.100000	42.23	74.00	31.77	H	5.8
15784.937500	48.84	74.00	25.16	H	14.6
16909.312500	49.53	74.00	24.47	H	16.2

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
5304.000000	38.82	54.00	15.18	V	14.9
6173.000000	41.57	54.00	12.43	V	18.8
7292.762500	36.50	54.00	17.50	V	5.3
8618.775000	34.57	54.00	19.43	H	5.7
15791.937500	38.82	54.00	15.18	V	14.6
17127.625000	40.06	54.00	13.94	V	17.0

802.11n HT40 CH9 (1-18GHz)

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
5252.500000	48.47	74.00	25.53	V	14.7
6195.500000	50.33	74.00	23.67	H	18.9
7293.300000	46.50	74.00	27.50	V	5.3
13428.125000	45.83	74.00	28.17	H	12.6
15619.562500	47.19	74.00	26.81	H	13.8
17415.062500	49.76	74.00	24.24	V	17.0

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB)
5304.000000	41.30	54.00	12.70	V	14.9
6200.500000	40.99	54.00	13.01	V	18.8
7292.762500	38.66	54.00	15.34	V	5.3
13506.000000	36.07	54.00	17.93	H	12.5
15683.875000	37.50	54.00	16.50	V	14.1
17202.437500	38.94	54.00	15.06	V	17.0

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.

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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

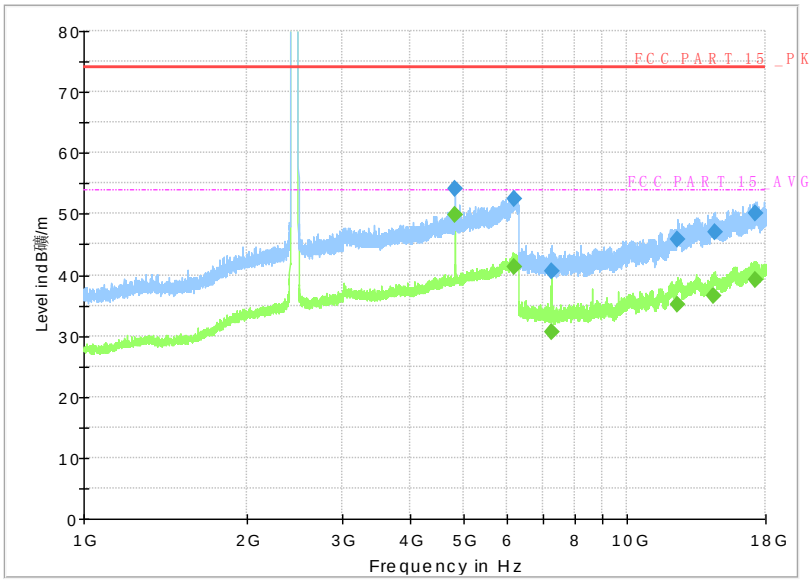

Fig.45 Radiated Spurious Emission (802.11b, CH1, 1GHz-18GHz)

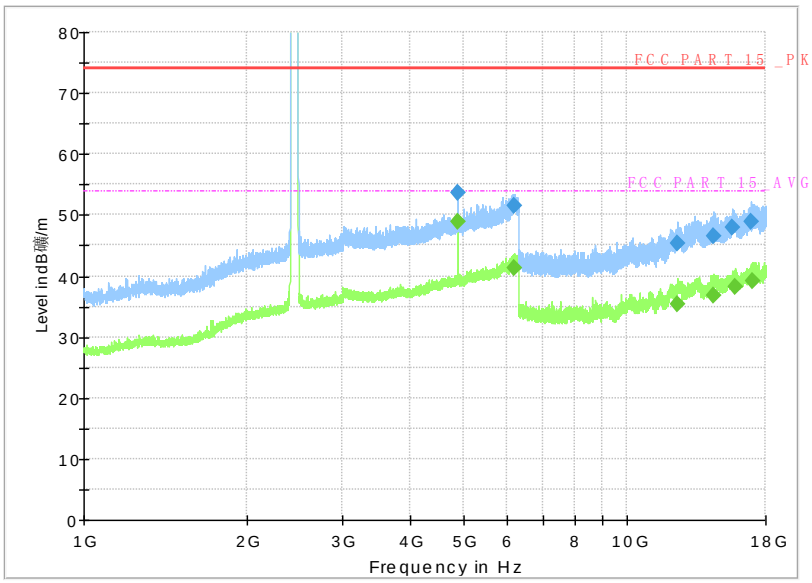

Fig.46 Radiated Spurious Emission (802.11b, CH6, 1GHz-18GHz)

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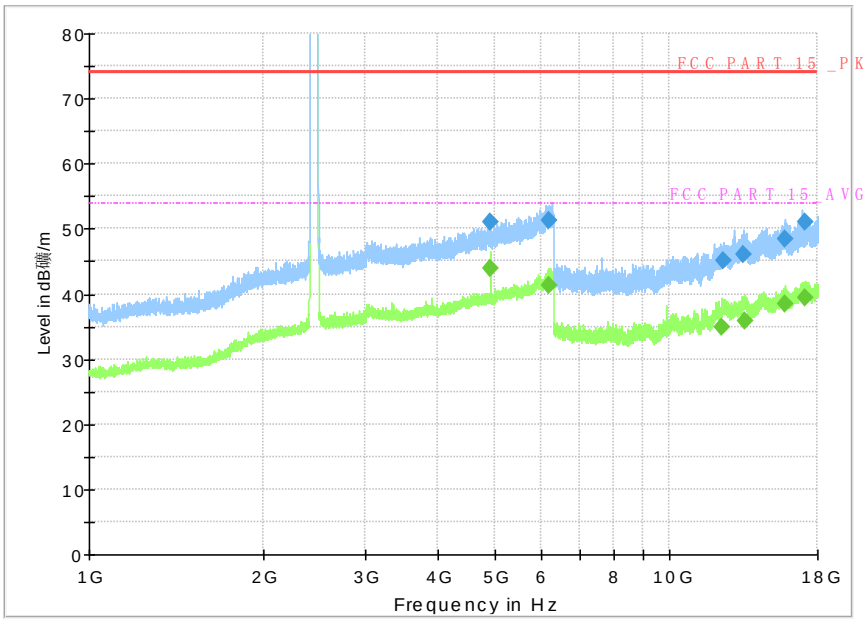

Fig.47 Radiated Spurious Emission (802.11b, CH11, 1GHz-18GHz)

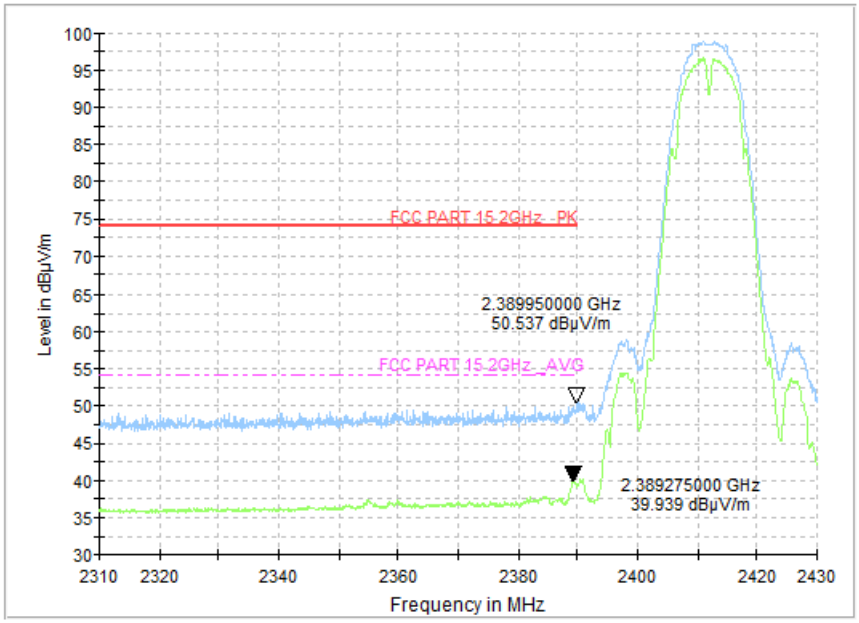

Fig.48 Radiated Restricted Band (802.11b, CH1, 2.38GHz~2.45GHz)

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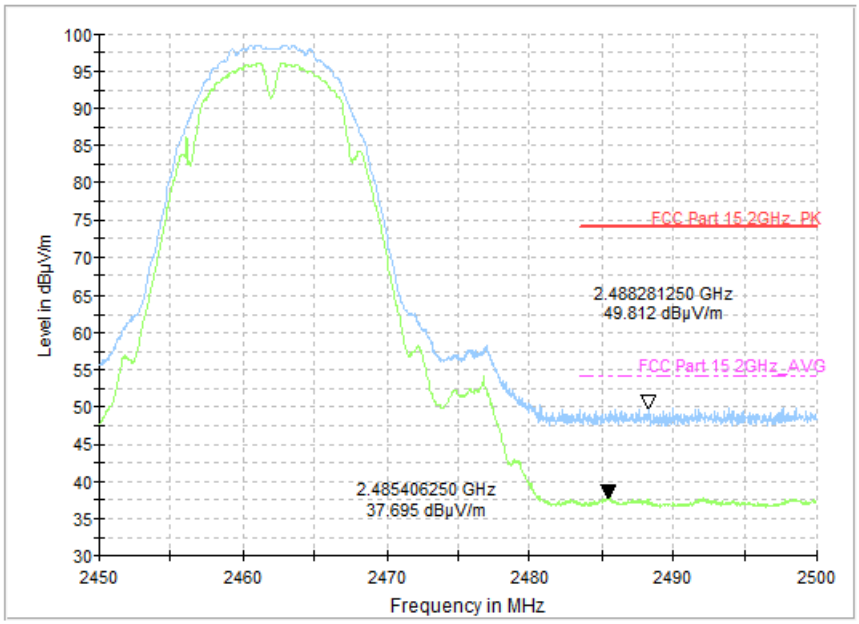

Fig.49 Radiated Restricted Band (802.11b, CH11, 2.45GHz~2.5GHz)

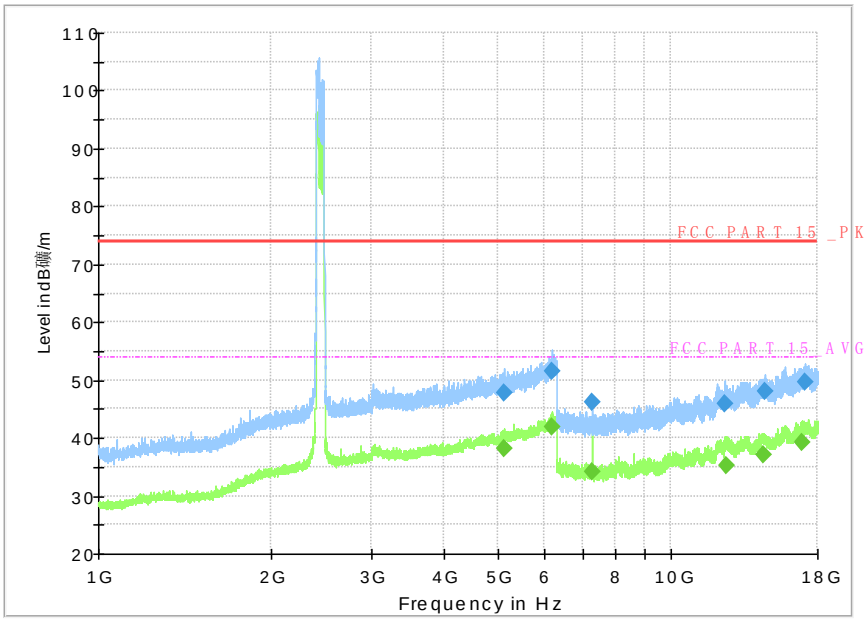

Fig.50 Radiated Spurious Emission (802.11g, CH1, 1GHz-18GHz)

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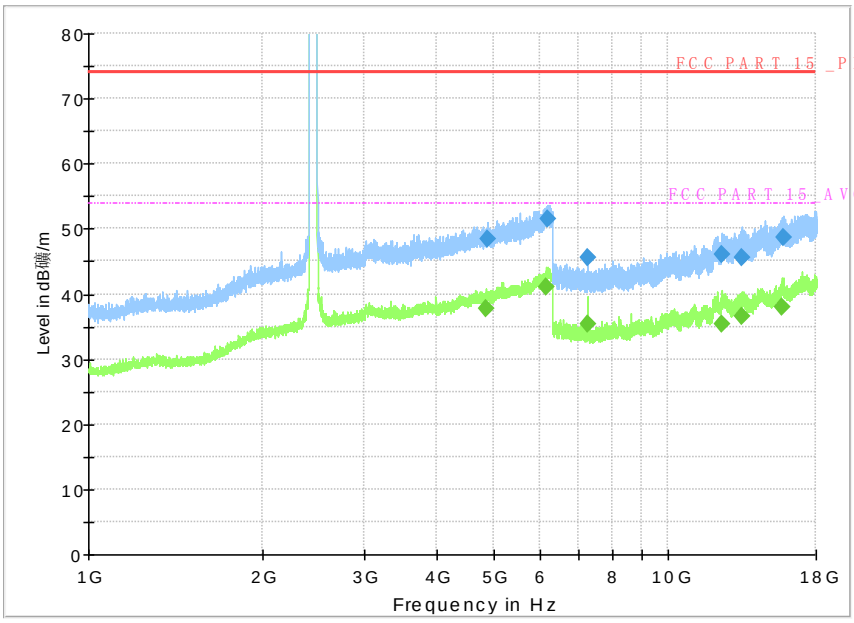

Fig.51 Radiated Spurious Emission (802.11g, CH6, 1GHz-18GHz)

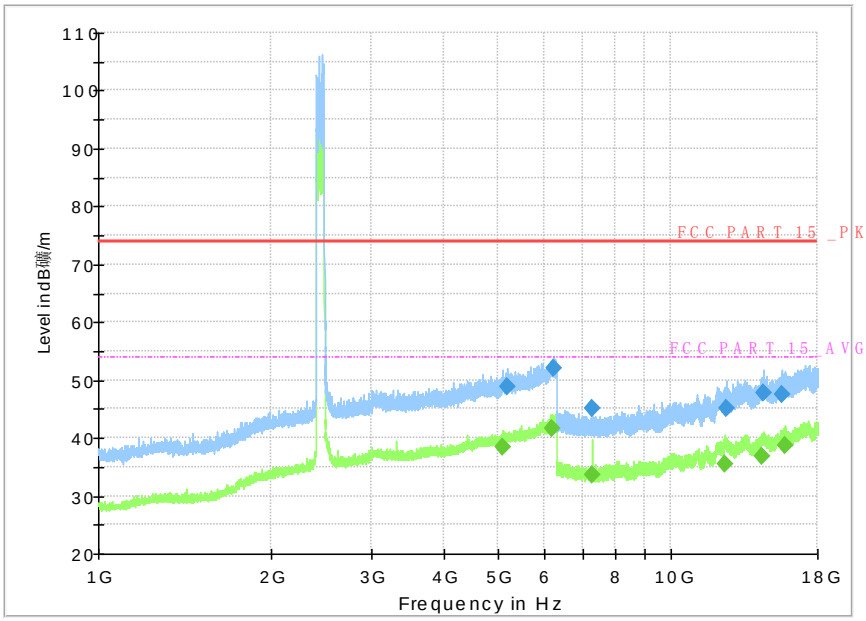

Fig.52 Radiated Spurious Emission (802.11g, CH11, 1GHz-18GHz)

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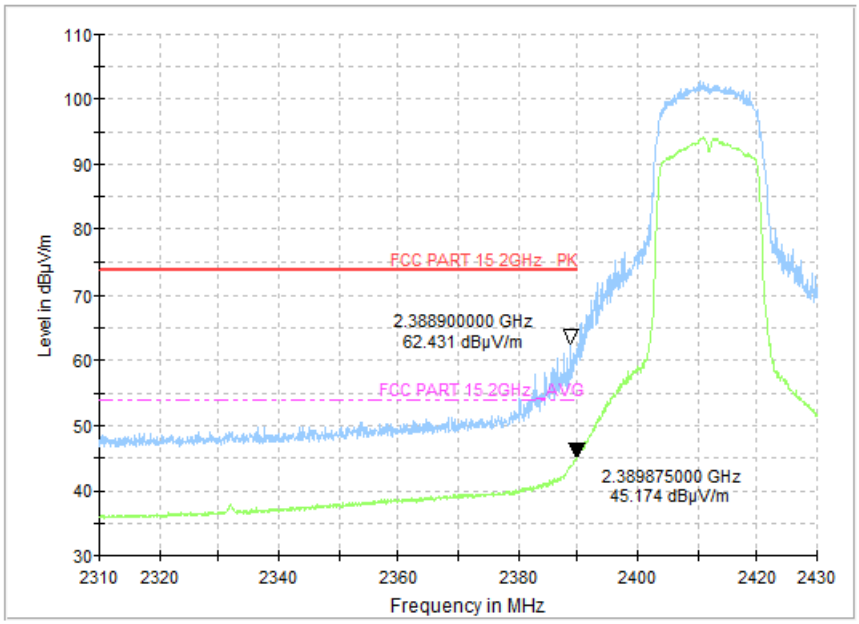

Fig.53 Radiated Restricted Band (802.11g, CH1, 2.38GHz~2.45GHz)

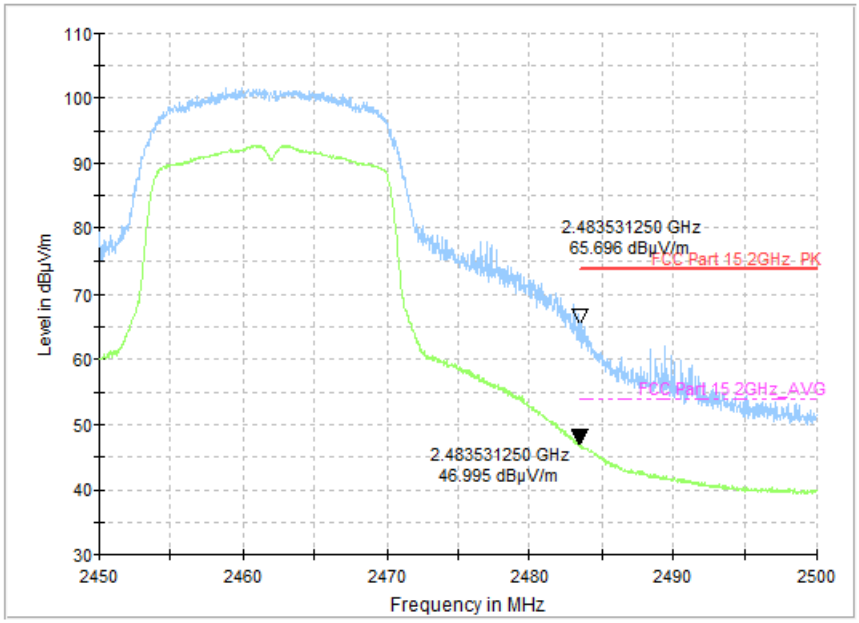

Fig.54 Radiated Restricted Band (802.11g, CH11, 2.45GHz~2.5GHz)

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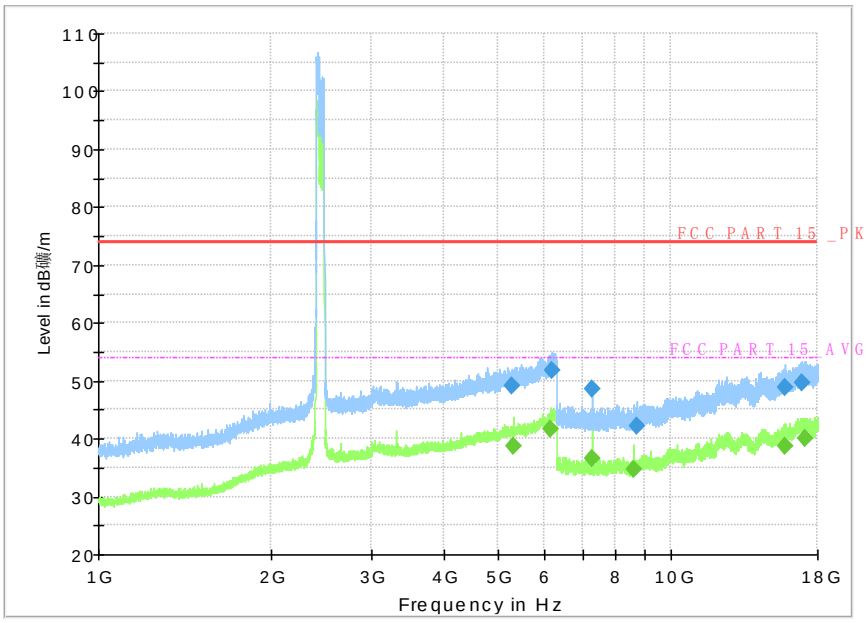

Fig.55 Radiated Spurious Emission (802.11n HT20, CH1, 1GHz-18GHz)

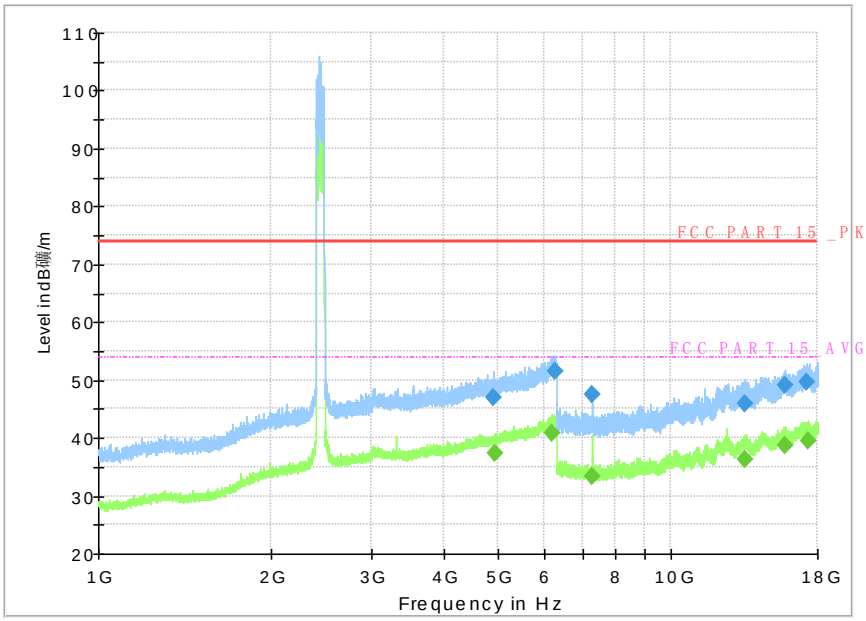

Fig.56 Radiated Spurious Emission (802.11n HT20, CH6, 1GHz-18GHz)

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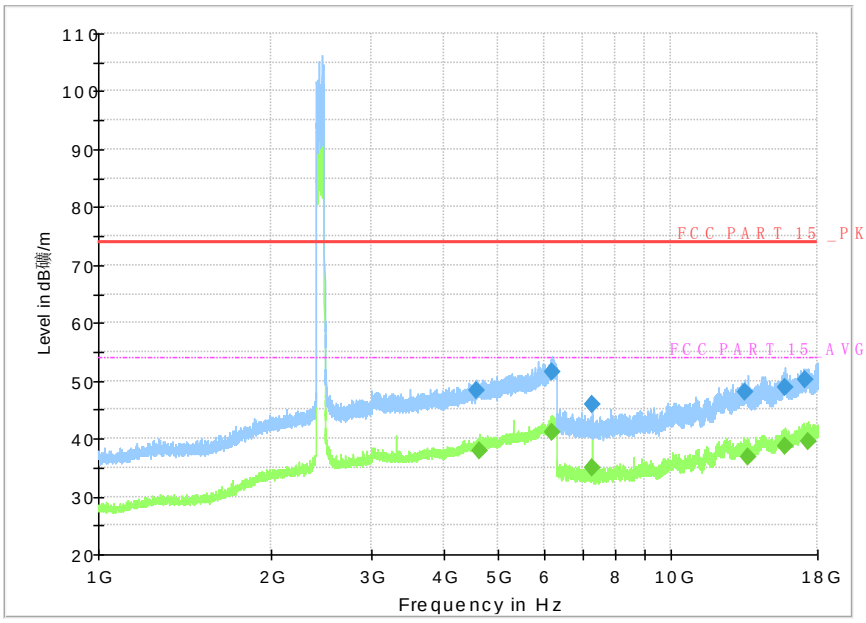

Fig.57 Radiated Spurious Emission (802.11n HT20, CH11, 1GHz-18GHz)

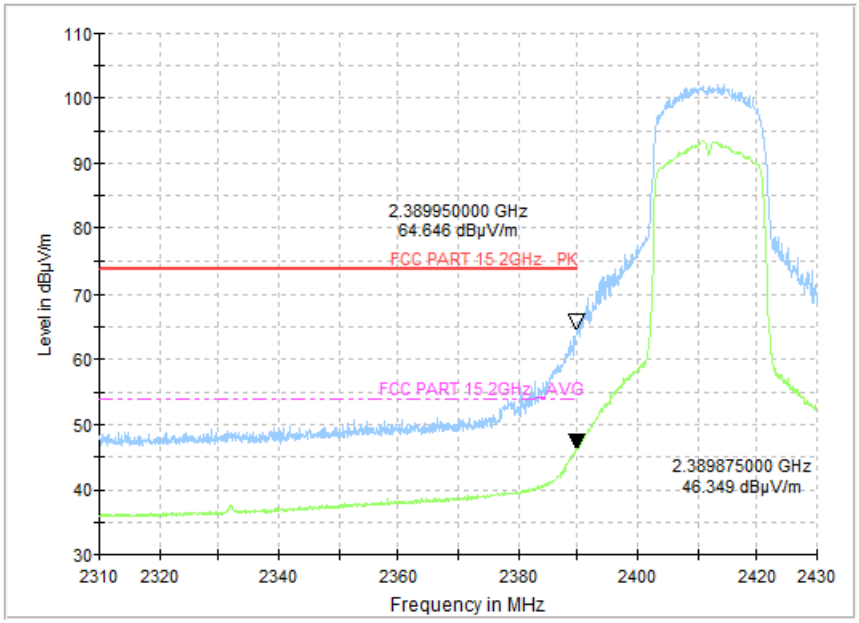

Fig.58 Radiated Restricted Band (802.11n HT20, CH1, 2.38GHz~2.45GHz)

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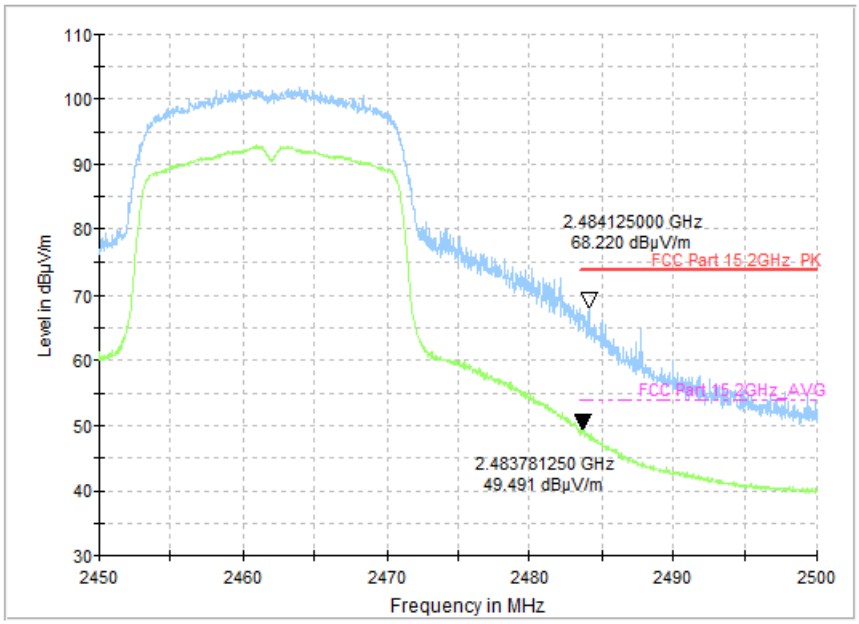

Fig.59 Radiated Restricted Band (802.11n HT20, CH11, 2.45GHz~2.5GHz)

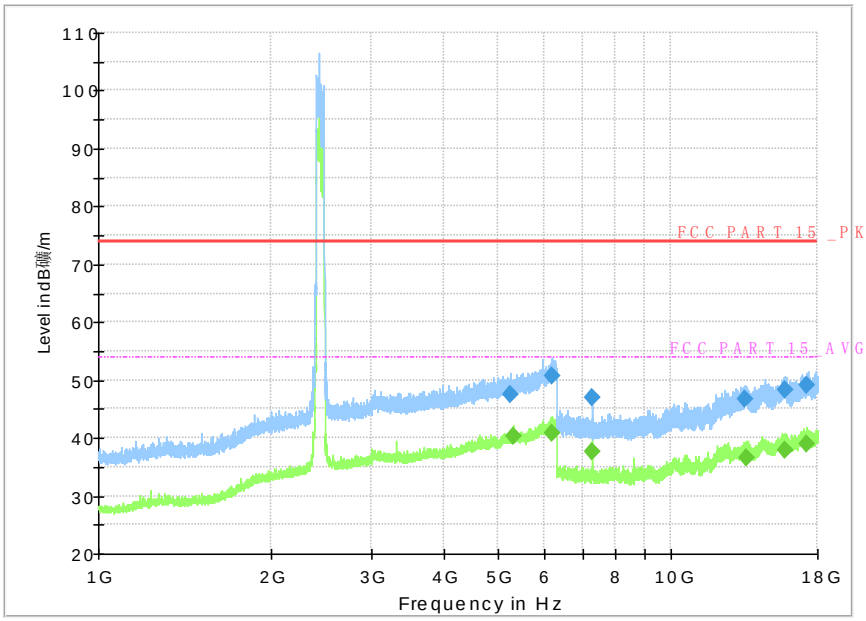

Fig.60 Radiated Spurious Emission (802.11n HT40, CH3, 1GHz-18GHz)

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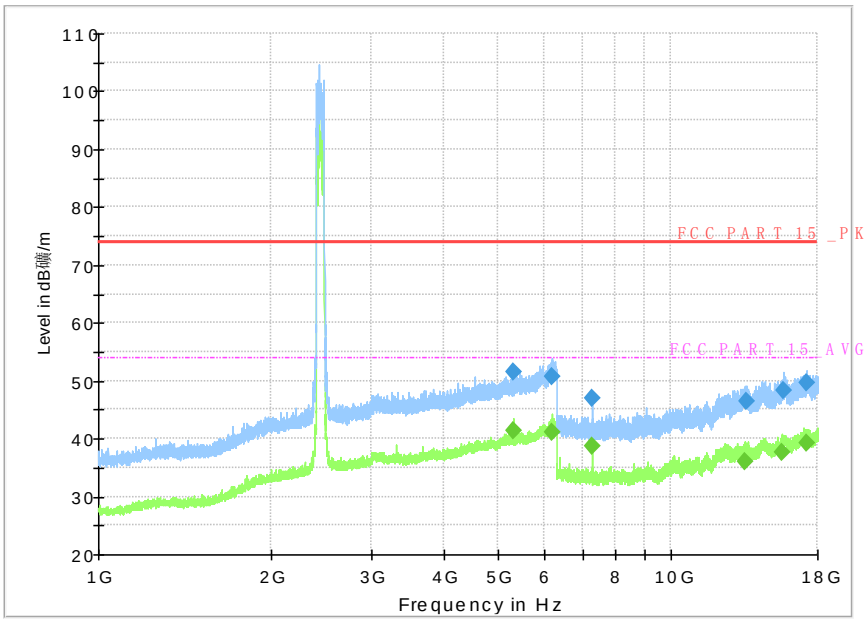

Fig.61 Radiated Spurious Emission (802.11n HT40, CH6, 1GHz-18GHz)

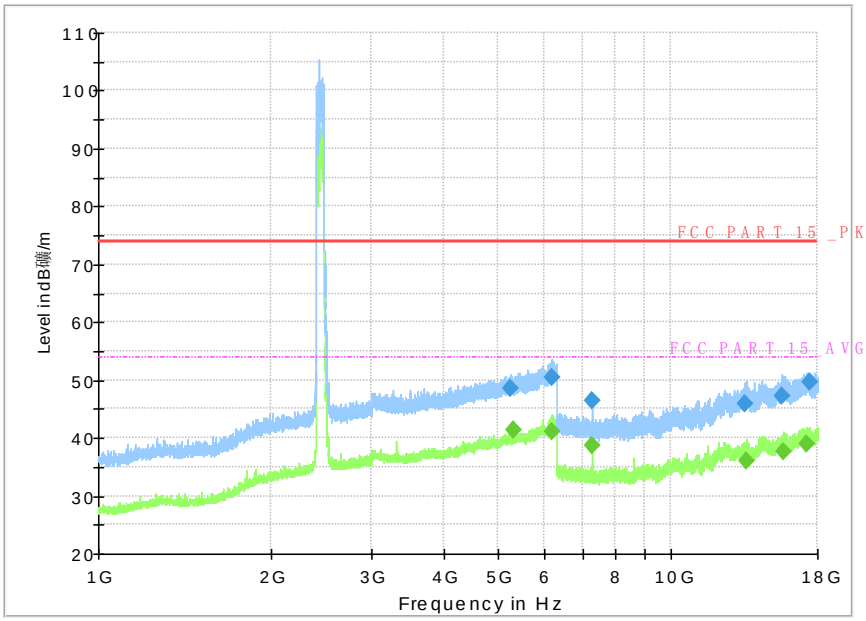

Fig.62 Radiated Spurious Emission (802.11n HT40, CH9, 1GHz-18GHz)

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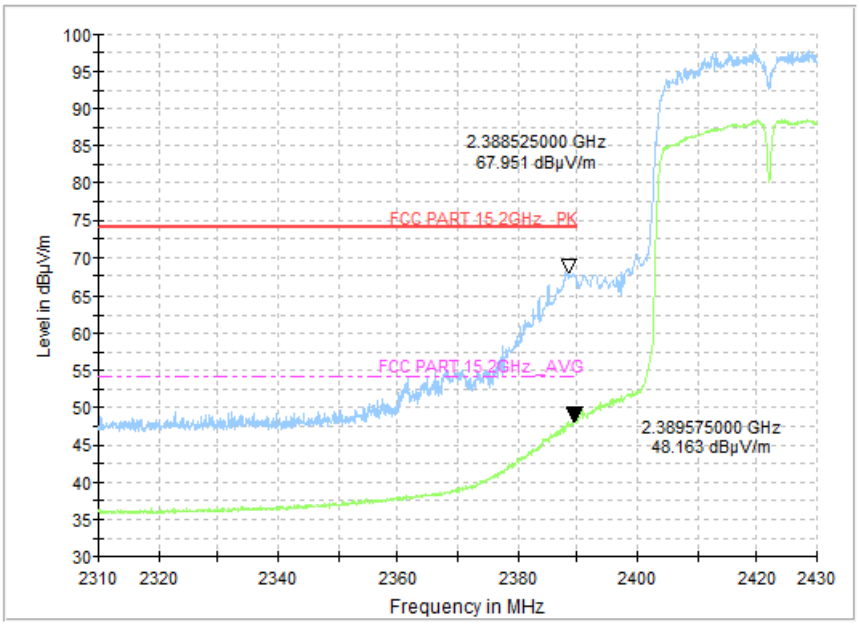

Fig.63 Radiated Restricted Band (802.11n HT40, CH3, 2.38GHz~2.45GHz)

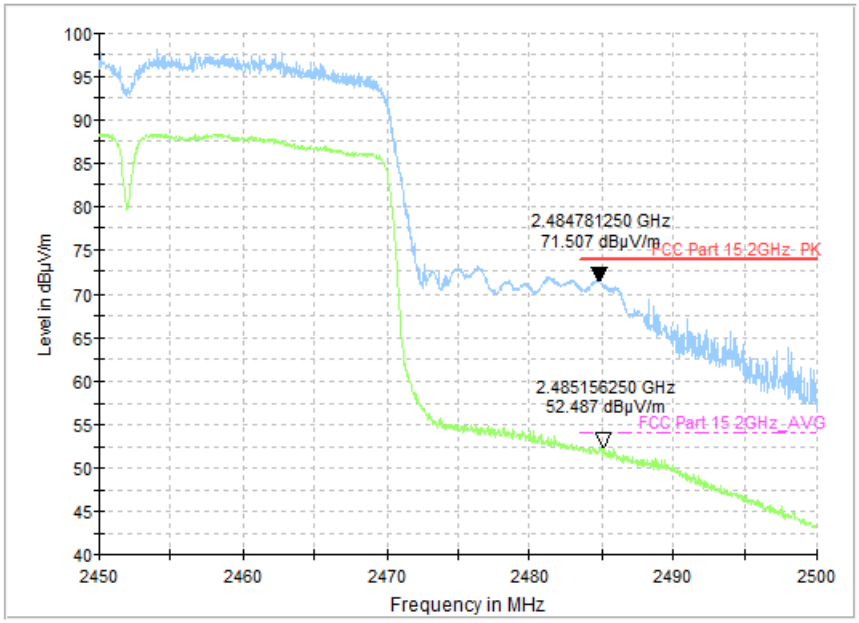

Fig.64 Radiated Restricted Band (802.11n HT40, CH9, 2.45GHz~2.5GHz)

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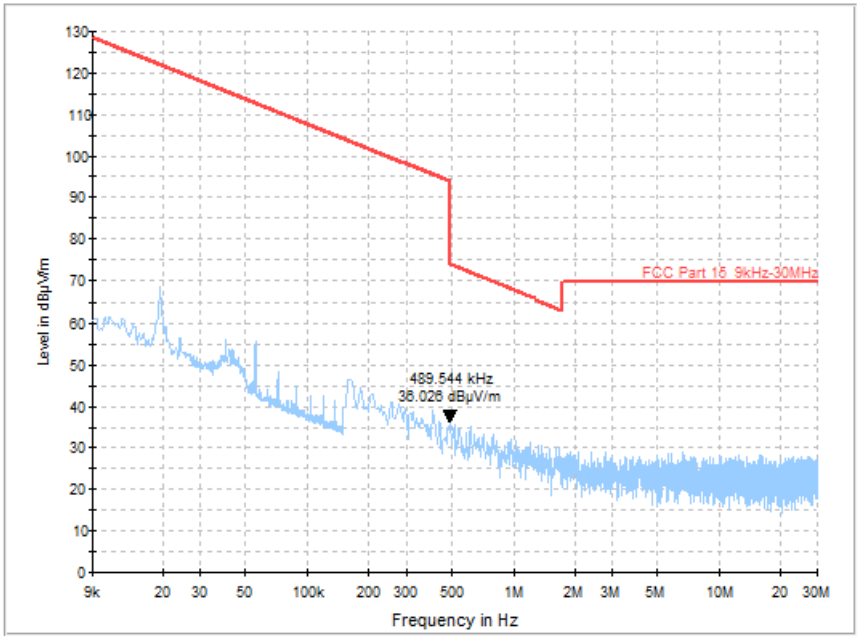

Fig.65 Radiated Spurious Emission (All Channels, 9KHz-30MHz)

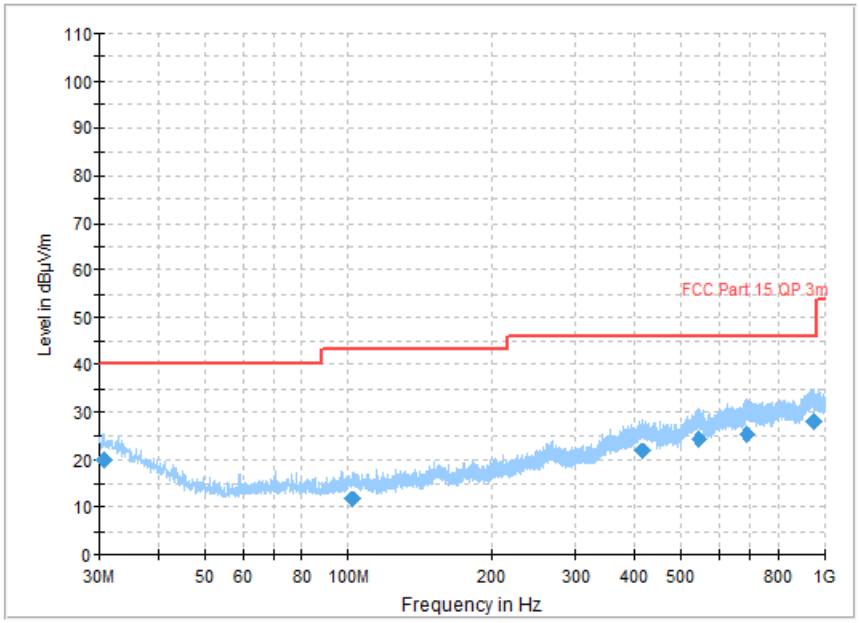

Fig.66 Radiated Spurious Emission (All Channels, 30MHz-1GHz)

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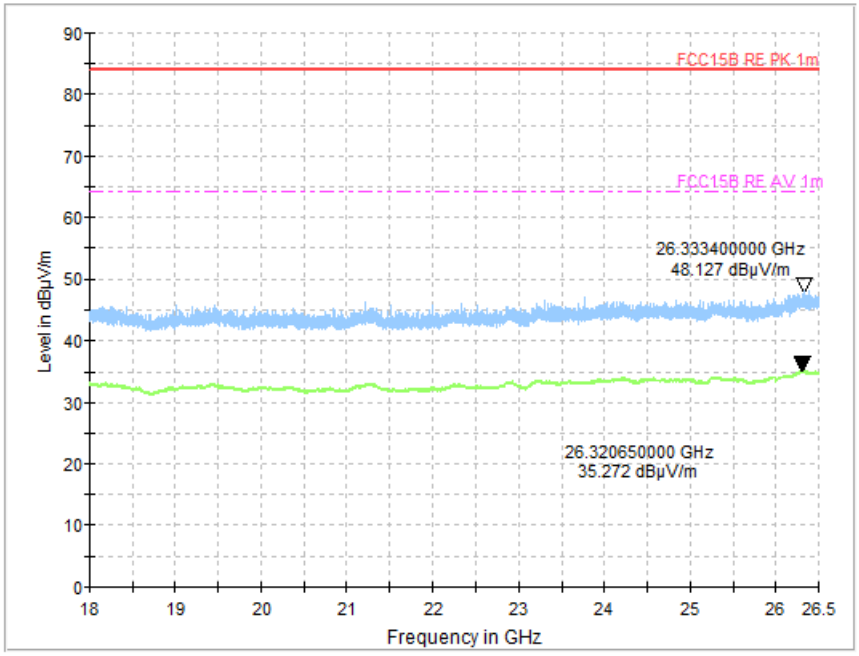

Fig.67 Radiated Spurious Emission (All Channels, 18GHz-26.5GHz)

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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.				

WLAN (Quasi-peak Limit) - AE4

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	66 to 56	Fig.70	Fig.71	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) - AE4

Frequency range (MHz)	Average-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	56 to 46	Fig.70	Fig.71	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.				

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

See below for test graphs.
Conclusion: PASS

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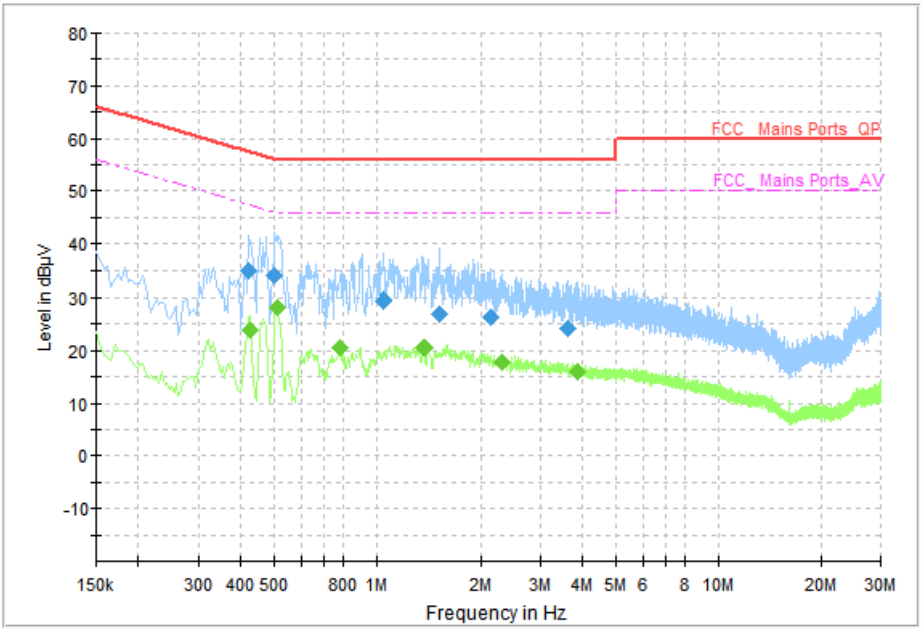

Fig.68 AC Power line Conducted Emission (Idle, AE3, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.422000	34.90	57.41	22.51	L1	ON	10
0.502000	33.92	56.00	22.08	N	ON	10
1.050000	29.35	56.00	26.65	N	ON	10
1.510000	27.07	56.00	28.93	L1	ON	10
2.154000	26.43	56.00	29.57	L1	ON	10
3.606000	24.22	56.00	31.78	N	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.426000	23.94	47.33	23.39	N	ON	10
0.510000	28.06	46.00	17.94	N	ON	10
0.778000	20.48	46.00	25.52	L1	ON	10
1.374000	20.67	46.00	25.33	L1	ON	10
2.302000	17.91	46.00	28.09	L1	ON	10
3.858000	16.12	46.00	29.88	L1	ON	10

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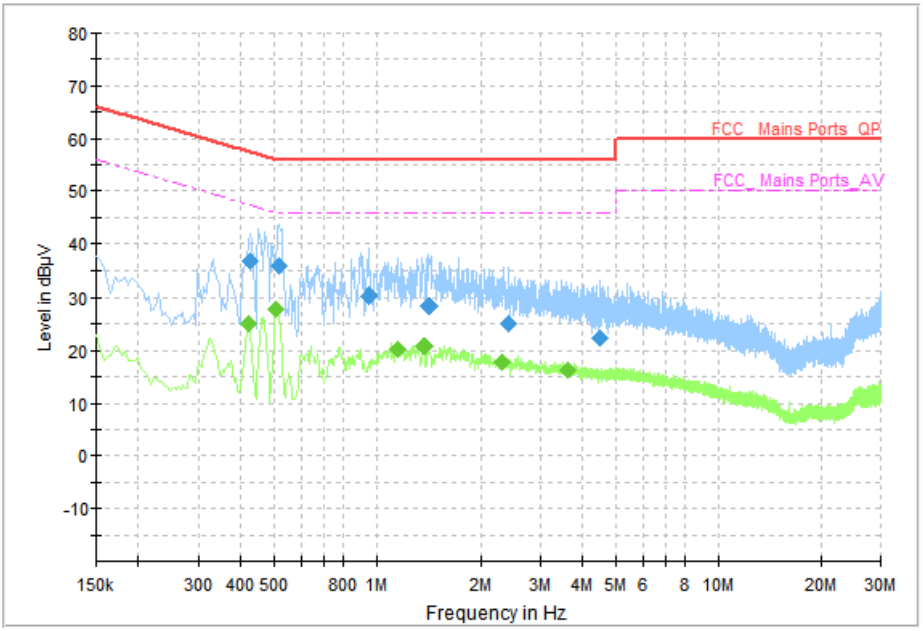

Fig.69 AC Power line Conducted Emission (Traffic, AE3, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.426000	36.68	57.33	20.65	L1	ON	10
0.518000	35.92	56.00	20.08	N	ON	10
0.950000	30.29	56.00	25.71	N	ON	10
1.414000	28.60	56.00	27.40	N	ON	10
2.426000	25.17	56.00	30.83	L1	ON	10
4.478000	22.40	56.00	33.60	N	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.422000	25.14	47.41	22.27	L1	ON	10
0.506000	27.75	46.00	18.25	L1	ON	10
1.150000	20.15	46.00	25.85	N	ON	10
1.374000	20.75	46.00	25.25	N	ON	10
2.306000	17.83	46.00	28.17	L1	ON	10
3.622000	16.34	46.00	29.66	N	ON	10

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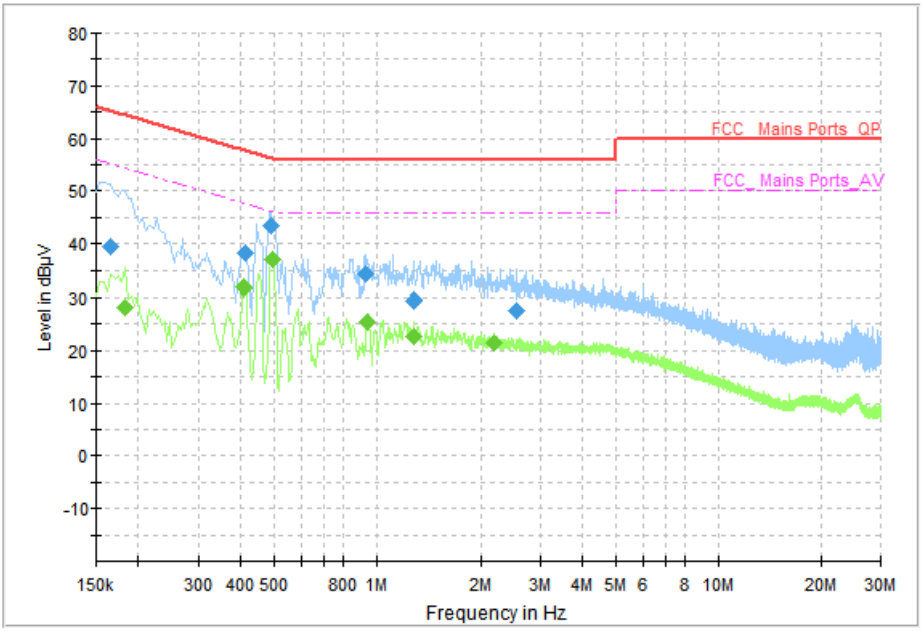

Fig.70 AC Power line Conducted Emission (Traffic, AE4, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.166000	39.60	65.16	25.56	N	ON	10
0.410000	38.11	57.65	19.54	L1	ON	10
0.490000	43.29	56.17	12.88	L1	ON	10
0.934000	34.40	56.00	21.60	N	ON	10
1.290000	29.46	56.00	26.54	L1	ON	10
2.542000	27.53	56.00	28.47	L1	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.182000	28.15	54.39	26.24	N	ON	10
0.406000	31.74	47.73	15.99	L1	ON	10
0.494000	36.87	46.10	9.23	N	ON	10
0.942000	25.47	46.00	20.53	N	ON	10
1.286000	22.59	46.00	23.41	N	ON	10
2.194000	21.46	46.00	24.54	L1	ON	10

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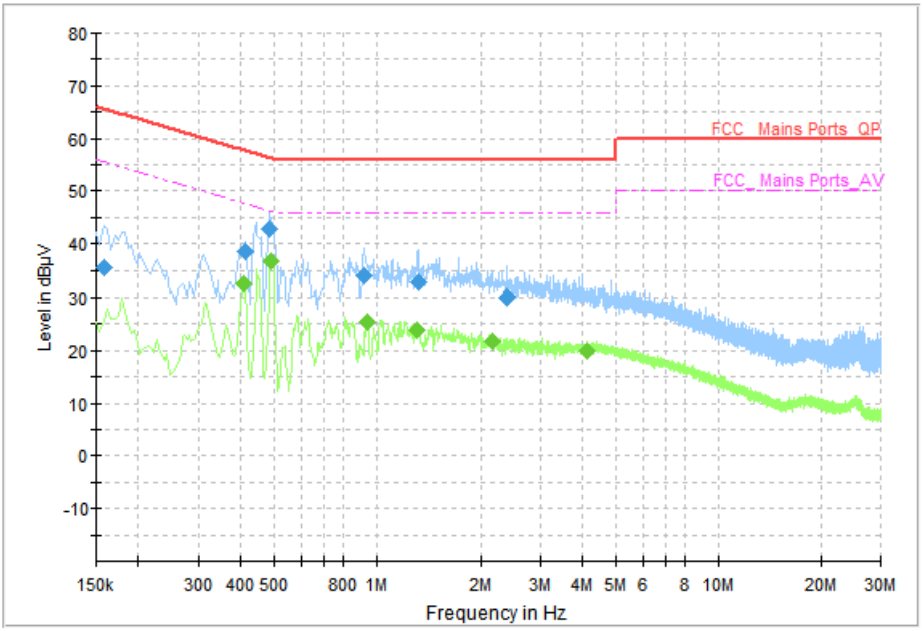

Fig.71 AC Power line Conducted Emission (Idle, AE4, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.158000	35.43	65.57	30.14	N	ON	10
0.410000	38.55	57.65	19.10	L1	ON	10
0.482000	42.85	56.31	13.45	L1	ON	10
0.918000	33.85	56.00	22.15	L1	ON	10
1.326000	32.73	56.00	23.27	L1	ON	10
2.390000	29.85	56.00	26.15	L1	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.406000	32.33	47.73	15.40	N	ON	10
0.490000	36.86	46.17	9.31	L1	ON	10
0.938000	25.46	46.00	20.54	L1	ON	10
1.322000	23.88	46.00	22.12	L1	ON	10
2.166000	21.76	46.00	24.24	L1	ON	10
4.110000	20.01	46.00	25.99	N	ON	10

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