



FCC PART 15C TEST REPORT No.I22Z61952-IOT03

for

Honor Device Co., Ltd.

Smart Phone

RMO-NX1

With

FCC ID: 2AYGCRMO-NX1

Hardware Version: HN2RMOM

Software Version: 6.1.0.21(C900E21R1P1)

Issued Date: 2022-11-11

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 CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

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REPORT HISTORY

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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (ISED#: 24849). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Location 1:CTTL(Huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
P. R. China100191

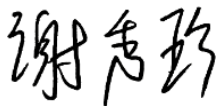
1.3. Testing Environment

Normal Temperature: 15-35℃
Relative Humidity: 20-75%

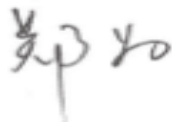
1.4. Project date

Testing Start Date: 2022-10-09
Testing End Date: 2022-11-03

1.5. Signature



Xie Xiuzhen
(Prepared this test report)



Zheng Wei
(Reviewed this test report)



Pang Shuai
(Approved this test report)

2. Client Information

2.1.Applicant Information

Company Name: Honor Device Co., Ltd.
Address: Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
City: Shenzhen
Country: China
Telephone: /
Fax: /

2.2.Manufacturer Information

Company Name: Honor Device Co., Ltd.
Address: Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
City: Shenzhen
Country: China
Telephone: /
Fax: /

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

3.1. About EUT

Description	Smart Phone
Model name	RMO-NX1
FCC ID	2AYGCRM0-NX1
With WLAN Function	Yes
Frequency Band	ISM 2400MHz~2483.5MHz
Type of Modulation	DSSS/CCK/OFDM
Number of Channels	11
Antenna	Integral Antenna
antenna gain	-2.0dBi
MAX Conducted Power	22.57dBm
Power Supply	3.87V

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version
UT07a	/	HN2RMOM	6.1.0.21(C900E21R1P1)
UT22a	/	HN2RMOM	6.1.0.21(C900E21R1P1)
UT25a	/	HN2RMOM	6.1.0.21(C900E21R1P1)
UT26a	/	HN2RMOM	6.1.0.21(C900E21R1P1)

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

UT07a is used for Conduction test, UT22a/25a/26a is used for Radiation test.

3.3. Internal Identification of AE

AE ID*	Name	Model	Manufacturer
AE1-1	Adapter	HW-100400E01	Honor Device Co., Ltd.
AE1-2	Adapter	HW-100400B01	Honor Device Co., Ltd.
AE1-3	Adapter	HW-100400U01	Honor Device Co., Ltd.
AE2-1	USB Cable	WA0052	Broad
AE2-2	USB Cable	CUDU01B-HC385-EH	FOXCONN
AE2-3	USB Cable	L99UC144-CS-H	LUXSHARE
AE2-4	USB Cable	AU2-CRO009HF	Freeport
AE2-5	USB Cable	2120-00062-0	MING JI
AE2-6	USB Cable	2120-00060-0	MING JI
AE2-7	USB Cable	L99UC139-CS-H	LUXSHARE
AE3-1	Headset	1293-3283-3.5mm-339	Quancheng
AE3-2	Headset	EPAB542-2WH05-DH	FOXCONN
AE3-3	Headset	MEND1532B528C00	Lianchuang
AE4-1	Battery	HB506492EFW	Honor Device Co., Ltd. (Sunwoda)
AE4-2	Battery	HB506492EFW	Honor Device Co., Ltd. (Desay)

AE4-3	Battery	HB506492EFW	Honor Device Co., Ltd. (CosMX)
AE5-1	Type-C to 3.5mm	USB042020090AW7	LC
AE5-2	Type-C to 3.5mm	6001-7001-TC-348	QC

*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 Smart Phone with integrated antenna and inbuilt battery.

It has Bluetooth (EDR) function.

It consists of normal options: travel charger, USB cable.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the client.

3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor $k=2$.

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %
DC voltages	0.003V

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:	2021
	15.205 Restricted bands of operation;	
	15.209 Radiated emission limits, general requirements;	
ANSI C63.10	15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz.	2013
	American National Standard of Procedures for Compliance	
	Testing of Unlicensed Wireless Devices	
KDB 558074 D01	Federal Communications Commission Office of Engineering and Technology Laboratory Division	2019
	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID	
	SYSTEM DEVICES OPERATING UNDER SECTION	

15.247 OF THE FCC RULES

5. Test Results

5.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C	Sub-clause of IC	Verdict
Maximum Peak Output Power	15.247 (b)	/	BR
Peak Power Spectral Density	15.247 (e)	/	BR
Occupied 6dB Bandwidth	15.247 (a)	/	BR
Band Edges Compliance	15.247 (d)	/	BR
Transmitter Spurious Emission - Conducted	15.247 (d)	/	BR
Transmitter Spurious Emission - Radiated	15.247, 15.205, 15.209	/	BR
AC Powerline Conducted Emission	15.107, 15.207	/	BR

Please refer to **ANNEX A** for detail.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NP	Not Perform, The test was not performed by CTTL
BR	Re-use test data from basic model report.
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

5.2. Statements

The test cases as listed in section 5.1 of this report for the EUT specified in section 3 was performed by CTTL and according to the standards or reference documents listed in section 4.2 The EUT met all requirements of the standards or reference documents, and only the WLAN function was tested in this report.

The Equipment Under Test (EUT) model RMO-NX1 (FCC ID: 2AYGCRMO-NX1) is variant products of RMO-NX3 (FCC ID: 2AYGCRMO-NX3), all the test results are derived from test report No.I22Z61813-IOT03.

For detail differences between two models please refer the Declaration of Changes document.

5.3. Test Conditions

T nom	Normal Temperature
T min	Low Temperature
T max	High Temperature
V nom	Normal Voltage

For this report, if the test cases listed above are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	T nom	26°C
Voltage	V nom	3.87V
Humidity	H nom	20-75%

6. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	1 year	2023-05-15
2	Test Receiver	ESCI	100344	Rohde & Schwarz	1 year	2023-03-21
3	LISN	ENV216	101200	Rohde & Schwarz	1 year	2023-06-29
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESW44	103015	Rohde & Schwarz	1 year	2023-01-23
2	BiLog Antenna	VULB9163	01223	Schwarzbeck	1 year	2023-07-25
3	Dual-Ridge Waveguide Horn Antenna	3116	2661	ETS-Lindgren	1 year	2023-02-08
4	EMI Antenna	3115	00167250	ETS-Lindgren	1 year	2023-06-20
5	Antenna	HFH2-Z2	829324/007	Rohde & Schwarz	1 year	2022-12-22

7. Measurement Uncertainty

7.1. Maximum Output Power

Measurement Uncertainty: 0.387dB,k=1.96

7.2. Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

7.3. DTS 6-dB Signal Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

7.4. Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

7.5. Transmitter Spurious Emission

Conducted (k=1.96)

Frequency Range	Uncertainty(dB)
$30\text{MHz} \leq f \leq 2\text{GHz}$	1.22
$2\text{GHz} \leq f \leq 3.6\text{GHz}$	1.22
$3.6\text{GHz} \leq f \leq 8\text{GHz}$	1.22
$8\text{GHz} \leq f \leq 12.75\text{GHz}$	1.51
$12.75\text{GHz} \leq f \leq 26\text{GHz}$	1.51
$26\text{GHz} \leq f \leq 40\text{GHz}$	1.59

Radiated (k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	4.92
$30\text{MHz} \leq f \leq 1\text{GHz}$	5.18
$1\text{GHz} \leq f \leq 18\text{GHz}$	5.54
$18\text{GHz} \leq f \leq 40\text{GHz}$	5.26

7.6. AC Power-line Conducted Emission

Measurement Uncertainty : 3.08dB,k=2

ANNEX A: Detailed Test Results

A.1. Measurement Method

A.1.1. Conducted Measurements

Connect the EUT to the test system as Fig.A.1.1.1 shows.

Set the EUT to the required work mode.

Set the EUT to the required channel.

Set the Vector Signal Analyzer and start measurement.

Record the values. Vector Signal Analyzer

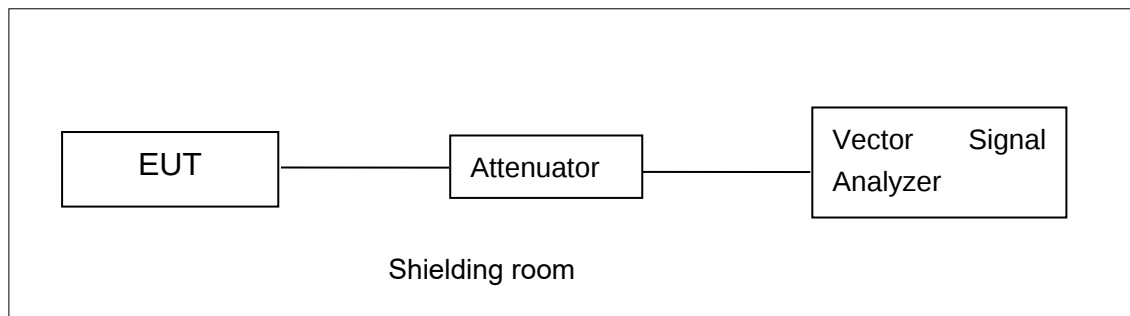


Fig.A.1.1.1: Test Setup Diagram for Conducted Measurements

A.1.2. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 10Hz;

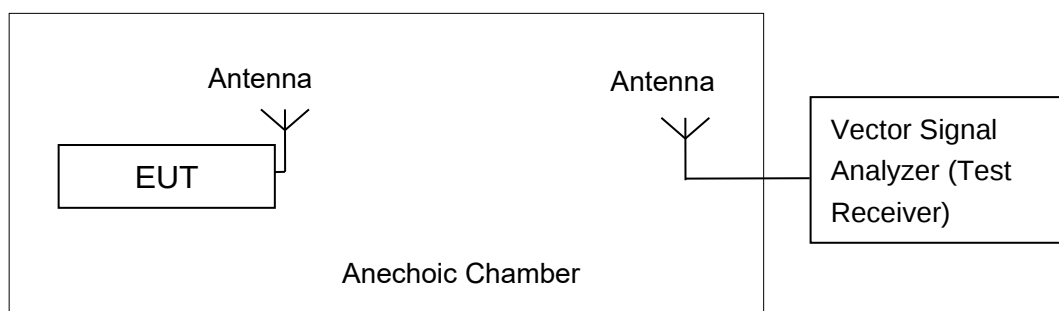


Fig.A.1.2.1: Test Setup Diagram for Radiated Measurements

A.2. Maximum Output Power

Method of Measurement: See ANSI C63.10-2013-clause 11.9.1.1

- Set the RBW $\geq$ DTS bandwidth.
- Set VBW $\geq [3 \times \text{RBW}]$.
- Set span $\geq [3 \times \text{RBW}]$.
- Sweep time = auto couple.
- Detector = peak.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.

Measurement Limit:

Standard	Limit (dBm)
FCC CRF Part 15.247(b)	< 30

EUT ID: UT07a

A.2.1. Peak Output Power-conducted

Measurement Results:

802.11b/g mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	20.40	19.46	19.65
802.11g	6	21.94	22.10	21.28

The data rate 1Mbps and 6Mbps are selected as worst condition, and the following cases are performed with this condition.

802.11n-HT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	MCS0	20.77	21.67	21.74

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11n-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	MCS0	21.45	22.57	20.74

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

Mode	802.11b	802.11g	802.11n20	802.11n40
Duty Cycle	99%	98%	98%	98%

Conclusion: Pass

A.3. Peak Power Spectral Density

Method of Measurement: See ANSI C63.10-2013-clause 11.10.2

- Set analyzer center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set the RBW to RBW = 3 kHz.
- Set the VBW = 10 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.

Measurement Limit:

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

EUT ID: UT07a

Measurement Results:

802.11b/g mode

Mode	Channel	Power Spectral Density (dBm/3 kHz)		Conclusion
802.11b	1	Fig.A.3.1	-3.98	P
	6	Fig.A.3.2	-4.95	P
	11	Fig.A.3.3	-5.14	P
802.11g	1	Fig.A.3.4	-5.78	P
	6	Fig.A.3.5	-5.30	P
	11	Fig.A.3.6	-8.53	P

802.11n-HT20 mode

Mode	Channel	Power Spectral Density (dBm/3 kHz)		Conclusion
802.11n (HT20)	1	Fig.A.3.7	-6.90	P
	6	Fig.A.3.8	-8.38	P
	11	Fig.A.3.9	-8.76	P

802.11n-HT40 mode

Mode	Channel	Power Spectral Density (dBm/3 kHz)		Conclusion
802.11n (HT40)	3	Fig.A.3.10	-12.97	P
	6	Fig.A.3.11	-12.66	P
	9	Fig.A.3.12	-13.62	P

Conclusion: Pass

Test graphs as below:

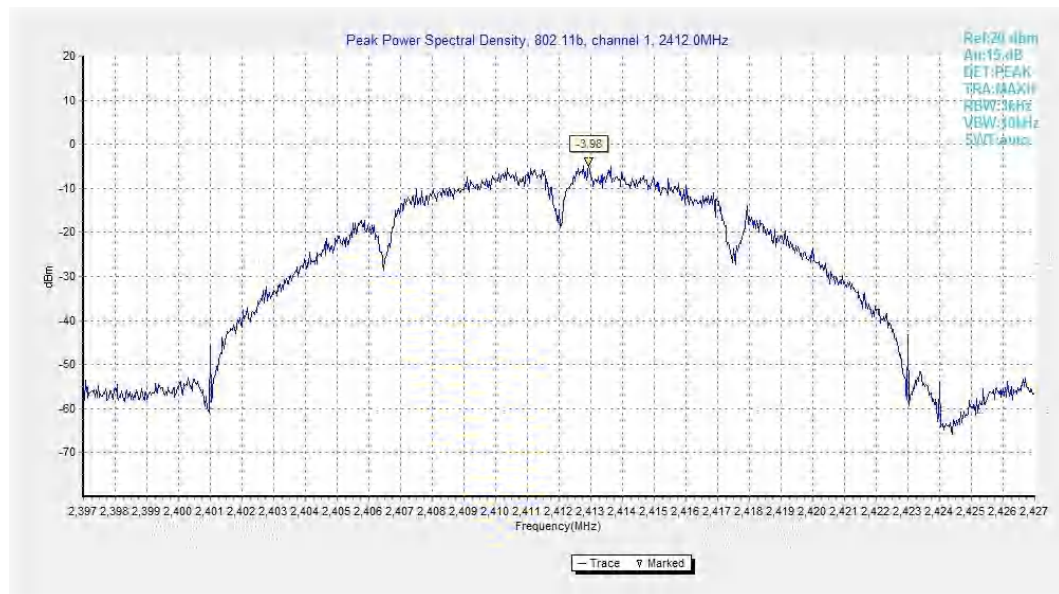


Fig.A.3.1 Power Spectral Density(802.11b,Ch1)

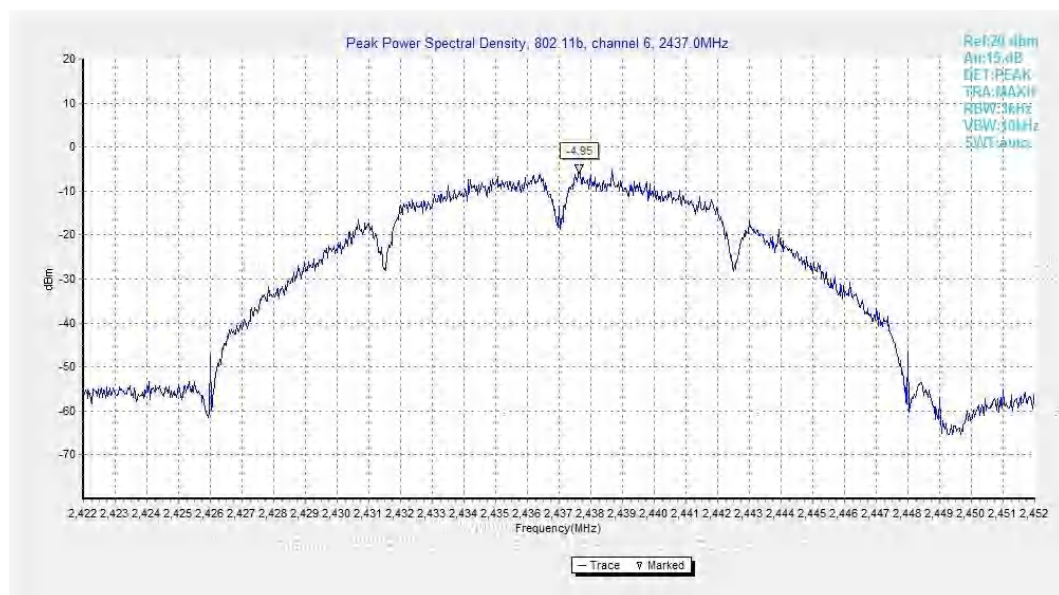


Fig.A.3.2 Power Spectral Density (802.11b, Ch 6)

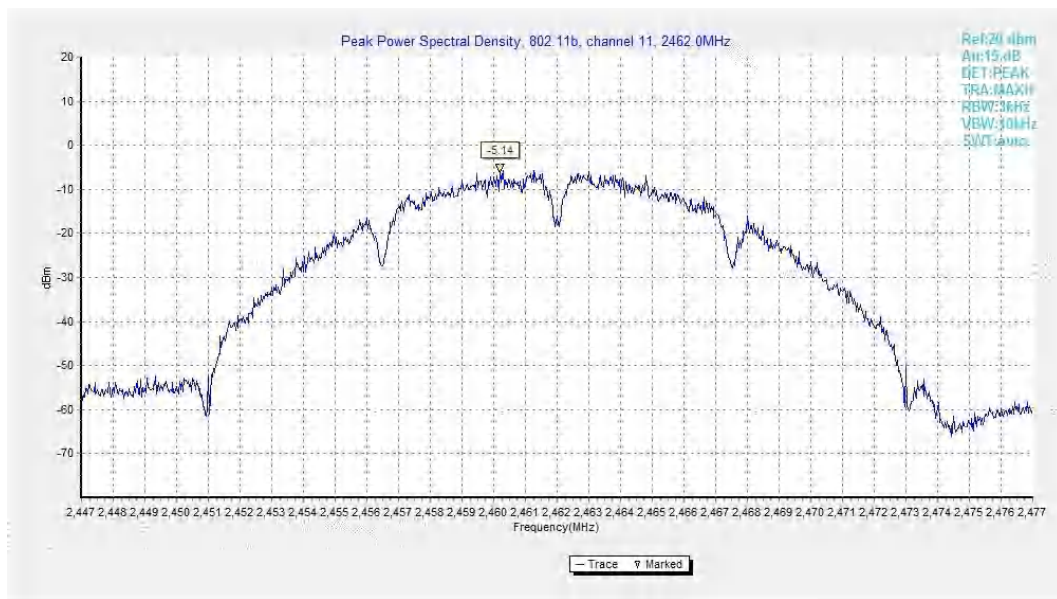


Fig.A.3.3 Power Spectral Density (802.11b, Ch 11)

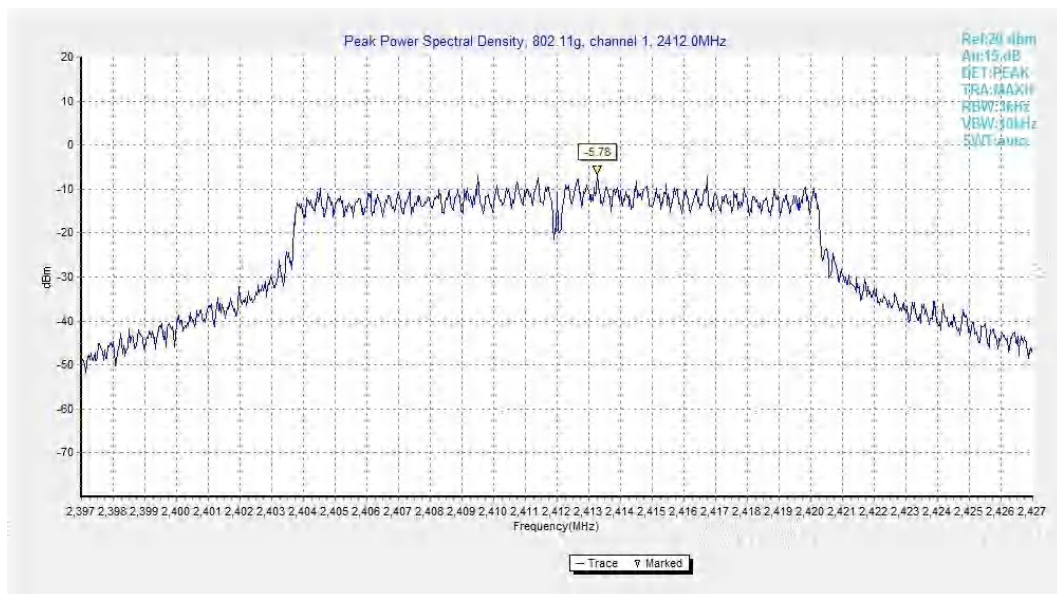


Fig.A.3.4 Power Spectral Density (802.11g, Ch 1)

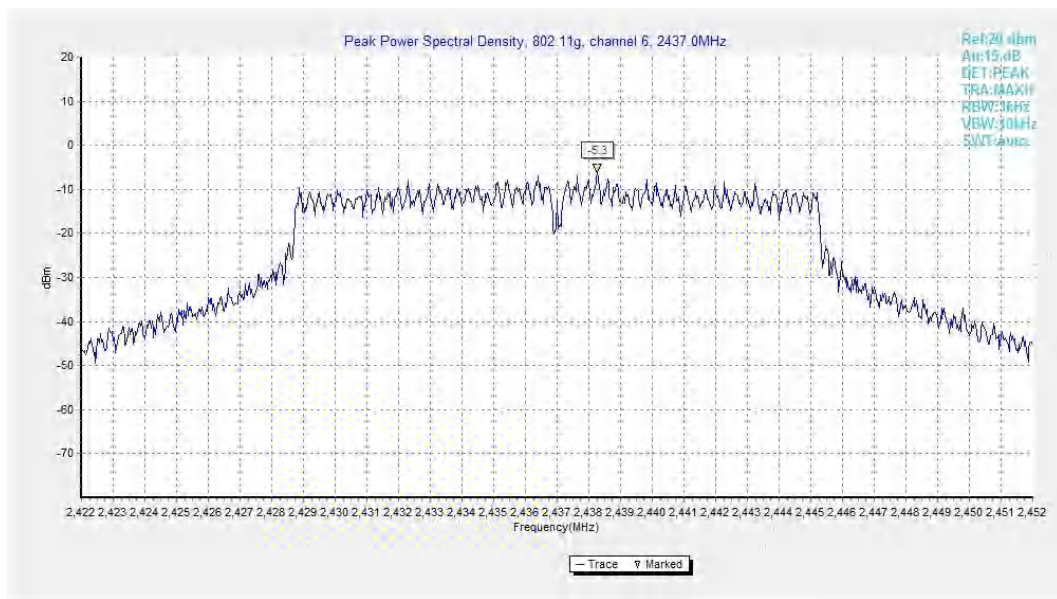


Fig.A.3.5 Power Spectral Density (802.11g, Ch 6)

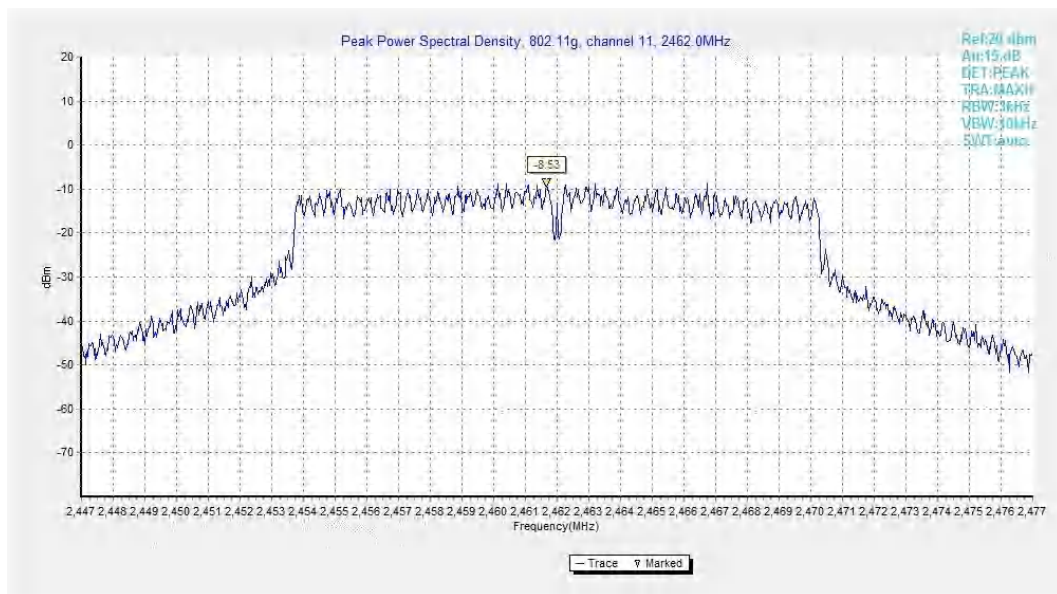


Fig.A.3.6 Power Spectral Density (802.11g, Ch 11)

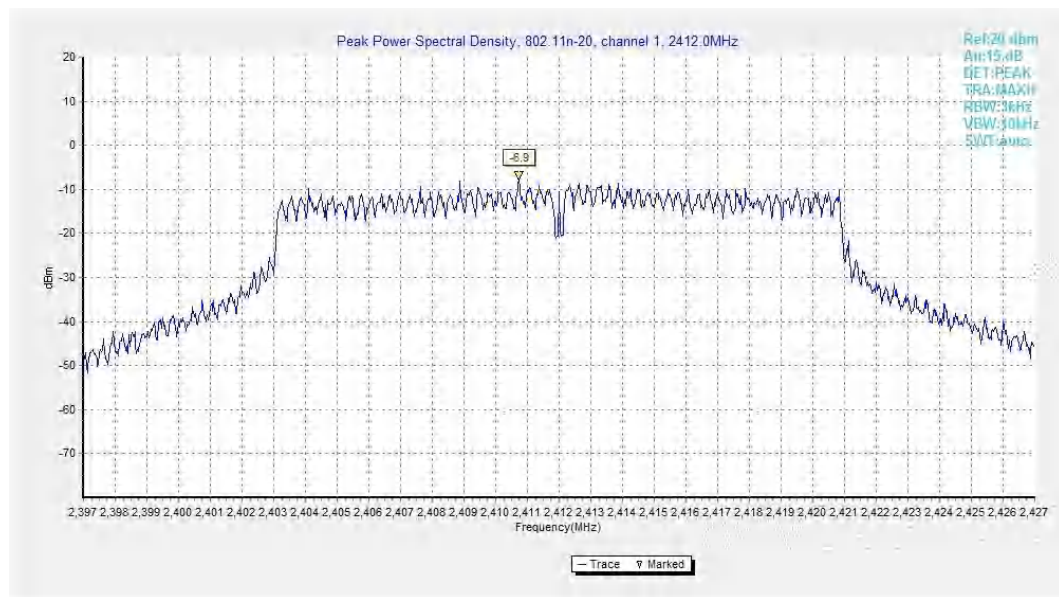


Fig.A.3.7 Power Spectral Density (802.11n-HT20, Ch 1)

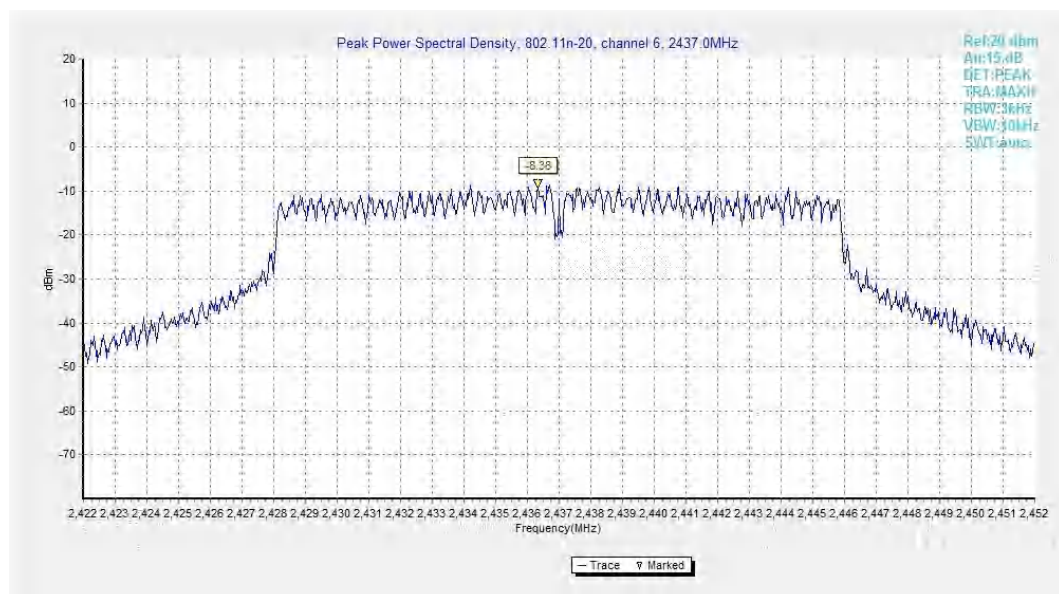


Fig.A.3.8 Power Spectral Density (802.11n-HT20, Ch 6)

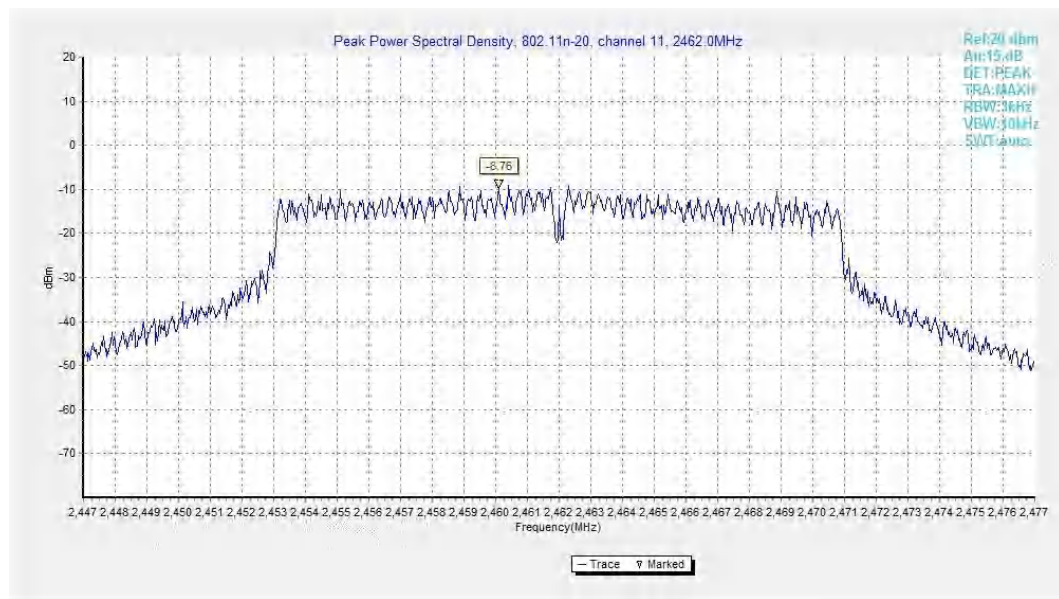


Fig.A.3.9 Power Spectral Density (802.11n-HT20, Ch 11)

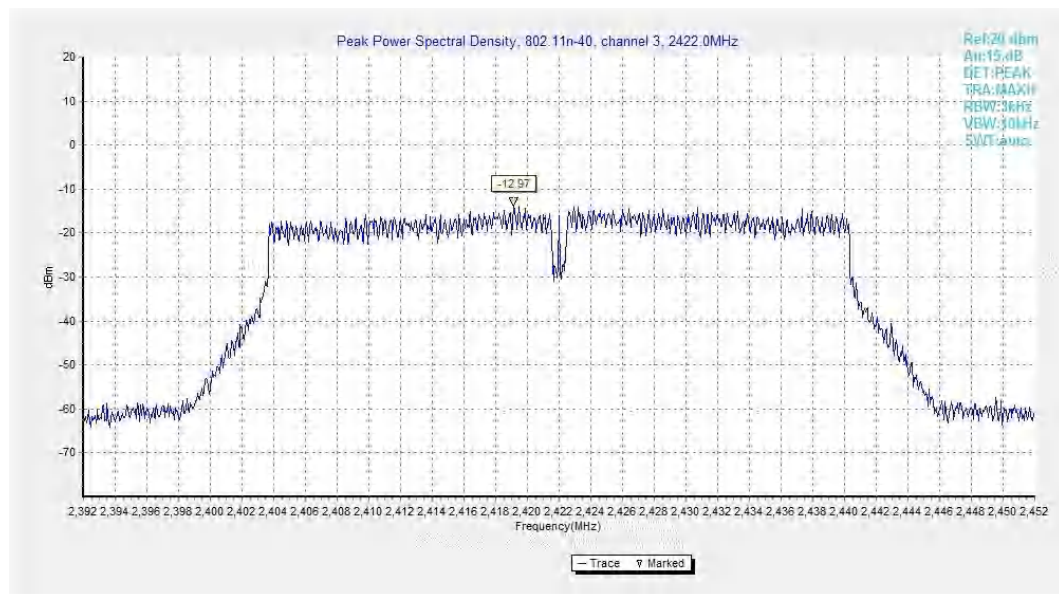


Fig.A.3.10 Power Spectral Density (802.11n-HT40, Ch 3)

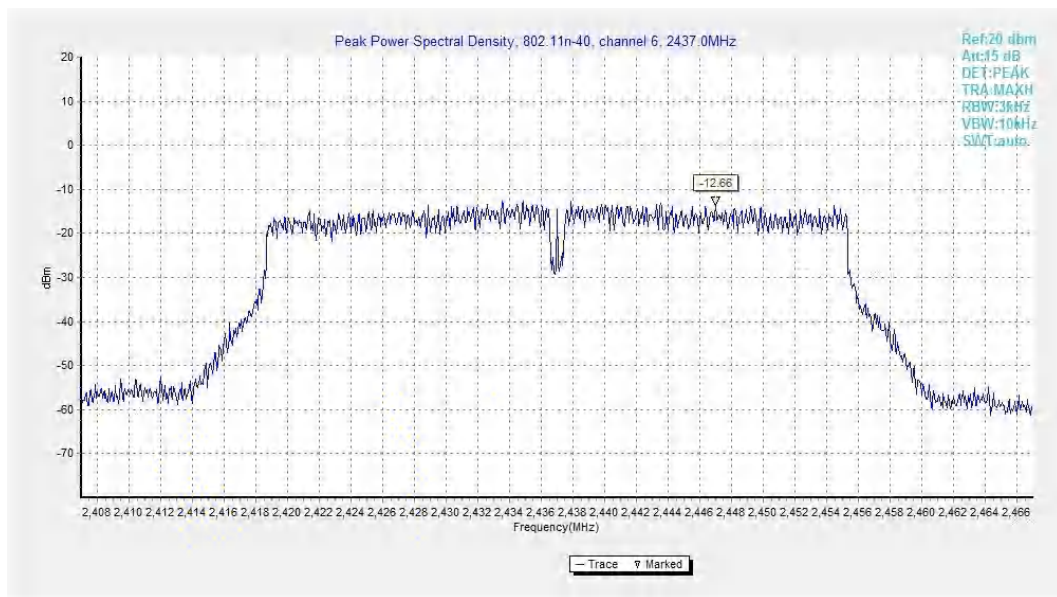


Fig.A.3.11 Power Spectral Density (802.11n-HT40, Ch 6)

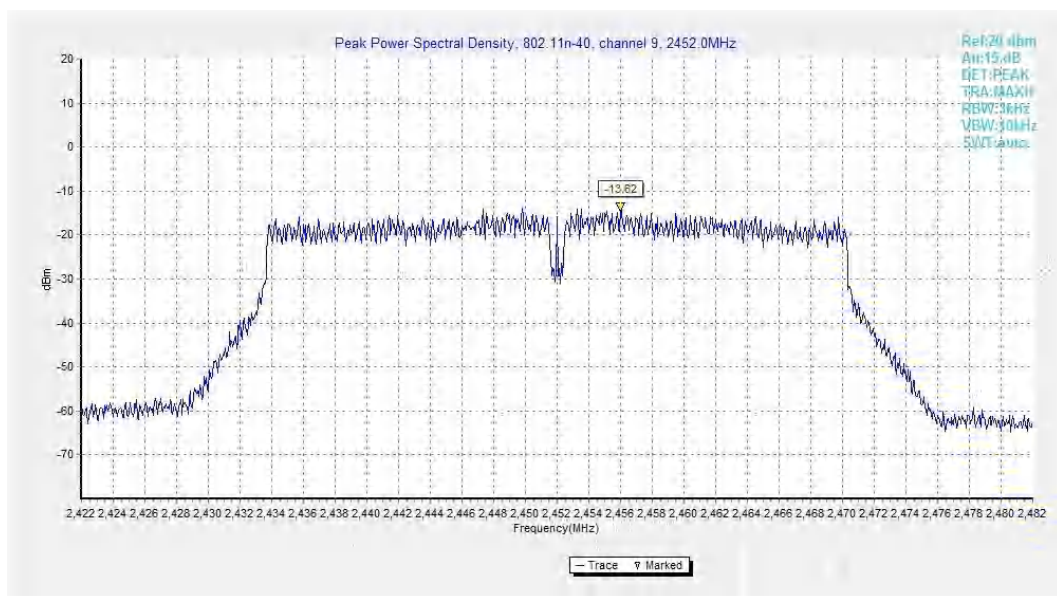


Fig.A.3.12 Power Spectral Density (802.11n-HT40, Ch 9)

A.4. DTS 6-dB Signal Bandwidth

Method of Measurement: See ANSI C63.10-2013 section 11.8.1.

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) = 300 kHz.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Measurement Limit:

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

EUT ID: UT07a

Measurement Result:

802.11b/g mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)		conclusion
802.11b	1	Fig.A.4.1	8.60	P
	6	Fig.A.4.2	9.05	P
	11	Fig.A.4.3	8.55	P
802.11g	1	Fig.A.4.4	15.70	P
	6	Fig.A.4.5	15.30	P
	11	Fig.A.4.6	15.35	P

802.11n-HT20 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)		conclusion
802.11n (HT20)	1	Fig.A.4.7	15.40	P
	6	Fig.A.4.8	15.35	P
	11	Fig.A.4.9	15.10	P

802.11n-HT40 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)		conclusion
802.11n (HT40)	3	Fig.A.4.10	35.44	P
	6	Fig.A.4.11	35.76	P
	9	Fig.A.4.12	35.20	P

Conclusion: Pass

Test graphs as below:

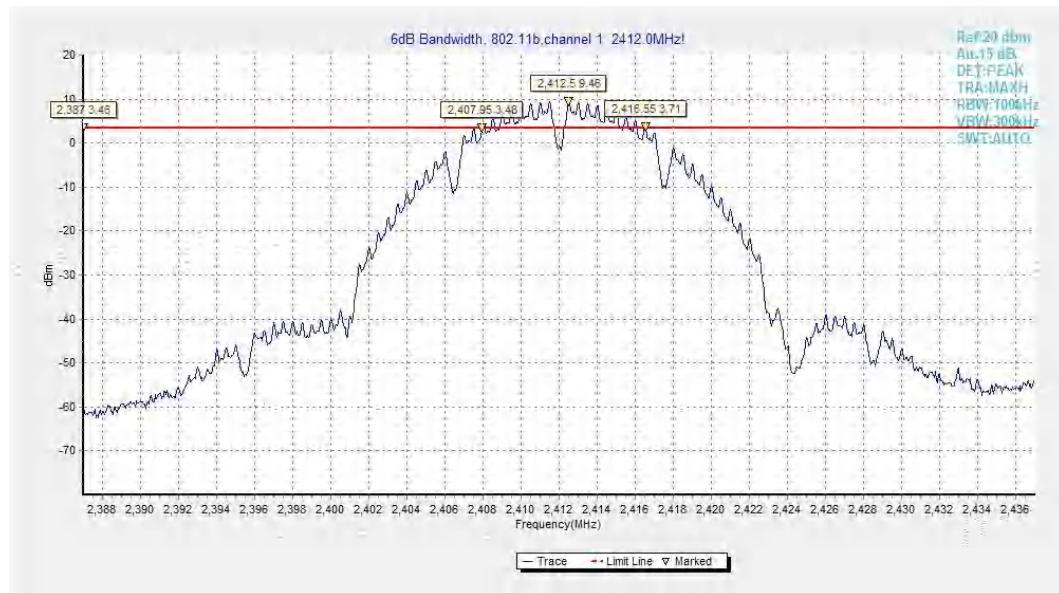


Fig.A.4.1 Occupied 6dB Bandwidth(802.11b,Ch 1)

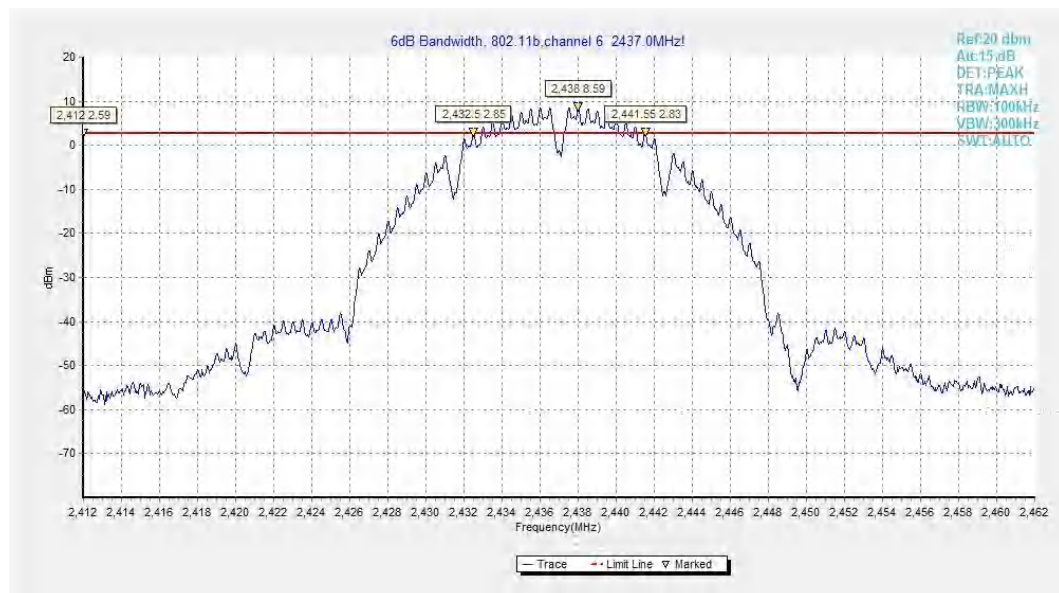


Fig.A.4.2 Occupied 6dB Bandwidth (802.11b, Ch 6)

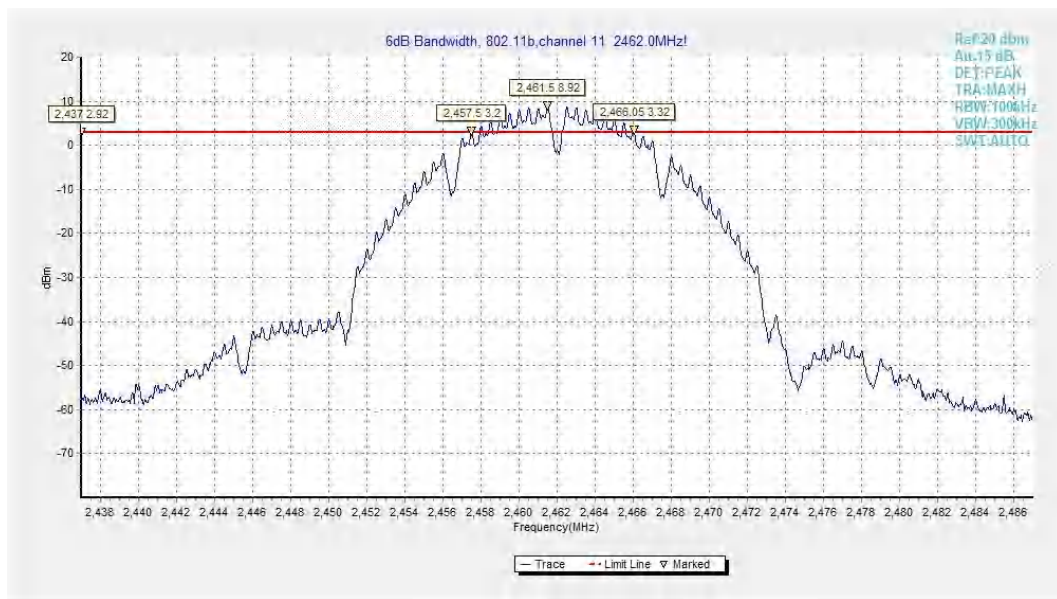


Fig.A.4.3 Occupied 6dB Bandwidth (802.11b, Ch 11)

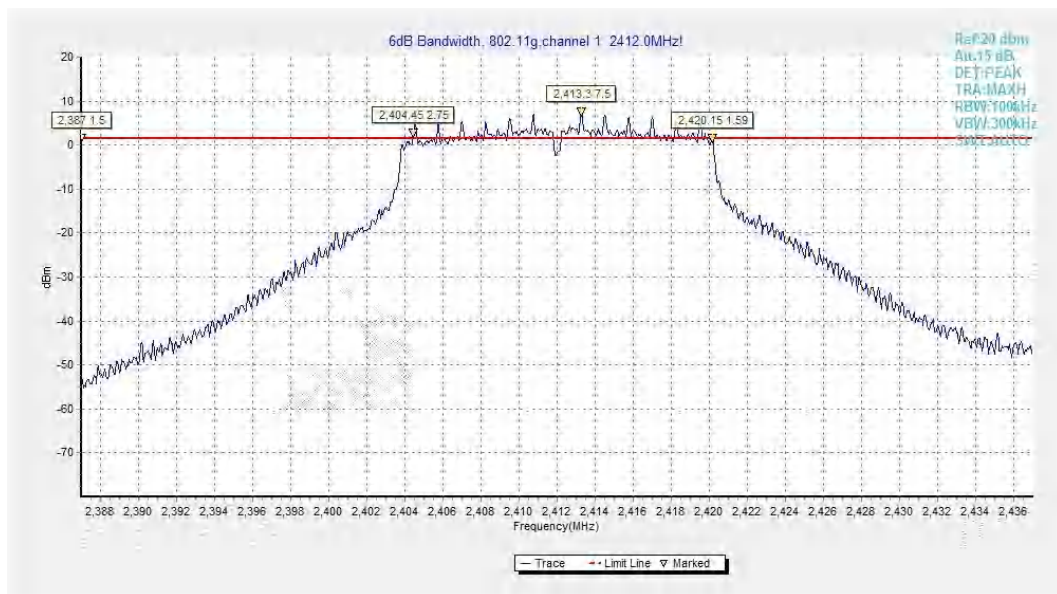


Fig.A.4.4 Occupied 6dB Bandwidth (802.11g, Ch 1)

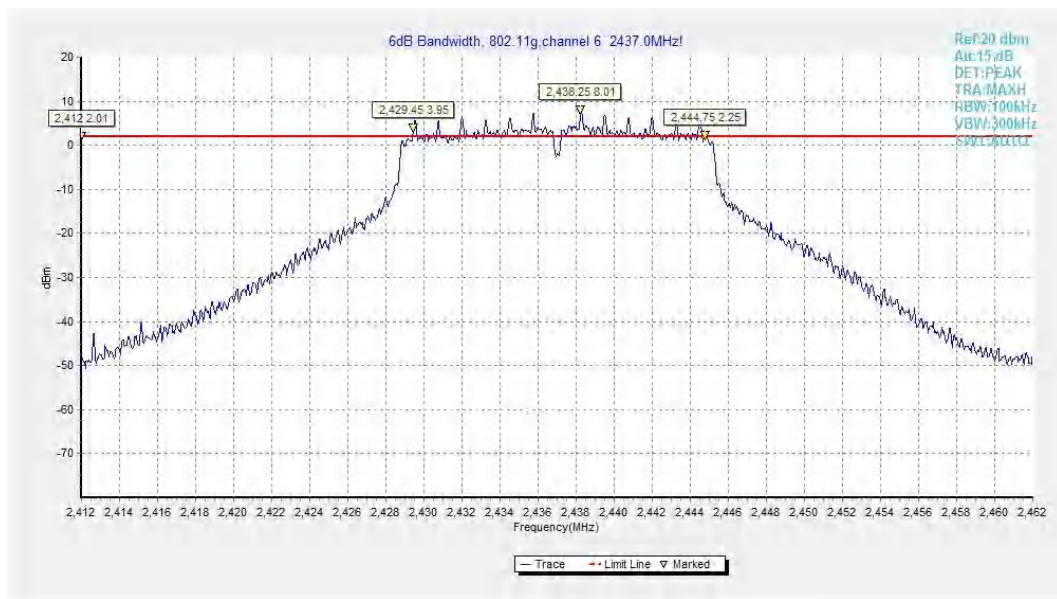


Fig.A.4.5 Occupied 6dB Bandwidth (802.11g, Ch 6)

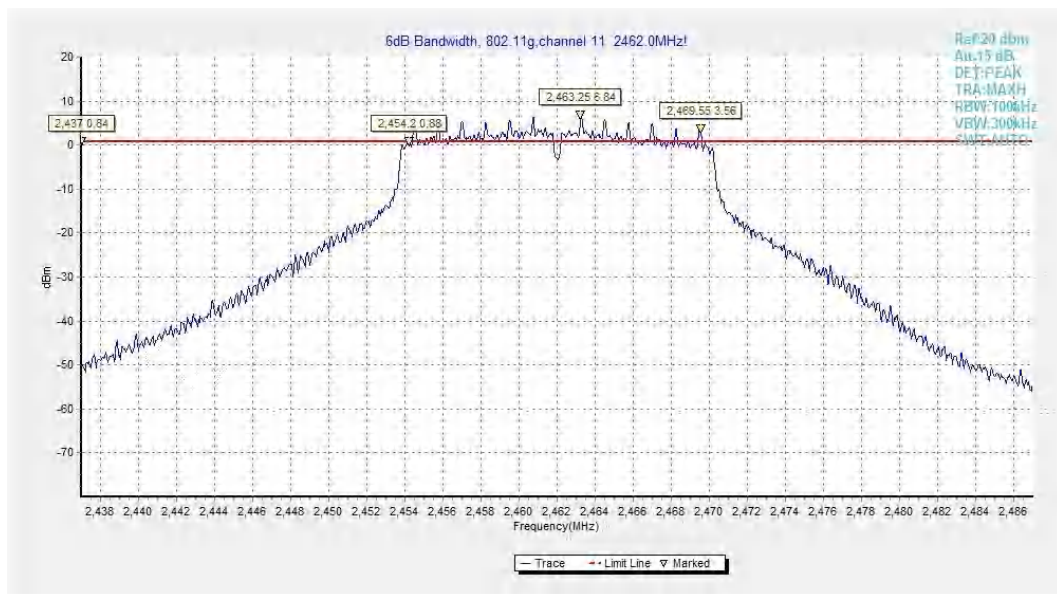


Fig.A.4.6 Occupied 6dB Bandwidth (802.11g, Ch 11)

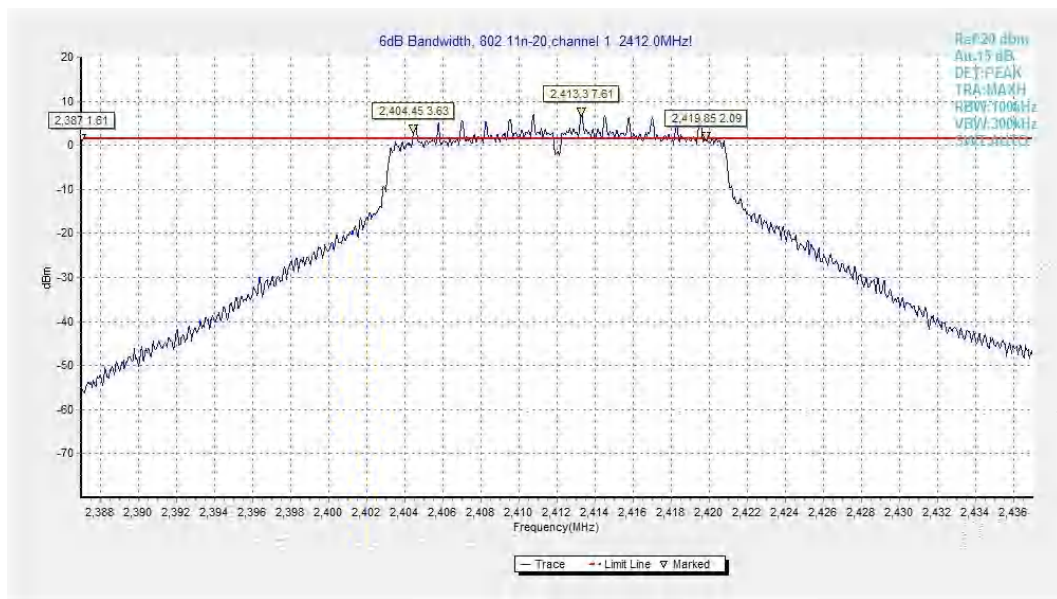


Fig.A.4.7 Occupied 6dB Bandwidth (802.11n-20MHz, Ch 1)

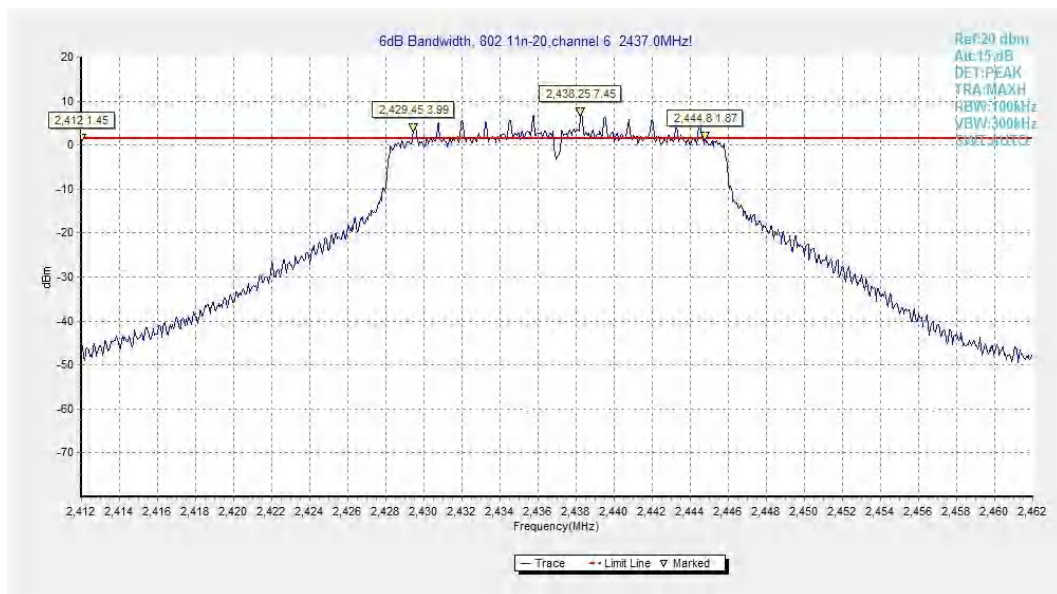


Fig.A.4.8 Occupied 6dB Bandwidth (802.11n-HT20, Ch 6)

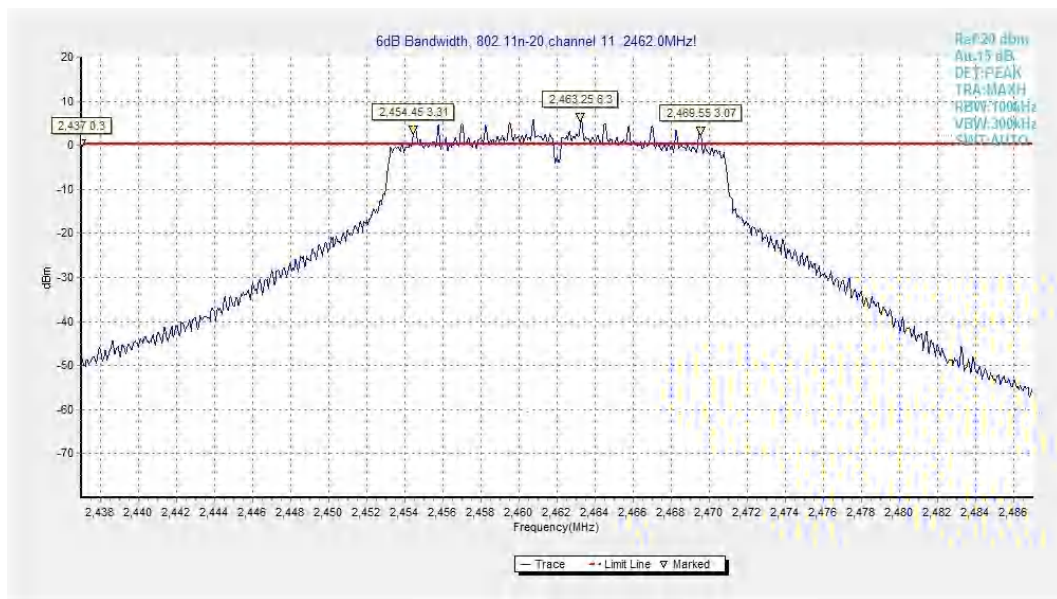


Fig.A.4.9 Occupied 6dB Bandwidth (802.11n-HT20, Ch 11)

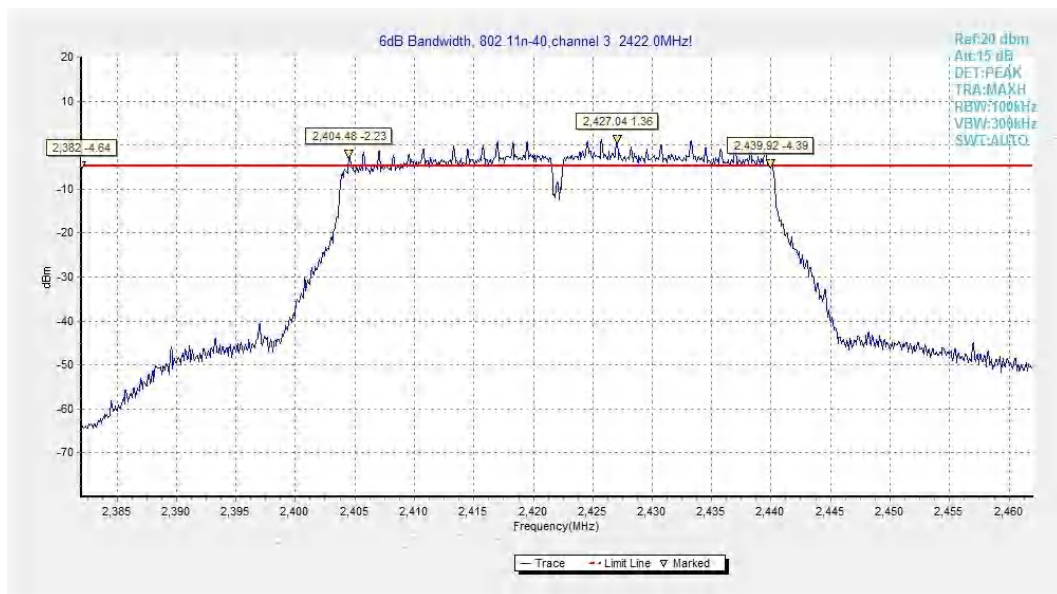


Fig.A.4.10 Occupied 6dB Bandwidth (802.11n-40MHz, Ch 3)

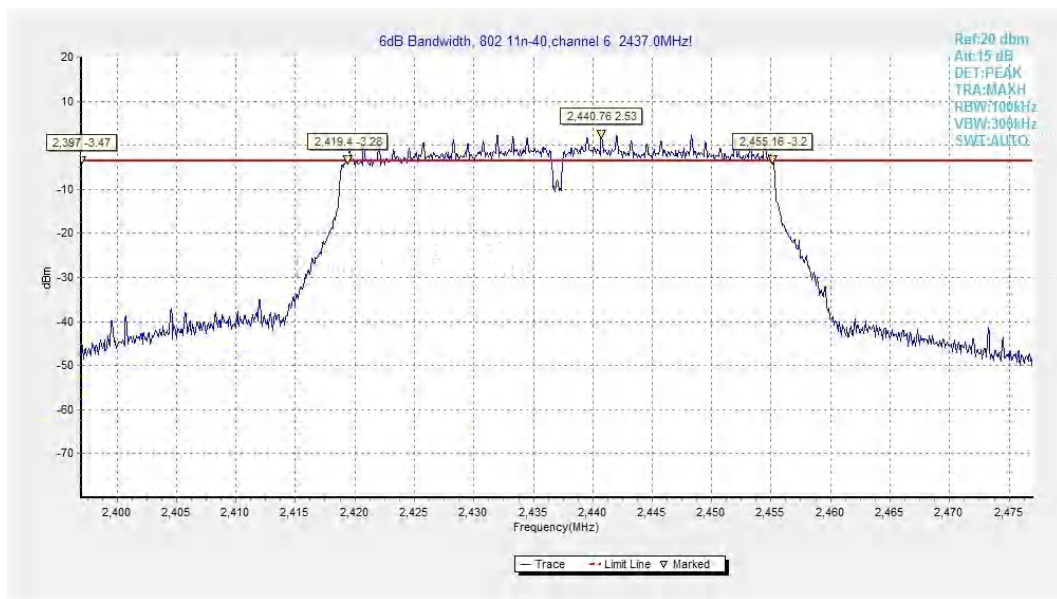


Fig.A.4.11 Occupied 6dB Bandwidth (802.11n-HT40, Ch 6)

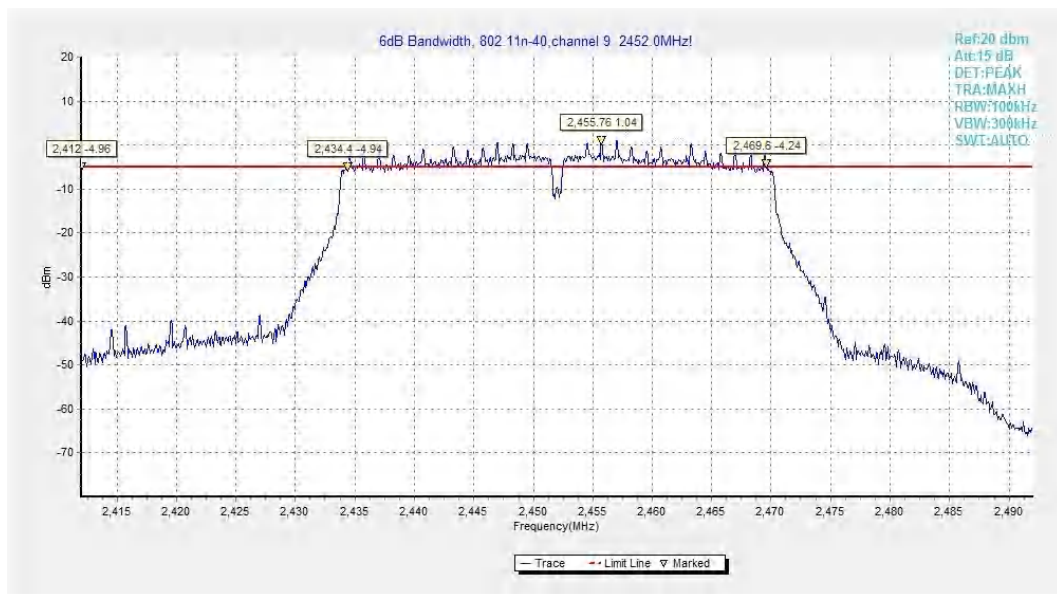


Fig.A.4.12 Occupied 6dB Bandwidth (802.11n-HT40, Ch 9)

A.5. Band Edges Compliance

A.5.1 Conducted BandEdges

Method of Measurement: See ANSI C63.10-2013-clause 6.10.4

Connect the spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described below.

- a) Set Span = 100MHz
- b) Sweep Time: coupled
- c) Set the RBW= 100 kHz
- c) Set the VBW= 300 kHz
- d) Detector: Peak
- e) Trace: Max hold

Measurement Limit:

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

EUT ID: UT07a

Measurement Result:

802.11b/g mode

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.A.5.1	P
	11	Fig.A.5.2	P
802.11g	1	Fig.A.5.3	P
	11	Fig.A.5.4	P

802.11n-HT20 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT20)	1	Fig.A.5.5	P
	11	Fig.A.5.6	P

802.11n-HT40 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT40)	3	Fig.A.5.7	P
	9	Fig.A.5.8	P

Conclusion: Pass

Test graphs as below:

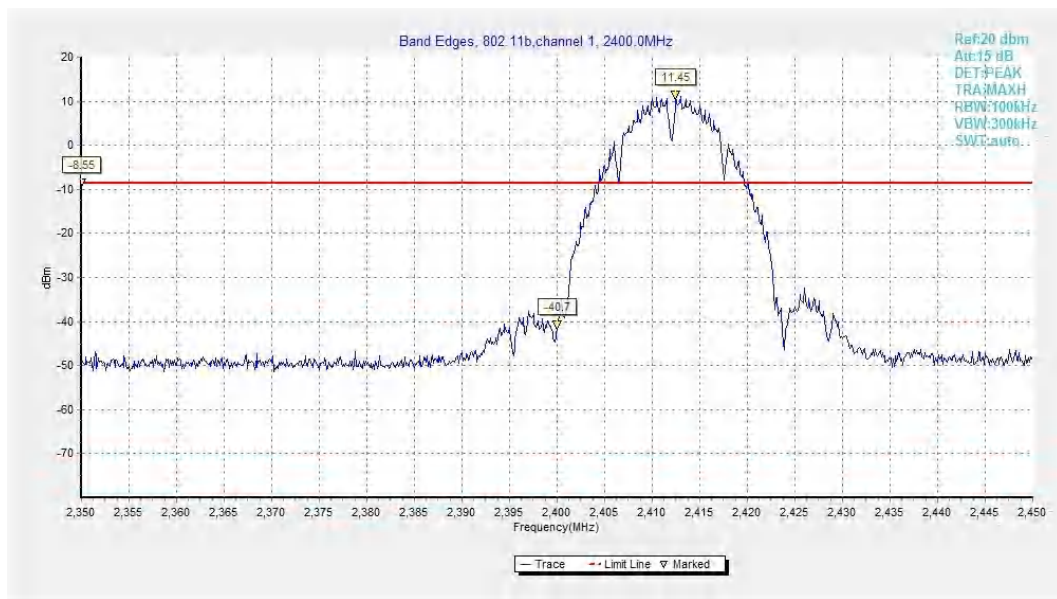


Fig.A.5.1 Band Edges (802.11b, Ch 1)

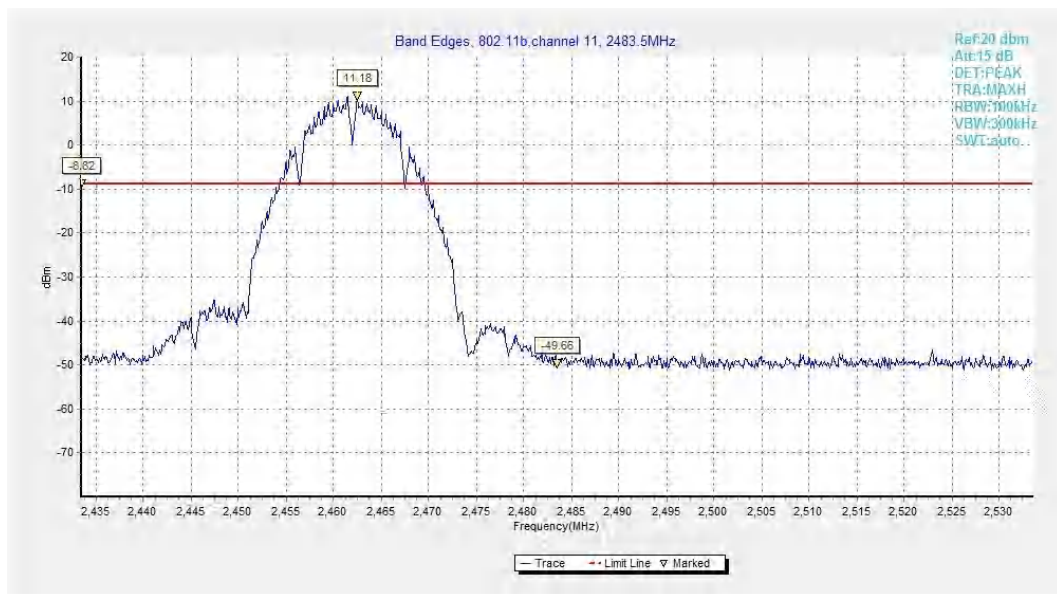


Fig.A.5.2 Band Edges (802.11b, Ch 11)

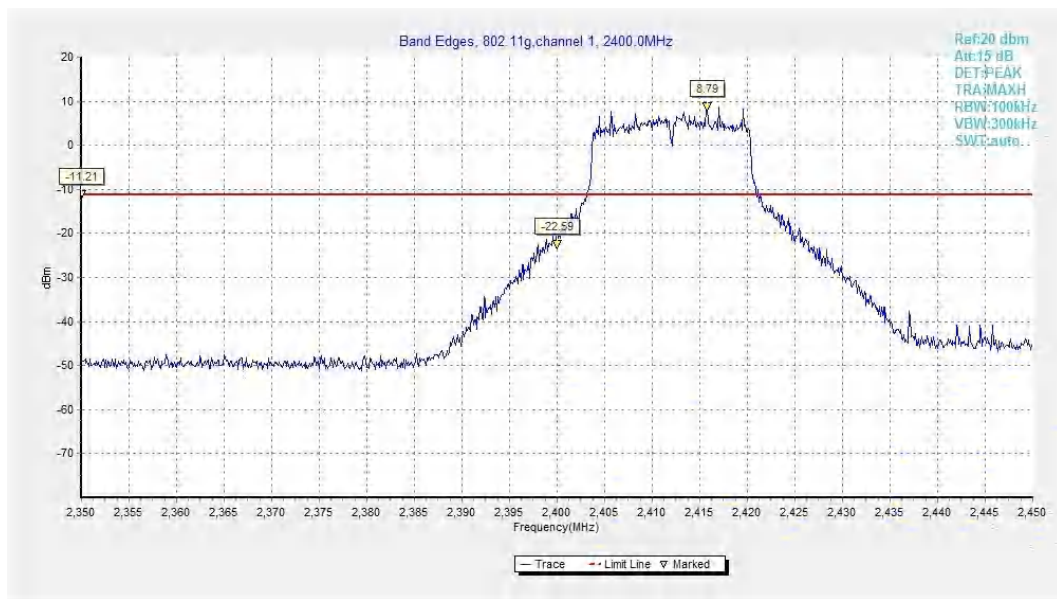


Fig.A.5.3 Band Edges (802.11g, Ch 1)

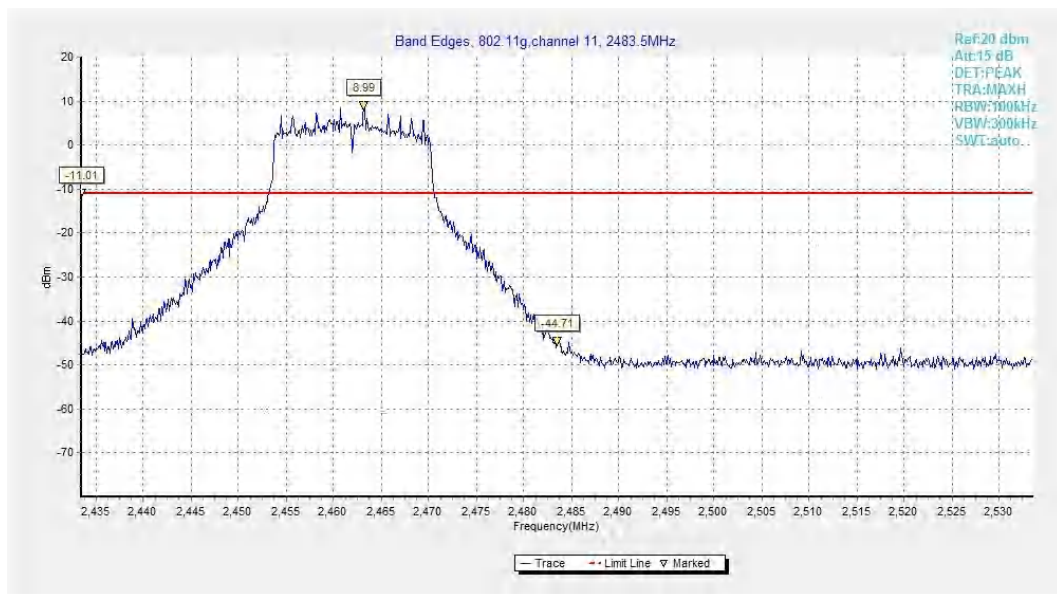


Fig.A.5.4 Band Edges (802.11g, Ch 11)

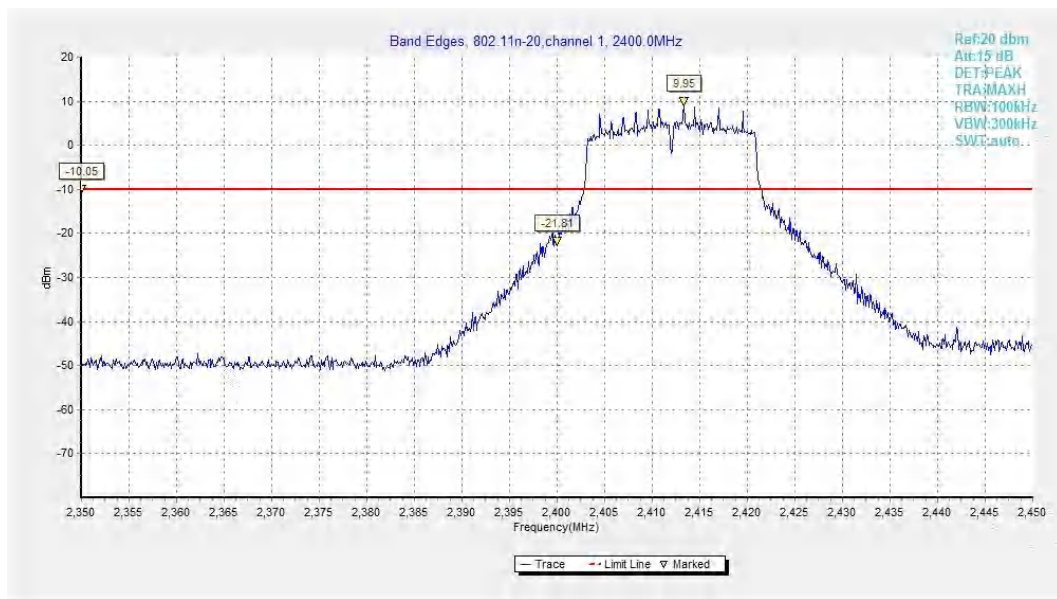


Fig.A.5.5 Band Edges (802.11n-HT20, Ch 1)

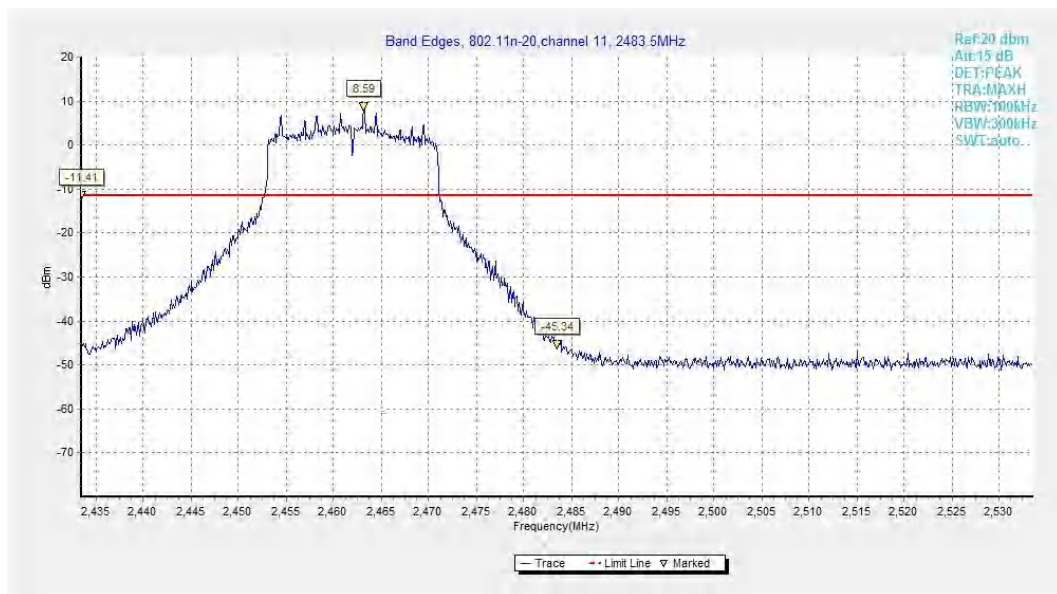


Fig.A.5.6 Band Edges (802.11n-HT20, Ch 11)

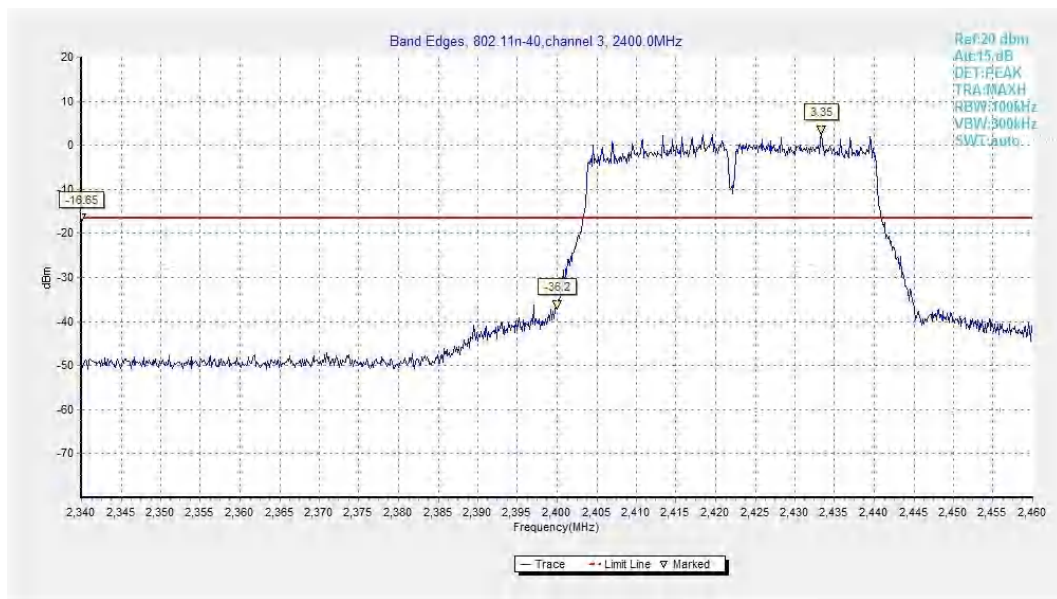


Fig.A.5.7 Band Edges (802.11n-HT40, Ch 3)

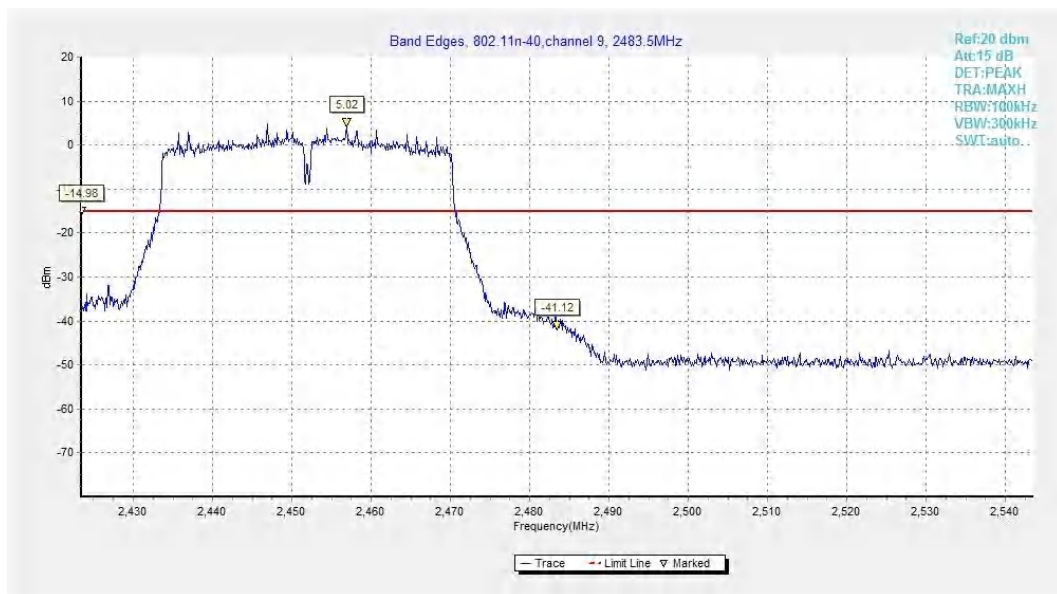


Fig.A.5.8 Band Edges (802.11n-HT40, Ch 9)

A.5.2 Conducted BandEdges

Method of Measurement: See ANSI C63.10-2013-clause 6.10.4

Connect the spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described below.

- a) Set Span = 100MHz
- b) Sweep Time: coupled
- c) Set the RBW= 100 kHz
- c) Set the VBW= 300 kHz
- d) Detector: Peak
- e) Trace: Max hold

Measurement Limit:

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

EUT ID: UT22a + AE2-1 + AE1-3

Measurement Result:

802.11b/g mode

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.A.5.9	P
	11	Fig.A.5.10	P
802.11g	1	Fig.A.5.11	P
	2	Fig.A.5.12	P
	10	Fig.A.5.13	P
	11	Fig.A.5.14	P

802.11n-HT20 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT20)	1	Fig.A.5.15	P
	2	Fig.A.5.16	P
	10	Fig.A.5.17	P
	11	Fig.A.5.18	P

802.11n-HT40 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT40)	3	Fig.A.5.19	P
	5	Fig.A.5.20	P
	6	Fig.A.5.21	P
	7	Fig.A.5.22	P
	8	Fig.A.5.23	P
	9	Fig.A.5.24	P

Conclusion: Pass

Test graphs as below:

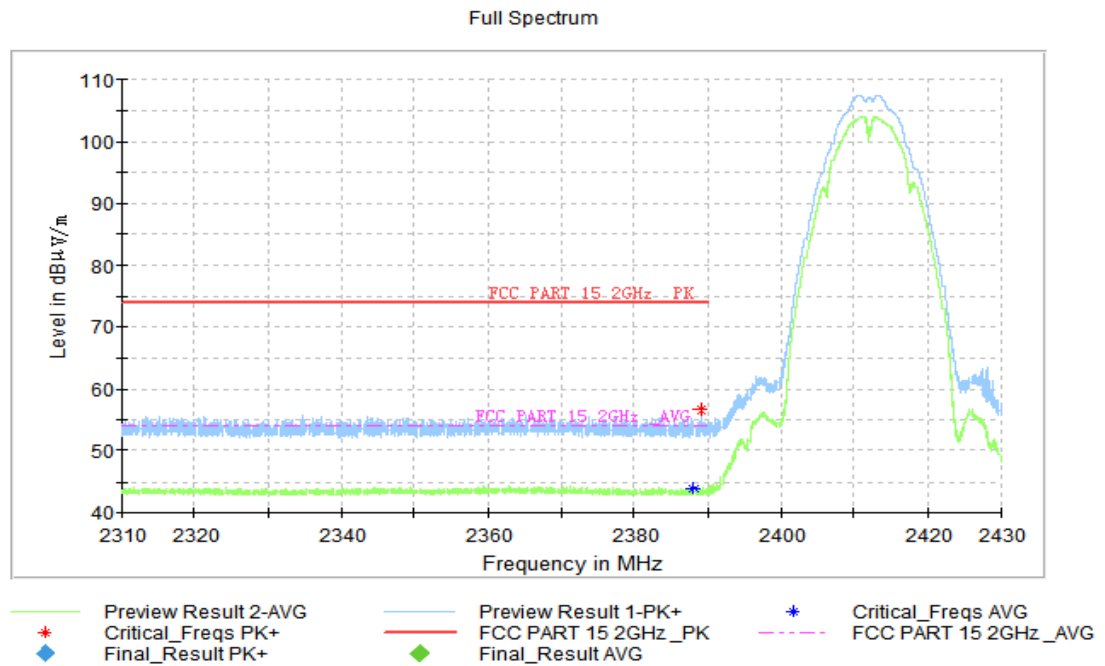


Fig.A.5.9 Band Edges (802.11b, Ch 1, 2.31GHz – 2.43GHz)

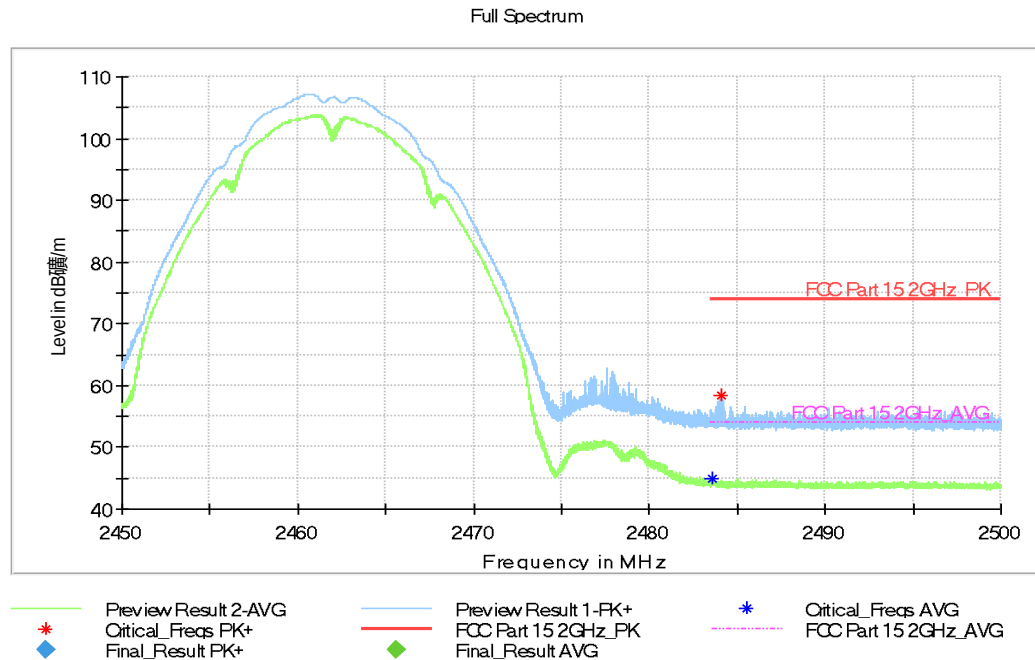


Fig.A.5.10 Band Edges (802.11b, Ch 11, 2.45 GHz – 2.5GHz)

Full Spectrum

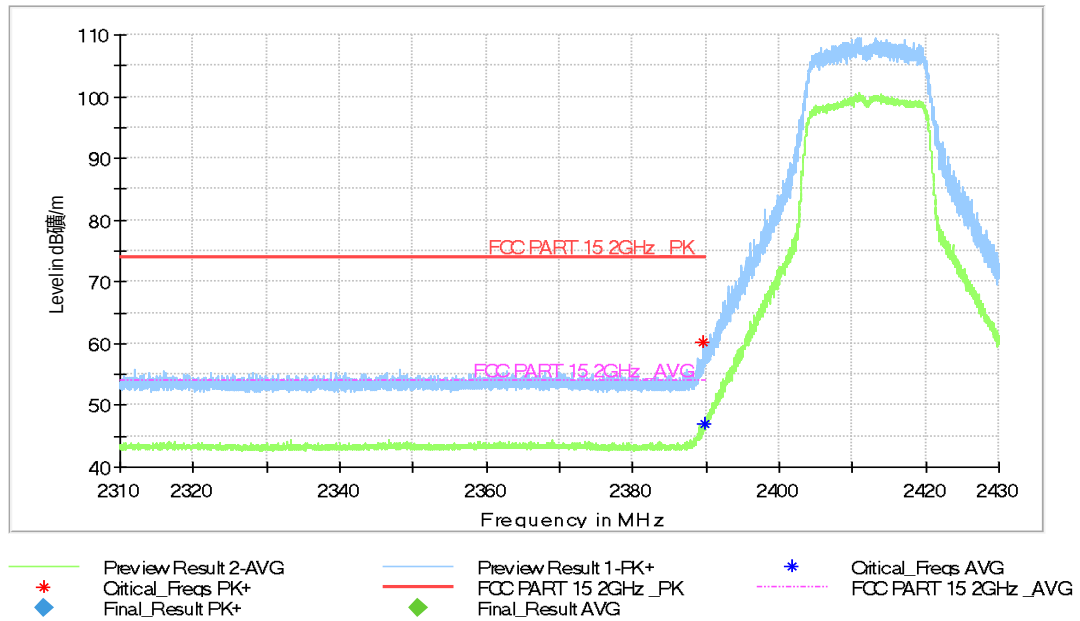


Fig.A.5.11 Band Edges (802.11g, Ch 1, 2.31GHz – 2.43GHz)

Full Spectrum

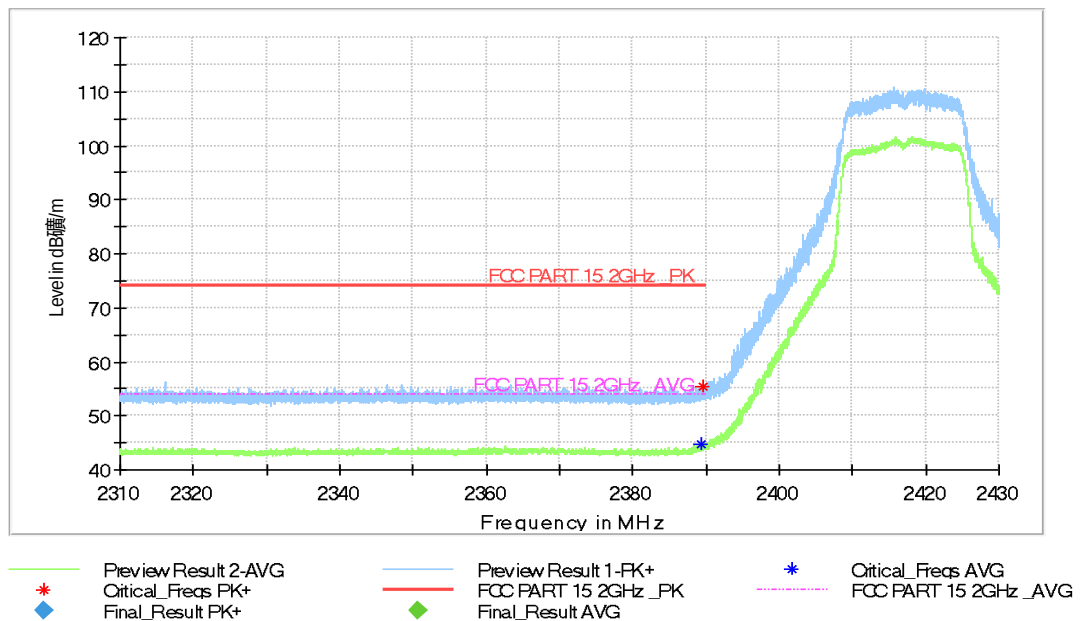


Fig.A.5.12 Band Edges (802.11g, Ch 2, 2.31 GHz – 2.43GHz)

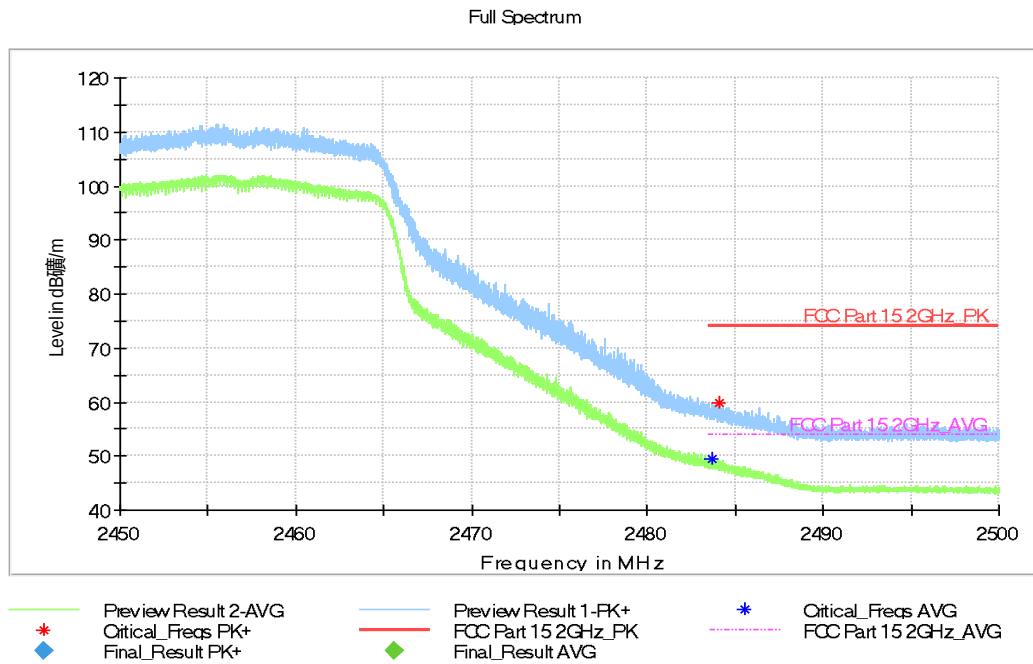


Fig.A.5.13 Band Edges (802.11g, Ch 10, 2.45 GHz – 2.5GHz)

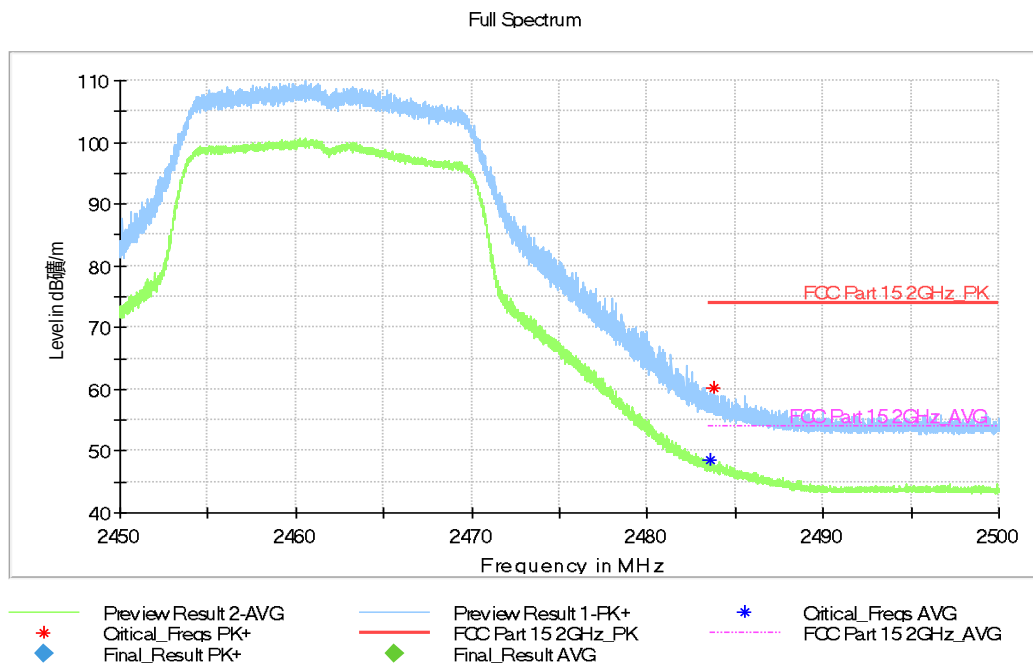


Fig.A.5.14 Band Edges (802.11g, Ch 11, 2.45 GHz – 2.5GHz)

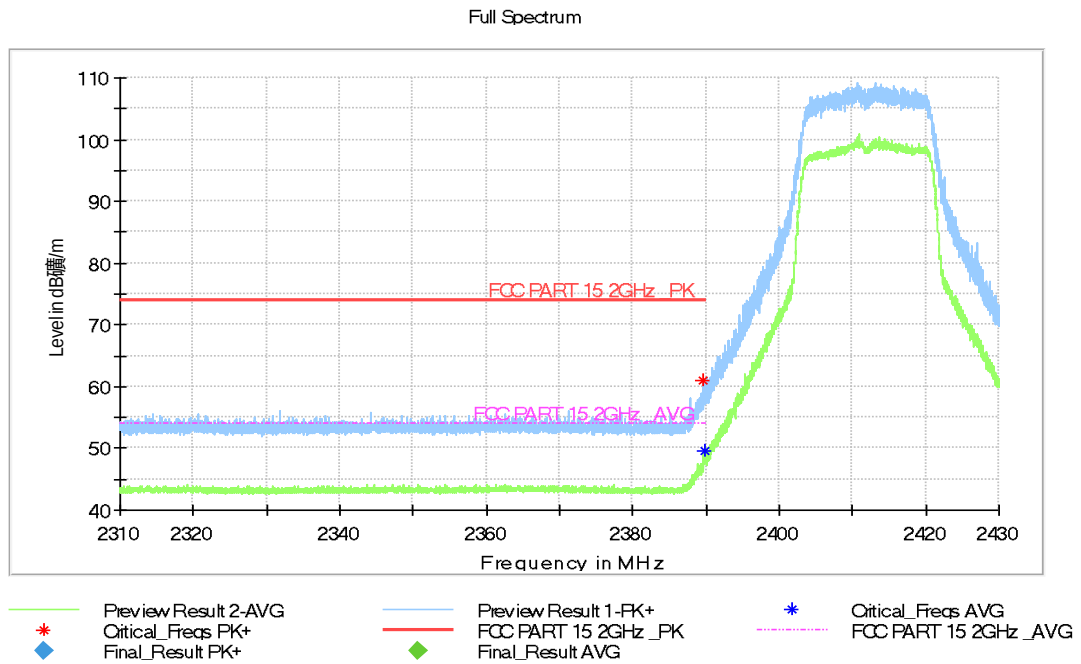


Fig.A.5.15 Band Edges (802.11n-HT20, Ch 1, 2.31GHz – 2.43GHz)

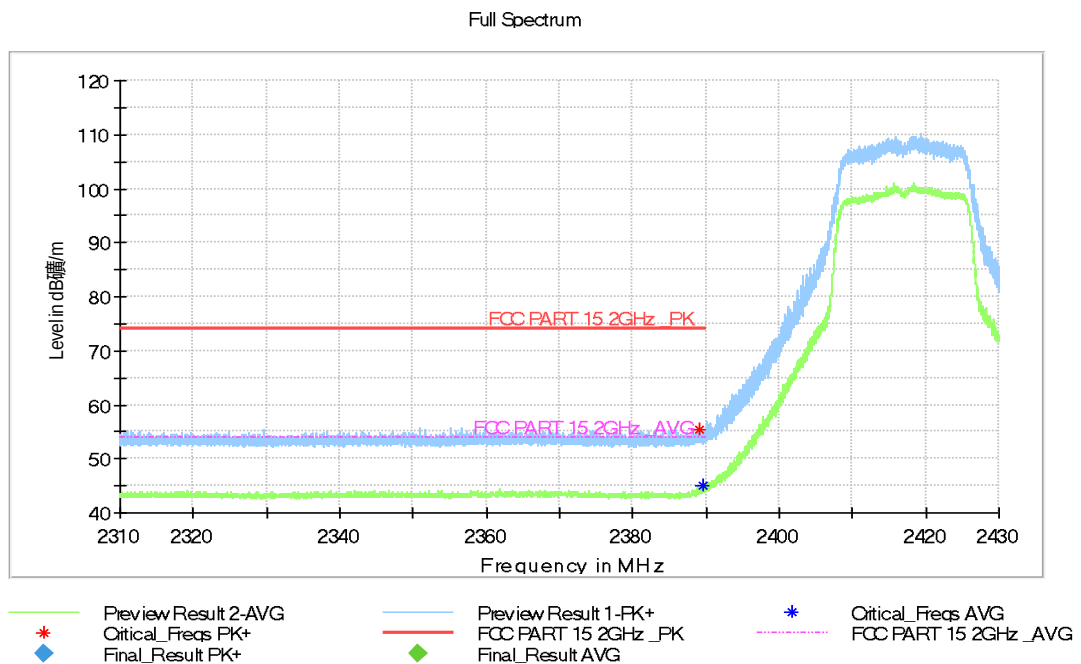


Fig.A.5.16 Band Edges (802.11n-HT20, Ch 2, 2.31 GHz – 2.43GHz)

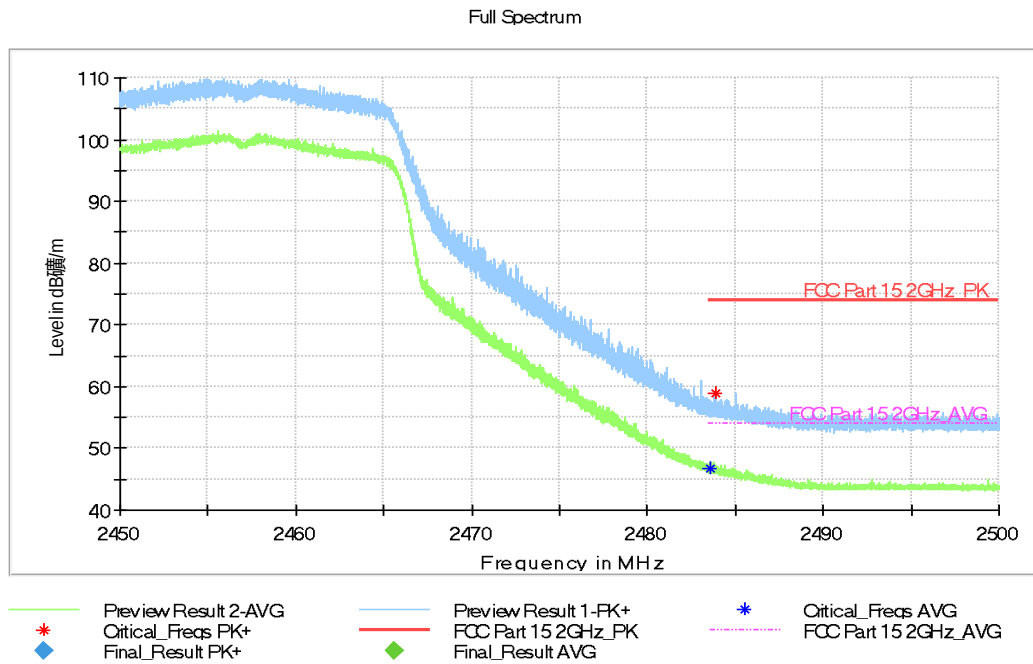


Fig.A.5.17 Band Edges (802.11n-HT20, Ch 10, 2.45 GHz – 2.5GHz)

Fig.A.5.18

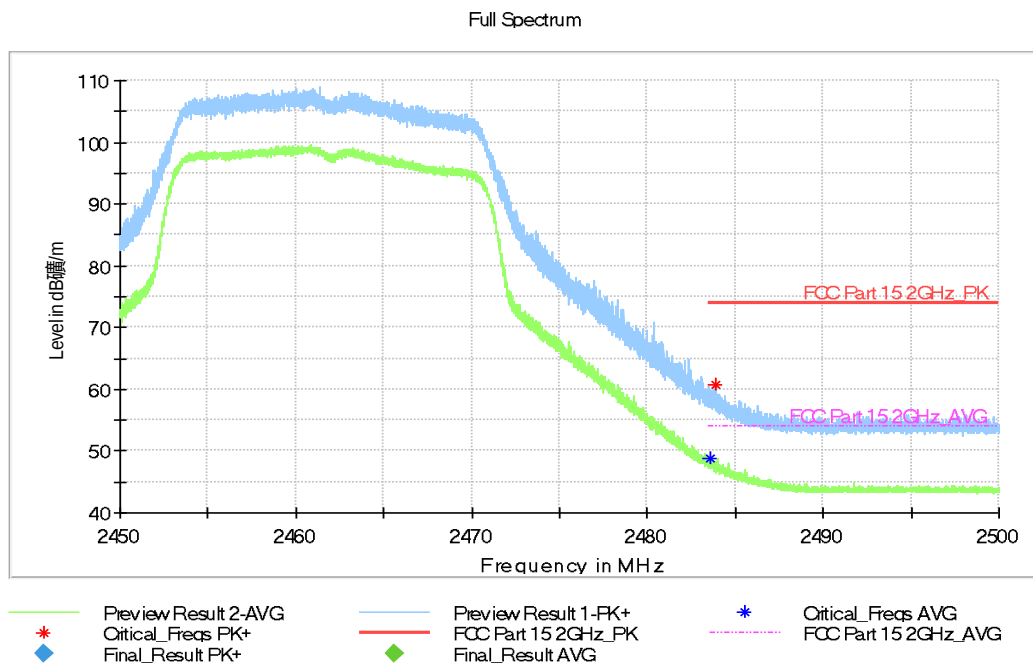


Fig.A.5.19 Band Edges (802.11n-HT20, Ch 11, 2.45 GHz – 2.5GHz)

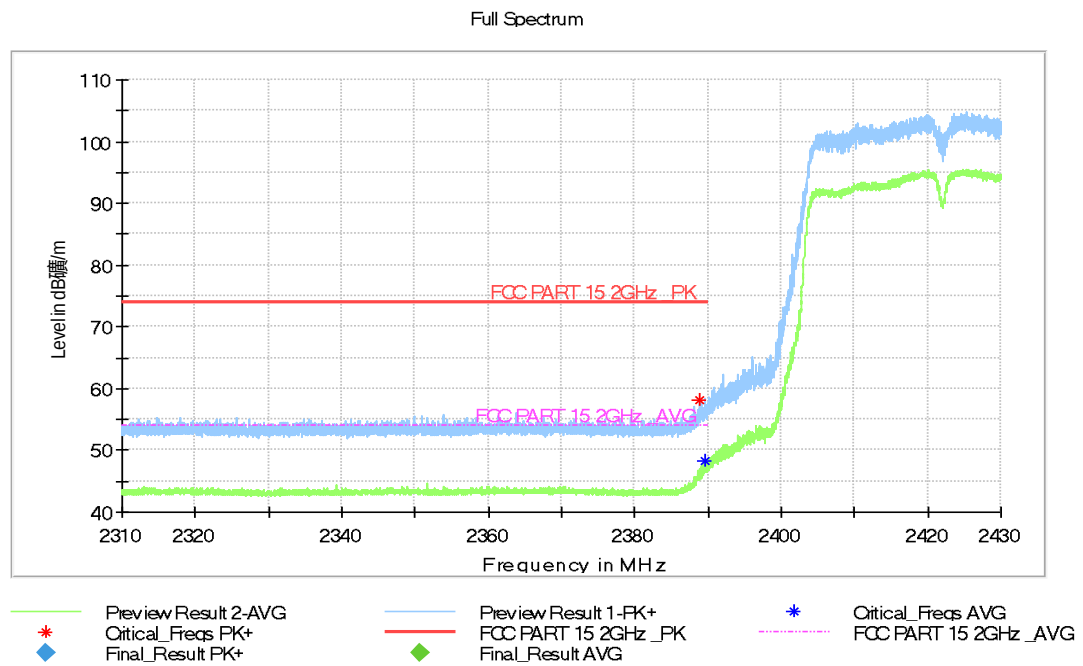


Fig.A.5.20 Band Edges (802.11n-HT40, Ch 3, 2.31 GHz – 2.43GHz)

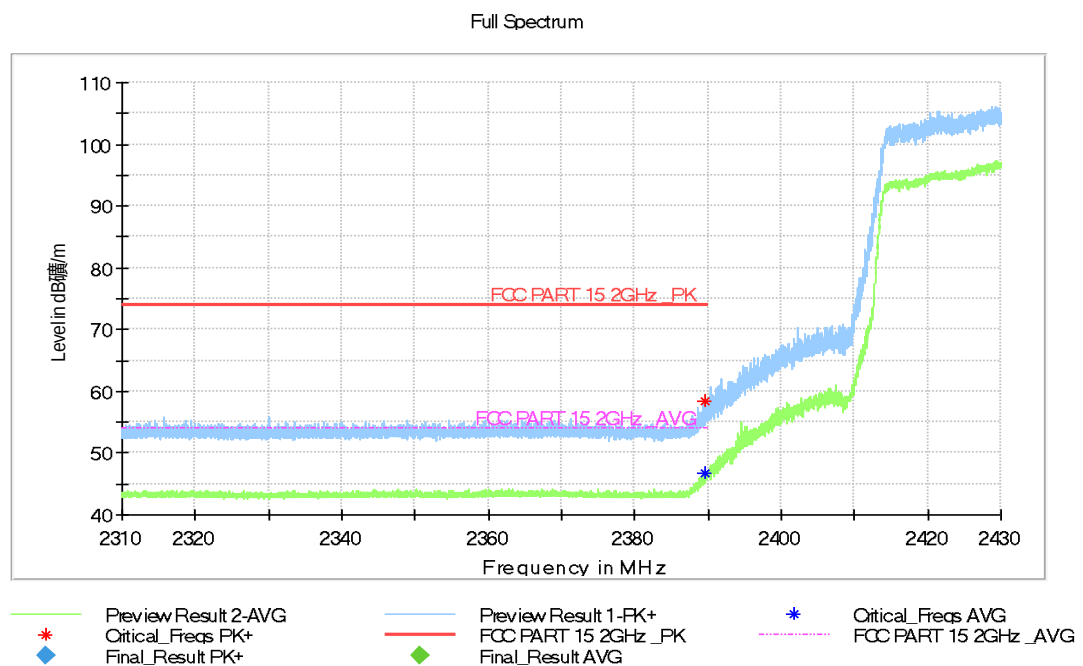


Fig.A.5.21 Band Edges (802.11n-HT40, Ch 5, 2.31 GHz – 2.43GHz)

Full Spectrum

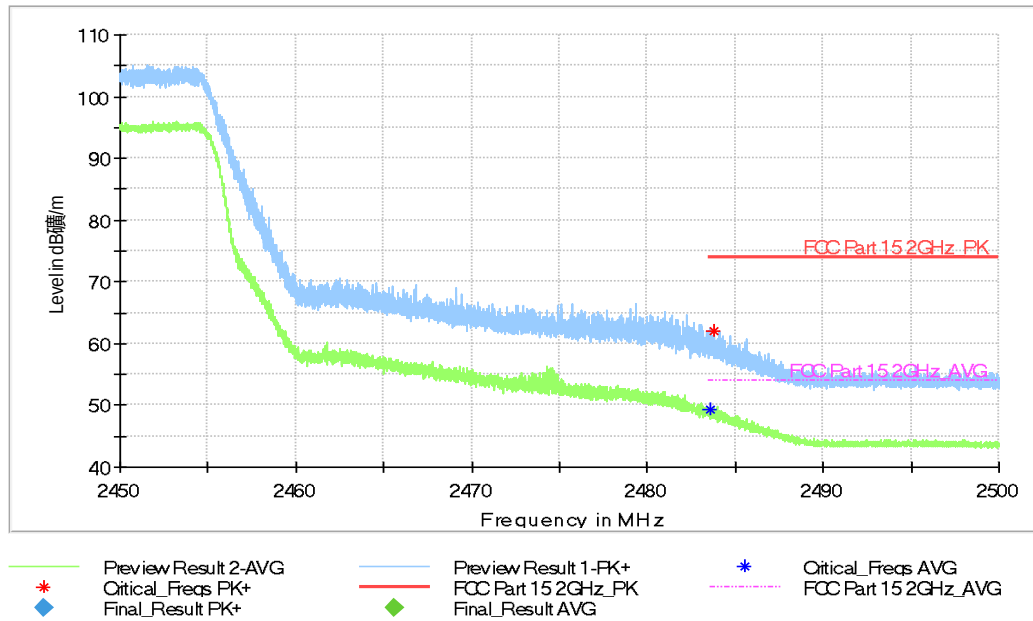


Fig.A.5.22 Band Edges (802.11n-HT40, Ch 6, 2.45 GHz – 2.5GHz)

Full Spectrum

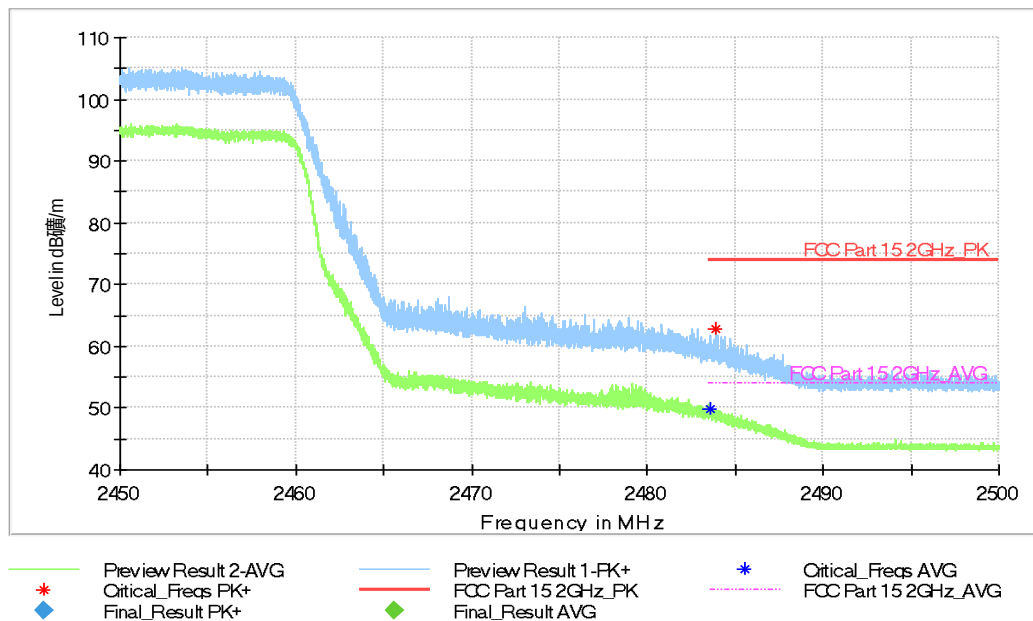


Fig.A.5.23 Band Edges (802.11n-HT40, Ch 7, 2.45 GHz – 2.5GHz)

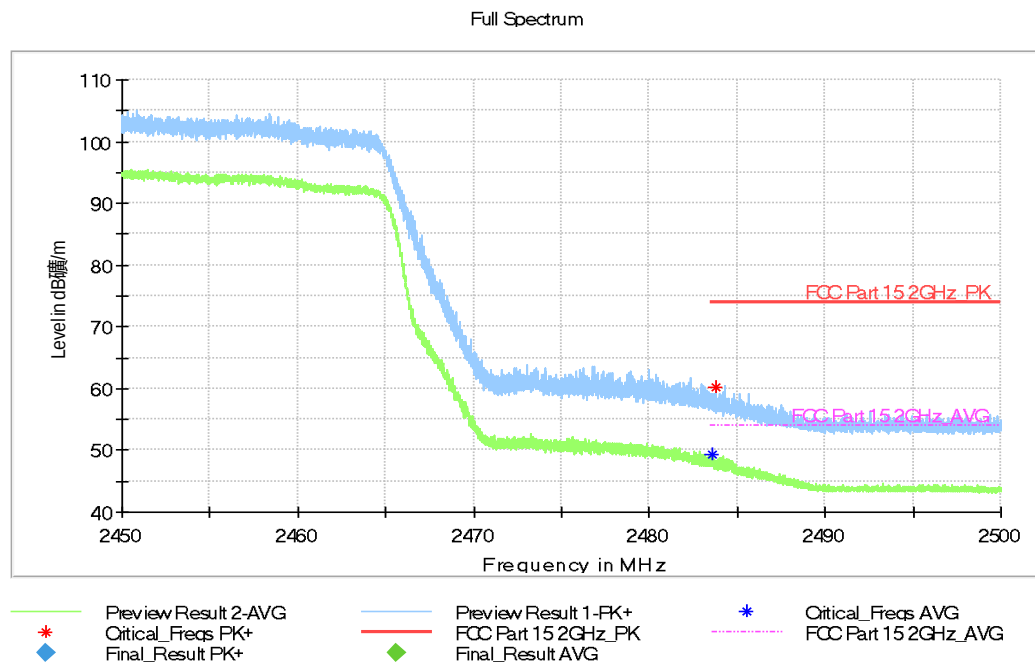


Fig.A.5.24 Band Edges (802.11n-HT40, Ch 8, 2.45 GHz – 2.5GHz)

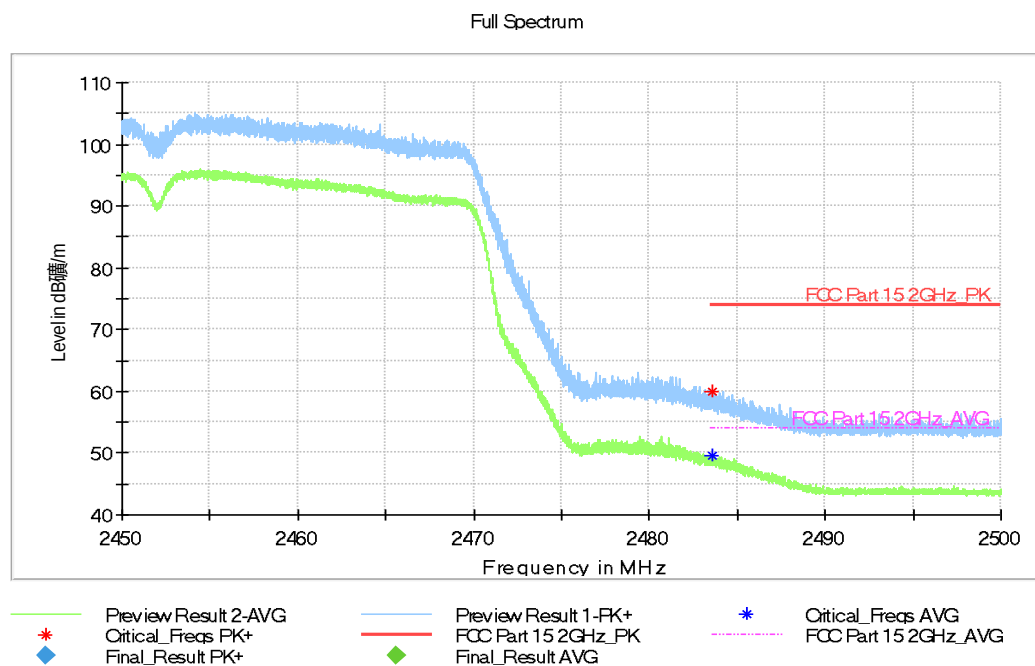


Fig.A.5.25 Band Edges (802.11n-HT40, Ch 9, 2.45 GHz – 2.5GHz)

A.6. Transmitter Spurious Emission

A.6.1 Transmitter Spurious Emission – Conducted

Method of Measurement: See ANSI C63.10-2013-clause 11.11

Establish a reference level by using the following procedure:

- a) Set instrument center frequency to DTS channel center frequency
- b) Set the span to ≥ 1.5 times the DTS bandwidth
- c) Set the RBW= 100 kHz
- d) Set the VBW= 300 kHz
- e) Detector = Peak
- f) Sweep time = auto couple
- g) Trace mode = max hold
- h) Allow trace to fully stabilize
- i) Use the peak marker function to determine the maximum PSD level

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

Establish an emission level by using the following procedure:

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100 kHz.
- c) Set the VBW = 300 kHz.
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247 (d)	20dB below peak output power in 100 kHz bandwidth

EUT ID: UT07a

Measurement Results:

802.11b mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11b	1	2.412 GHz	Fig.A.6.1.1	P
		30 MHz ~ 1 GHz	Fig.A.6.1.2	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.3	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.4	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.5	P
		10 GHz ~ 15 GHz	Fig.A.6.1.6	P
		15 GHz ~ 20 GHz	Fig.A.6.1.7	P
		20 GHz ~ 26 GHz	Fig.A.6.1.8	P
	6	2.437 GHz	Fig.A.6.1.9	P
		30 MHz ~ 1 GHz	Fig.A.6.1.10	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.11	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.12	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.13	P
		10 GHz ~ 15 GHz	Fig.A.6.1.14	P
		15 GHz ~ 20 GHz	Fig.A.6.1.15	P
		20 GHz ~ 26 GHz	Fig.A.6.1.16	P
	11	2.462 GHz	Fig.A.6.1.17	P
		30 MHz ~ 1 GHz	Fig.A.6.1.18	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.19	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.20	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.21	P
		10 GHz ~ 15 GHz	Fig.A.6.1.22	P
		15 GHz ~ 20 GHz	Fig.A.6.1.23	P
		20 GHz ~ 26 GHz	Fig.A.6.1.24	P

802.11g mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11g	1	2.412 GHz	Fig.A.6.1.25	P
		30 MHz ~ 1 GHz	Fig.A.6.1.26	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.27	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.28	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.29	P
		10 GHz ~ 15 GHz	Fig.A.6.1.30	P
		15 GHz ~ 20 GHz	Fig.A.6.1.31	P
		20 GHz ~ 26 GHz	Fig.A.6.1.32	P
	6	2.437 GHz	Fig.A.6.1.33	P
		30 MHz ~ 1 GHz	Fig.A.6.1.34	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.35	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.36	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.37	P
		10 GHz ~ 15 GHz	Fig.A.6.1.38	P
		15 GHz ~ 20 GHz	Fig.A.6.1.39	P
		20 GHz ~ 26 GHz	Fig.A.6.1.40	P
	11	2.462 GHz	Fig.A.6.1.41	P
		30 MHz ~ 1 GHz	Fig.A.6.1.42	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.43	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.44	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.45	P
		10 GHz ~ 15 GHz	Fig.A.6.1.46	P
		15 GHz ~ 20 GHz	Fig.A.6.1.47	P
		20 GHz ~ 26 GHz	Fig.A.6.1.48	P

802.11n-HT20 mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	1	2.412 GHz	Fig.A.6.1.49	P
		30 MHz ~ 1 GHz	Fig.A.6.1.50	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.51	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.52	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.53	P
		10 GHz ~ 15 GHz	Fig.A.6.1.54	P
		15 GHz ~ 20 GHz	Fig.A.6.1.55	P
		20 GHz ~ 26 GHz	Fig.A.6.1.56	P
	6	2.437 GHz	Fig.A.6.1.57	P
		30 MHz ~ 1 GHz	Fig.A.6.1.58	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.59	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.60	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.61	P
		10 GHz ~ 15 GHz	Fig.A.6.1.62	P
		15 GHz ~ 20 GHz	Fig.A.6.1.63	P
		20 GHz ~ 26 GHz	Fig.A.6.1.64	P
	11	2.462 GHz	Fig.A.6.1.65	P
		30 MHz ~ 1 GHz	Fig.A.6.1.66	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.67	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.68	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.69	P
		10 GHz ~ 15 GHz	Fig.A.6.1.70	P
		15 GHz ~ 20 GHz	Fig.A.6.1.71	P
		20 GHz ~ 26 GHz	Fig.A.6.1.72	P

802.11n-HT40 mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	3	2.422 GHz	Fig.A.6.1.73	P
		30 MHz ~ 1 GHz	Fig.A.6.1.74	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.75	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.76	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.77	P
		10 GHz ~ 15 GHz	Fig.A.6.1.78	P
		15 GHz ~ 20 GHz	Fig.A.6.1.79	P
		20 GHz ~ 26 GHz	Fig.A.6.1.80	P
	6	2.437 GHz	Fig.A.6.1.81	P
		30 MHz ~ 1 GHz	Fig.A.6.1.82	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.83	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.84	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.85	P
		10 GHz ~ 15 GHz	Fig.A.6.1.86	P
		15 GHz ~ 20 GHz	Fig.A.6.1.87	P
		20 GHz ~ 26 GHz	Fig.A.6.1.88	P
	9	2.452 GHz	Fig.A.6.1.89	P
		30 MHz ~ 1 GHz	Fig.A.6.1.90	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.91	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.92	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.93	P
		10 GHz ~ 15 GHz	Fig.A.6.1.94	P
		15 GHz ~ 20 GHz	Fig.A.6.1.95	P
		20 GHz ~ 26 GHz	Fig.A.6.1.96	P

Conclusion: Pass

Test graphs as below:

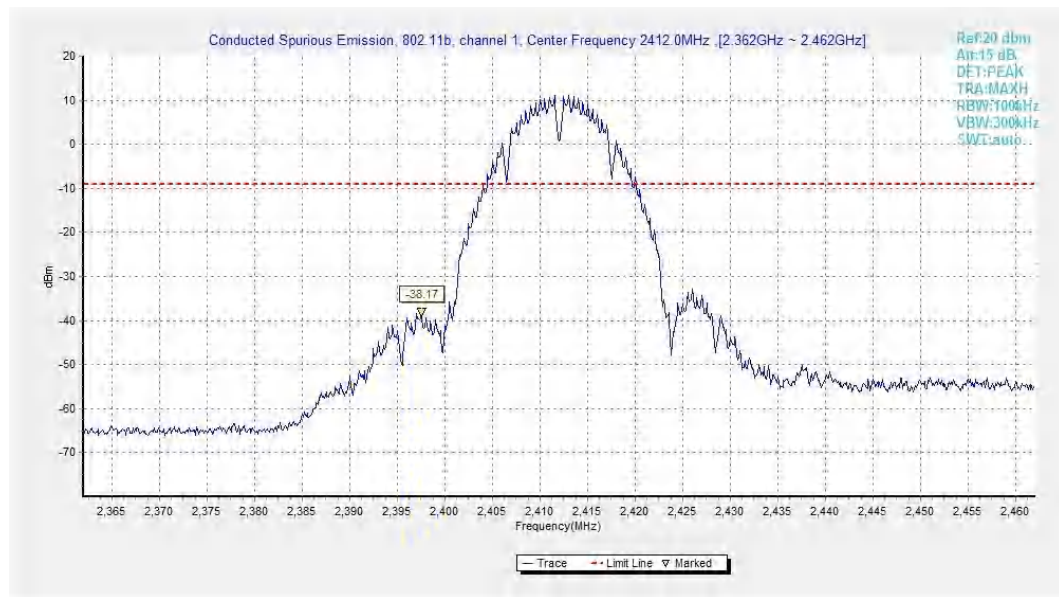


Fig.A.6.1.1 Transmitter Spurious Emission - Conducted (802.11b, Ch1, Center Frequency)

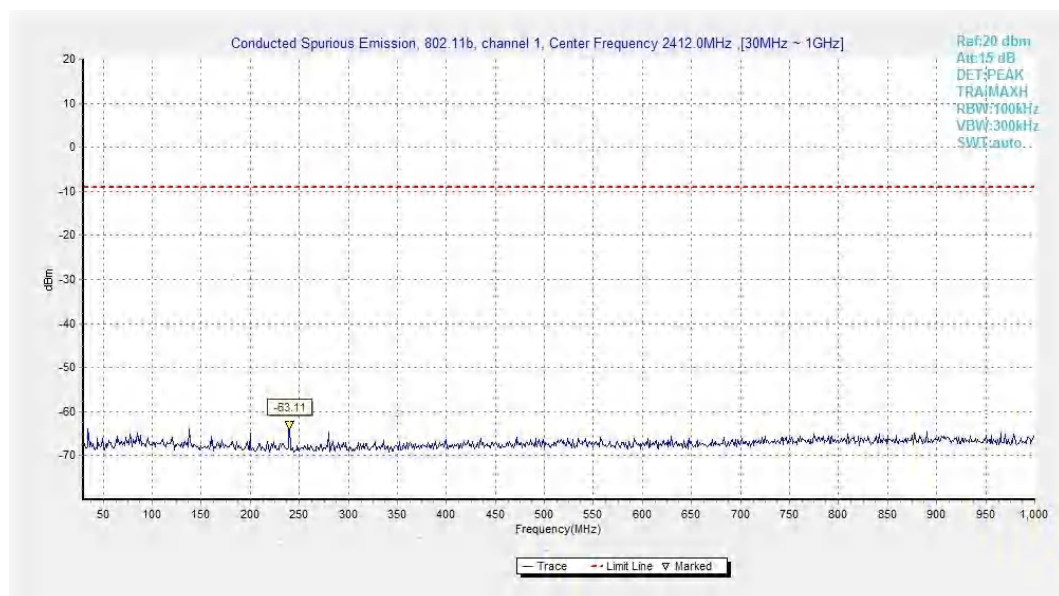


Fig.A.6.1.2 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 30 MHz-1 GHz)

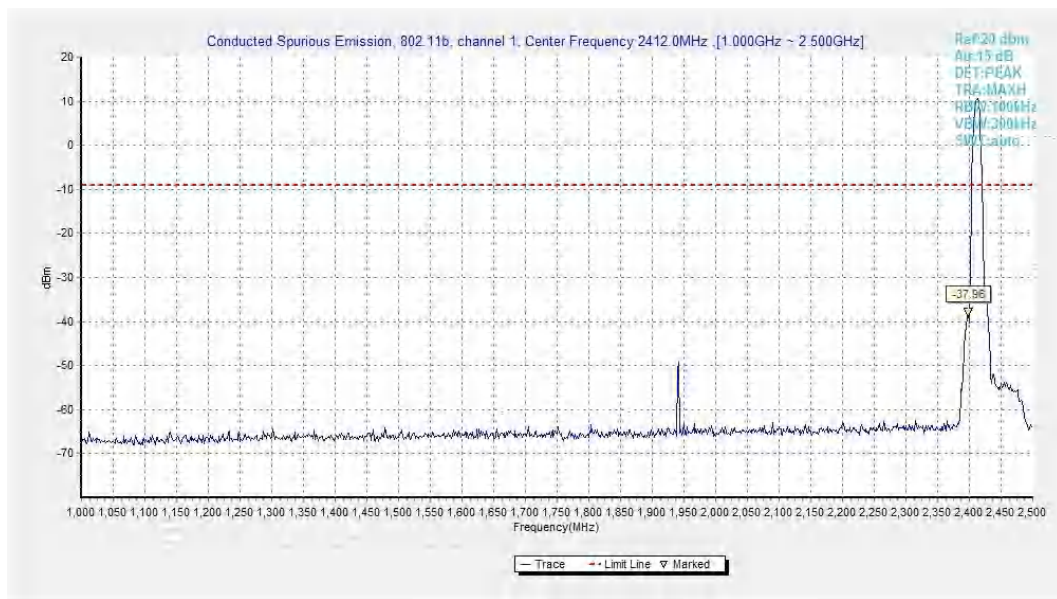


Fig.A.6.1.3 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 1 GHz-2.5 GHz)

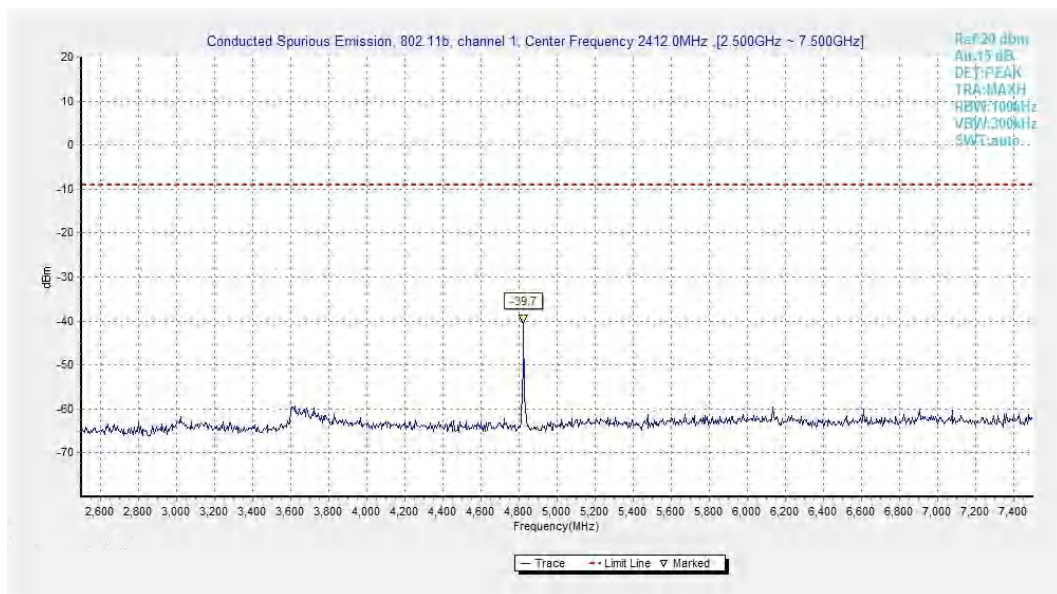


Fig.A.6.1.4 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 2.5 GHz-7.5 GHz)

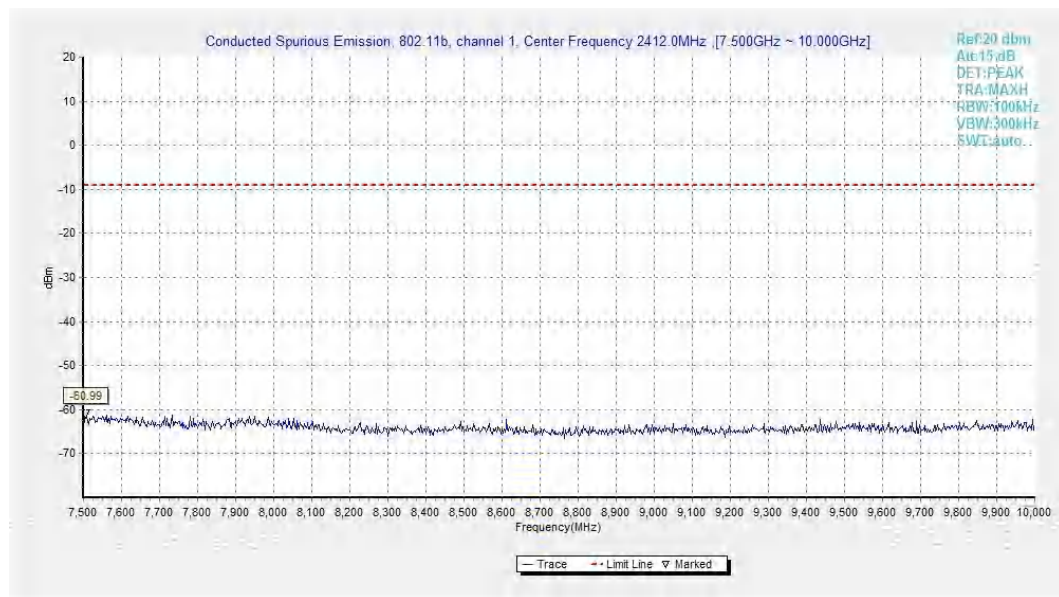


Fig.A.6.1.5 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 7.5 GHz-10 GHz)

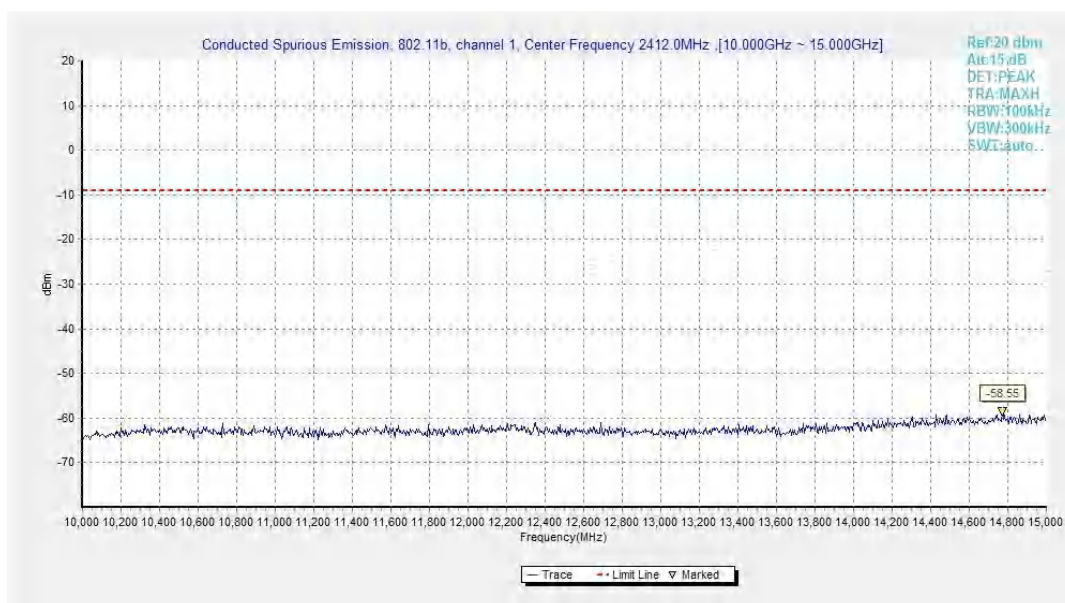


Fig.A.6.1.6 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 10 GHz-15 GHz)

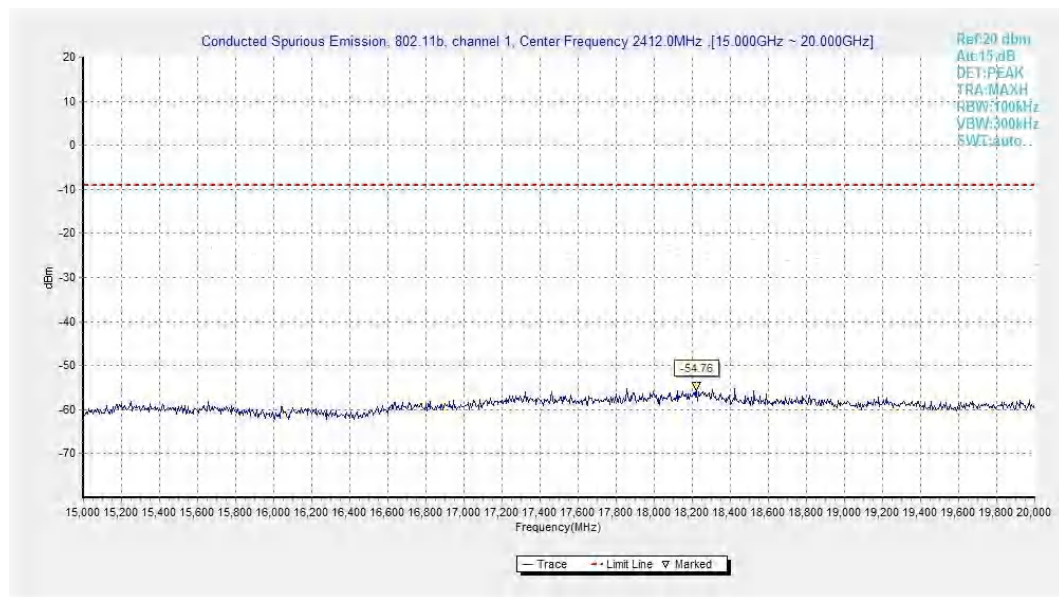


Fig.A.6.1.7 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 15 GHz-20 GHz)

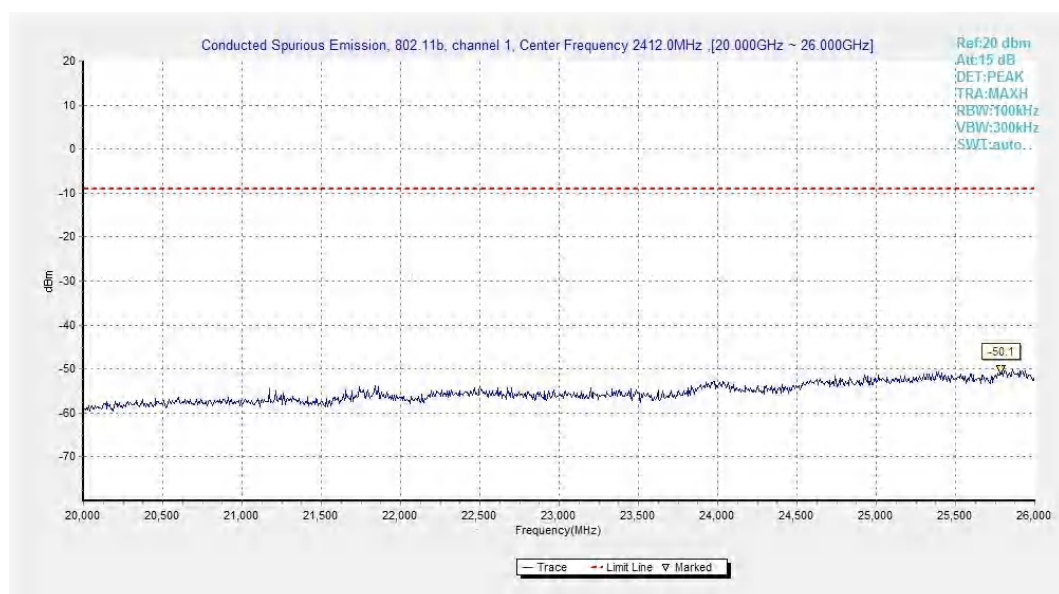


Fig.A.6.1.8 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 20 GHz-26 GHz)

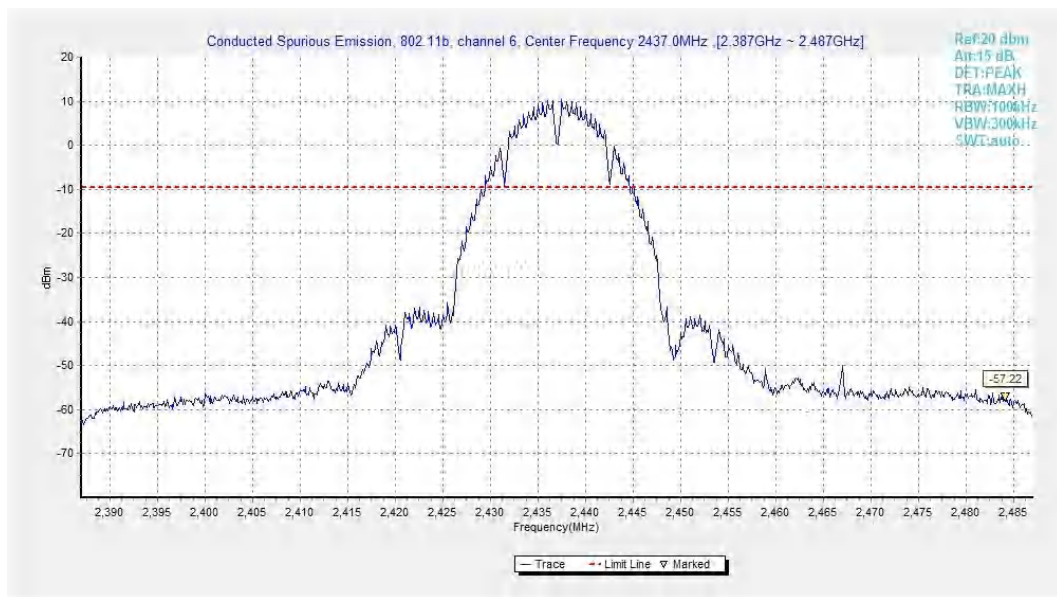


Fig.A.6.1.9 Transmitter Spurious Emission - Conducted (802.11b, Ch6, Center Frequency)

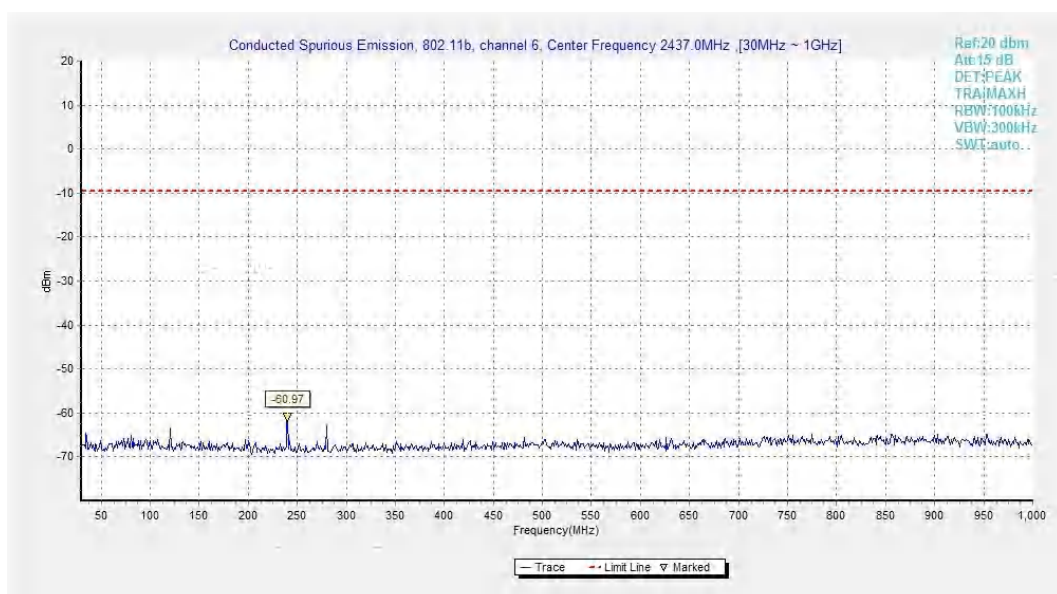


Fig.A.6.1.10 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 30 MHz-1 GHz)

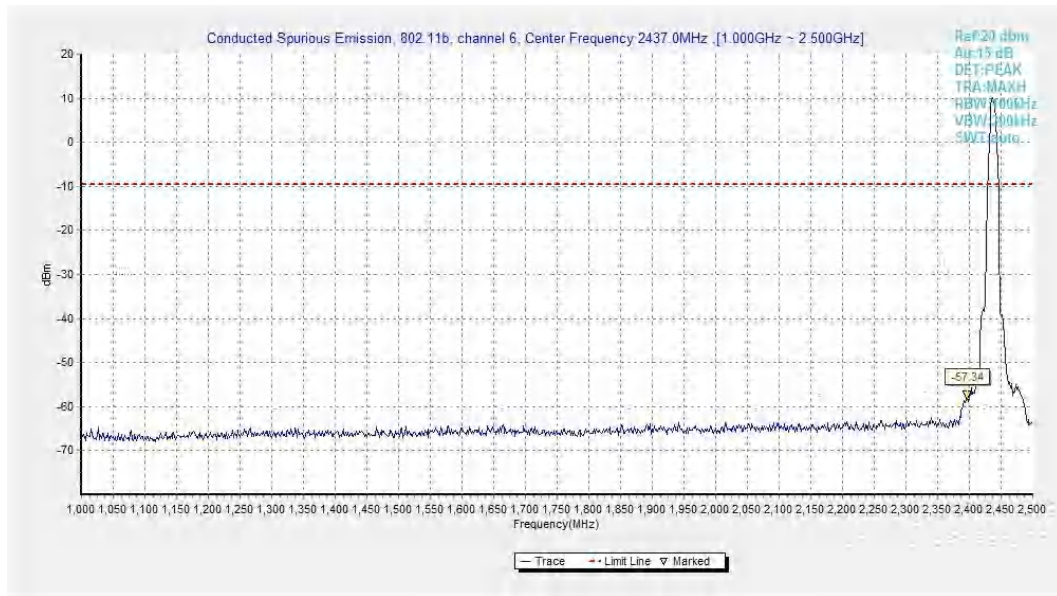


Fig.A.6.1.11 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 1 GHz-2.5 GHz)

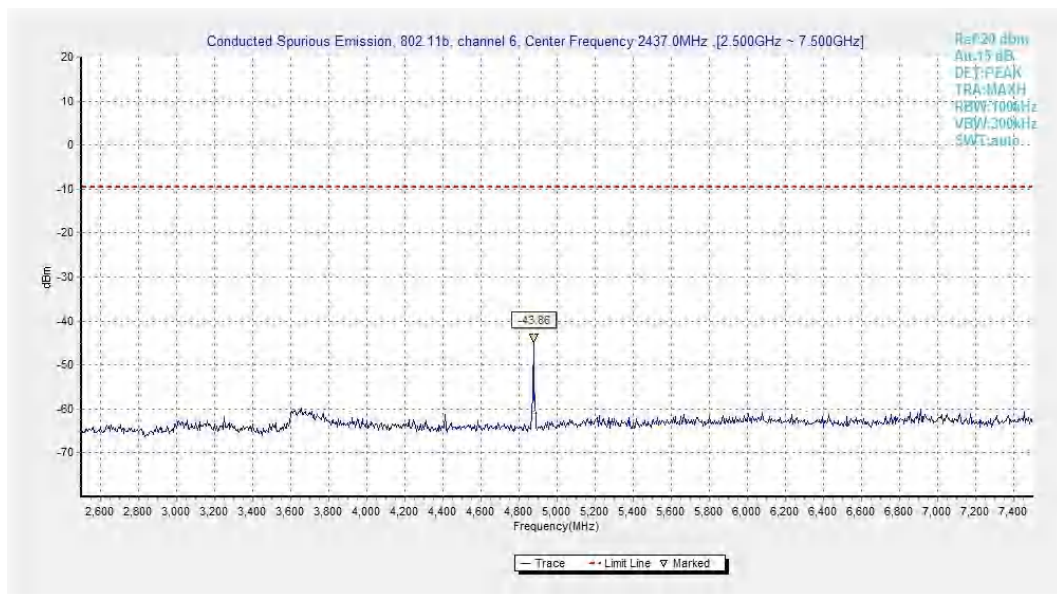


Fig.A.6.1.12 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 2.5 GHz-7.5 GHz)

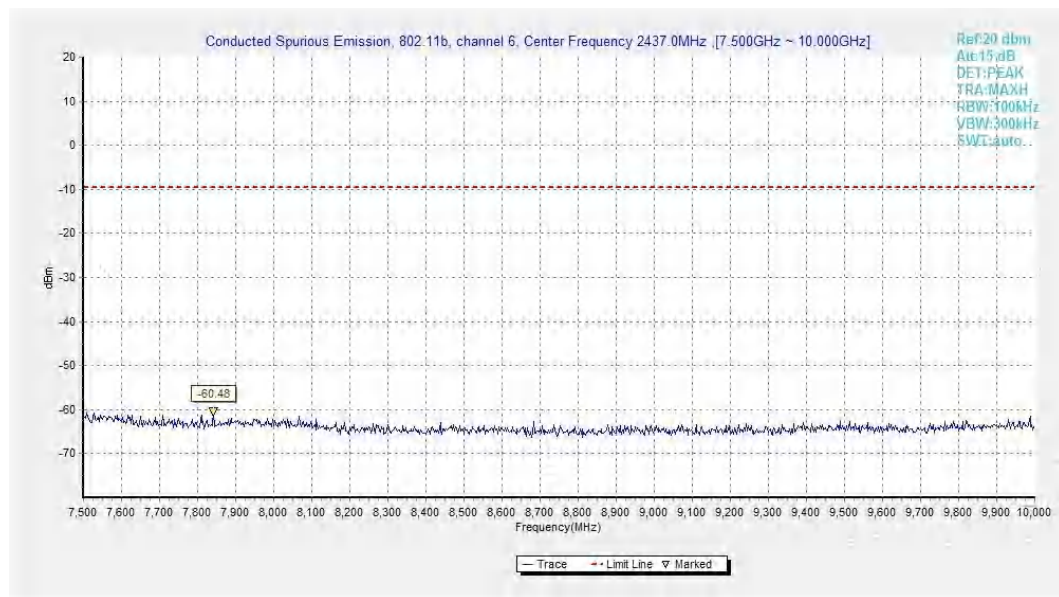


Fig.A.6.1.13 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 7.5 GHz-10 GHz)

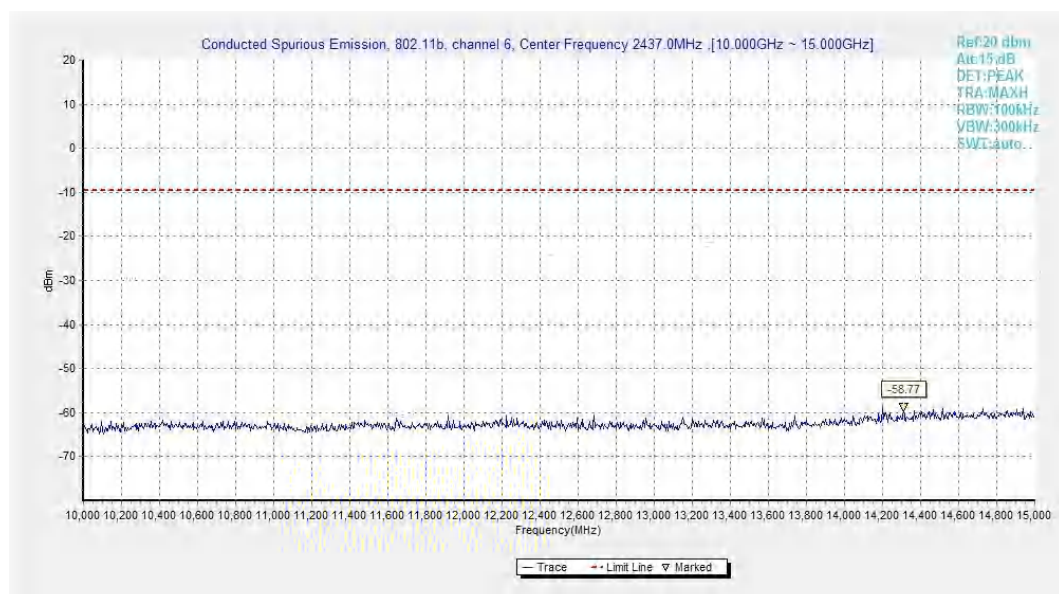


Fig.A.6.1.14 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 10 GHz-15 GHz)

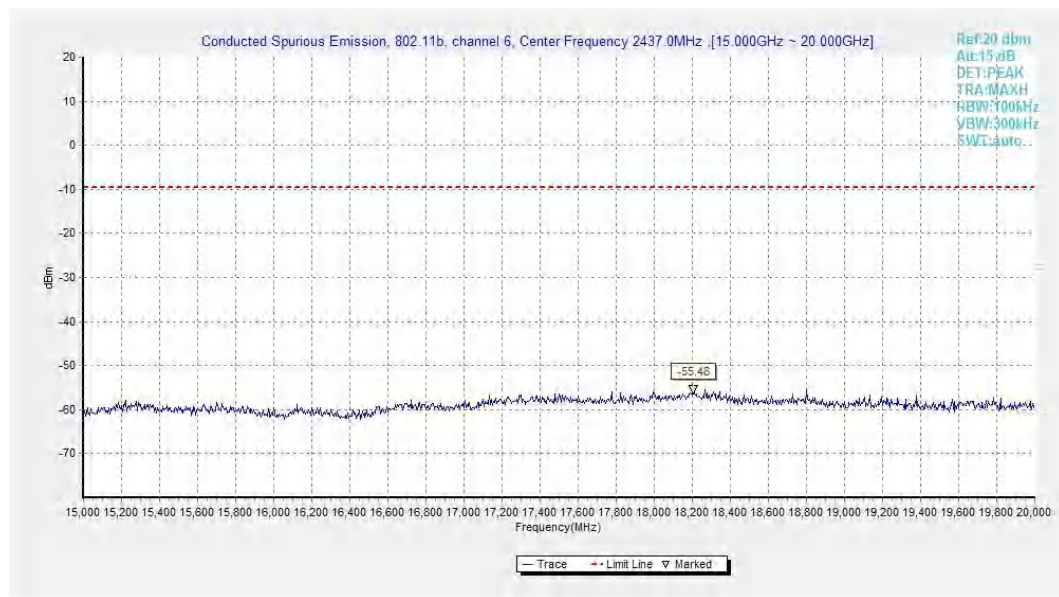


Fig.A.6.1.15 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 15 GHz-20 GHz)

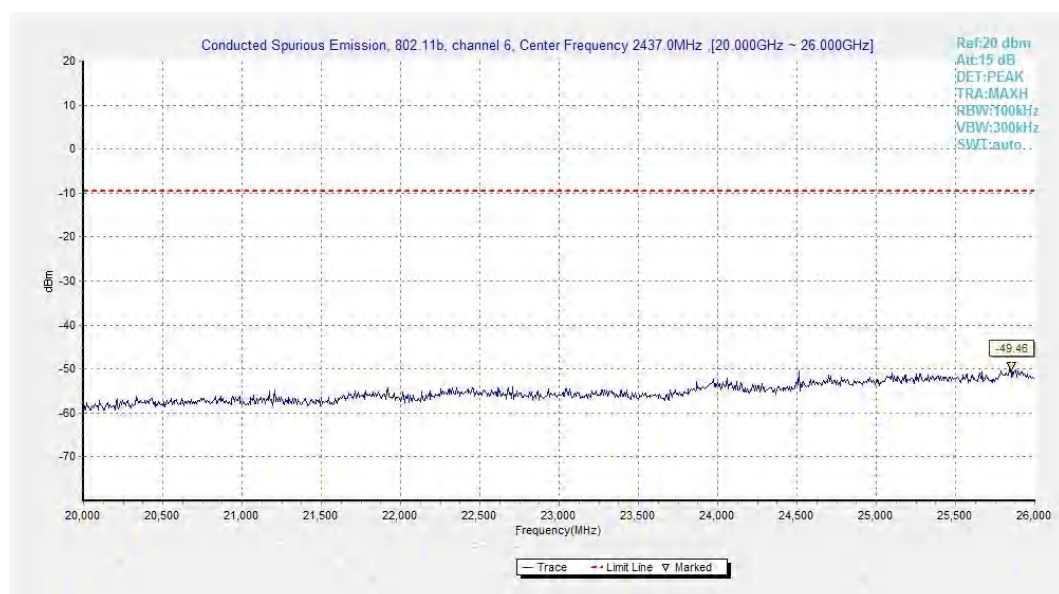


Fig.A.6.1.16 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 20 GHz-26 GHz)

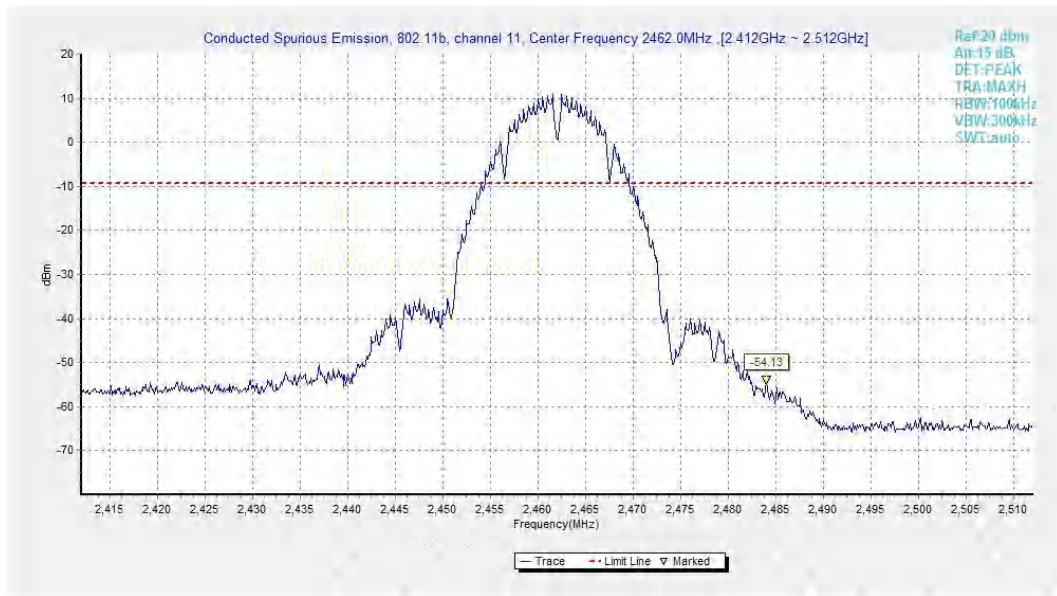


Fig.A.6.1.17 Transmitter Spurious Emission - Conducted (802.11b, Ch11, Center Frequency)

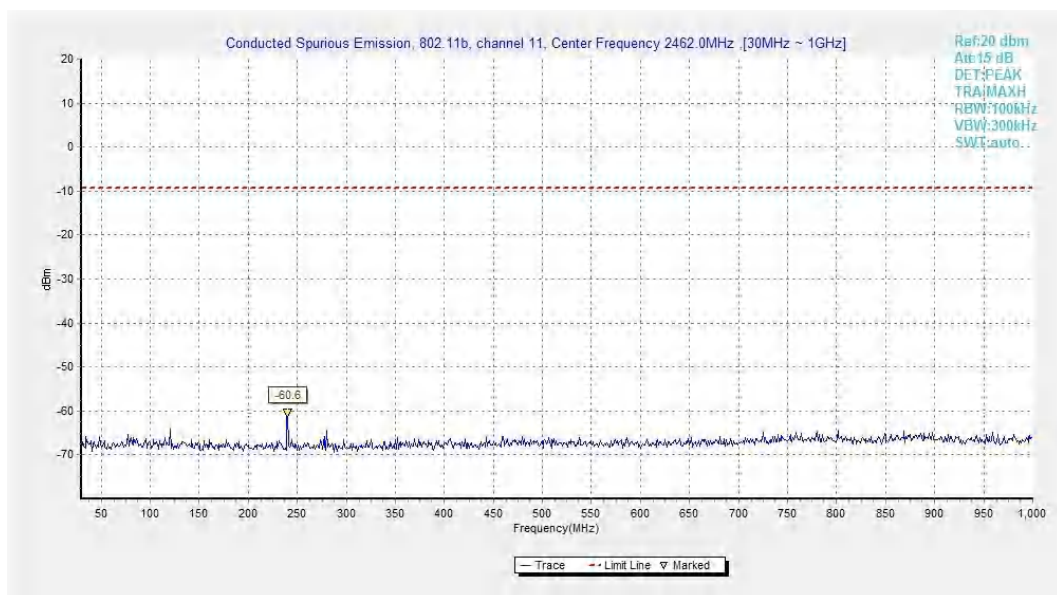


Fig.A.6.1.18 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 30 MHz-1 GHz)

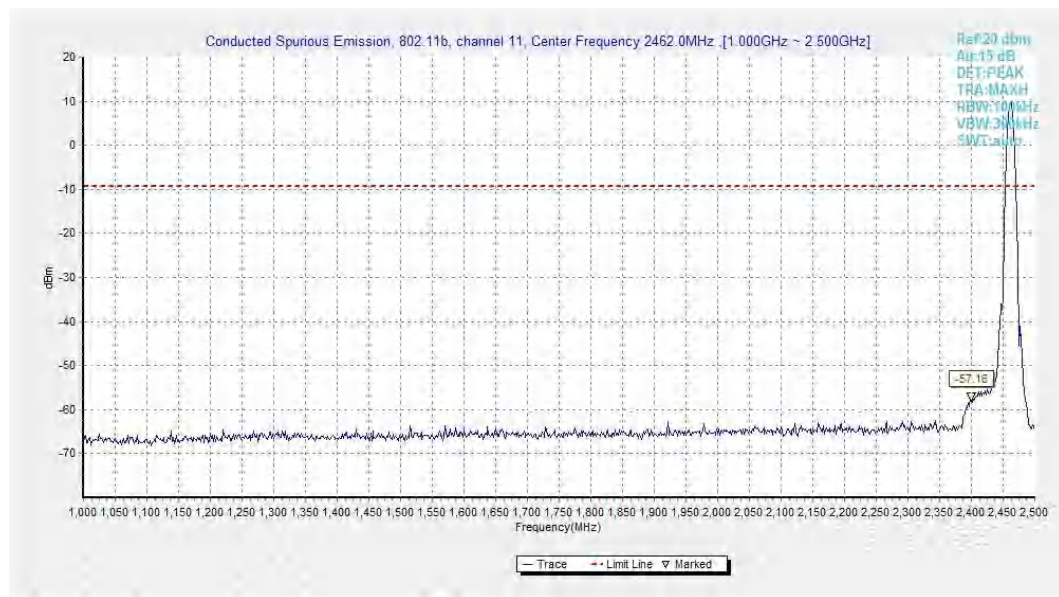


Fig.A.6.1.19 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 1 GHz-2.5 GHz)

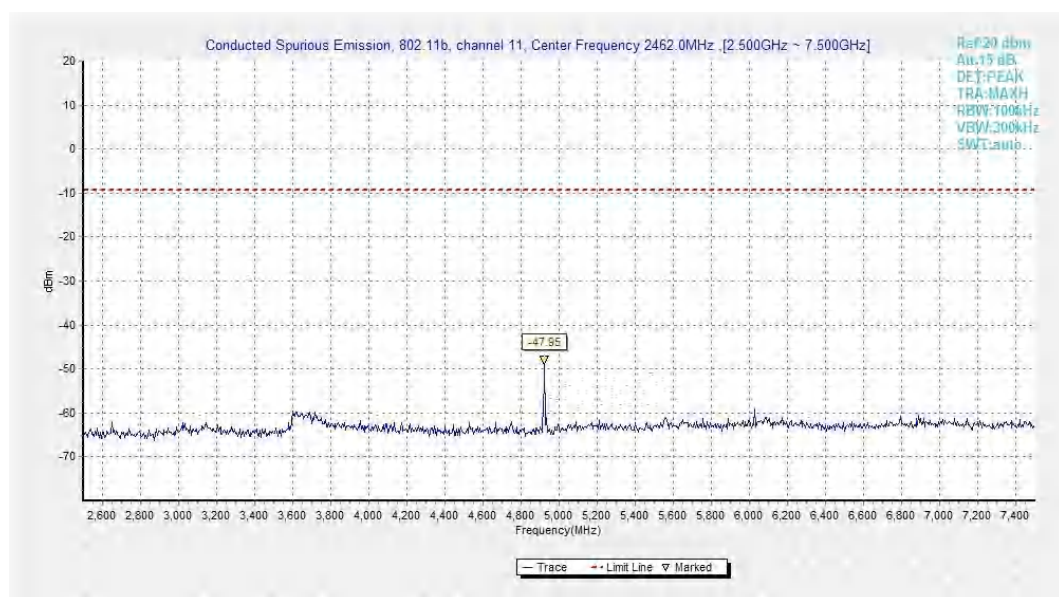


Fig.A.6.1.20 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 2.5 GHz-7.5 GHz)

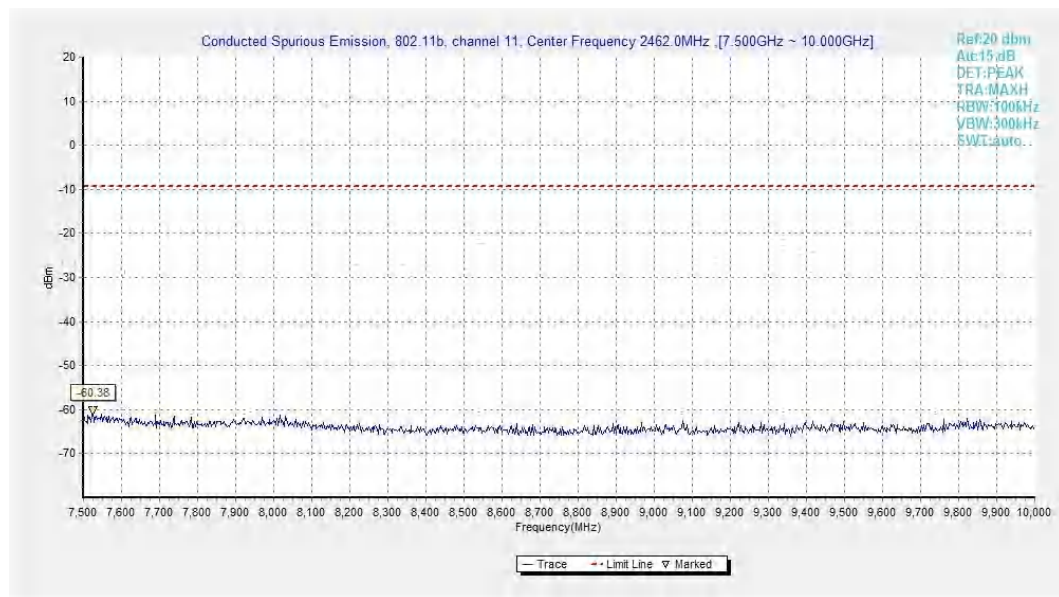


Fig.A.6.1.21 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 7.5 GHz-10 GHz)

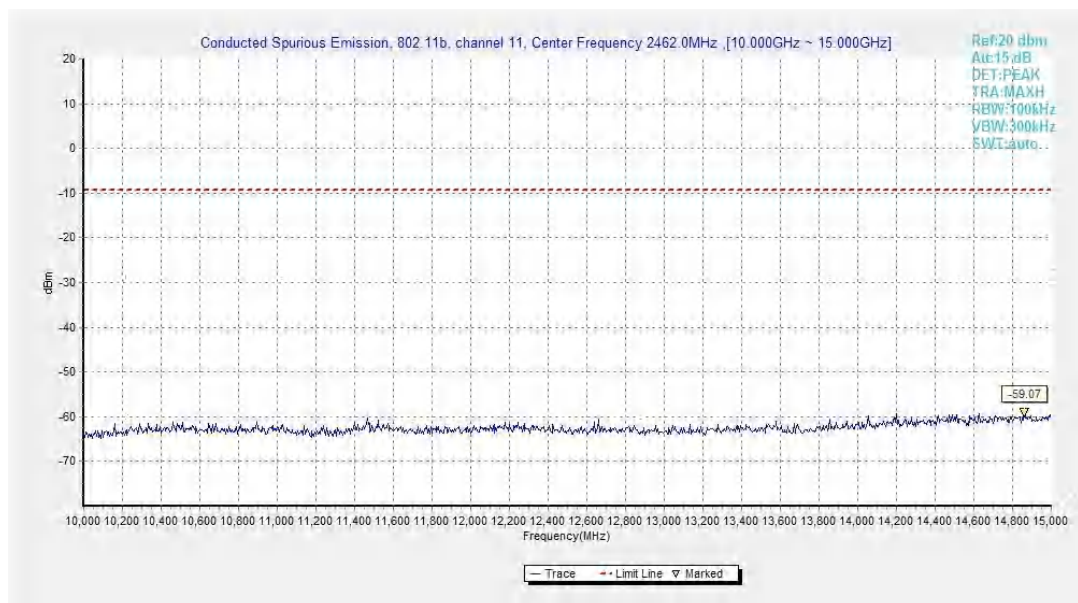


Fig.A.6.1.22 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 10 GHz-15 GHz)

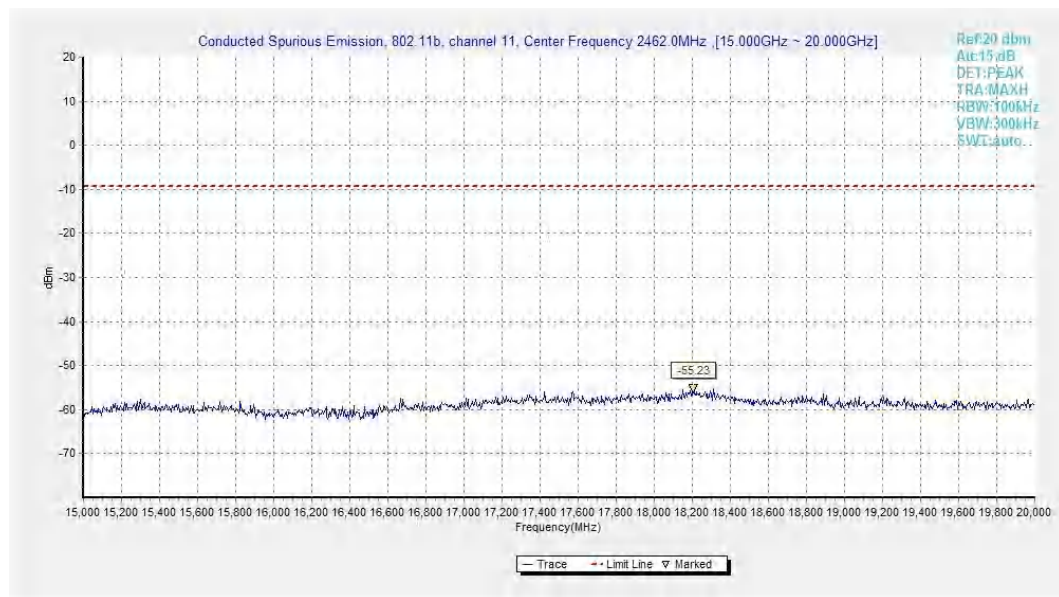


Fig.A.6.1.23 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 15 GHz-20 GHz)

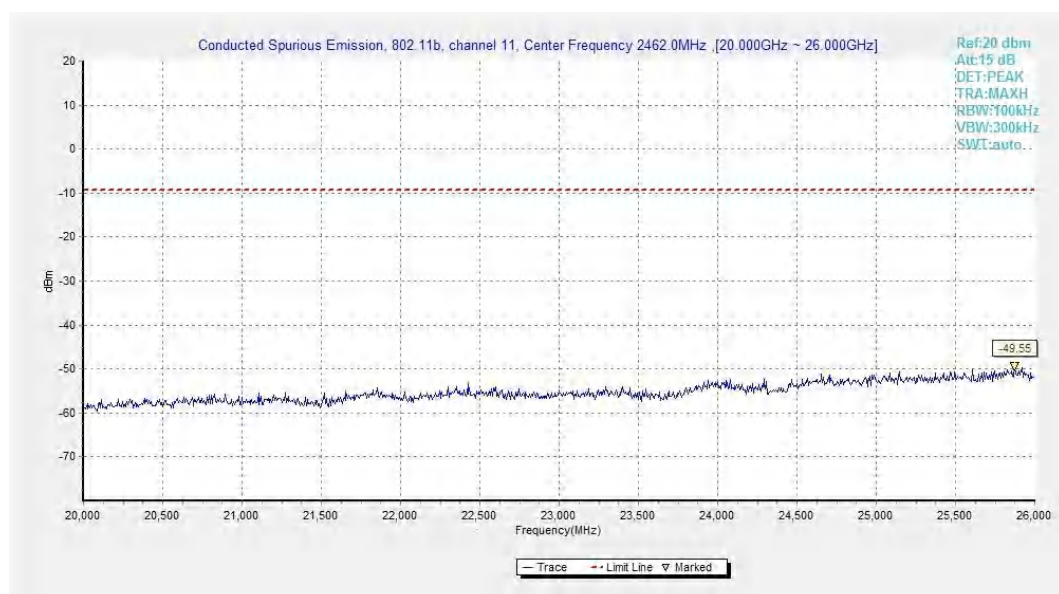


Fig.A.6.1.24 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 20 GHz-26 GHz)

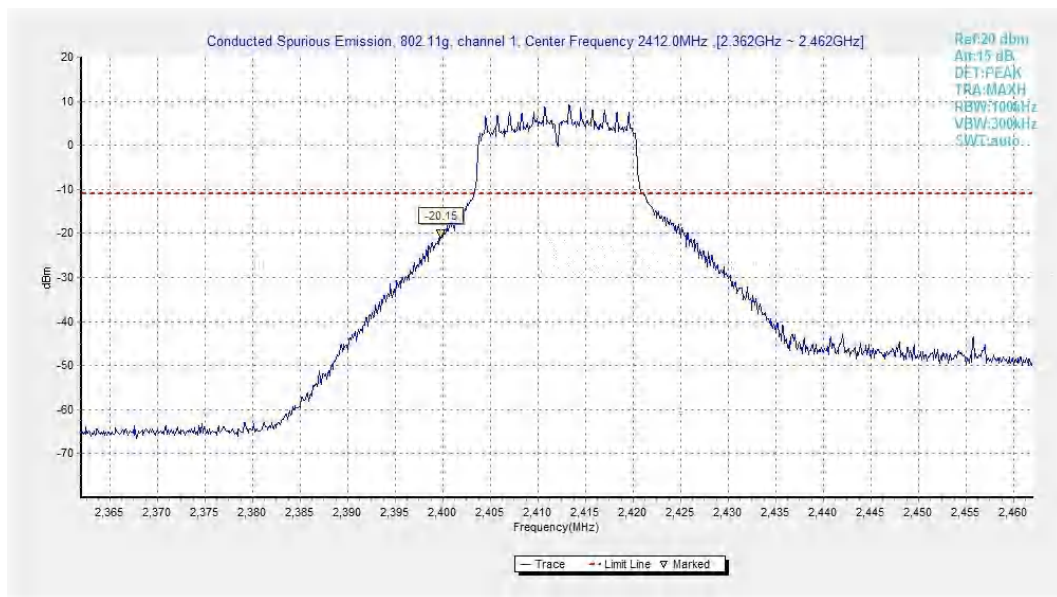


Fig.A.6.1.25 Transmitter Spurious Emission - Conducted (802.11g, Ch1, Center Frequency)

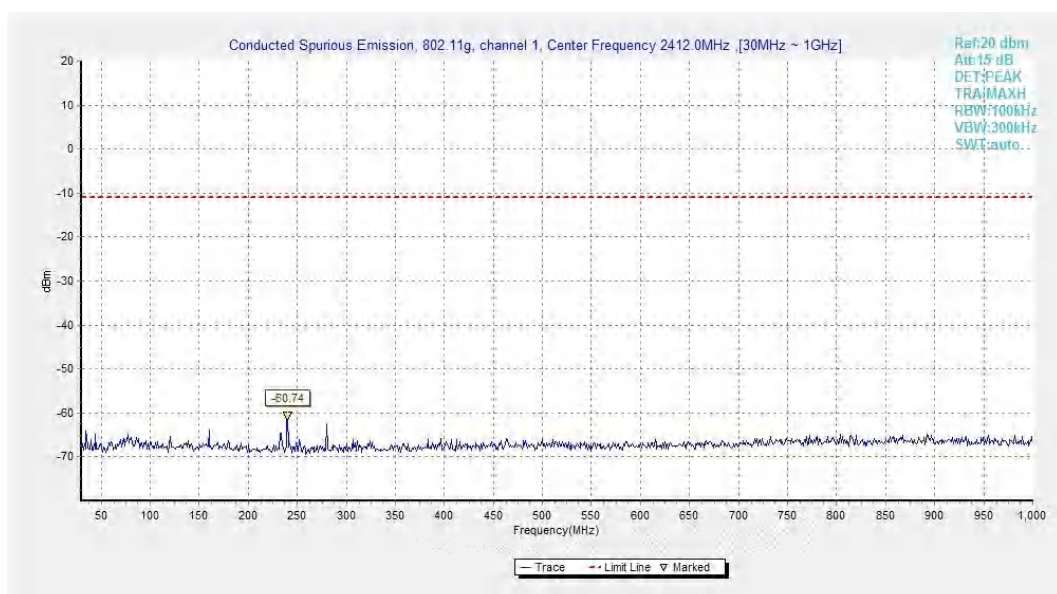


Fig.A.6.1.26 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 30 MHz-1 GHz)