



# TEST REPORT

No. I22N00378-WLAN

**TCL Communication Ltd.**

**Tablet PC**

**Model Name: 9132X**

**with**

**Hardware Version: PIO**

**Software Version: CS61**

**FCC ID: 2ACCJB176**

**Issued Date: 2022-03-18**

**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**

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

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

Email: yewu@caict.ac.cn, website: [www.cszit.com](http://www.cszit.com)



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## 1. Summary of Test Report

### 1.1. Test Items

Description	Tablet PC
Model Name	9132X
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:	2022-02-10
Testing End Date:	2022-03-10

### 1.6. Signature

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Lin Kanfeng  
(Prepared this test report)

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An Ran  
(Reviewed this test report)

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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: Peter yang  
E-Mail: peter.yang@tcl.com  
Telephone: +86 755 3664 5759  
Fax: 0086-755-36612000-81722

### **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: Peter yang  
E-Mail: peter.yang@tcl.com  
Telephone: +86 755 3664 5759  
Fax: 0086-755-36612000-81722



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

#### **3.1. About EUT**

Description	Tablet PC
Model Name	9132X
RF Protocol	IEEE 802.11 b/g/n20/n40
Operating Frequency	2412MHz~2462MHz
Number of Channels	11
Antenna Type	Integrated
Antenna Gain	1.9 dBi
Power Supply	3.85V DC by Battery
FCC ID	2ACCJB176
Condition of EUT as received	No abnormality in appearance

#### **3.2. Internal Identification of EUT**

<b>EUT ID*</b>	<b>IMEI</b>	<b>HW Version</b>	<b>SW Version</b>	<b>Receive Date</b>
UT04aa	/	PIO	CS61	2022-02-10
UT02aa	/	PIO	CS61	2022-02-23

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

\*UT04aa is used for Conduction test; UT02aa is used for Radiation test.

#### **3.3. Internal Identification of AE**

<b>AE ID*</b>	<b>Description</b>	<b>SN</b>
AE1	Battery	CAC4000018C7
AE2	Adapter	CBA0058AATC5
AE3	Adapter	CBA0058ABTC5
AE4	Adapter	CBA0058AGTC5
AE5	USB Cable	CDA0000162C2
AE6	USB Cable	CDA0000162C1

\*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 PC 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.

<b>Reference</b>	<b>Title</b>	<b>Version</b>
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/matrix 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, 9132X is a variant product of 9132G. Conduction test results were from the initial model. And Radiation test is new. The initial model report number is I22N00113-WLAN.

## 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	2022-12-29	1 year
2	Power Sensor	U2021XA	MY55430013	Agilent	2022-12-29	1 year
3	Data Acquisition	U2531A	TW55443507	Agilent	/	/

### Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Date	Calibration Period
1	LISN	ENV216	102067	R&S	2022-07-15	1 year
2	Test Receiver	ESCI	100702	R&S	2023-01-12	1 year
3	Loop Antenna	HLA6120	35779	TESEQ	2022-04-25	3 year
4	BiLog Antenna	3142E	0224831	ETS-Lindgren	2024-05-27	3 year
5	Horn Antenna	3117	00066577	ETS-Lindgren	2022-04-02	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-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

## 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	$30\text{MHz} \leq f < 1\text{GHz}$	1.41dB
	$1\text{GHz} \leq f < 7\text{GHz}$	1.92dB
	$7\text{GHz} \leq f < 13\text{GHz}$	2.31dB
	$13\text{GHz} \leq f \leq 26\text{GHz}$	2.61dB
5. Transmitter Spurious Emission - Radiated	$9\text{kHz} \leq f < 30\text{MHz}$	1.70dB
	$30\text{MHz} \leq f < 1\text{GHz}$	4.90dB
	$1\text{GHz} \leq f < 18\text{GHz}$	4.60dB
	$18\text{GHz} \leq f \leq 40\text{GHz}$	4.10dB
6. AC Power line Conducted Emission	$150\text{kHz} \leq f \leq 30\text{MHz}$	3.00dB



**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 1.9 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 AVGP-M-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	15.69	16.44	16.16
	2	/	16.39	/
	5.5	/	16.35	/
	11	/	16.32	/
802.11g	6	15.53	16.31	16.03
	9	/	16.27	/
	12	/	16.25	/
	18	/	16.22	/
	24	/	16.19	/
	36	/	16.18	/
	48	/	14.33	/
	54	/	14.30	/

#### 802.11n HT20 mode

Mode	Date Rate (Index)	Test Result (dBm)		
		2412MHz (CH1)	2437MHz (CH6)	2462MHz (CH11)
802.11n HT20	MCS 0	15.55	16.26	15.97
	MCS 1	/	16.24	/
	MCS 2	/	16.23	/
	MCS 3	/	16.19	/
	MCS 4	/	16.16	/
	MCS 5	/	16.12	/
	MCS 6	/	14.30	/
	MCS 7	/	14.27	/



**802.11n HT40 mode**

Mode	Date Rate (Index)	Test Result (dBm)		
		2422MHz (CH3)	2437MHz (CH6)	2452MHz (CH9)
802.11n HT40	MCS 0	13.17	13.27	13.31
	MCS 1	/	13.23	/
	MCS 2	/	13.21	/
	MCS 3	/	13.15	/
	MCS 4	/	13.14	/
	MCS 5	/	13.10	/
	MCS 6	/	13.08	/
	MCS 7	/	13.07	/

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	17.59	P
	CH 6	2437	18.34	P
	CH 11	2462	18.06	P
802.11g	CH 1	2412	17.43	P
	CH 6	2437	18.21	P
	CH 11	2462	17.93	P
802.11n HT20	CH 1	2412	17.45	P
	CH 6	2437	18.16	P
	CH 11	2462	17.87	P
802.11n HT40	CH 3	2422	15.07	P
	CH 6	2437	15.17	P
	CH 9	2452	15.21	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	-7.63	P
	CH 6	2437	Fig.2	-7.32	P
	CH 11	2462	Fig.3	-7.08	P
802.11g	CH 1	2412	Fig.4	-9.93	P
	CH 6	2437	Fig.5	-9.50	P
	CH 11	2462	Fig.6	-9.36	P
802.11n HT20	CH 1	2412	Fig.7	-10.37	P
	CH 6	2437	Fig.8	-10.35	P
	CH 11	2462	Fig.9	-10.07	P
802.11n HT40	CH 3	2422	Fig.10	-14.54	P
	CH 6	2437	Fig.11	-14.76	P
	CH 9	2452	Fig.12	-15.36	P

See below for test graphs.

**Conclusion: PASS**

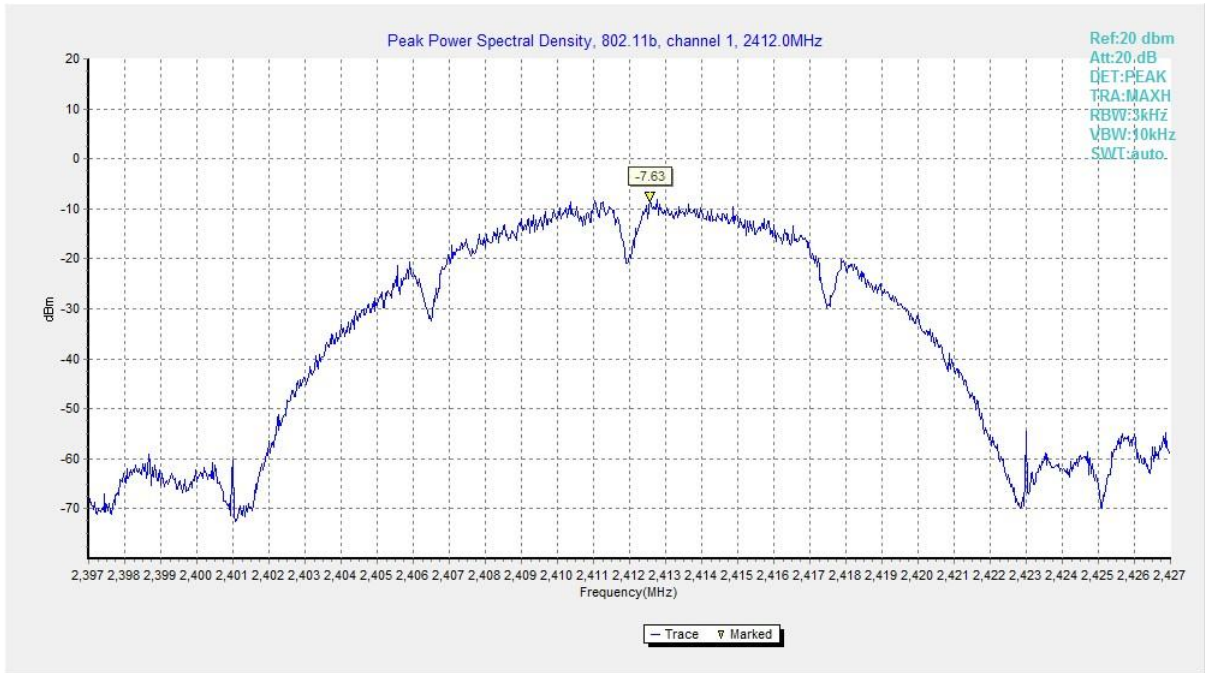


Fig.1 Power Spectral Density (802.11b, CH 1)

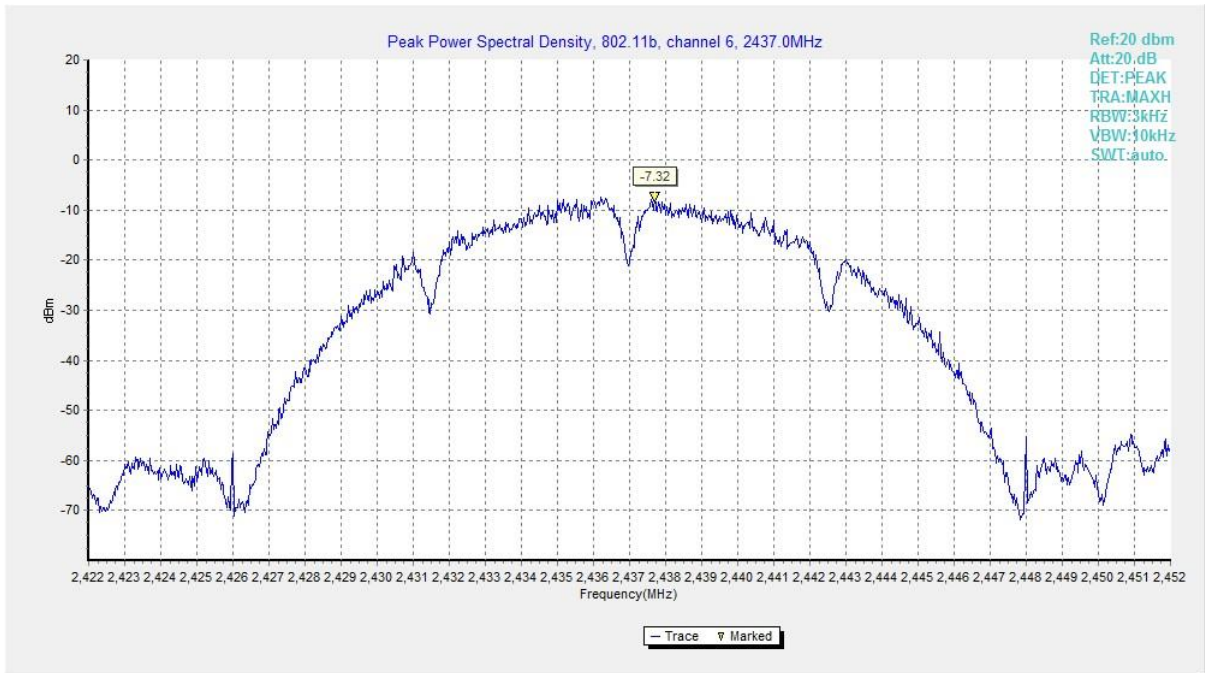


Fig.2 Power Spectral Density (802.11b, CH 6)

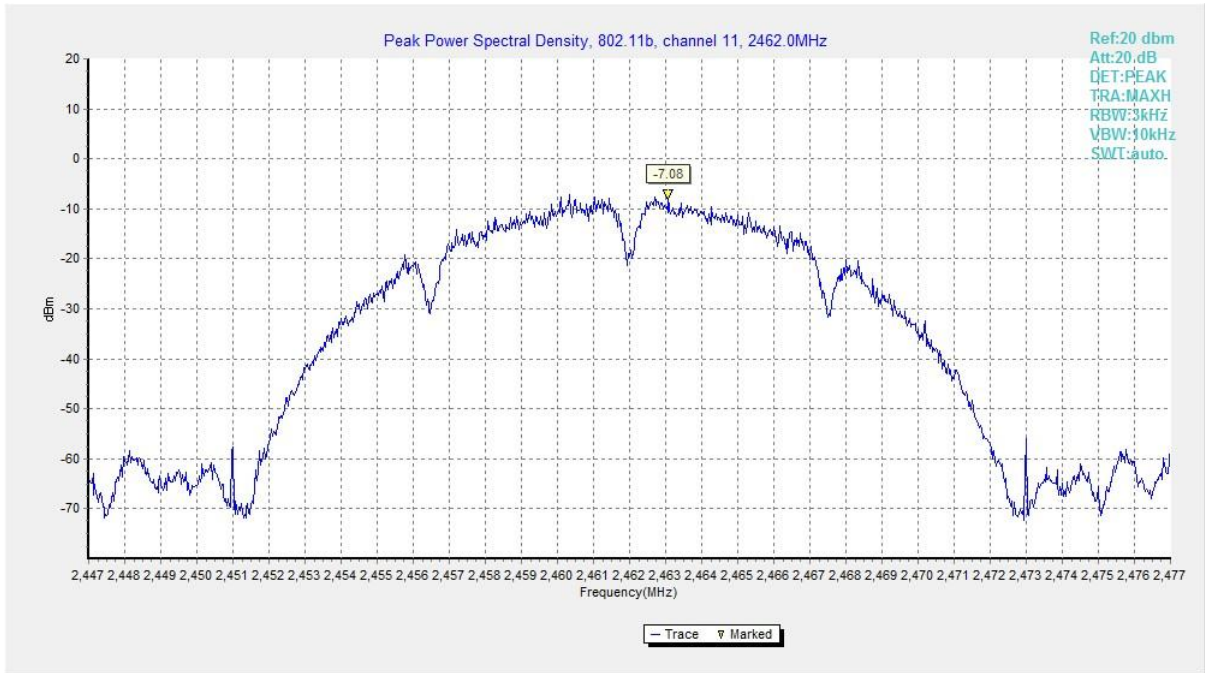


Fig.3 Power Spectral Density (802.11b, CH 11)

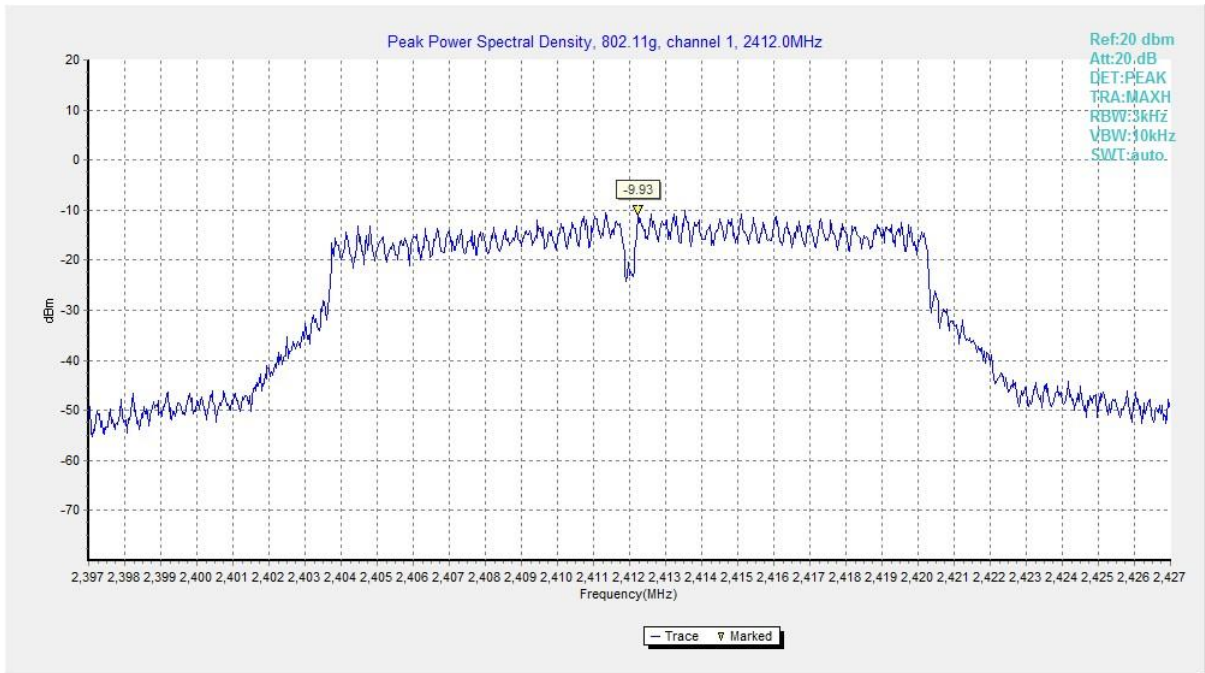
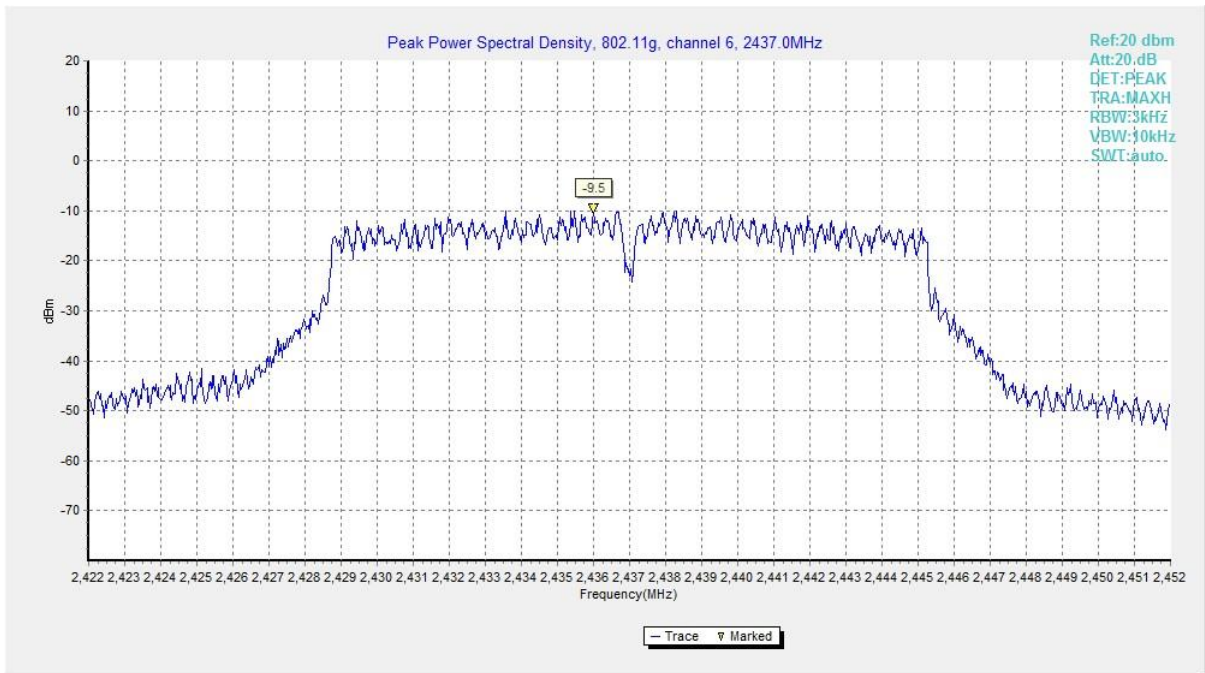
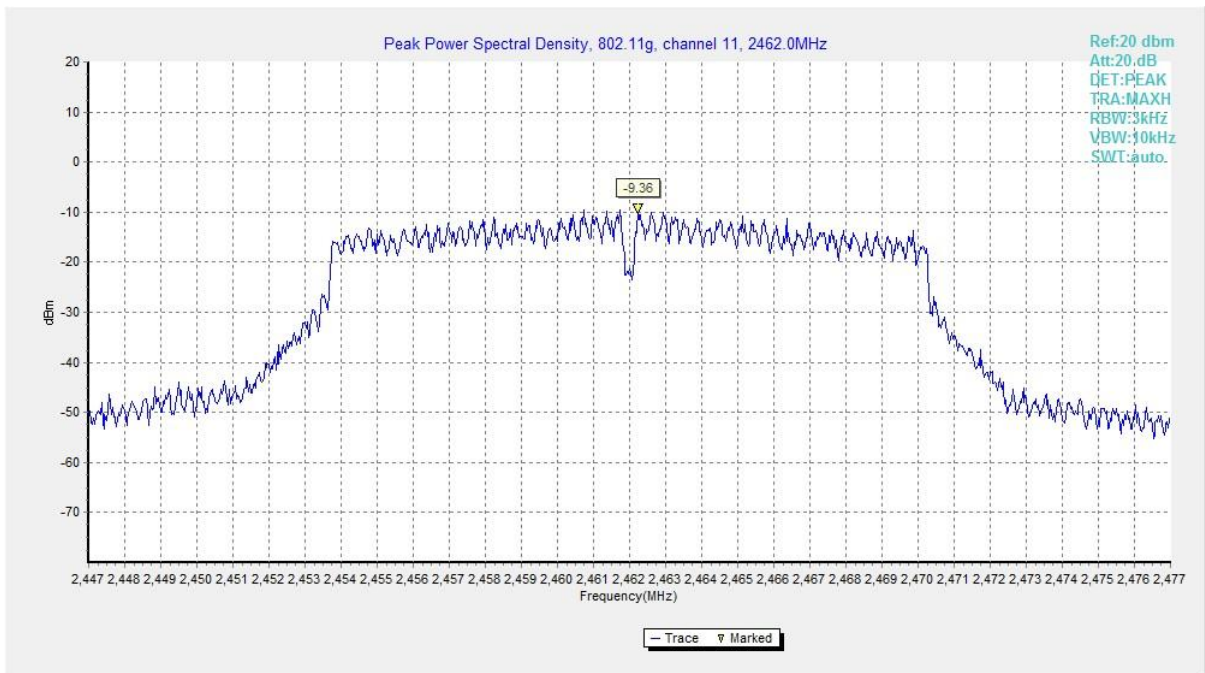


Fig.4 Power Spectral Density (802.11g, CH 1)

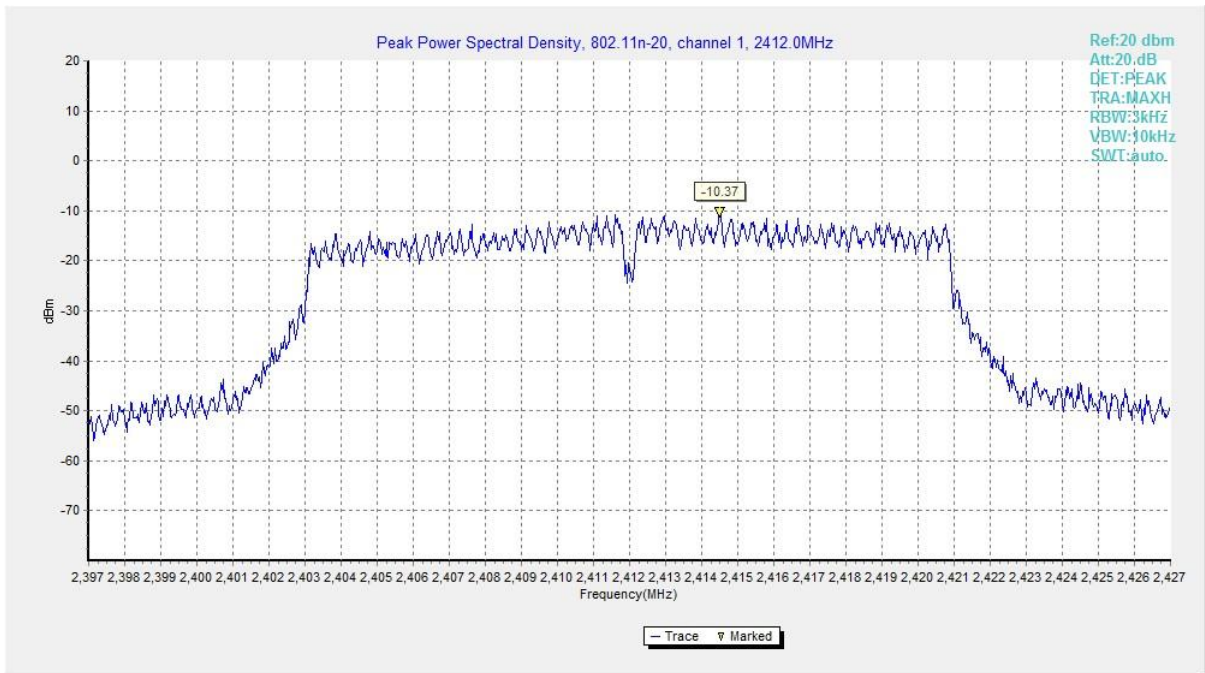




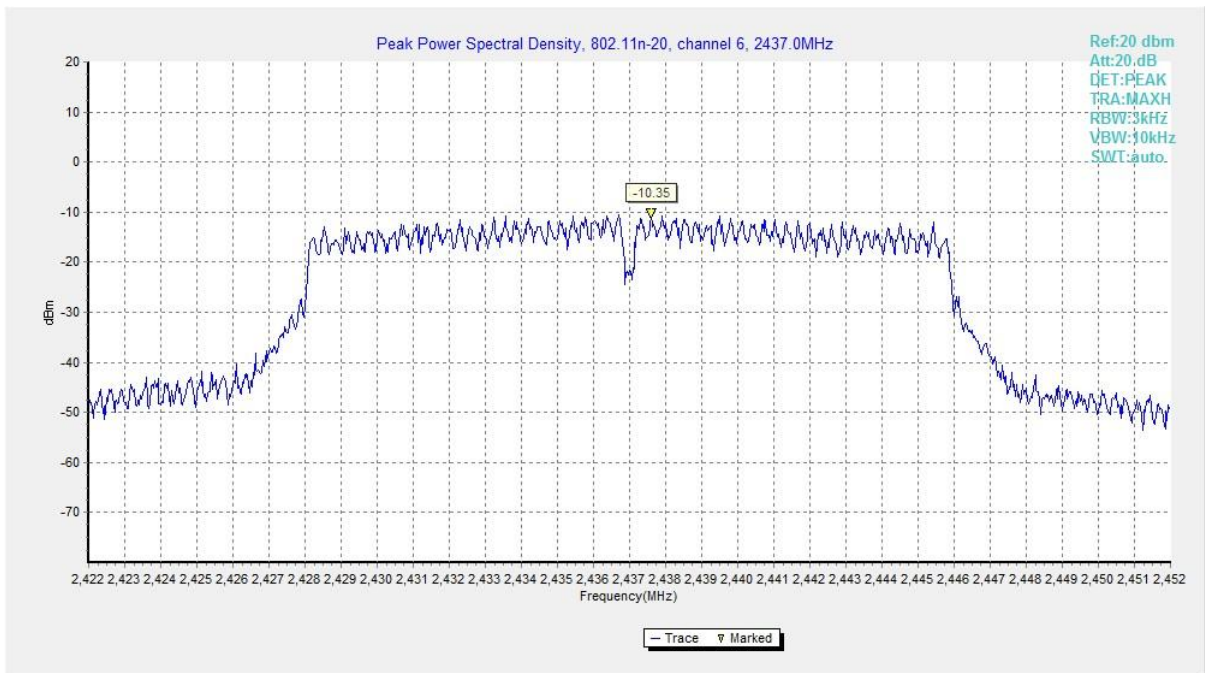
**Fig.5 Power Spectral Density (802.11g, CH 6)**



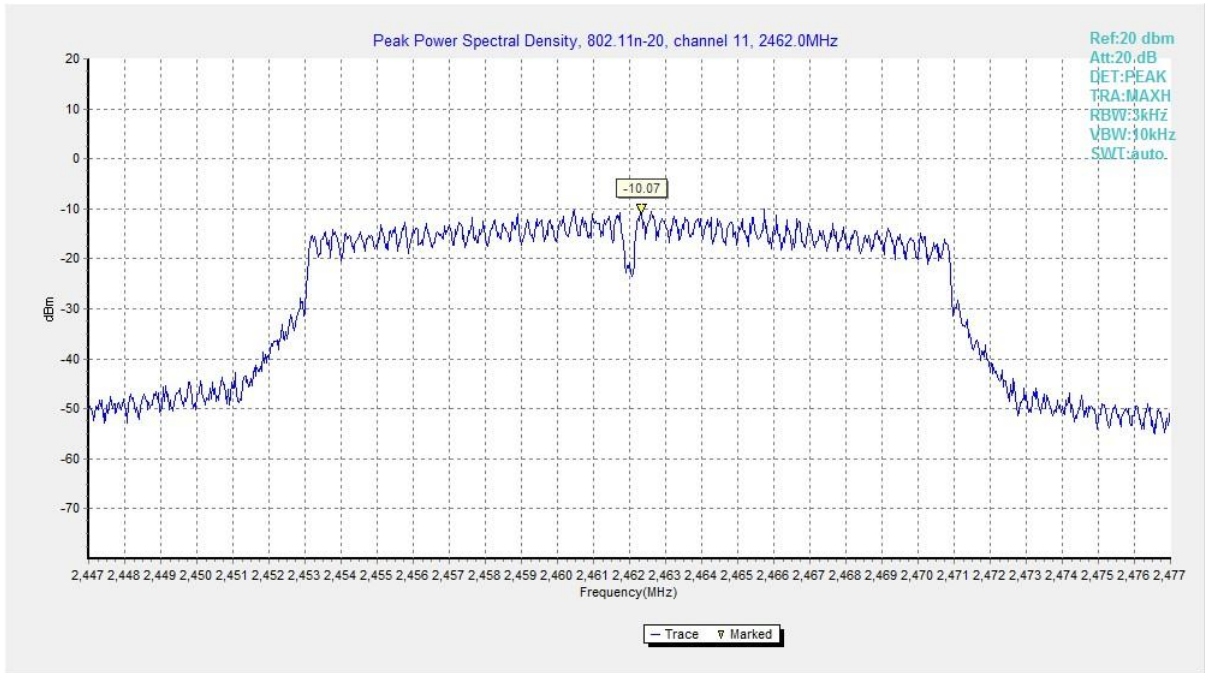
**Fig.6 Power Spectral Density (802.11g, CH 11)**



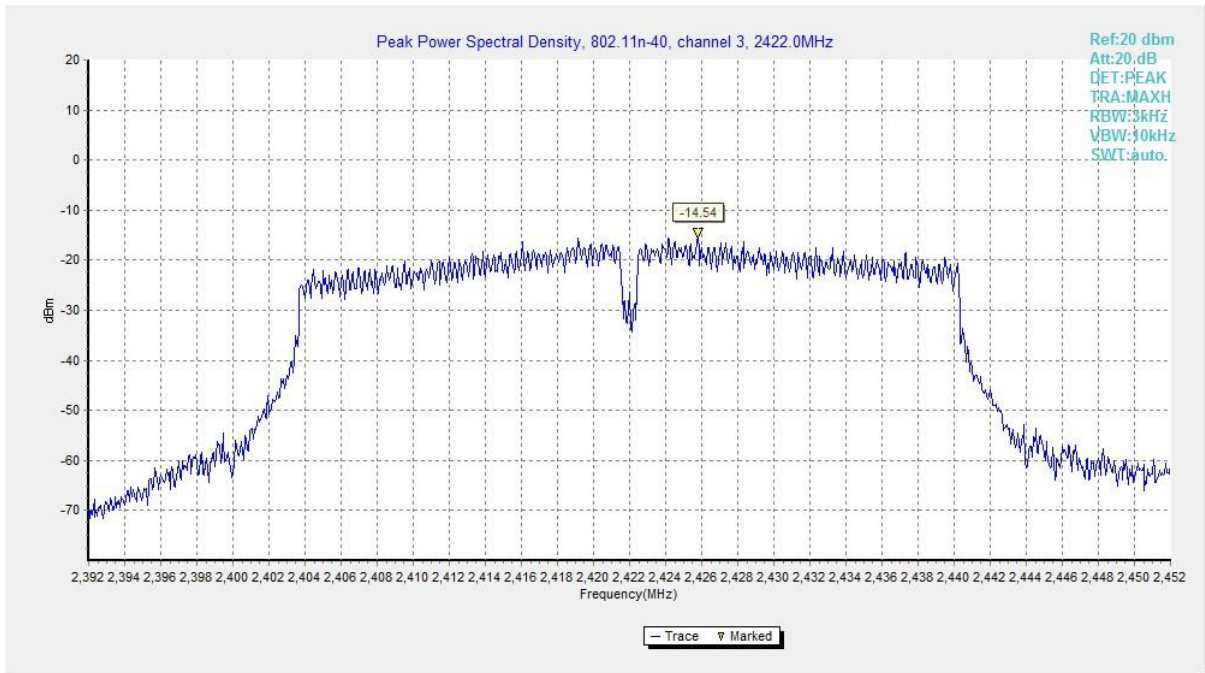
**Fig.7 Power Spectral Density (802.11n HT20, CH 1)**



**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)**

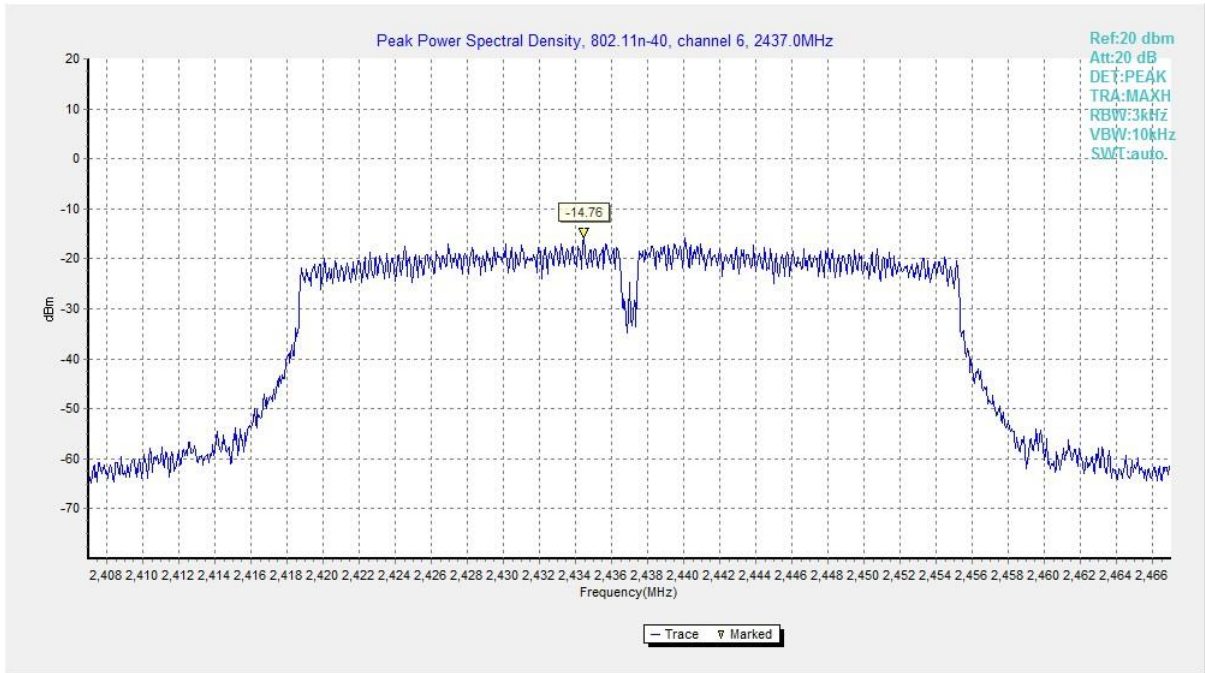


Fig.11 Power Spectral Density (802.11n HT40, CH 6)

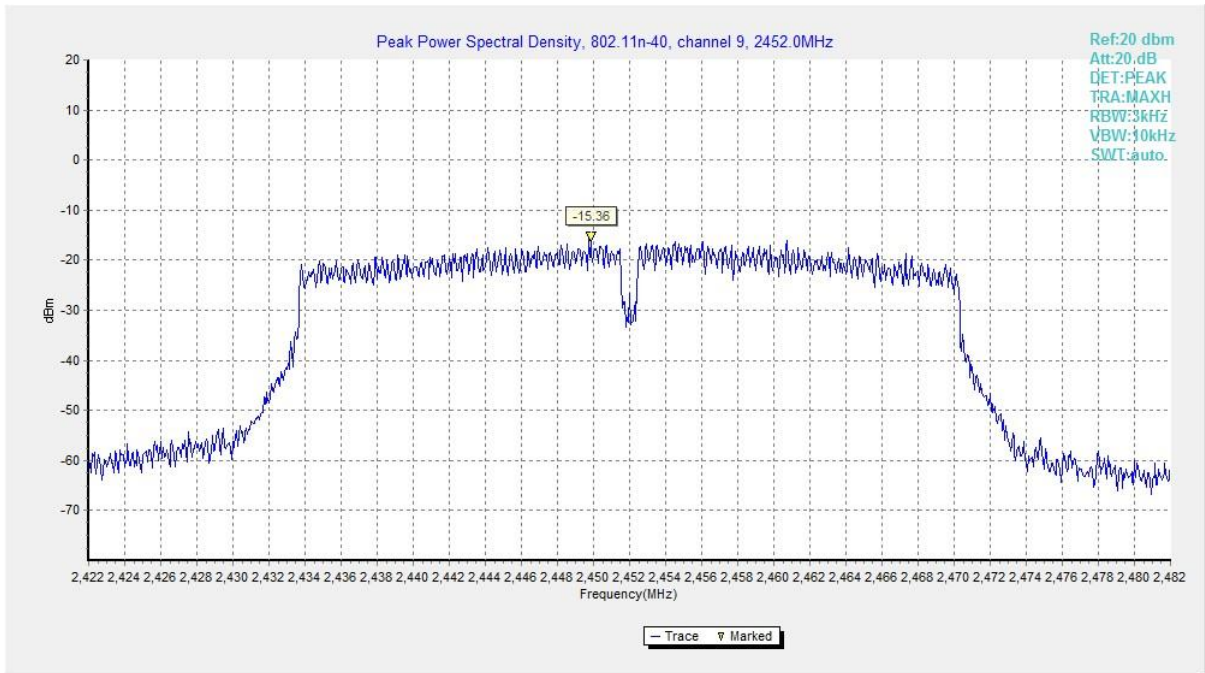


Fig.12 Power Spectral Density (802.11n HT40, CH 9)



### 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	8000	P
	CH 6	2437	Fig.14	8000	P
	CH 11	2462	Fig.15	8050	P
802.11g	CH 1	2412	Fig.16	15700	P
	CH 6	2437	Fig.17	15350	P
	CH 11	2462	Fig.18	15050	P
802.11n HT20	CH 1	2412	Fig.19	16250	P
	CH 6	2437	Fig.20	15150	P
	CH 11	2462	Fig.21	15100	P
802.11n HT40	CH 3	2422	Fig.22	30000	P
	CH 6	2437	Fig.23	35200	P
	CH 9	2452	Fig.24	35120	P

See below for test graphs.

**Conclusion: PASS**

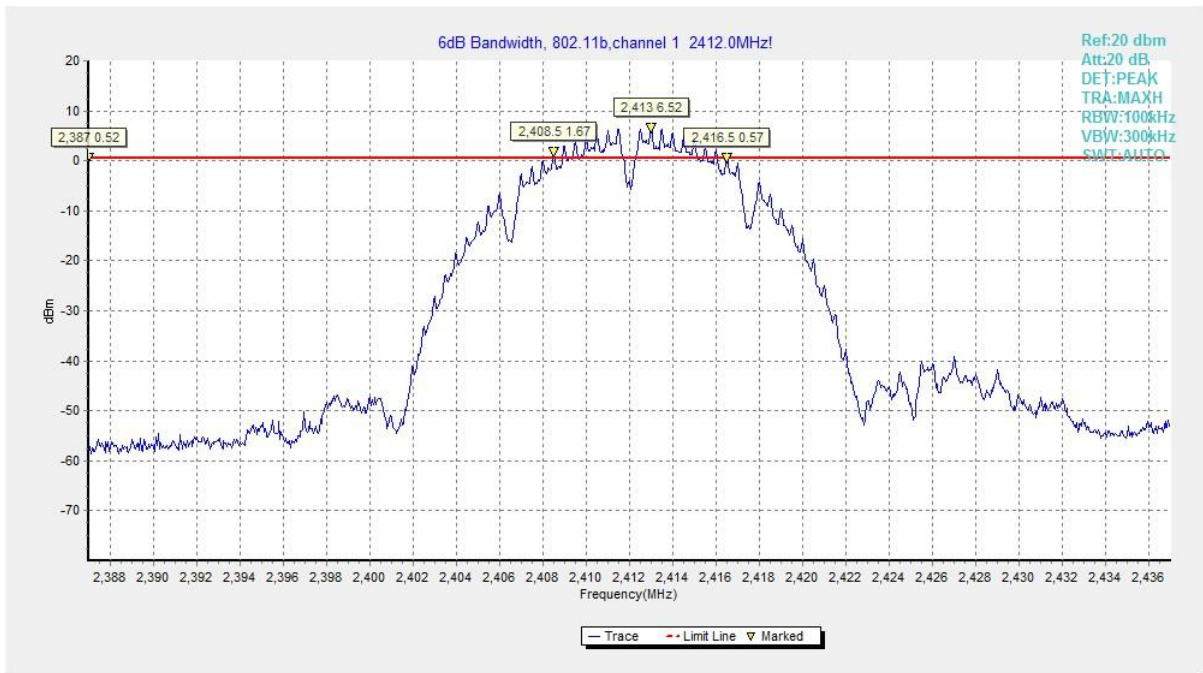


Fig.13 6dB Bandwidth (802.11b, CH 1)

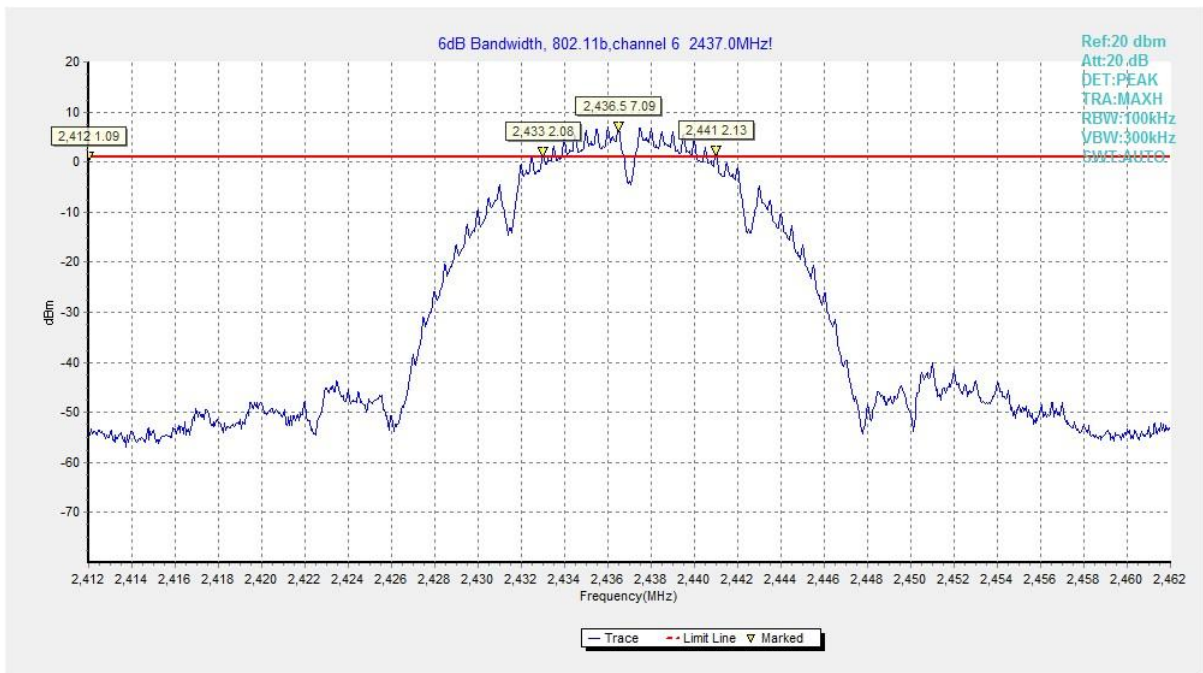


Fig.14 6dB Bandwidth (802.11b, CH 6)

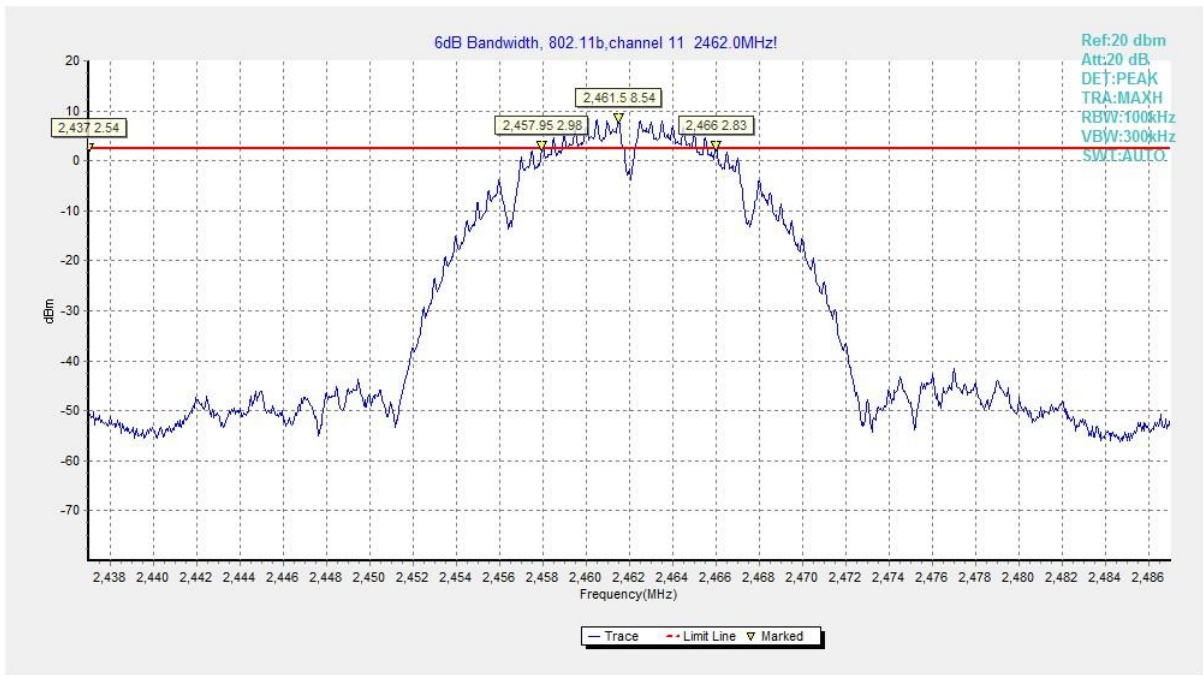


Fig.15 6dB Bandwidth (802.11b, CH 11)

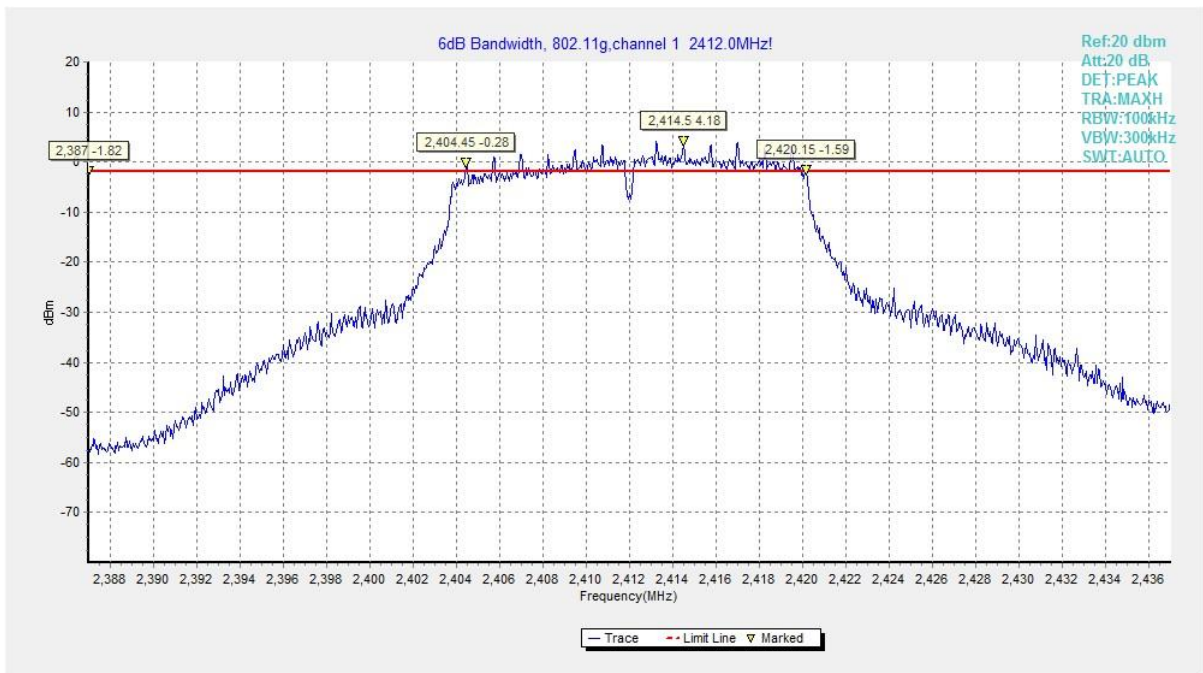


Fig.16 6dB Bandwidth (802.11g, CH 1)

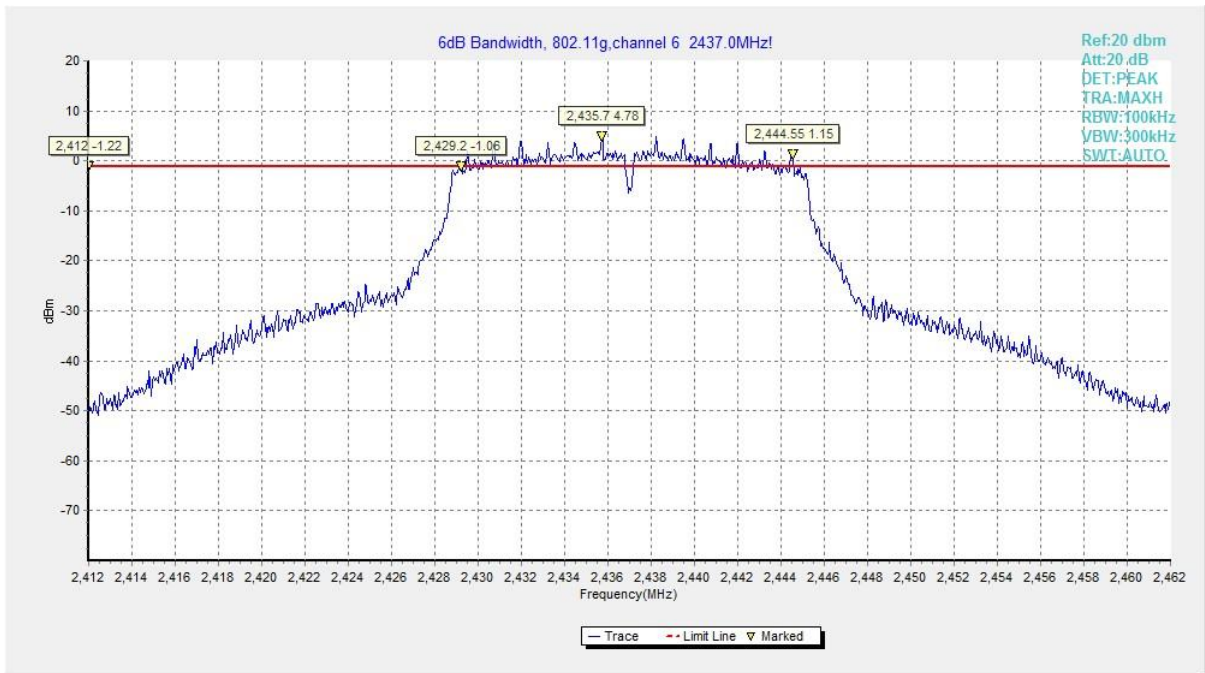


Fig.17 6dB Bandwidth (802.11g, CH 6)

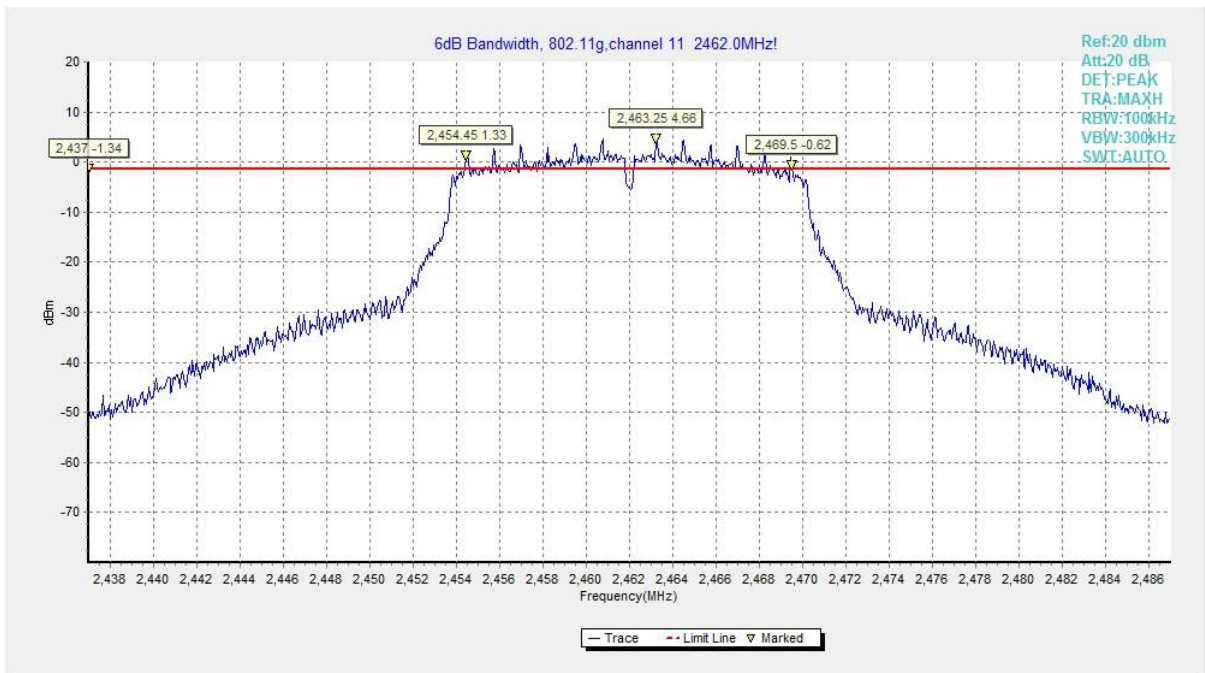


Fig.18 6dB Bandwidth (802.11g, CH 11)



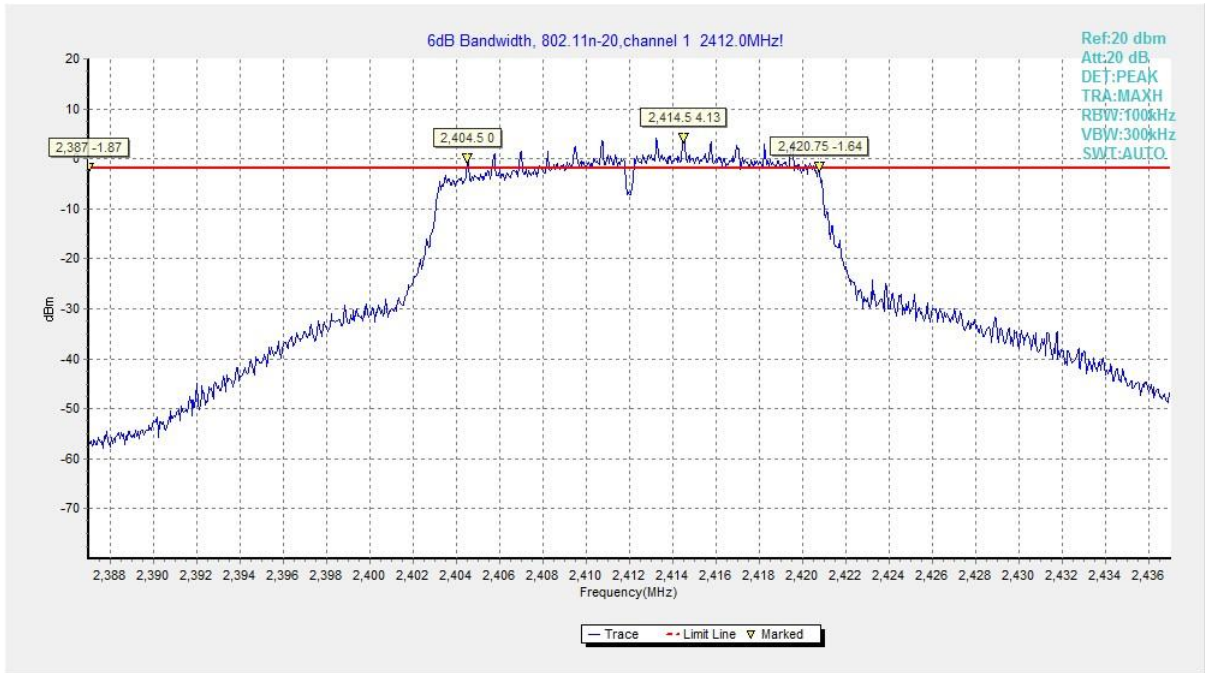


Fig.19 6dB Bandwidth (802.11n HT20, CH 1)

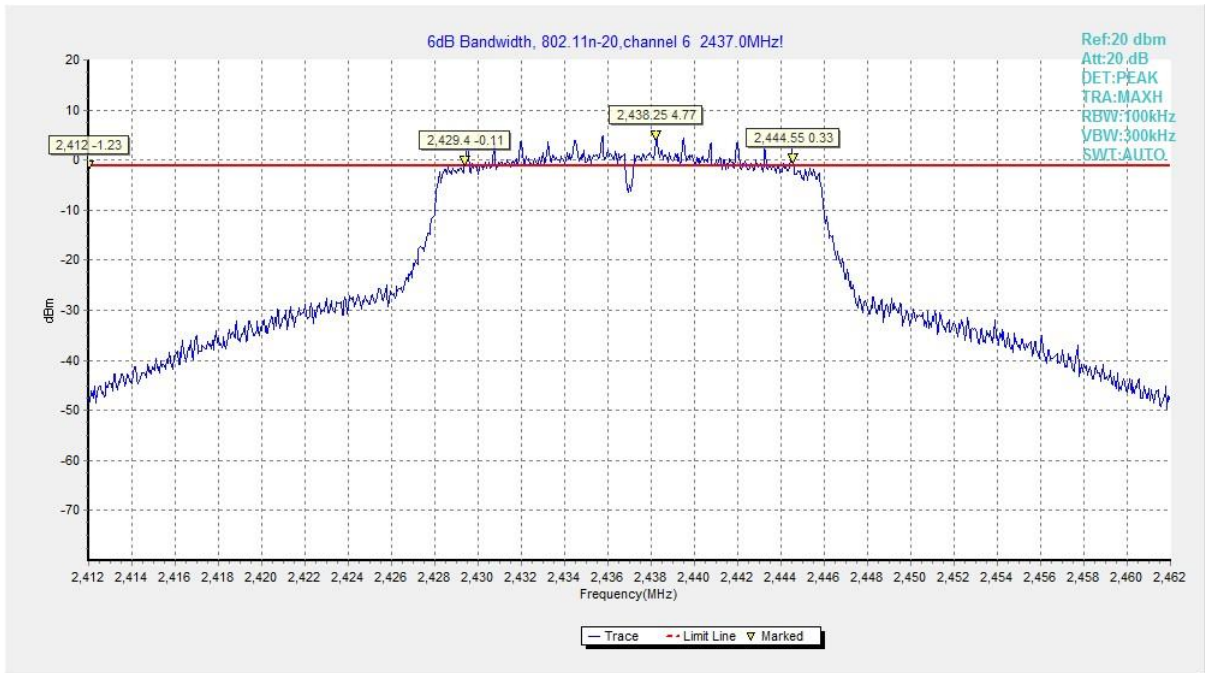


Fig.20 6dB Bandwidth (802.11n HT20, CH 6)

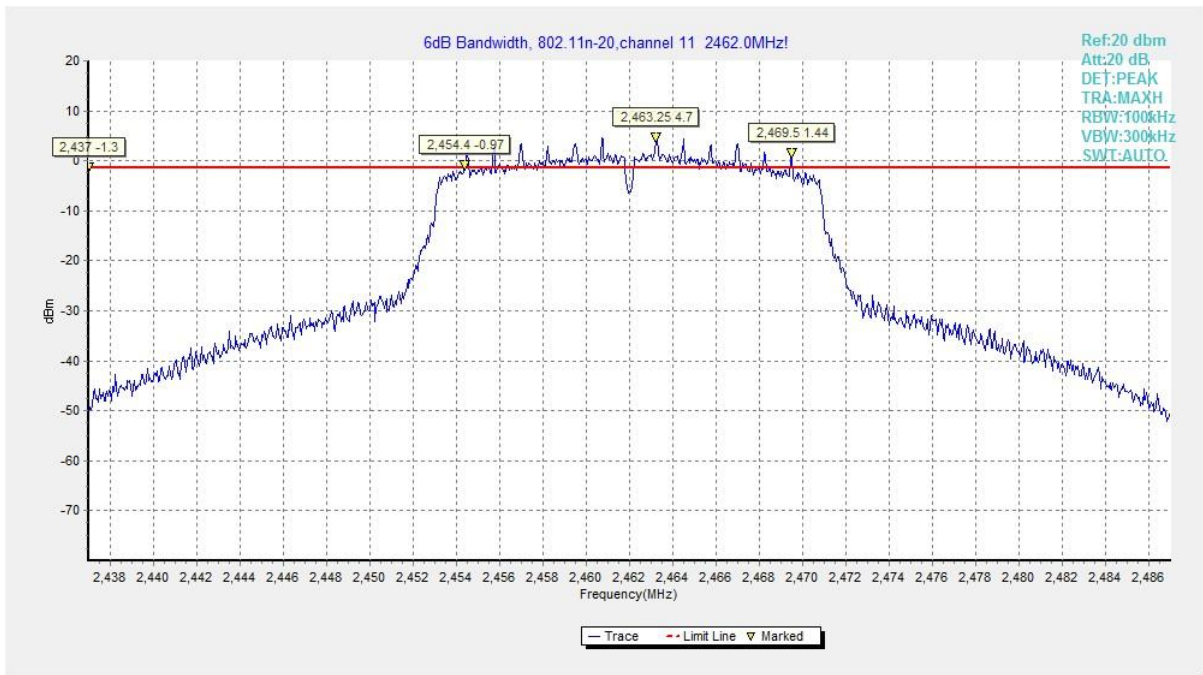


Fig.21 6dB Bandwidth (802.11n HT20, CH 11)

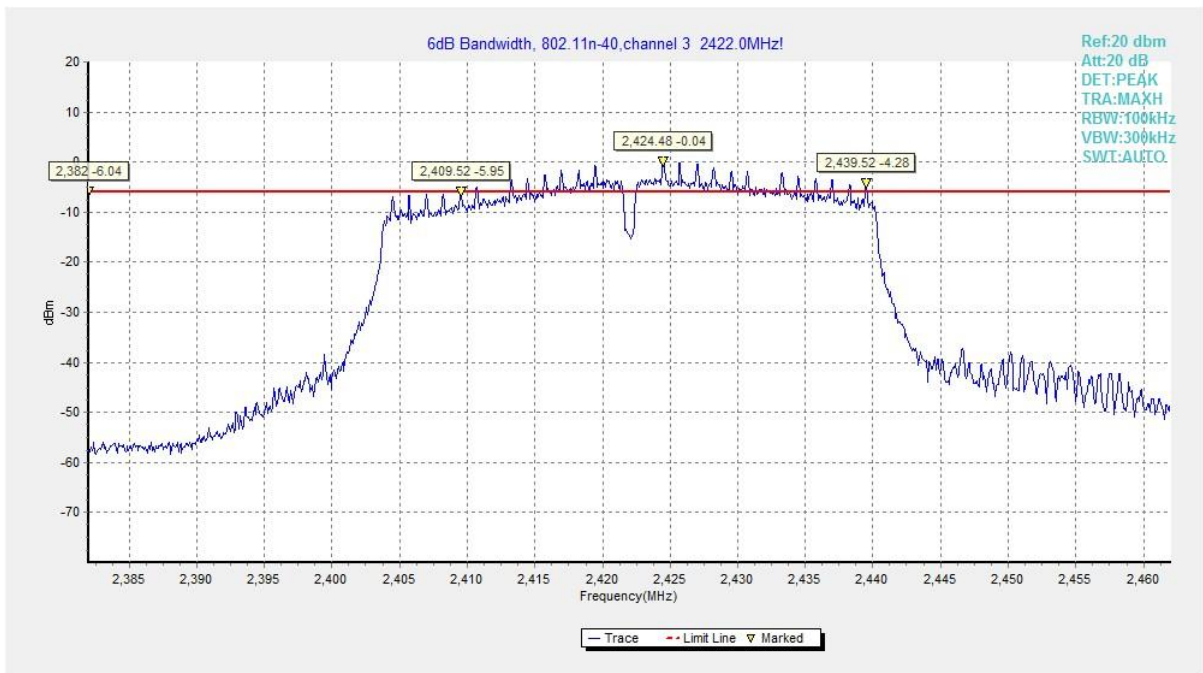


Fig.22 6dB Bandwidth (802.11n HT40, CH 3)

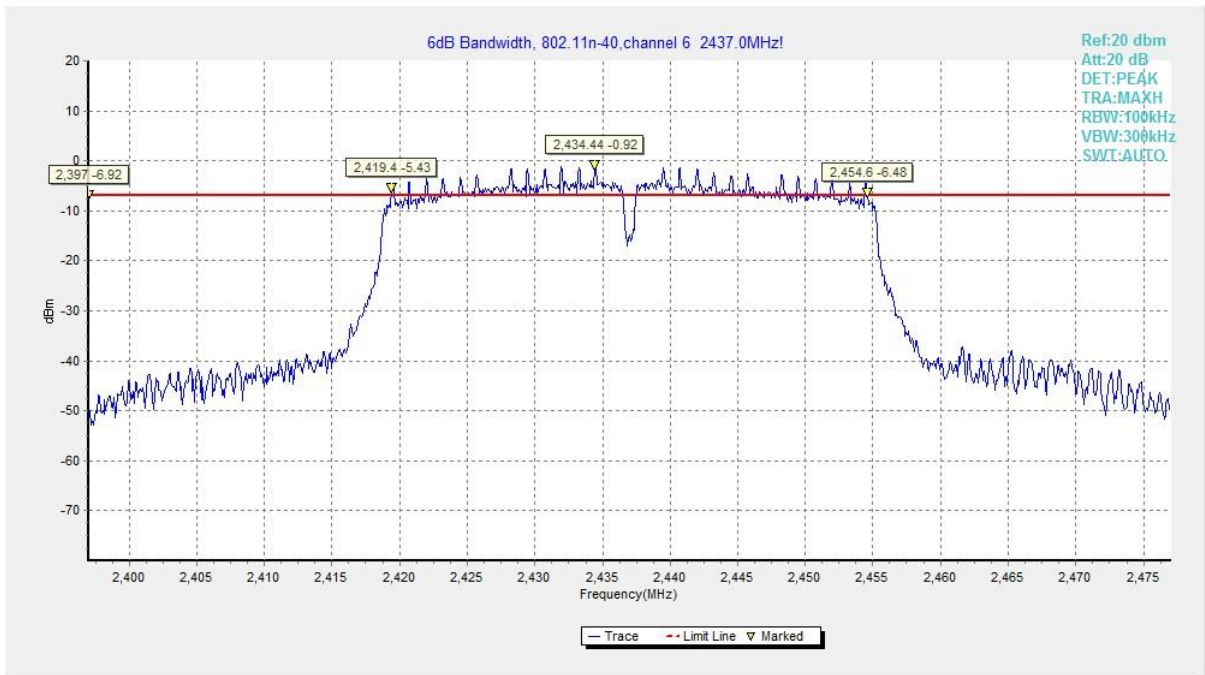


Fig.23 6dB Bandwidth (802.11n HT40, CH 6)

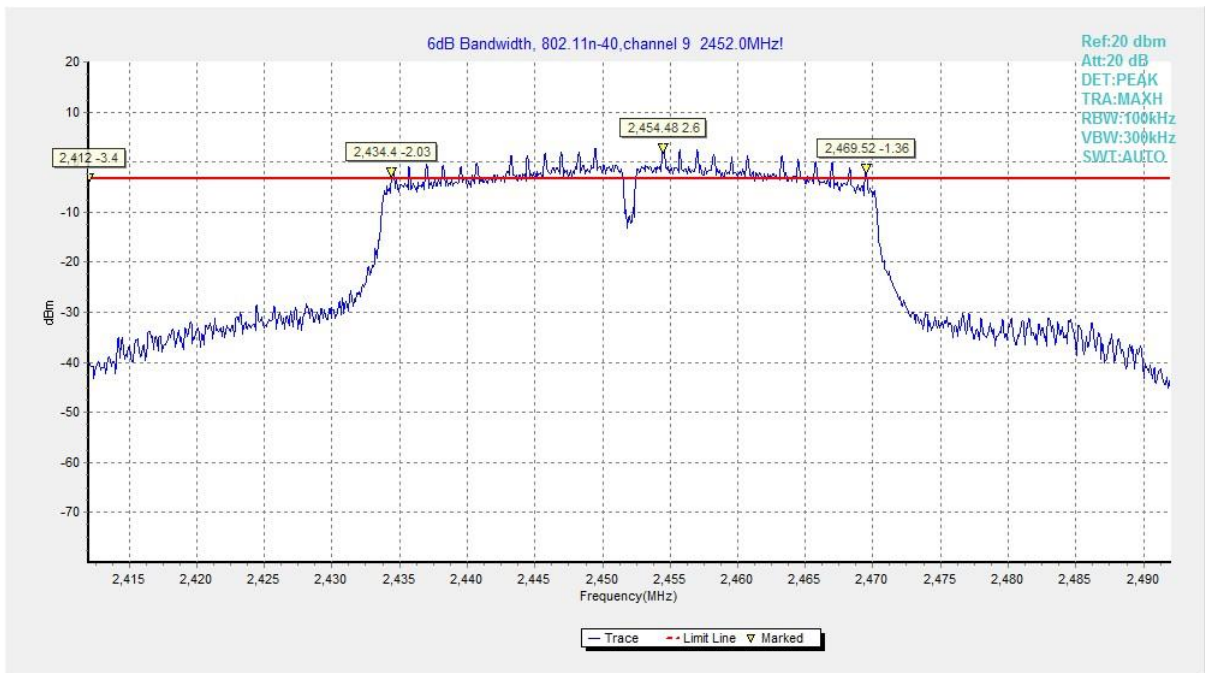


Fig.24 6dB Bandwidth (802.11n HT40, CH 9)

### A.4 Band Edges Compliance

**Measurement Limit:**

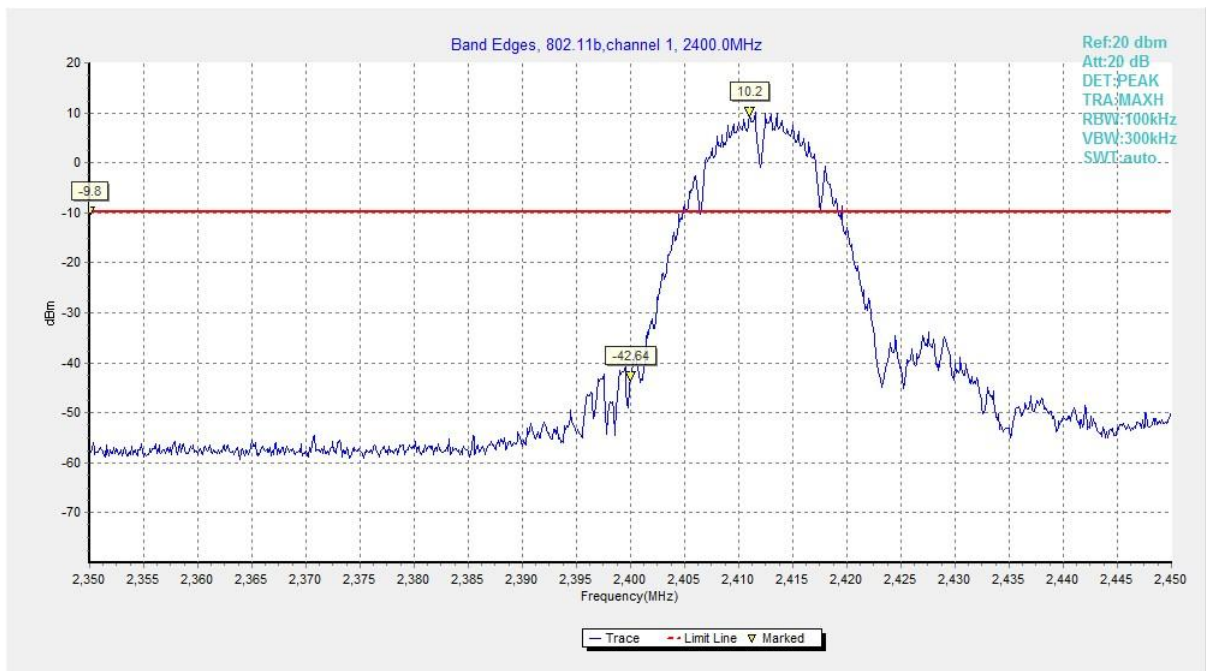
Standard	Limit (dB)
FCC 47 CFR Part 15.247 (d)	> 20

**Measurement Result:**

Mode	Channel	Frequency (MHz)	Test Results (dB)		Conclusion
			Fig.	Value	
802.11b	CH 1	2412	Fig.25	52.84	P
	CH 11	2462	Fig.26	55.57	P
802.11g	CH 1	2412	Fig.27	31.63	P
	CH 11	2462	Fig.28	43.37	P
802.11n HT20	CH 1	2412	Fig.29	33.35	P
	CH 11	2462	Fig.30	43.69	P
802.11n HT40	CH 3	2422	Fig.31	31.82	P
	CH 9	2452	Fig.32	31.98	P

See below for test graphs.

**Conclusion: PASS**



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



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

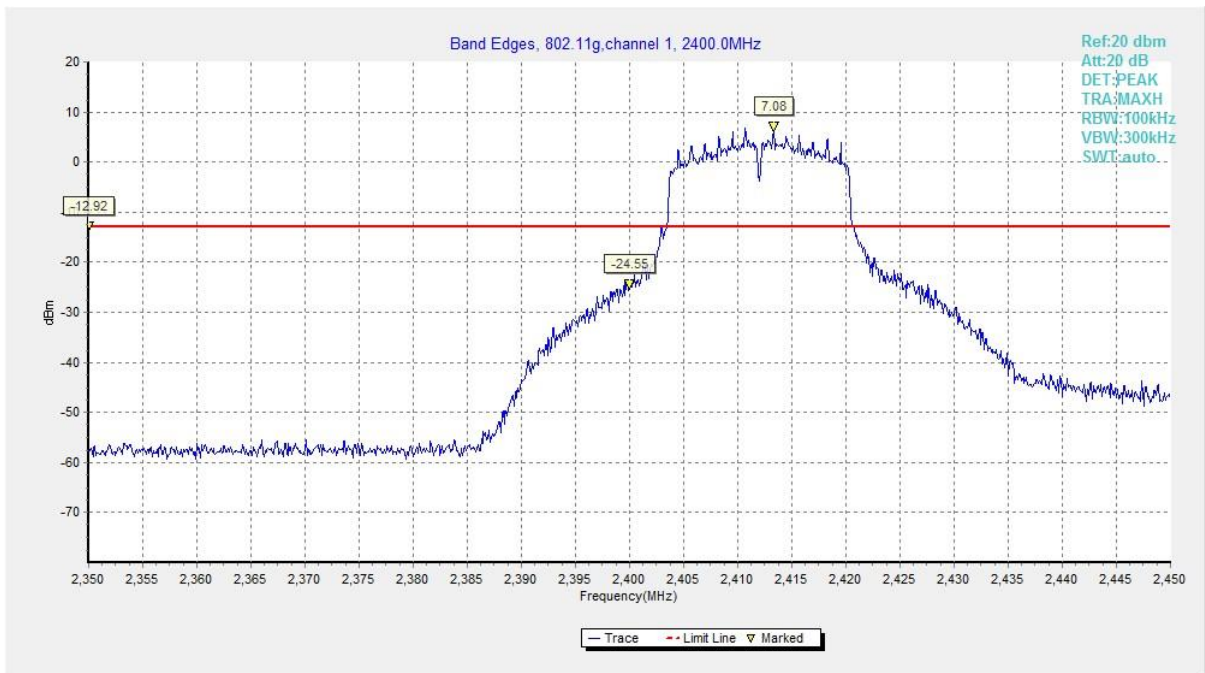


Fig.27 Band Edges (802.11g, CH 1)

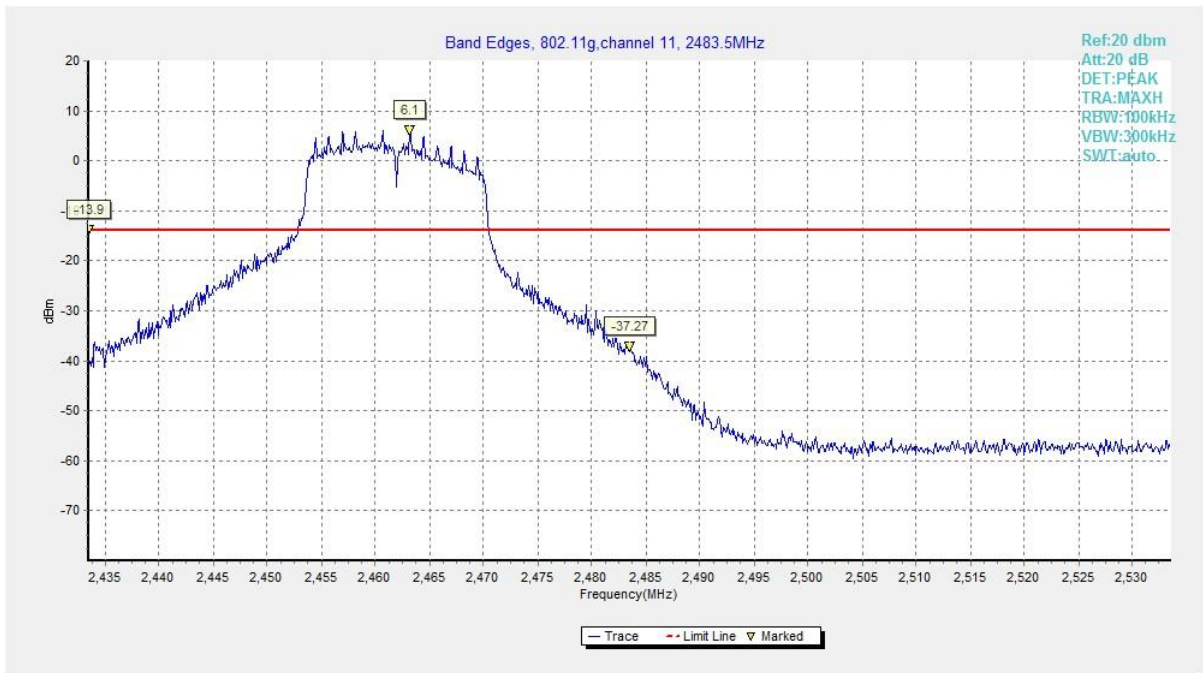


Fig.28 Band Edges (802.11g, CH 11)

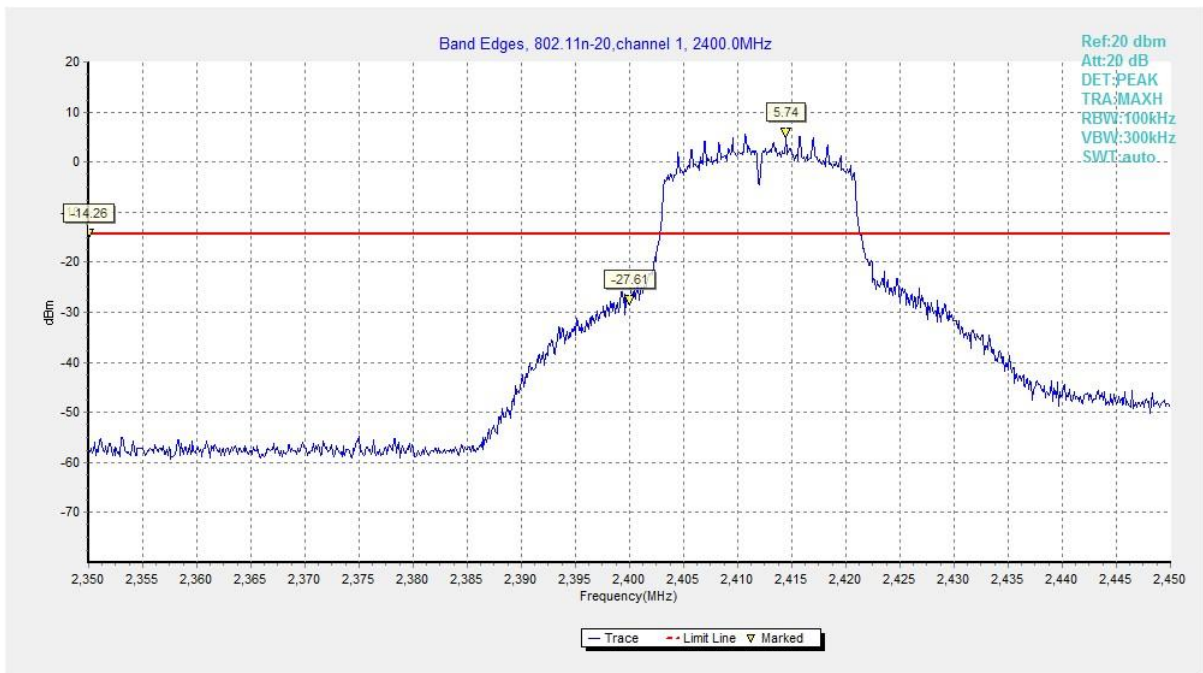


Fig.29 Band Edges (802.11n HT20, CH 1)



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

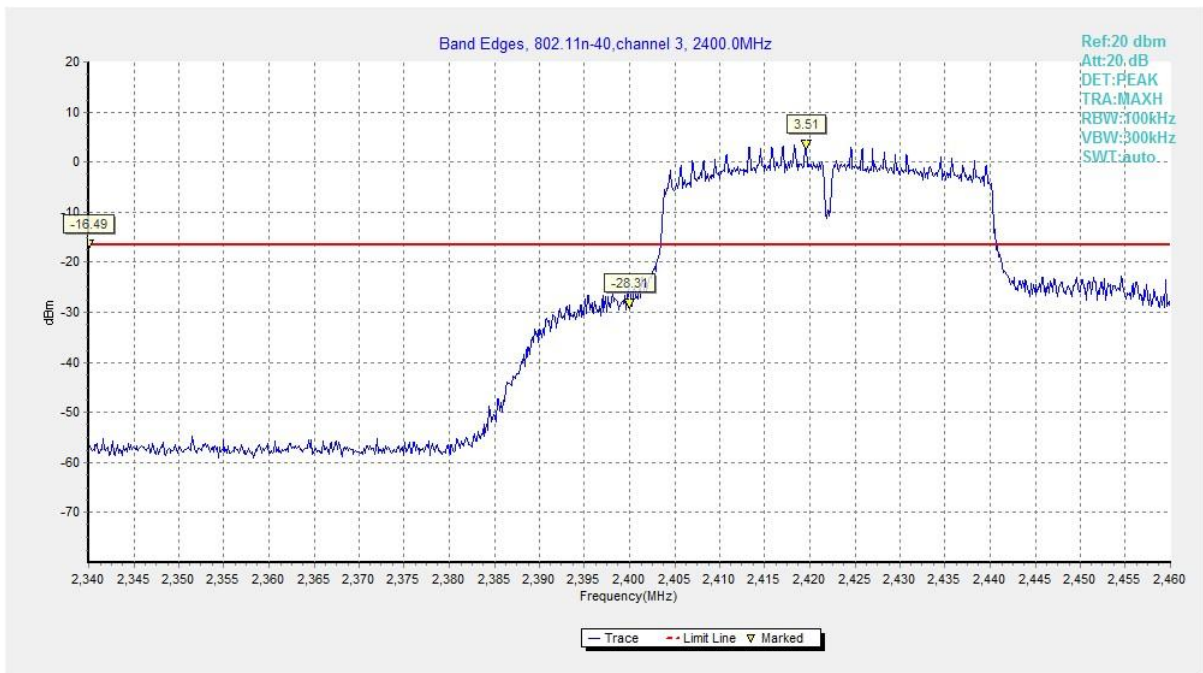
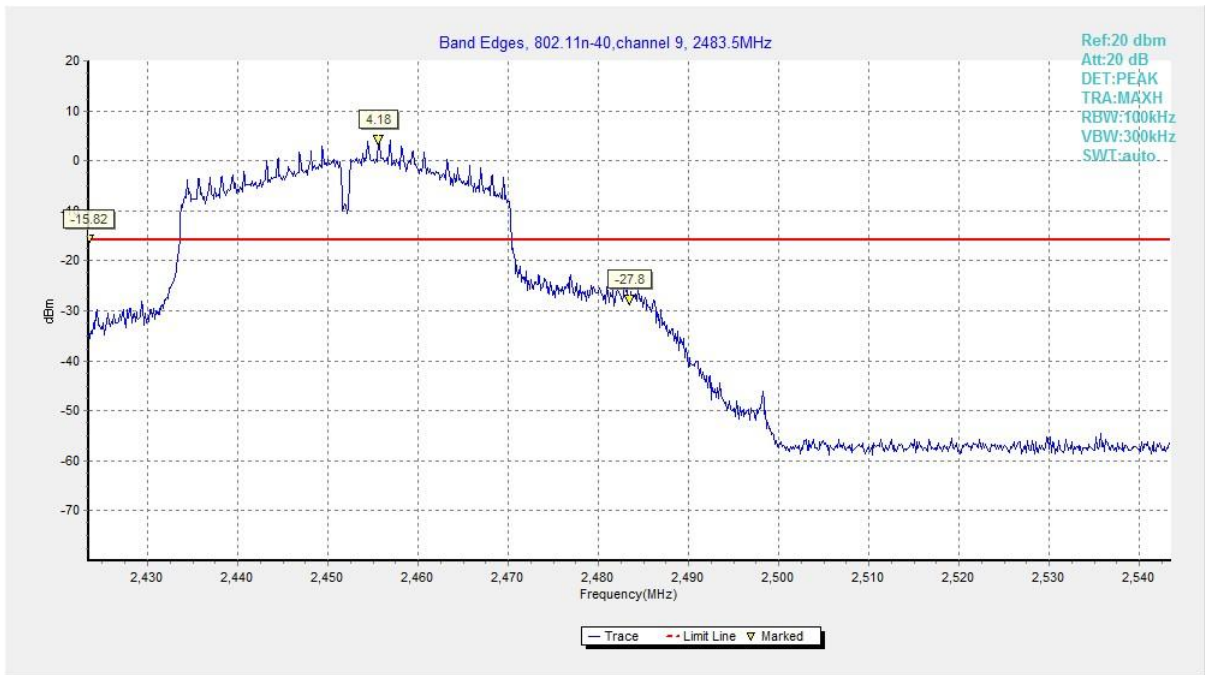


Fig.31 Band Edges (802.11n HT40, CH 3)



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





### A.5 Conducted Emission

**Measurement Limit:**

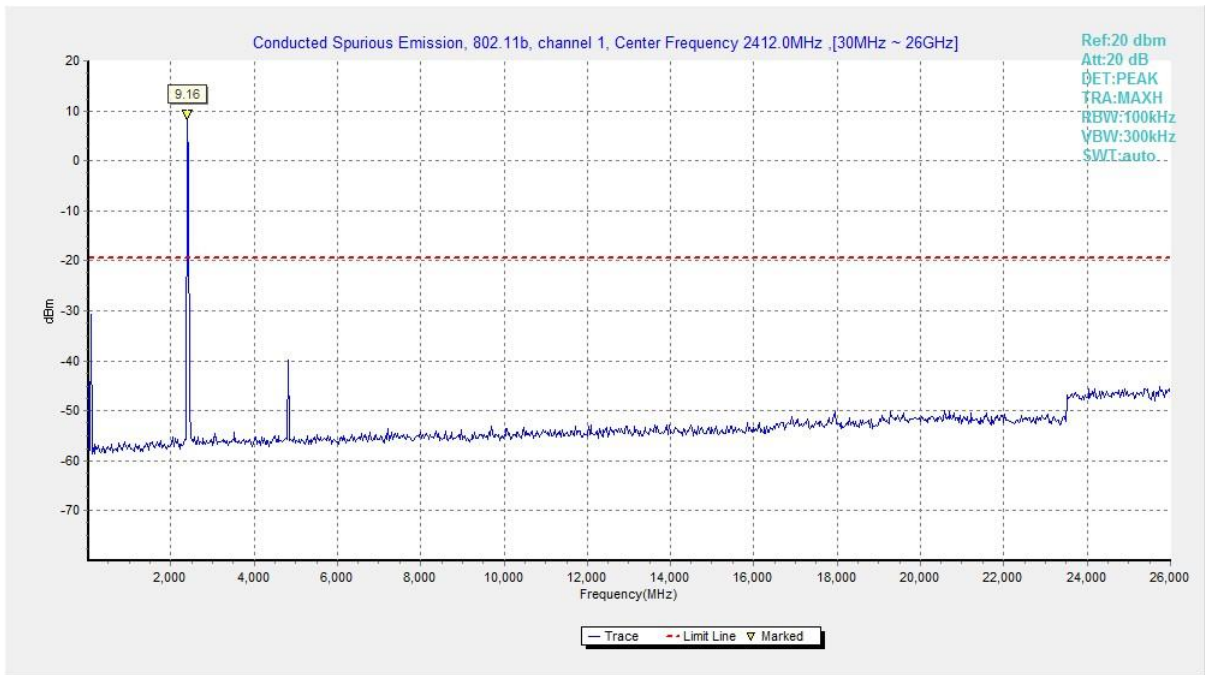
Standard	Limit
FCC 47 CFR Part 15.247 (d)	30dB below peak output power in 100kHz bandwidth

**Measurement Results:**

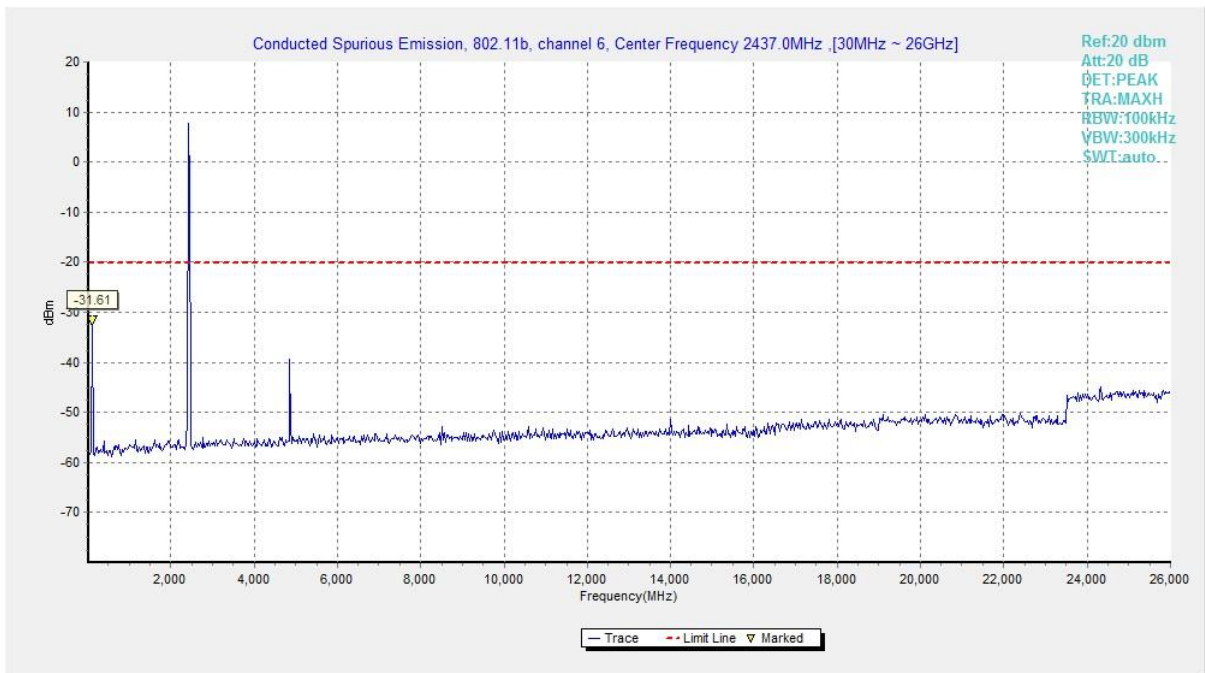
Mode	Channel	Frequency (MHz)	Frequency Range	Test Results	Conclusion
802.11b	CH 1	2412	30MHz-26GHz	Fig.33	P
	CH 6	2437	30MHz-26GHz	Fig.34	P
	CH 11	2462	30MHz-26GHz	Fig.35	P
802.11g	CH 1	2412	30MHz-26GHz	Fig.36	P
	CH 6	2437	30MHz-26GHz	Fig.37	P
	CH 11	2462	30MHz-26GHz	Fig.38	P
802.11n HT20	CH 1	2412	30MHz-26GHz	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.

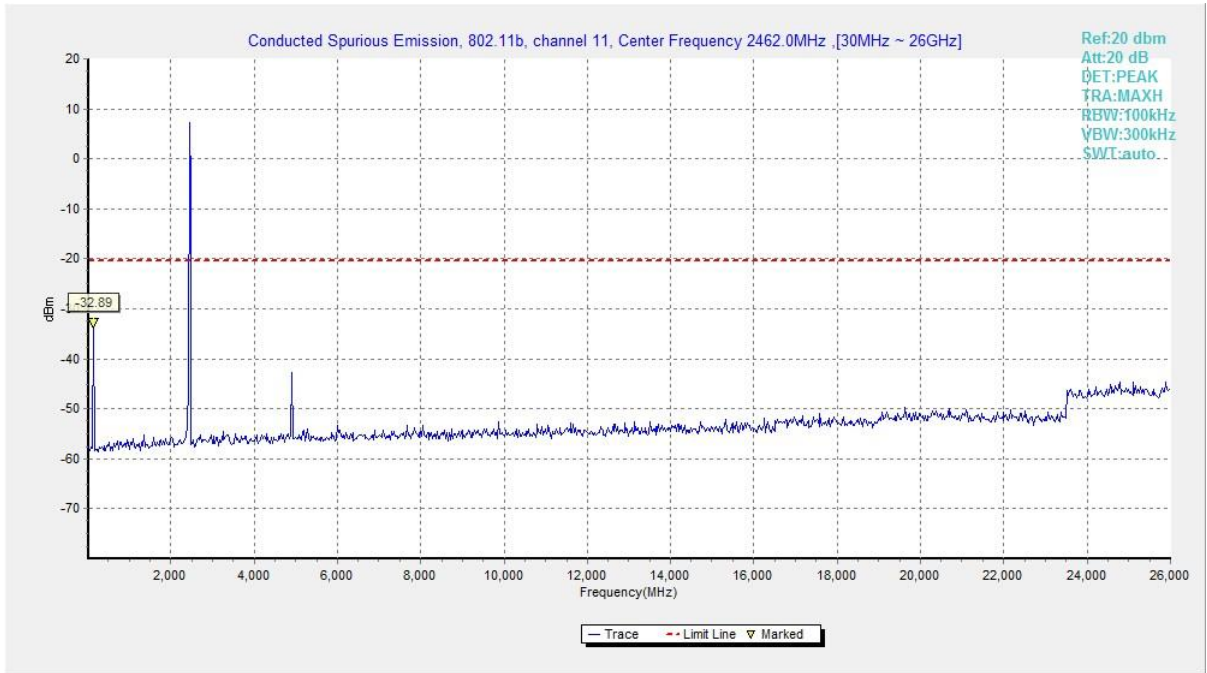
**Conclusion: PASS**



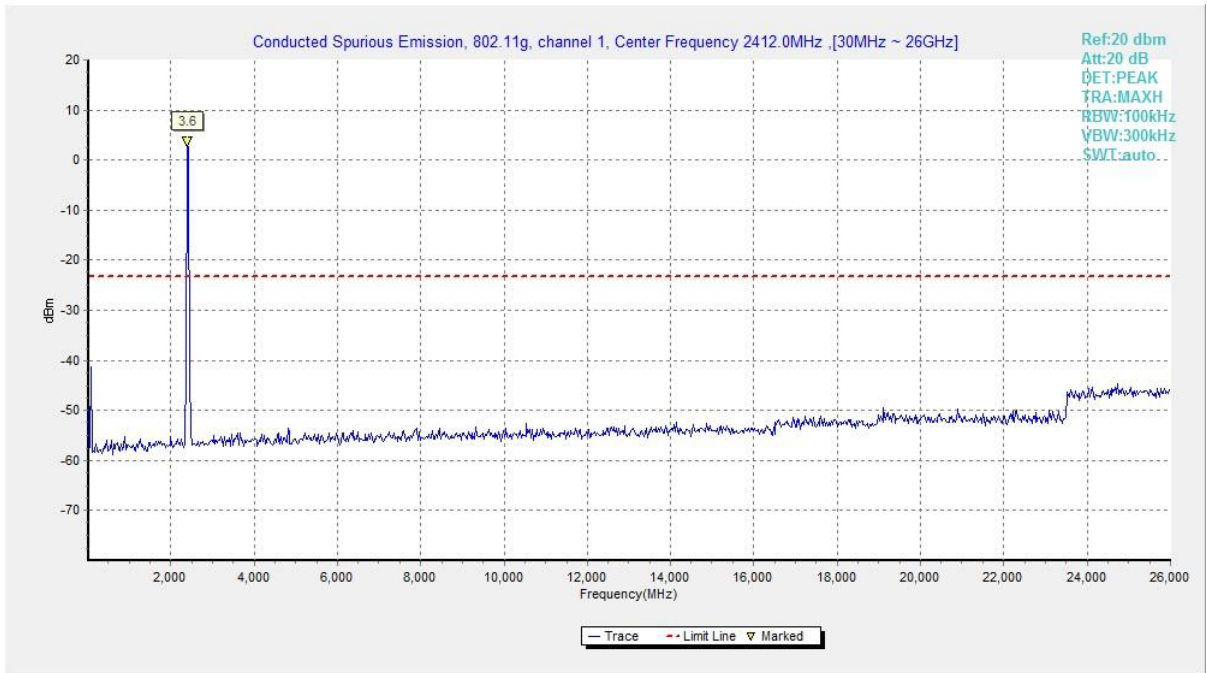
**Fig.33 Conducted Spurious Emission (802.11b, CH1)**



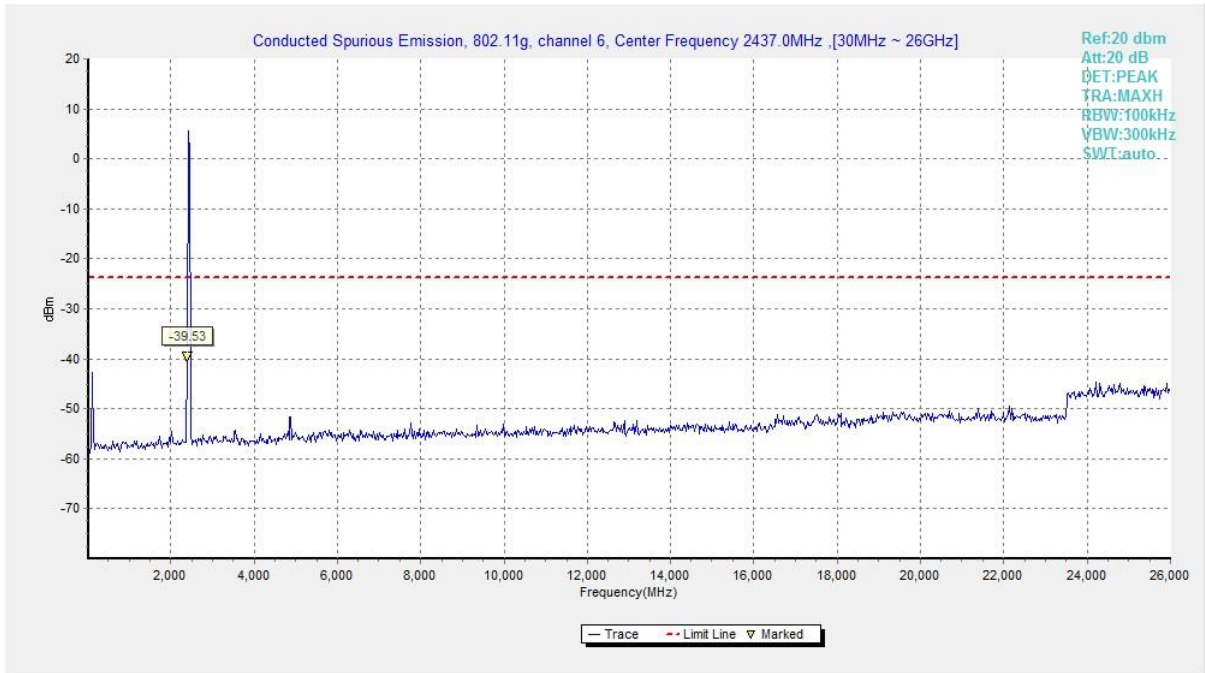
**Fig.34 Conducted Spurious Emission (802.11b, CH6)**



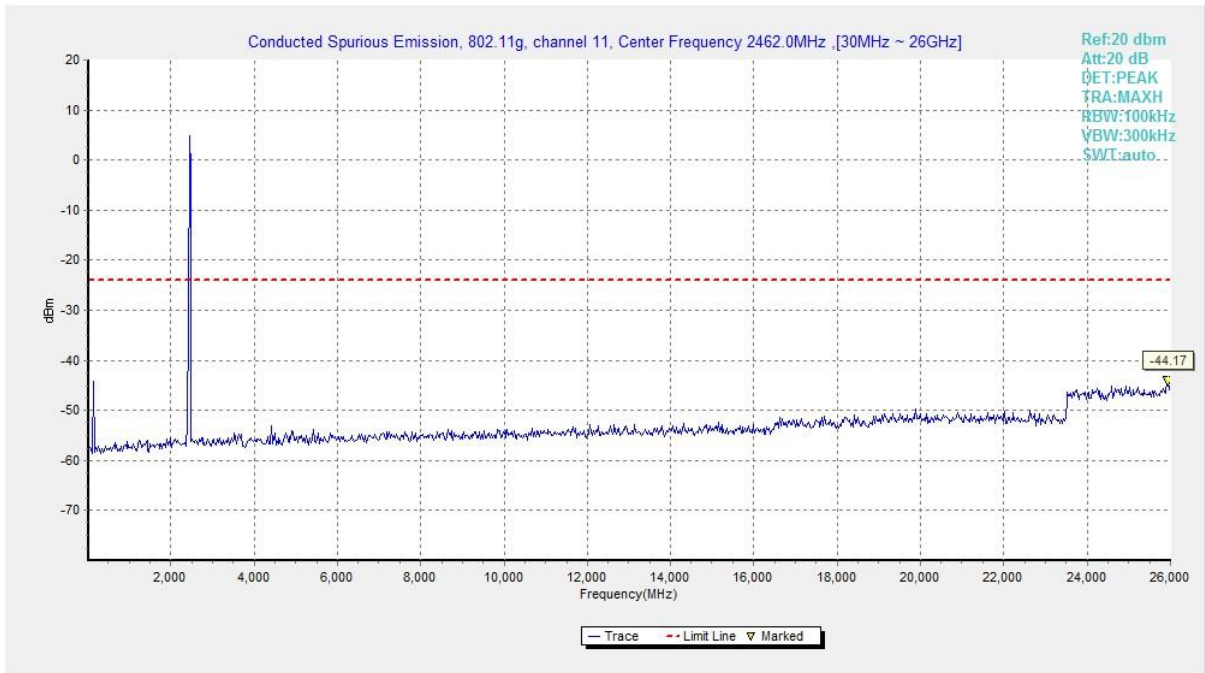
**Fig.35 Conducted Spurious Emission (802.11b, CH11)**



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



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



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

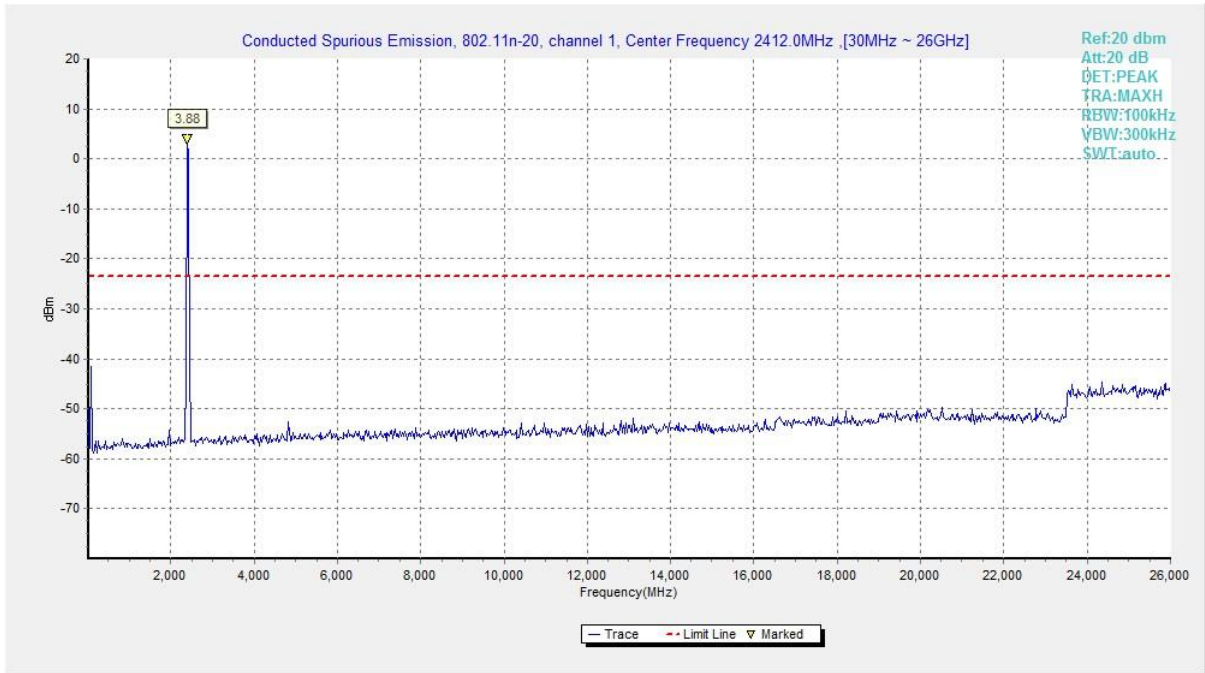


Fig.39 Conducted Spurious Emission (802.11n HT20, CH1)

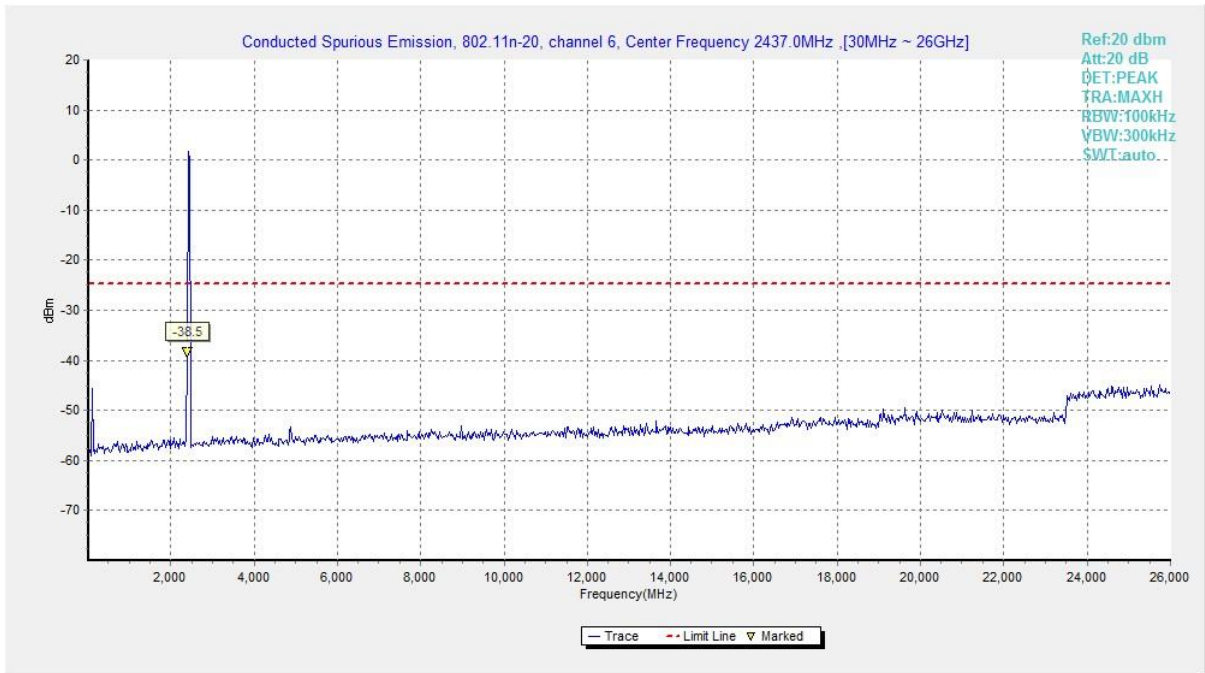


Fig.40 Conducted Spurious Emission (802.11n HT20, CH6)

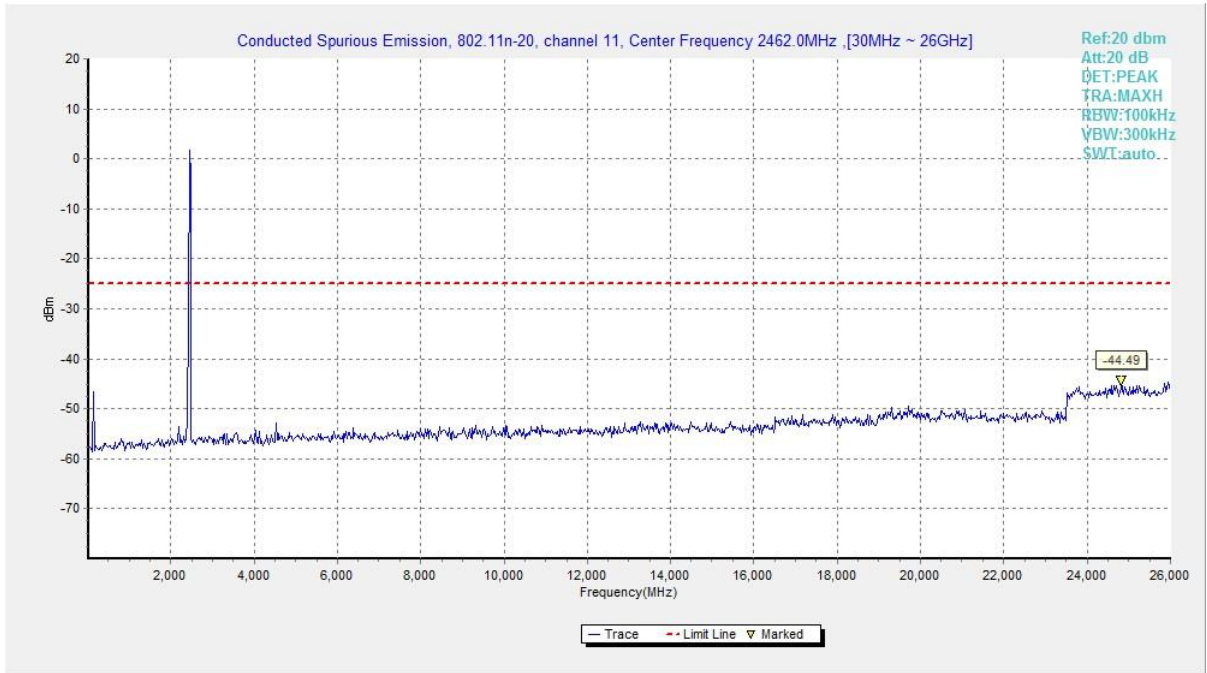


Fig.41 Conducted Spurious Emission (802.11n HT20, CH11)

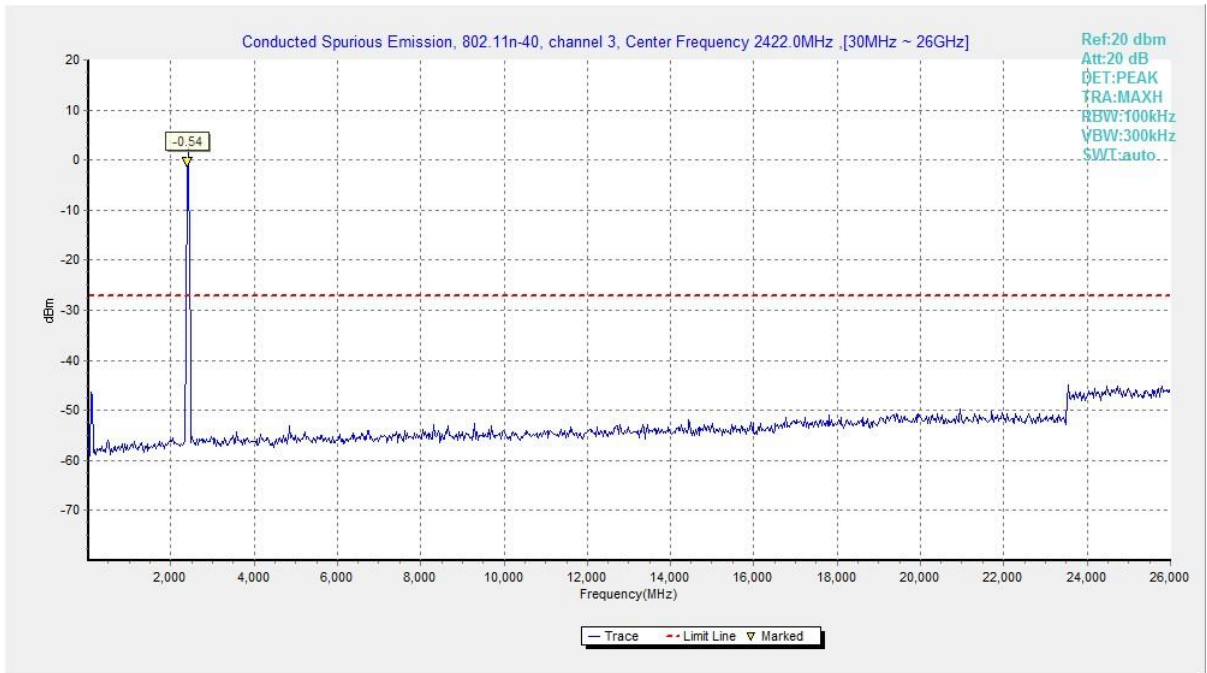
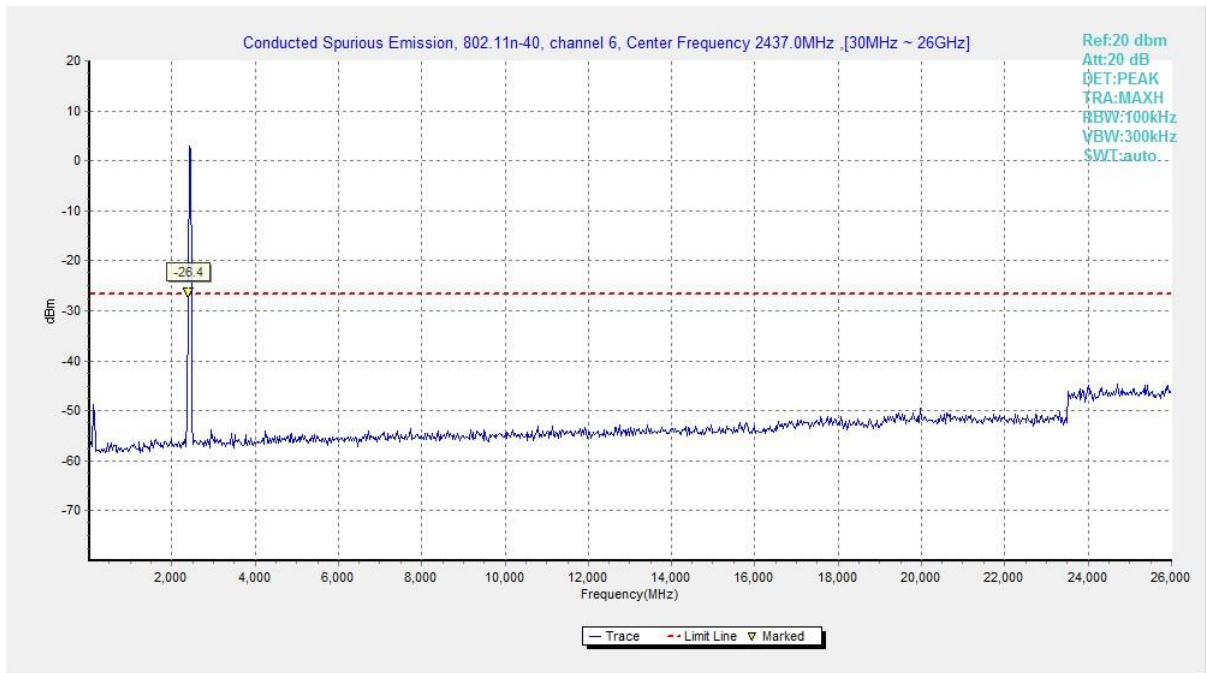
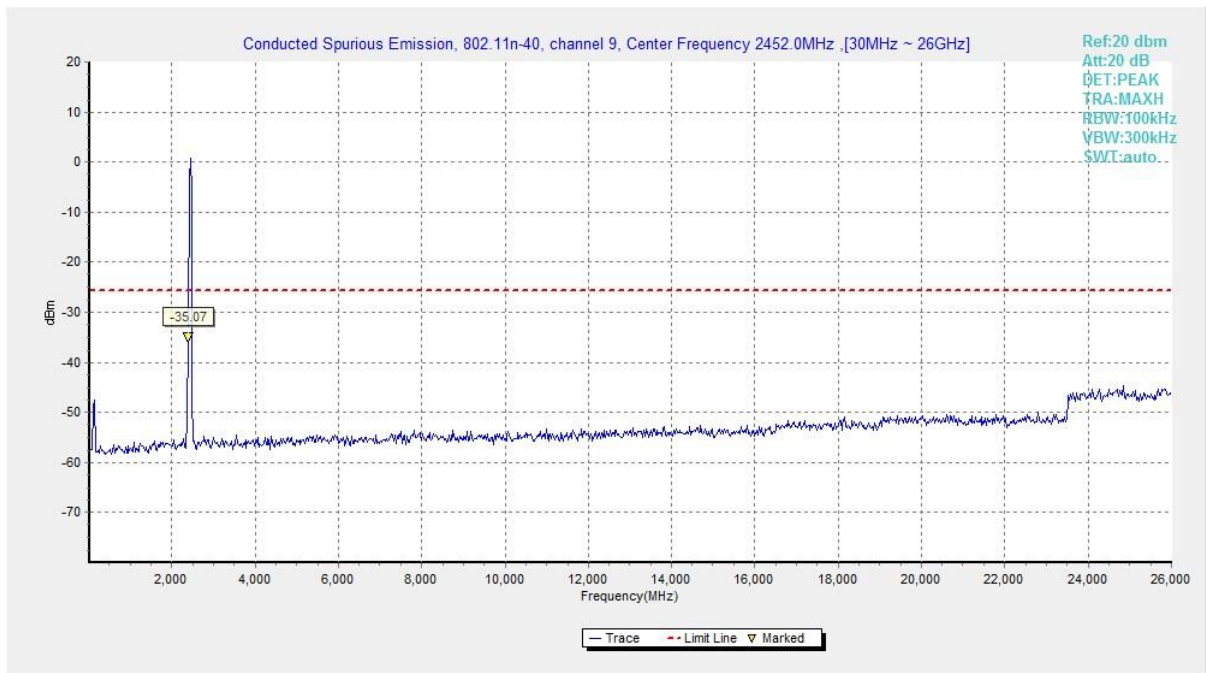


Fig.42 Conducted Spurious Emission (802.11n HT40, CH3)



**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 ( $\mu\text{V}/\text{m}$ )	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.



**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)
2869.200000	48.00	74.00	26.00	H	10.68
3553.200000	36.21	74.00	37.79	V	-13.00
4873.800000	50.39	74.00	23.61	H	-9.48
7997.200000	44.03	74.00	29.97	H	-2.06
14838.000000	51.16	74.00	22.84	H	6.31
17994.000000	55.50	74.00	18.50	V	13.95

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
2869.200000	35.33	54.00	18.67	H	10.68
3553.200000	23.24	54.00	30.76	V	-13.00
4873.800000	47.03	54.00	6.97	H	-9.48
7997.200000	31.37	54.00	22.63	H	-2.06
14838.000000	38.75	54.00	15.25	H	6.31
17994.000000	43.42	54.00	10.58	V	13.95

**802.11g CH6 (1-18GHz)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
2811.600000	48.53	74.00	25.47	V	10.78
3548.700000	35.68	74.00	38.32	V	-13.00
4877.100000	44.31	74.00	29.69	H	-9.46
11675.600000	47.34	74.00	26.66	H	1.87
14280.800000	52.03	74.00	21.97	V	6.45
17997.200000	56.71	74.00	17.29	H	13.88

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
2811.600000	35.45	54.00	18.55	V	10.78
3548.700000	23.44	54.00	30.56	V	-13.00
4877.100000	30.87	54.00	23.13	H	-9.46
11675.600000	34.43	54.00	19.57	H	1.87
14280.800000	38.91	54.00	15.09	V	6.45
17997.200000	44.03	54.00	9.97	H	13.88

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

Frequency (MHz)	MaxPeak (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Pol	Corr. (dB)
2894.000000	47.64	74.00	26.36	H	10.57
3555.900000	35.44	74.00	38.56	V	-13.02
4870.200000	43.82	74.00	30.18	H	-9.50
7313.200000	44.38	74.00	29.62	V	-1.68
14252.400000	51.07	74.00	22.93	H	7.08
17998.800000	55.28	74.00	18.72	H	13.85

Frequency (MHz)	Average (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Pol	Corr. (dB)
2894.000000	35.24	54.00	18.76	H	10.57
3555.900000	23.21	54.00	30.79	V	-13.02
4870.200000	31.05	54.00	22.95	H	-9.50
7313.200000	31.28	54.00	22.72	V	-1.68
14252.400000	38.57	54.00	15.43	H	7.08
17998.400000	44.11	54.00	9.89	V	13.86

**802.11n HT40 CH9 (1-18GHz)**

Frequency (MHz)	MaxPeak (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Pol	Corr. (dB)
2901.200000	47.55	74.00	26.45	H	10.52
3622.800000	35.41	74.00	38.59	H	-13.25
4617.300000	39.06	74.00	34.94	V	-9.82
8117.200000	44.05	74.00	29.95	V	-2.04
14374.000000	51.73	74.00	22.27	V	5.60
17997.200000	55.73	74.00	18.27	H	13.88

Frequency (MHz)	Average (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Pol	Corr. (dB)
2901.200000	35.40	54.00	18.60	H	10.52
3622.800000	21.99	54.00	32.01	H	-13.25
4617.300000	27.45	54.00	26.55	V	-9.82
8117.200000	31.25	54.00	22.75	V	-2.04
14374.000000	37.66	54.00	16.34	V	5.60
17997.200000	43.84	54.00	10.16	H	13.88

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.



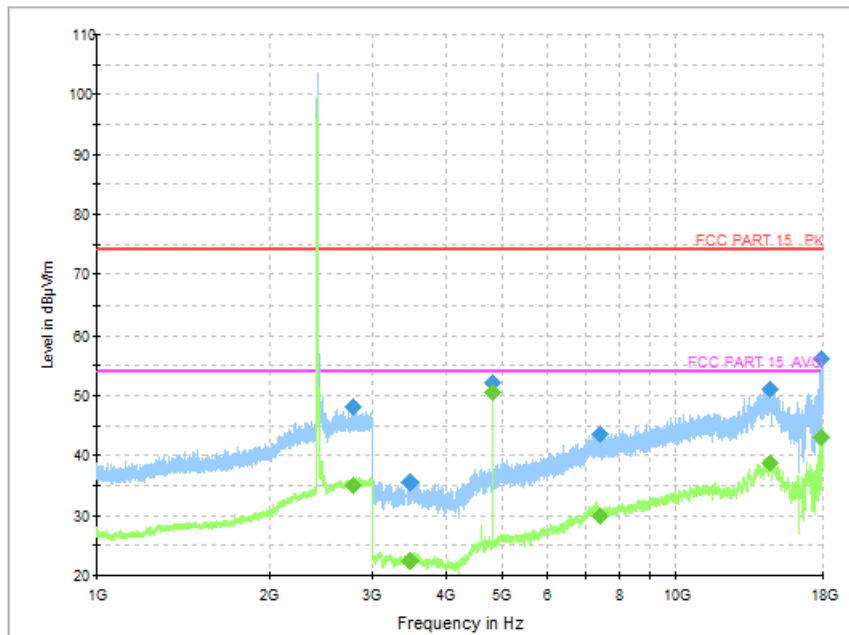
No. I22N00378-WLAN

The measurement results are obtained as described below:

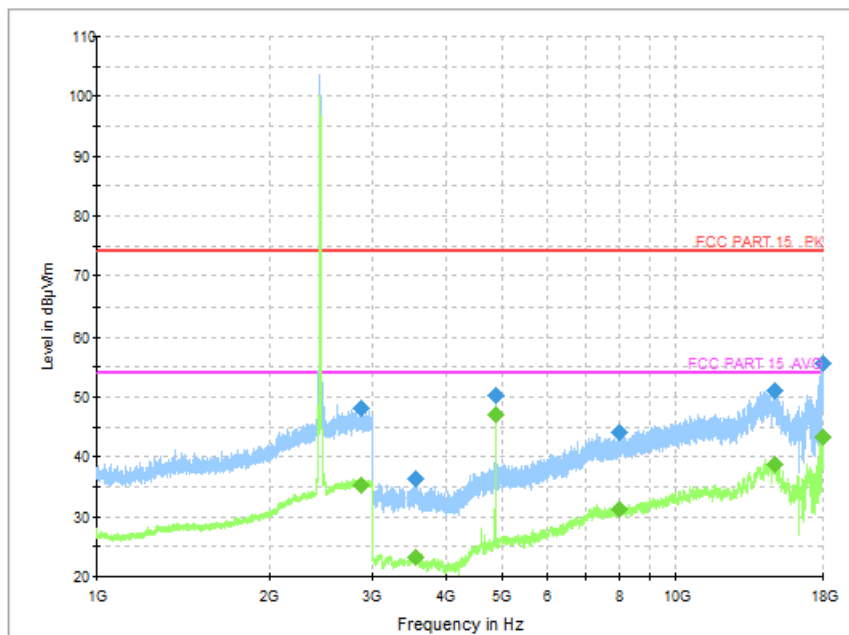
Result =  $P_{\text{Mea}}$  + Cable Loss + Antenna Factor - Gain of the preamplifier

**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)**

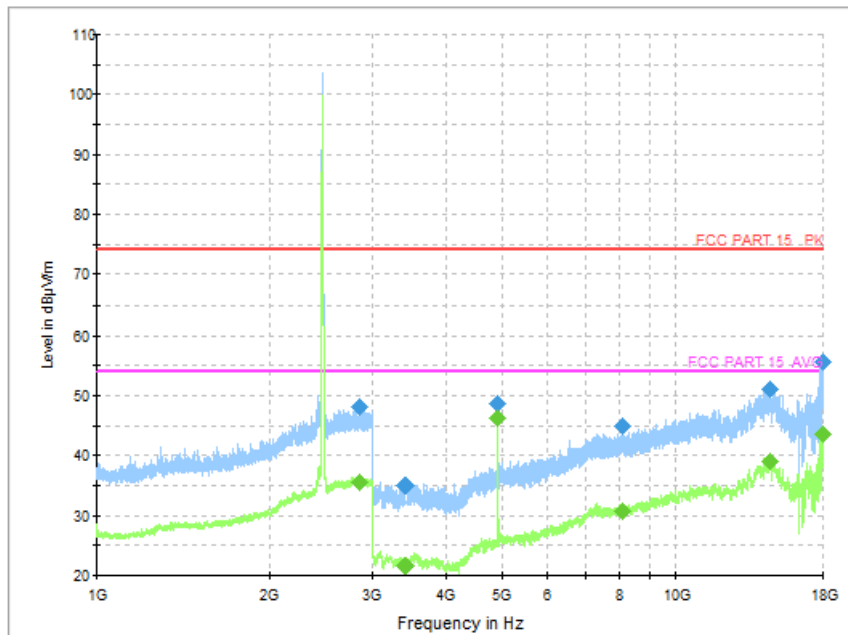


Fig.47 Radiated Spurious Emission (802.11b, CH11, 1GHz-18GHz)

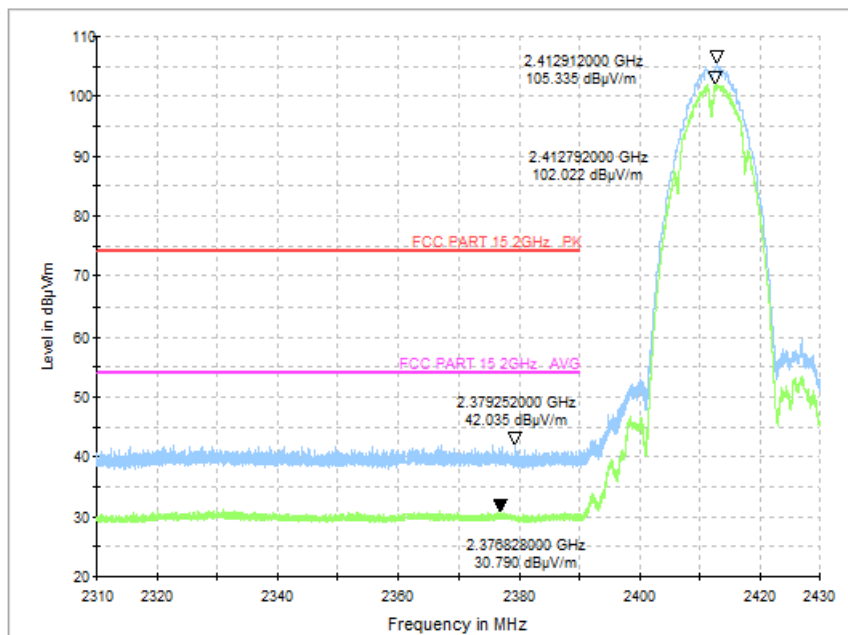


Fig.48 Radiated Restricted Band (802.11b, CH1, 2.38GHz~2.45GHz)

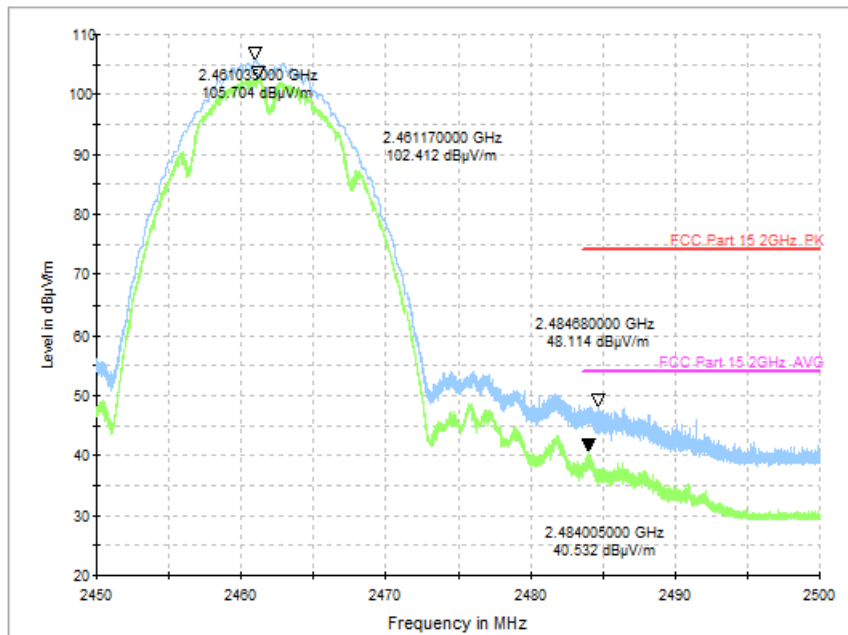


Fig.49 Radiated Restricted Band (802.11b, CH11, 2.45GHz~2.5GHz)

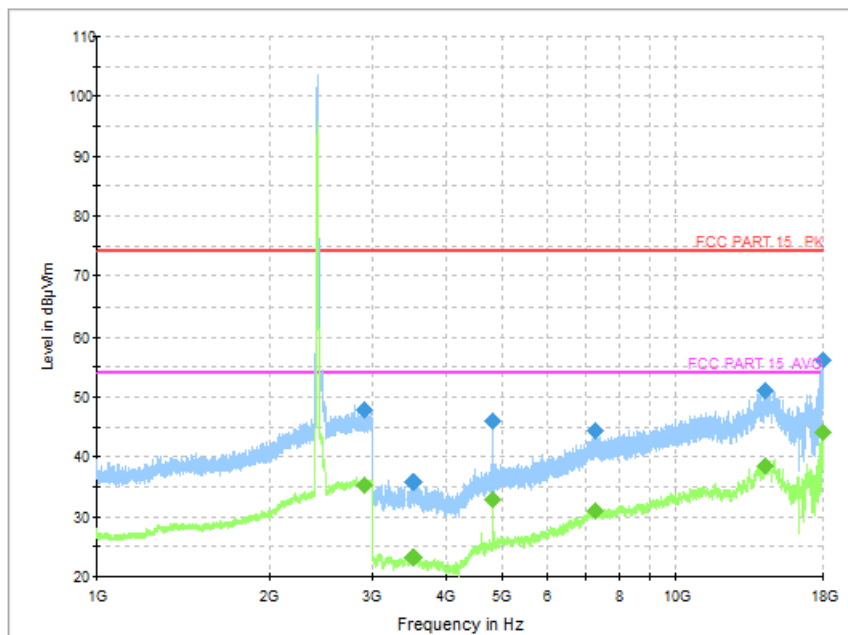


Fig.50 Radiated Spurious Emission (802.11g, CH1, 1GHz-18GHz)

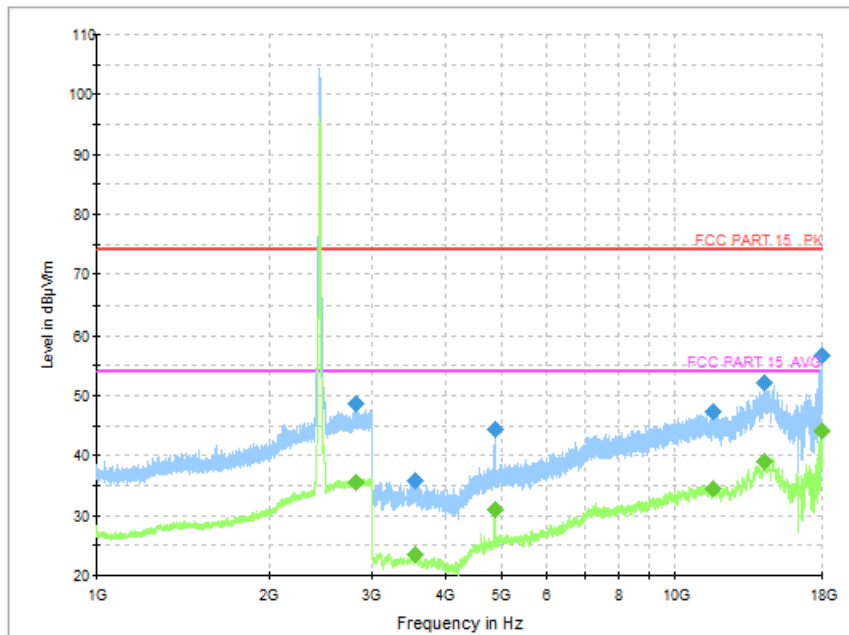


Fig.51 Radiated Spurious Emission (802.11g, CH6, 1GHz-18GHz)

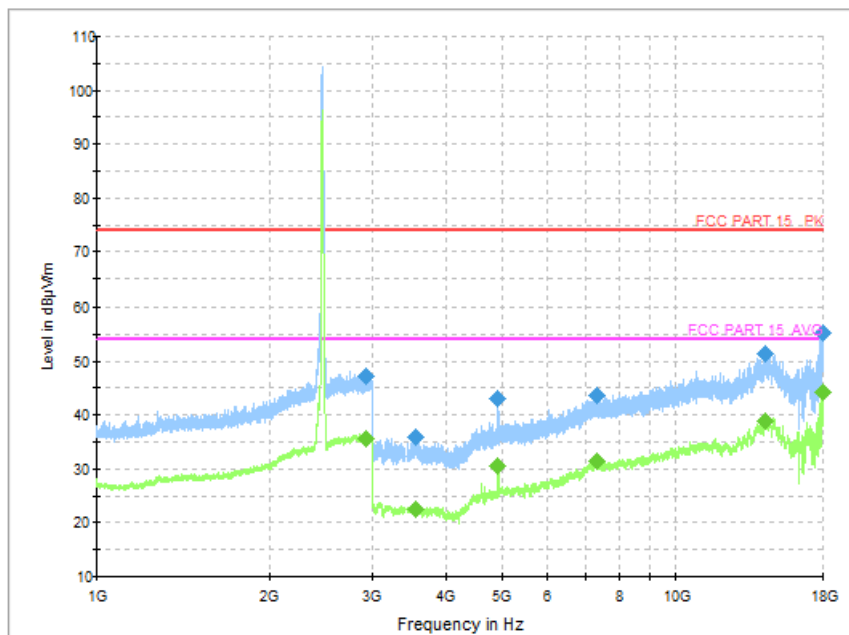


Fig.52 Radiated Spurious Emission (802.11g, CH11, 1GHz-18GHz)



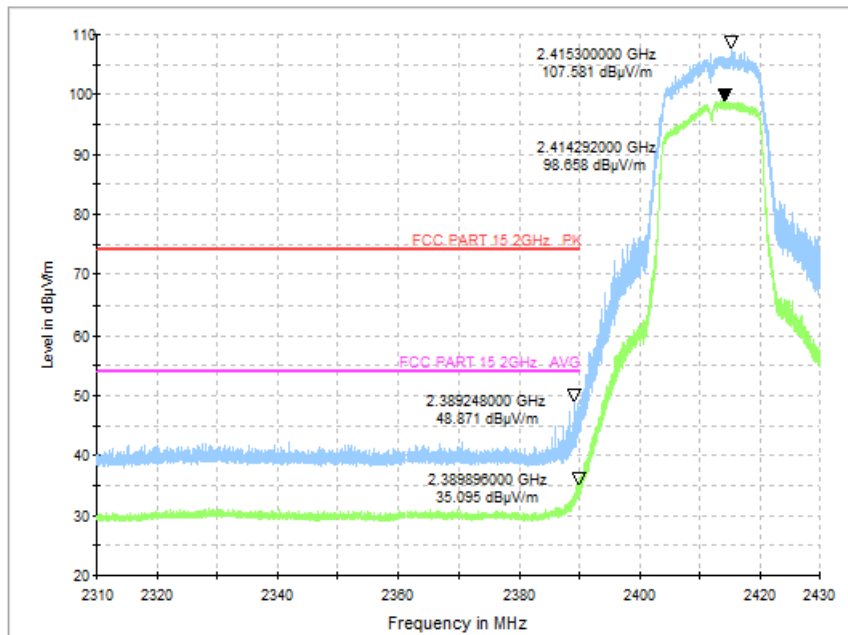


Fig.53 Radiated Restricted Band (802.11g, CH1, 2.38GHz~2.45GHz)

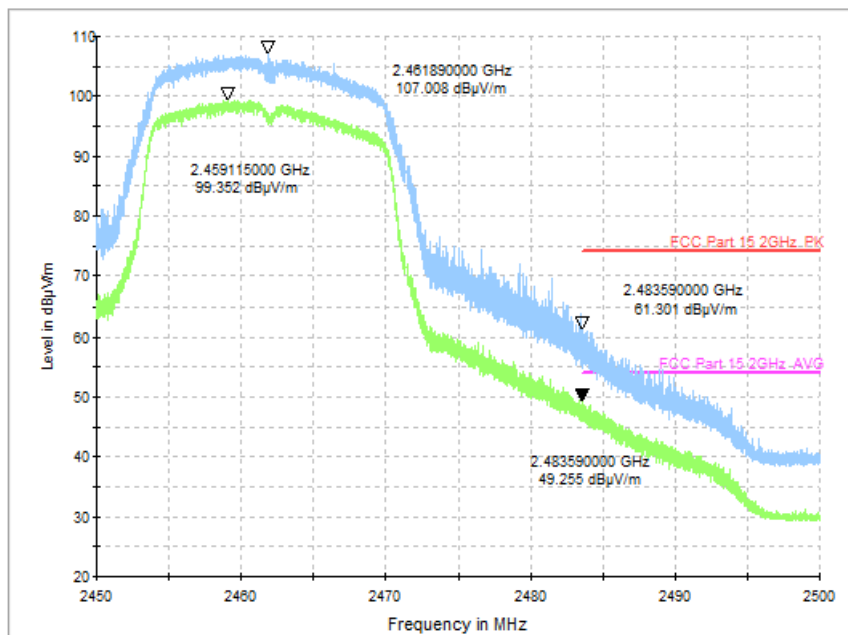
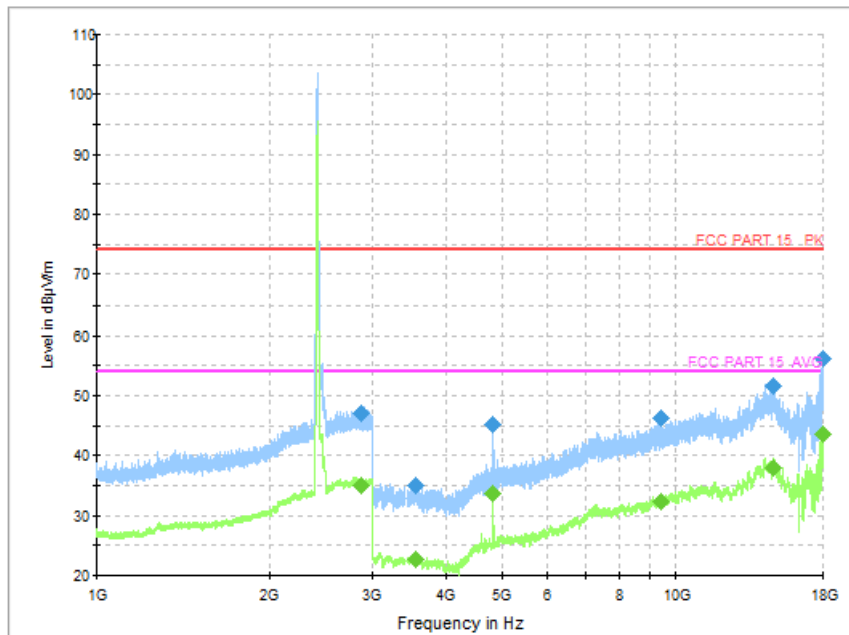
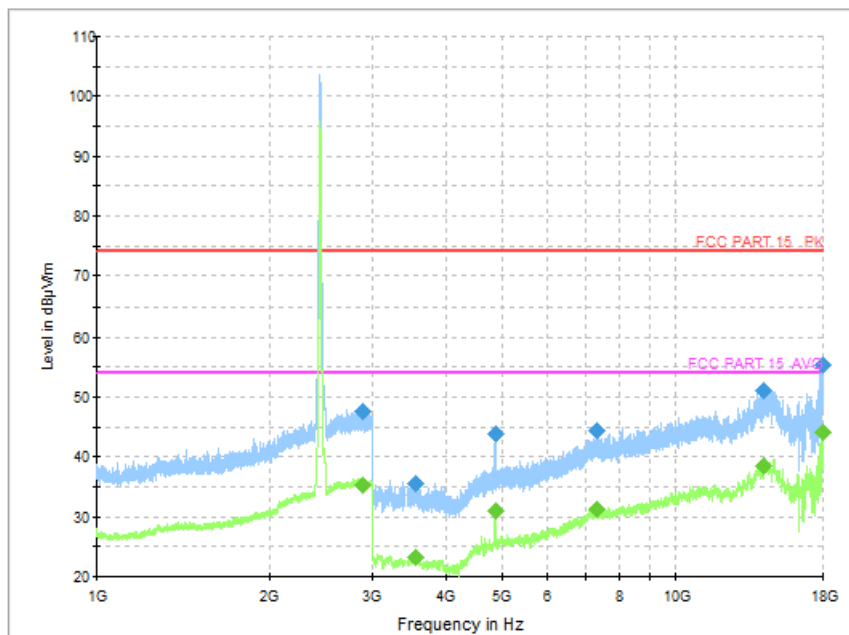


Fig.54 Radiated Restricted Band (802.11g, CH11, 2.45GHz~2.5GHz)



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



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

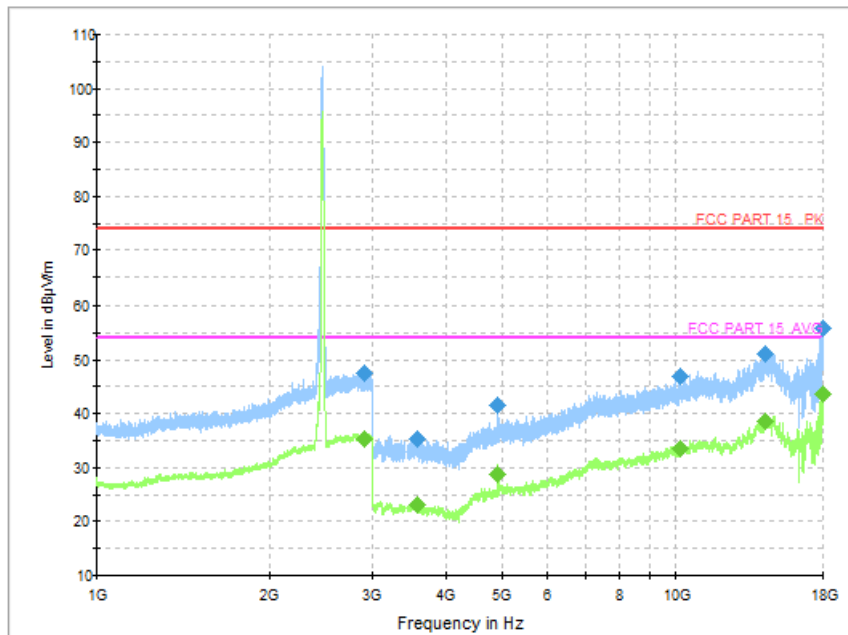


Fig.57 Radiated Spurious Emission (802.11n HT20, CH11, 1GHz-18GHz)

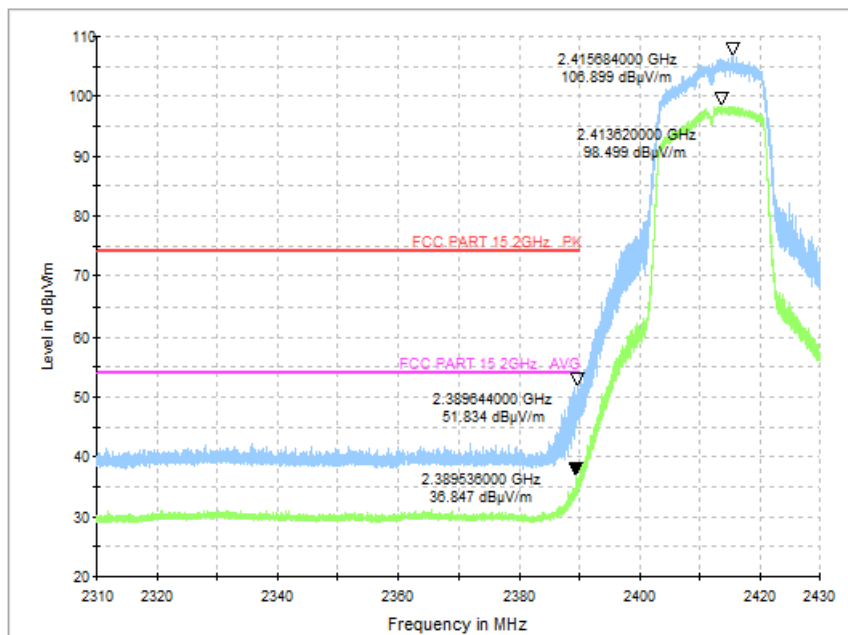


Fig.58 Radiated Restricted Band (802.11n HT20, CH1, 2.38GHz~2.45GHz)

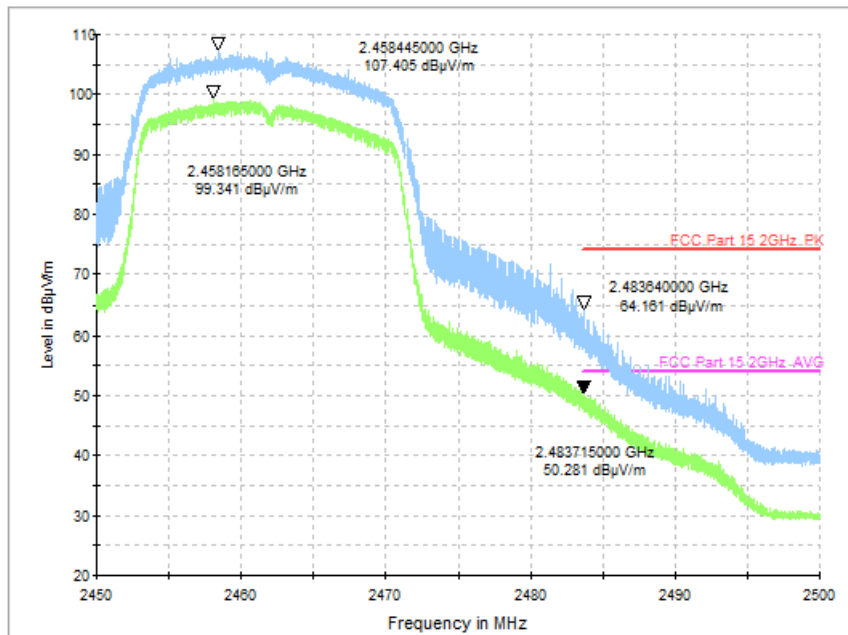


Fig.59 Radiated Restricted Band (802.11n HT20, CH11, 2.45GHz~2.5GHz)

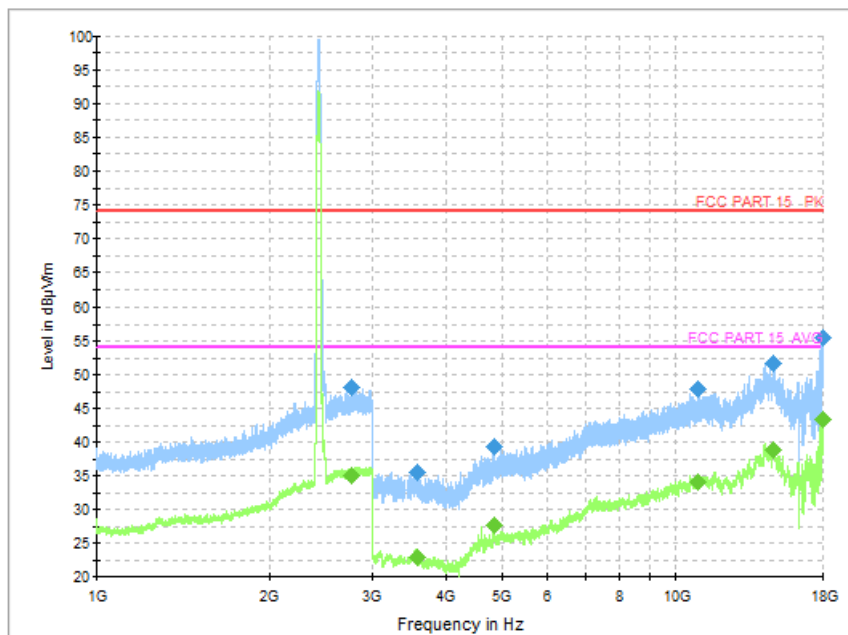
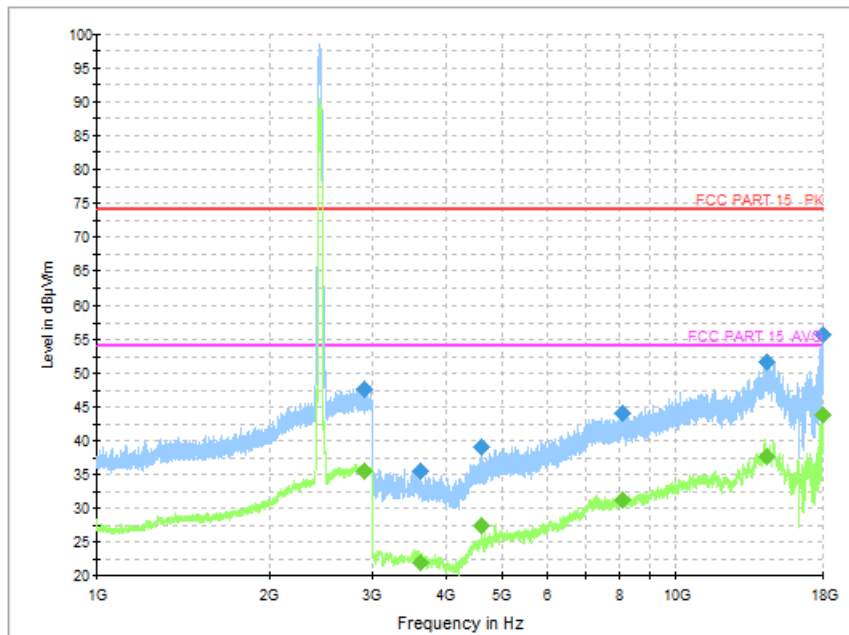
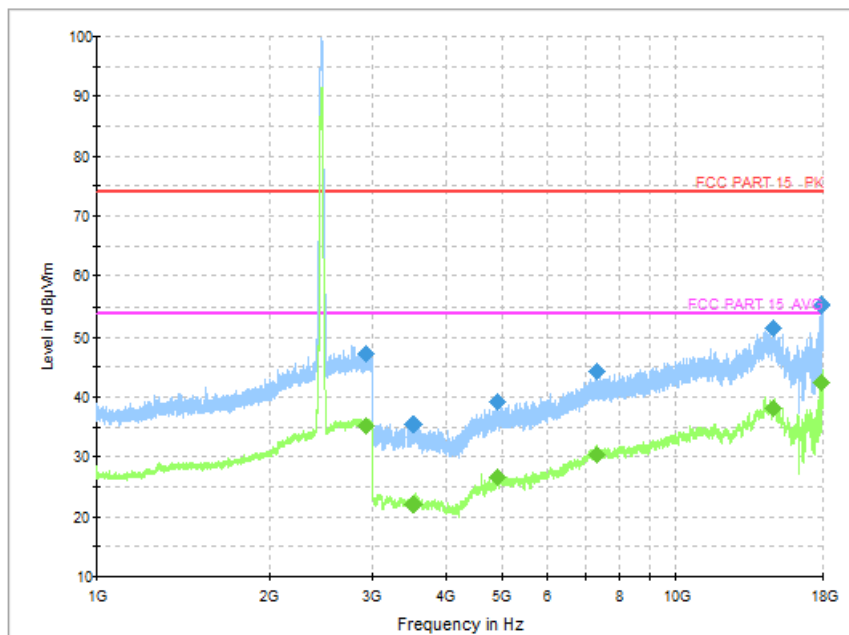


Fig.60 Radiated Spurious Emission (802.11n HT40, CH3, 1GHz-18GHz)



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



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

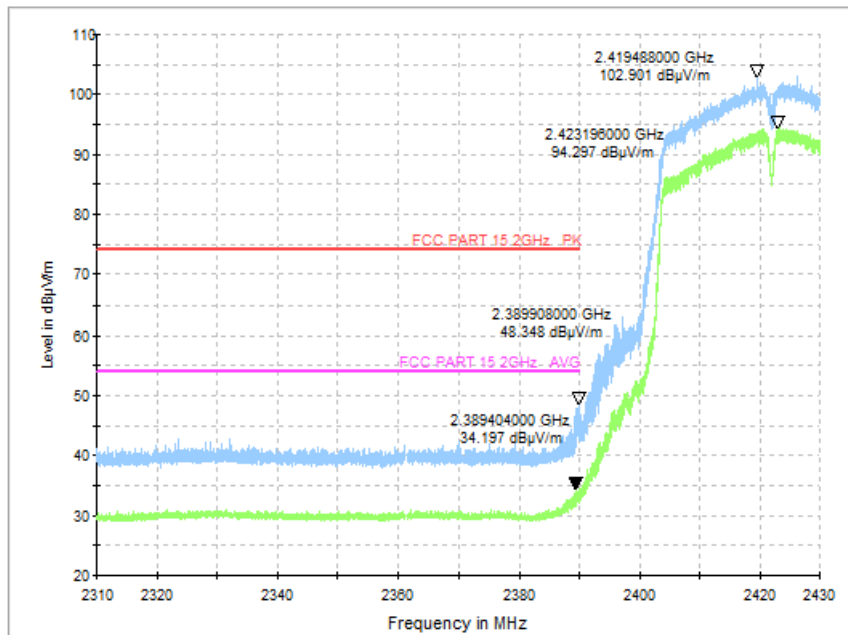


Fig.63 Radiated Restricted Band (802.11n HT40, CH3, 2.38GHz~2.45GHz)

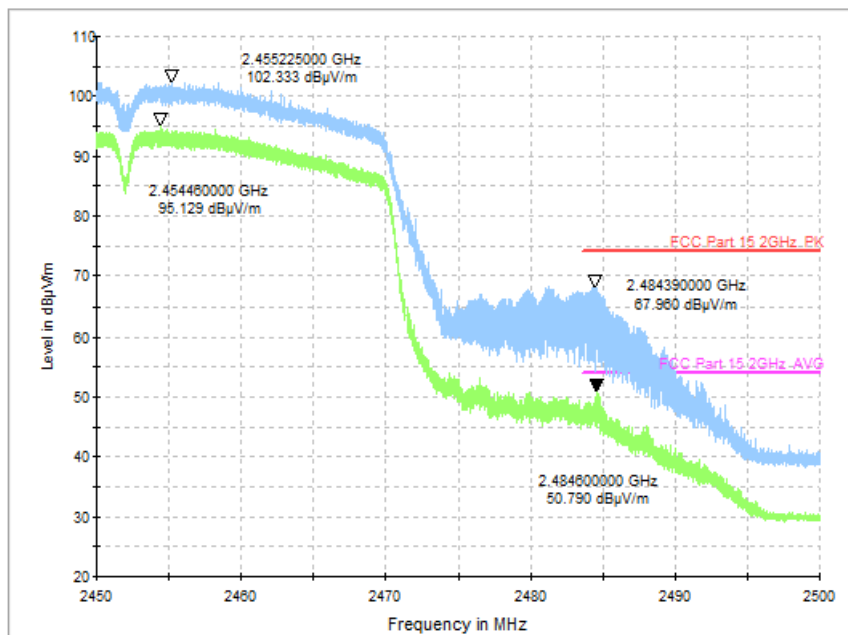
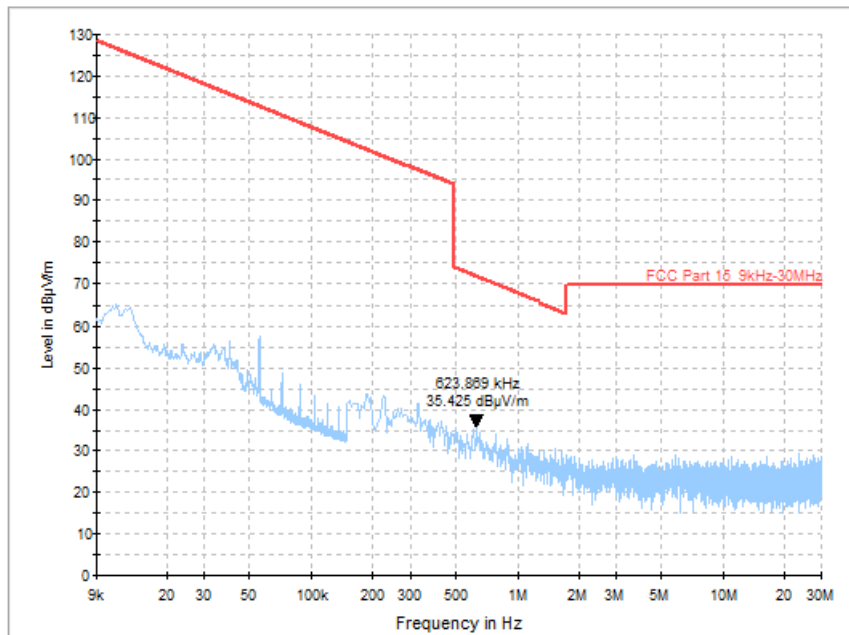
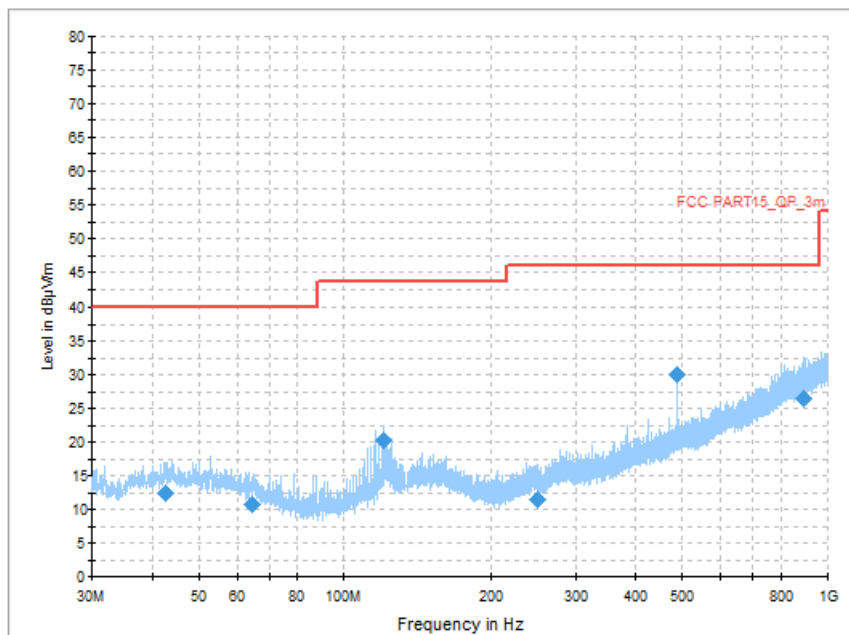


Fig.64 Radiated Restricted Band (802.11n HT40, CH9, 2.45GHz~2.5GHz)



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



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

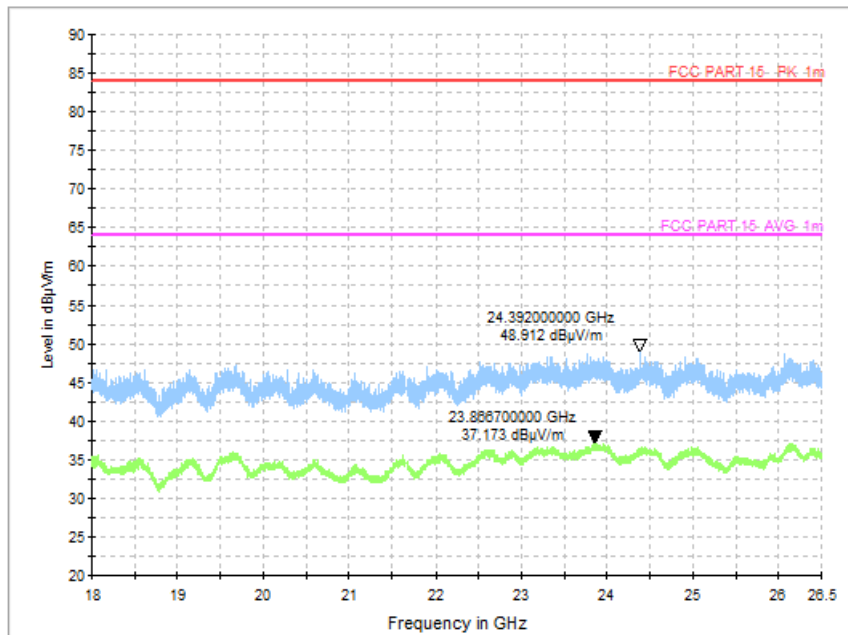


Fig.67 Radiated Spurious Emission (All Channels, 18GHz-26.5GHz)



## A.7 AC Power line Conducted Emission

### Test Condition:

Voltage (V)	Frequency (Hz)
120	60

### Measurement Result and limit:

#### WLAN (Quasi-peak Limit) - AE2

Frequency range (MHz)	Quasi-peak Limit (dB $\mu$ V)	Result (dB $\mu$ V)		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) - AE2

Frequency range (MHz)	Average-peak Limit (dB $\mu$ V)	Result (dB $\mu$ V)		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**

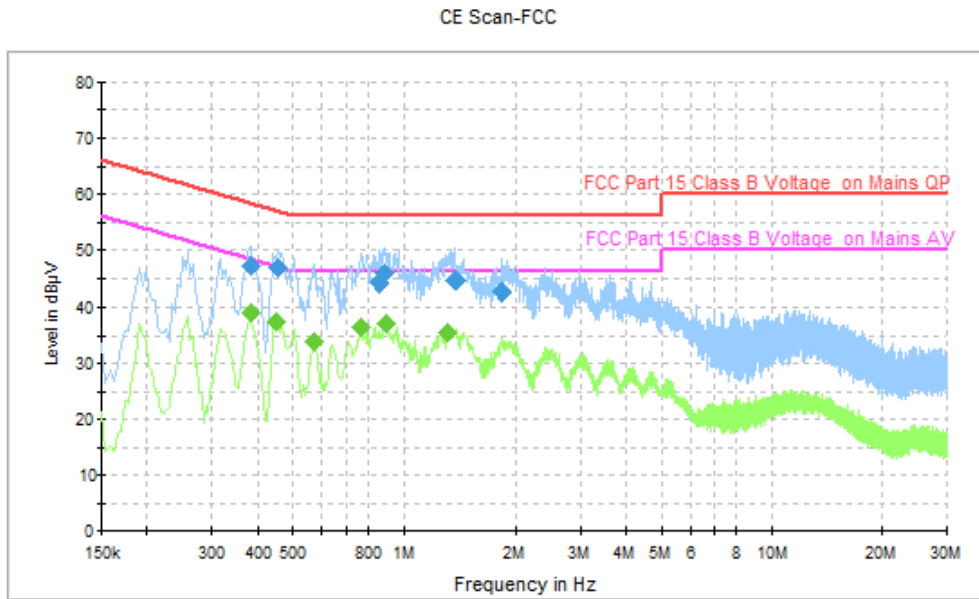


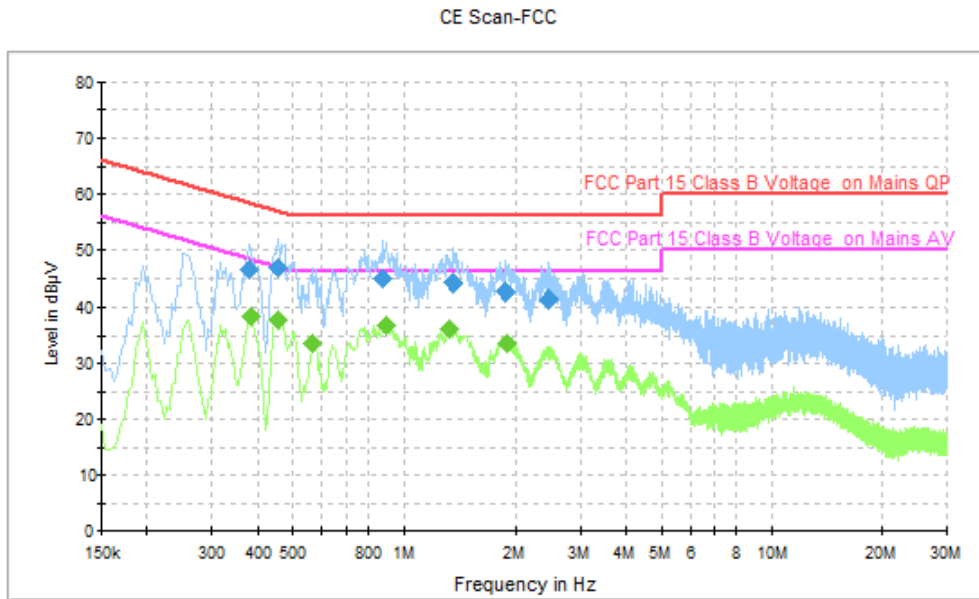
Fig.68 AC Power line Conducted Emission (Traffic, AE2, 120V)

**Measurement Results: Quasi Peak**

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.382000	47.0	GND	L1	9.8	11.2	58.2
0.454000	46.7	GND	L1	9.8	10.1	56.8
0.858000	44.3	GND	L1	9.8	11.7	56.0
0.886000	45.7	GND	L1	9.8	10.3	56.0
1.374000	44.7	GND	L1	9.8	11.3	56.0
1.838000	42.5	GND	L1	9.8	13.5	56.0

**Measurement Results: Average**

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.382000	38.9	GND	L1	9.8	9.3	48.2
0.450000	37.4	GND	L1	9.8	9.5	46.9
0.570000	33.9	GND	L1	9.8	12.1	46.0
0.766000	36.5	GND	L1	9.8	9.5	46.0
0.894000	37.0	GND	L1	9.8	9.0	46.0
1.318000	35.5	GND	L1	9.8	10.5	46.0



**Fig.69 AC Power line Conducted Emission (Idle, AE2, 120V)**

**Measurement Results: Quasi Peak**

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.378000	46.5	GND	L1	9.8	11.8	58.3
0.454000	46.9	GND	L1	9.8	9.9	56.8
0.878000	45.0	GND	L1	9.8	11.0	56.0
1.362000	44.1	GND	L1	9.8	11.9	56.0
1.878000	42.5	GND	L1	9.8	13.5	56.0
2.446000	41.2	GND	L1	9.8	14.8	56.0

**Measurement Results: Average**

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.386000	38.3	GND	L1	9.8	9.8	48.1
0.454000	37.7	GND	L1	9.8	9.1	46.8
0.566000	33.7	GND	L1	9.8	12.3	46.0
0.894000	36.7	GND	L1	9.8	9.3	46.0
1.330000	36.1	GND	L1	9.8	9.9	46.0
1.902000	33.7	GND	L1	9.8	12.3	46.0

**ANNEX B: Spot Check of Output Power****Company Name:** TCL Communication Ltd.**Product Name:** Tablet PC**Model Name:** 9132G, 9132X**Spot Check of Different Mode**

<b>Model</b>	<b>Mode</b>	<b>Frequency (MHz)</b>	<b>Conducted Power (dBm)</b>
9132G	LE 1M	2440 (CH19)	-0.53
	BR (GFSK)	2441 (CH39)	5.58
	802.11b	2437 (CH6)	16.44
	802.11a	5260 (Ch52)	15.89
		5825 (CH165)	15.51
9132X	LE 1M	2440 (CH19)	-0.64
	BR (GFSK)	2441 (CH39)	5.51
	802.11b	2437 (CH6)	16.39
	802.11a	5260 (Ch52)	15.82
		5825 (CH165)	15.45

Note: Spot check test data included for the variants based on worst-case results reported in the original FCC ID filing. From the above data, it can be concluded that the conducted output power of the variant is less than or near to the original. And the variant test data can refer to the original report. This condition applies to the reports I22N00113.

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