FCC PART 15C
TESTREPORT
No. I15Z41150-SRD03

for

ZTE CORPORATION

LTE/WCDMA/GSM Multi-Mode Ufi

MODEL NAME: MF900

with

FCC ID: SRQ-MF900

Hardware Version: HO2

Software Version: BD_UROSMF900V1.0.0B04

Issued Date: 2015-6-29

TESTING
CNAS L0570

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.

Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I15Z41150-SRD03	Rev.0	1st edition	2015-6-29

CONTENTS

1. Test Laboratory

1.1. TestingLocation

Location 1:CTTL(Huayuan North Road)

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

Location 2:CTTL(Shouxiang)

Address: No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191

1.2. TestingEnvironment

Normal Temperature: 15-35℃

Extreme Temperature: -20/+55℃

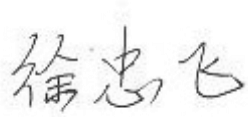
Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2015-05-05

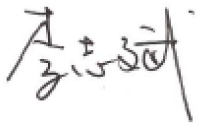
Testing End Date: 2015-06-05

1.4. Signature



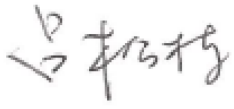
Xu Zhongfei

(Prepared this test report)



Li Zhibin

(Reviewed this test report)



Lv Songdong

(Approved this test report)

2. ClientInformation

2.1. Applicant Information

Company Name:	ZTE CORPORATION
Address:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R. China
Postal Code:	518057
Telephone:	+86-21-68897541
Fax:	+86-21-50801070

2.2. Manufacturer Information

Company Name:	ZTE CORPORATION
Address:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R. China
Postal Code:	518057
Telephone:	+86-21-68897541
Fax:	+86-21-50801070

3. Equipment UnderTest (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	LTE/WCDMA/GSM Multi-Mode Ufi
Model name	MF900
FCC ID	SRQ-MF900
IC ID	/
With WLAN Function	Yes
Frequency Range	ISM 2400MHz~2483.5MHz
Type of Modulation	DSSS/CCK/OFDM
Number of Channels	11
Antenna	Integral Antenna
Power Supply	3.7V DC by Battery

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version
UT01a	/	HO2	BD_UROSMF900V1.0.0B04
UT02a	/	HO2	BD_UROSMF900V1.0.0B04

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

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	Battery	---

*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 LTE/WCDMA/GSM Multi-Mode Ufi with integrated antenna and inbuilt battery.
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: 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.	Oct, 2014
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2009
KDB558074 v03r01	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247	2013

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)	/	P
Peak Power Spectral Density	15.247 (e)	/	P
Occupied 6dB Bandwidth	15.247 (a)	/	P
Band Edges Compliance	15.247 (d)	/	P
Transmitter Spurious Emission - Conducted	15.247(d)	/	P
Transmitter Spurious Emission - Radiated	15.247, 15.205, 15.209	/	P
AC Powerline Conducted Emission	15.107, 15.207	/	P

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
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard
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.

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℃
Voltage	V nom	3.7V(By battery)
Humidity	H nom	44%

6. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	2014-07-08	2015-07-07
2	Test Receiver	ESCI	100344	Rohde & Schwarz	2015-03-04	2016-03-03
3	LISN	ENV216	101200	Rohde & Schwarz	2014-07-08	2015-07-07
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Test Receiver	ESCI 7	100948	Rohde & Schwarz	2014-07-17	2015-07-16
2	Loop antenna	HFH2-Z2	829324/007	Rohde & Schwarz	2014-12-17	2017-12-16
3	BiLog Antenna	VULB9163	234	Schwarzbeck	2013-09-16	2016-09-15
4	Dual-Ridge Waveguide Horn Antenna	3115	6914	EMCO	2014-12-16	2017-12-15
5	Dual-Ridge Waveguide Horn Antenna	3116	2661	ETS-Lindgren	2014-06-18	2017-06-17
6	Vector Signal Analyzer	FSV	101047	Rohde & Schwarz	2014-07-04	2015-07-03
7	Semi-anechoic chamber	/	CT000332-1074	Frankonia German	/	/

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 Analyzerand start measurement.
Record the values. Vector Signal Analyzer

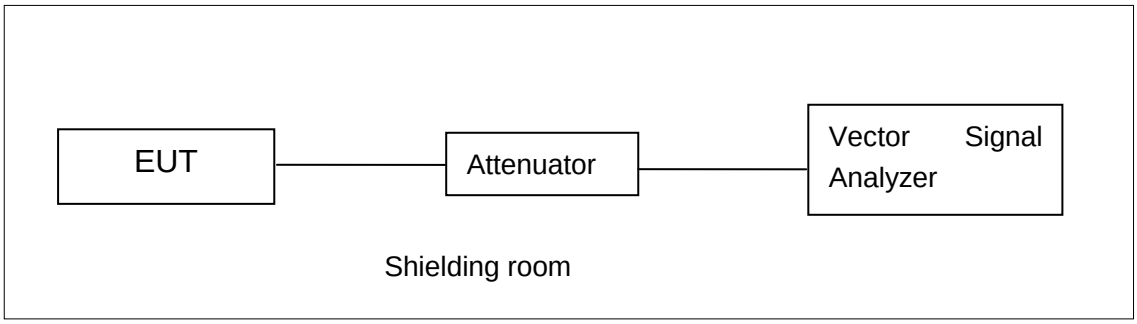


Fig.A.1.1.1: Test Setup Diagram for Conducted Measurements

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;

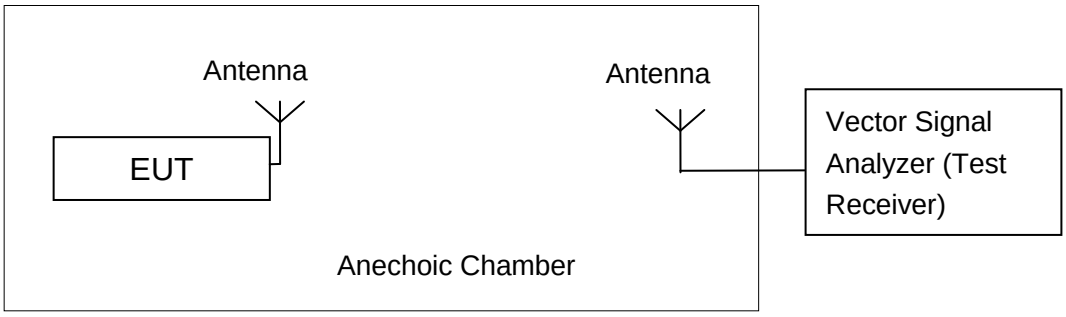


Fig.A.1.2.1: Test Setup Diagram for Radiated Measurements

A.2. Maximum Output Power

Method of Measurement: See ANSI C63.10-2009-clause 6.10.2.1

a) Set the RBW≥6 dB bandwidth of the emission, or use a peak power meter. A peak power meter is required if the 6 dB bandwidth is greater than the capability of the spectrum analyzer (typically 3 MHz RBW).

b) Channel integration method. For peak output power measurements when the analyzer RBW is not large enough, the analyzer band power function can be used. For U-NII output power measurements where power averaging is allowed, see 6.10.3. For the channel integration method, maximum peak power shall be measured over any interval of continuous transmission.

1) Set the RBW and VBW to the maximum available
2) Set the band limits as appropriate for the power measurement; e.g., 6 dB, 20 dB, or 26 dB bandwidth. Expand the band limits by about 0.5 ×RBW on each end
3) Turn averaging off
4) Set sweep to automatic
5) Set the span just large enough to capture the emission
6) Use a peak detector on max hold
7) The analyzer should be in linear (rather than log) display mode
8) Let the emission stabilize before making a final reading

c) Bandwidth correction method.Using largest available analyzer RBW, the BW correction factor is 10 log [(6 dB BW of emission)/ (analyzer RBW)].

d) Record the measured power.

Measurement Limit:

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

EUT ID: EUT2

A.2.1. Data Rate selection

Measurement Results:

802.11b/g mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	16.16	16.46	15.36
	2	16.08	/	/
	5.5	15.70	/	/
	11	15.44	/	/
802.11g	6	15.63	15.83	14.92
	9	15.58	/	/
	12	15.48	/	/
	18	15.34	/	/
	24	14.97	/	/

	36	14.17	/	/
	48	13.28	/	/
	54	12.45	/	/

The data rate 1Mbps and 6Mbps are selected as worse 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	14.66	15.04	13.87
	MCS1	14.37	/	/
	MCS2	14.39	/	/
	MCS3	14.29	/	/
	MCS4	12.59	/	/
	MCS5	12.47	/	/
	MCS6	11.53	/	/
	MCS7	11.46	/	/

The data rate MCS0 is selected as worse 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	13.76	13.29	13.36
	MCS1	13.60	/	/
	MCS2	13.43	/	/
	MCS3	13.27	/	/
	MCS4	11.32	/	/
	MCS5	11.10	/	/
	MCS6	9.45	/	/
	MCS7	9.34	/	/

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

Conclusion:Pass

A.2.2. Maximum Peak Output Power-Conducted

Measurement Results:

802.11b/g mode

Mode	Test Result (dBm)		
	2412MHz(Ch1)	2437MHz(Ch6)	2462 MHz(Ch11)

802.11b	21.98	22.35	20.93
802.11g	23.97	24.21	23.39

802.11n-HT20 mode

Output channel	Test Result (dBm)		
	2412MHz(Ch1)	2437MHz(Ch6)	2462 MHz(Ch11)
Chain 0	23.04	23.52	22.25
Chain 1	22.29	23.34	22.91

802.11n-HT40 mode

Output channel	Test Result (dBm)		
	2422MHz(Ch3)	2437MHz(Ch6)	2452 MHz(Ch9)
Chain 0	22.39	21.94	22.00
Chain 1	21.89	22.08	21.92

802.11n-HT20 MIMO mode

Mode	Test Result (dBm)								
	2412MHz (Ch1)			2437MHz (Ch6)			2462 MHz (Ch11)		
	Chain0	Chain1	Sum	Chain0	Chain1	Sum	Chain0	Chain1	Sum
HT20	23.50	23.19	26.36	24.10	23.62	26.88	23.26	23.10	26.64

802.11n-HT40MIMOmode

Mode	Test Result (dBm)								
	2422MHz (Ch3)			2437MHz (Ch6)			2452 MHz (Ch9)		
	Chain0	Chain1	Sum	Chain0	Chain1	Sum	Chain0	Chain1	Sum
HT40	23.19	22.65	25.94	22.58	22.50	25.55	22.14	22.78	25.48

For MIMO mode, the total power is calculated with all antennas ($P_{Total} = P_{ant1} + P_{ant2}$).

A.2.2. Average Output Power-conducted

Method of Measurement: See ANSI C63.10-2009-clause 6.10.3.1

a) Set span to encompass the entire EBW of the signal.

b) Set RBW = 1 MHz

c) Set VBW =3 MHz

d) Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise, use peak detector mode

e) Use a video trigger with the trigger level set to enable triggering only on full power pulses. Unlicensed wireless device must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to “free run.” Power-gated sweeping may be used to ensure the analyzer sweeps only while the device is transmitting.

f) Trace average across 100 traces in power averaging mode.

g) Compute power by integrating the spectrum across the 26 dB EBW of the signal. The

integration can be performed using the spectrum analyzer band-power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

802.11b/g mode

Mode	Test Result (dBm)		
	2412MHz(Ch1)	2437MHz(Ch6)	2462 MHz(Ch11)
802.11b	16.16	16.46	15.36
802.11g	15.63	15.83	14.92

802.11n-HT20 mode

Output channel	Test Result (dBm)		
	2412MHz(Ch1)	2437MHz(Ch6)	2462 MHz(Ch11)
Chain 0	14.66	15.04	13.87
Chain 1	13.78	14.86	14.41

802.11n-HT40 mode

Output channel	Test Result (dBm)		
	2422MHz(Ch3)	2437MHz(Ch6)	2452 MHz(Ch9)
Chain 0	13.76	13.29	13.36
Chain 1	13.23	13.49	13.30

802.11n-HT20MIMO mode

Mode	Test Result (dBm)								
	2412MHz (Ch1)			2437MHz (Ch6)			2462 MHz (Ch11)		
	Chain0	Chain1	Sum	Chain0	Chain1	Sum	Chain0	Chain1	Sum
HT20	14.43	14.24	17.35	15.09	14.68	17.90	14.21	14.17	17.20

802.11n-HT40MIMO mode

Mode	Test Result (dBm)								
	2422MHz (Ch3)			2437MHz (Ch6)			2452 MHz (Ch9)		
	Chain0	Chain1	Sum	Chain0	Chain1	Sum	Chain0	Chain1	Sum
HT40	13.93	13.49	16.73	13.39	13.31	16.36	13.01	13.60	16.33

For MIMO mode, the total power is calculated with all antennas ($P_{Total} = P_{ant1} + P_{ant2}$).

Conclusion: Pass

A.3. Peak Power Spectral Density

Method of Measurement: See ANSI C63.10-2009-clause 6.11.2.4

The measurement procedure shall be as follows:

Connect the antenna port to be measured through the 20 dB pad to the spectrum analyzer input. Configure the spectrum analyzer as described below (all losses between the unlicensed wireless device output and the spectrum analyzer, such as attenuator value, cable losses and other offsets shall be recorded). Locate and zoom in on emission peak(s) within the passband.

a) Set RBW = 3 kHz

b) Set VBW ≥ 9 kHz

c) Set Sweep time to Automatic

d) Use a peak detector. A sample detector mode can be used only if the following conditions can be achieved with automatic sweep time and adjusting the bin width.

1) Bin width (i.e., span/number of points in spectrum display) < 0.5 RBW.

2) The transmission pulse or sequence of pulses remains at maximum transmit power throughout each of the 100 sweeps of averaging and that the interval between pulses is not included in any of the sweeps.

e) Use a video trigger (or RF gating) with the trigger level set to enable the sweep only during full power pulses. Transmitter shall operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to "free run."

f) Trace average 100 traces in power averaging mode. Do not use video averaging mode.

Measurement Limit:

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

Measurement Results:

802.11b/g mode

Mode	Channel	Power Spectral Density (dBm/3 kHz)	Conclusion
802.11b	1	-6.38	**P**
	6	-5.77	**P**
	11	-7.34	**P**
802.11g	1	-9.70	**P**
	6	-10.21	**P**
	11	-10.33	**P**

802.11n-HT20 mode

Chain0

Mode	Channel	Power Spectral Density (dBm/3 kHz)	Conclusion
802.11n (HT20)	1	-8.68	**P**
	6	-8.15	**P**
	11	-8.61	**P**

Chain1

Mode	Channel	Power Spectral Density (dBm/3 kHz)	Conclusion
802.11n (HT20)	1	-9.46	**P**
	6	-8.64	**P**
	11	-8.97	**P**

802.11n-HT40 mode

Chain0

Mode	Channel	Power Spectral Density (dBm/3 kHz)	Conclusion
802.11n (HT40)	3	-12.07	**P**
	6	-12.92	**P**
	9	-12.93	**P**

Chain1

Mode	Channel	Power Spectral Density (dBm/3 kHz)	Conclusion
802.11n (HT40)	3	-12.55	**P**
	6	-13.07	**P**
	9	-13.40	**P**

For MIMO measurement, 10 log(N_{ANT}) dB is added, where N_{ANT} is the number of outputs. Here, the is N_{ANT} = 2, so the 10 log(N_{ANT}) is equal to 3.01 dB.

Conclusion:Pass

A.4. DTS 6-dB Signal Bandwidth

Method of Measurement: See KDB558074 section 8.1 (Option 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: EUT2

Measurement Result:

802.11b/g mode

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11b	1	Fig.A.4.1	6600	P
	6	Fig.A.4.2	6150	P
	11	Fig.A.4.3	6550	P
802.11g	1	Fig.A.4.4	15450	P
	6	Fig.A.4.5	15800	P
	11	Fig.A.4.6	17150	P

802.11n-HT20 mode

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11n (HT20)	1	Fig.A.4.7	17150	P
	6	Fig.A.4.8	16850	P
	11	Fig.A.4.9	17150	P

802.11n-HT40 mode

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11n (HT40)	3	Fig.A.4.10	35760	P
	6	Fig.A.4.11	35120	P
	9	Fig.A.4.12	36320	P

Conclusion: Pass

Test graphs as below:

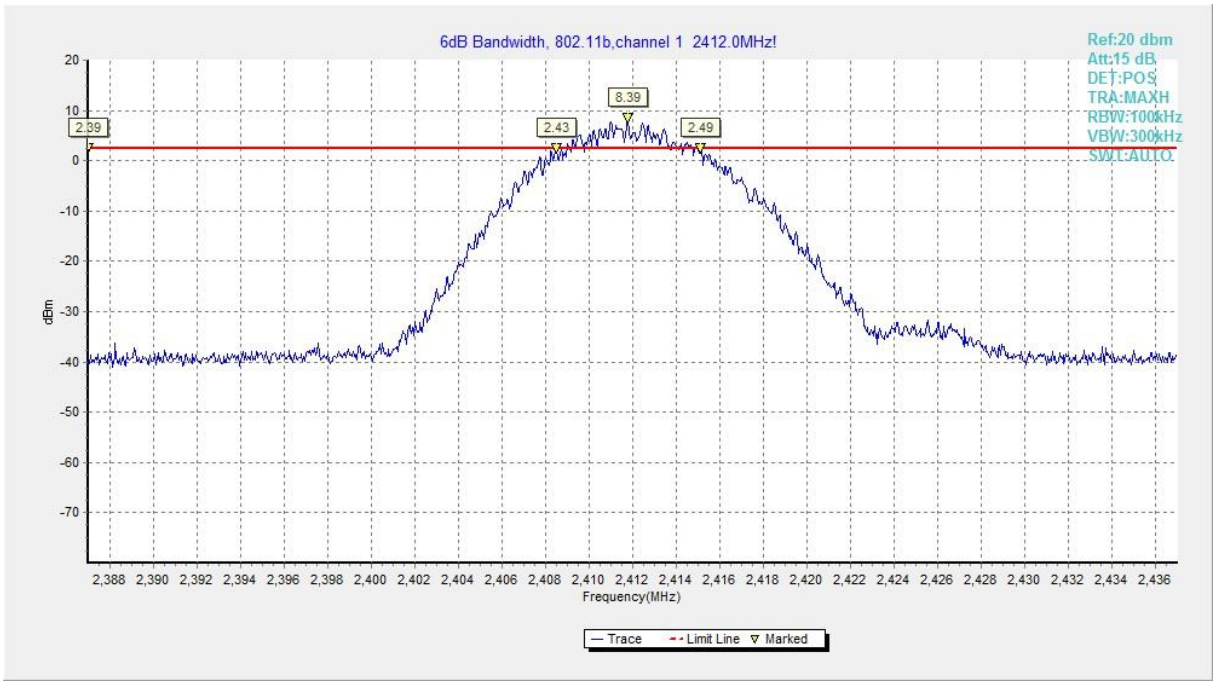


Fig.A.4.1 Occupied 6dB Bandwidth(802.11b,Ch 1)

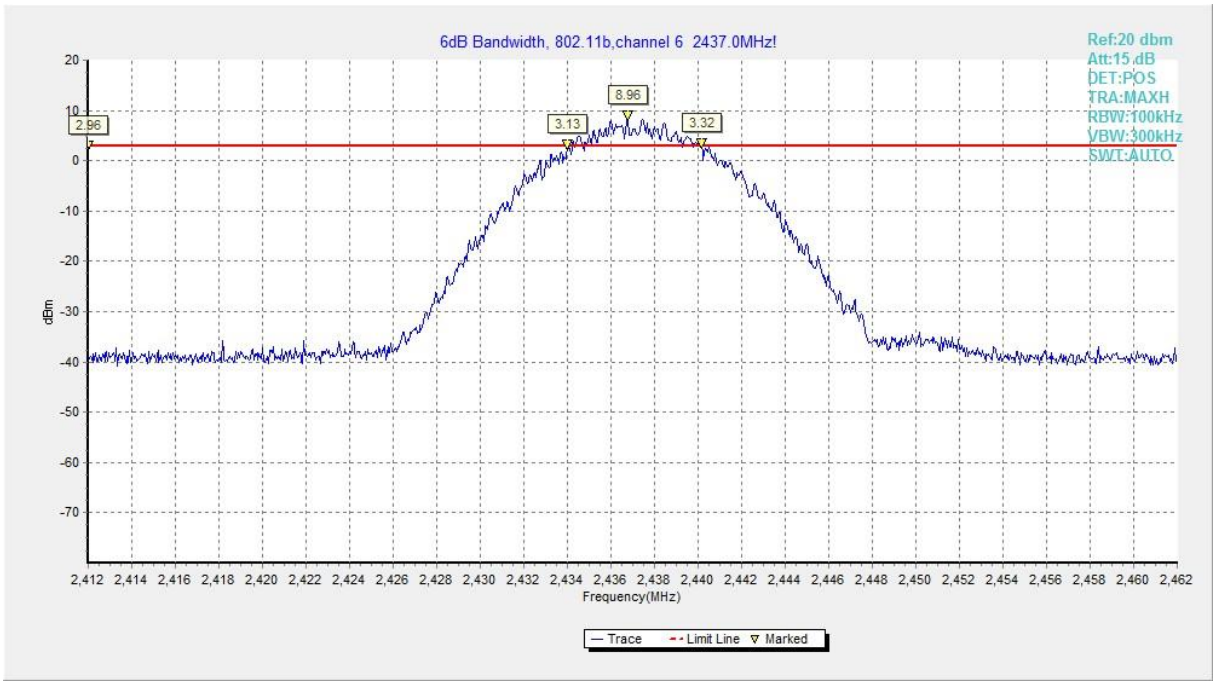


Fig.A.4.2 Occupied 6dB Bandwidth (802.11b, Ch 6)

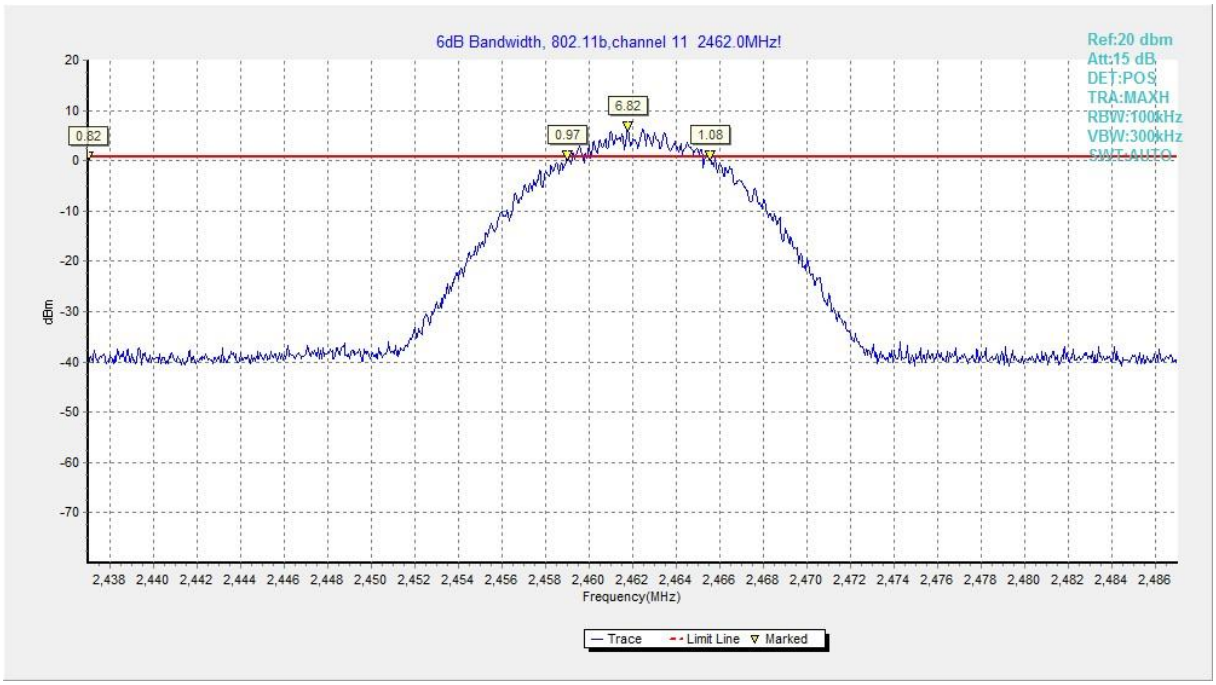


Fig.A.4.3 Occupied 6dB Bandwidth (802.11b, Ch 11)

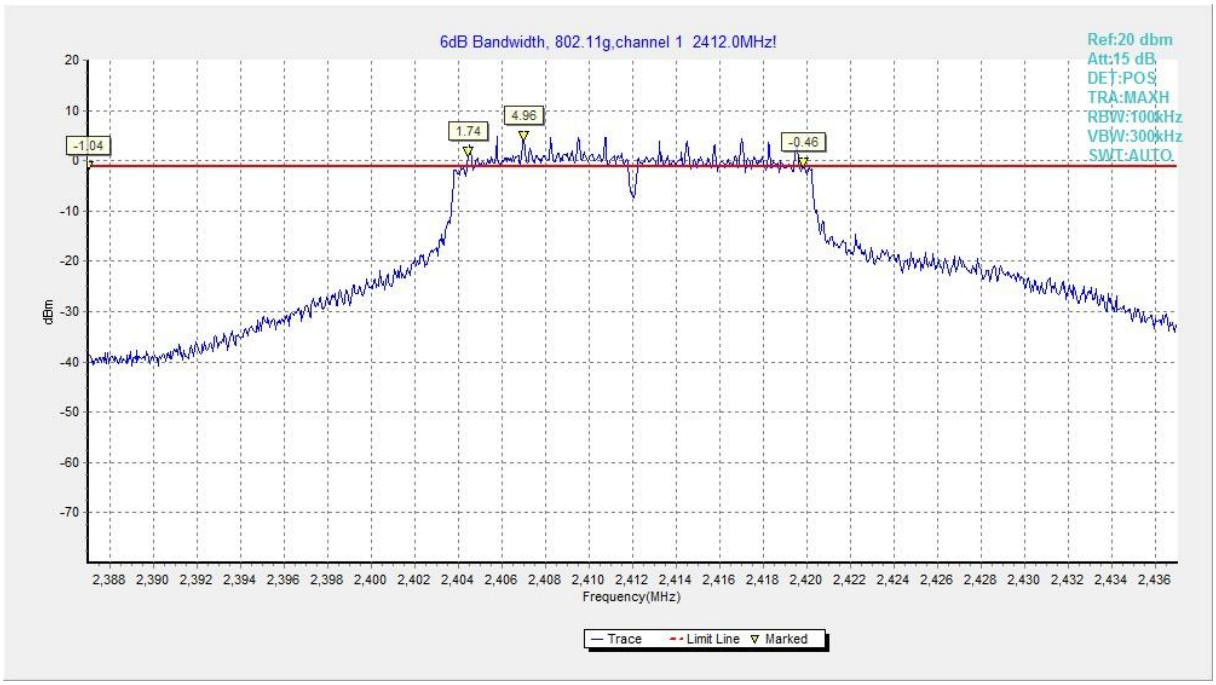


Fig.A.4.4 Occupied 6dB Bandwidth (802.11g, Ch 1)

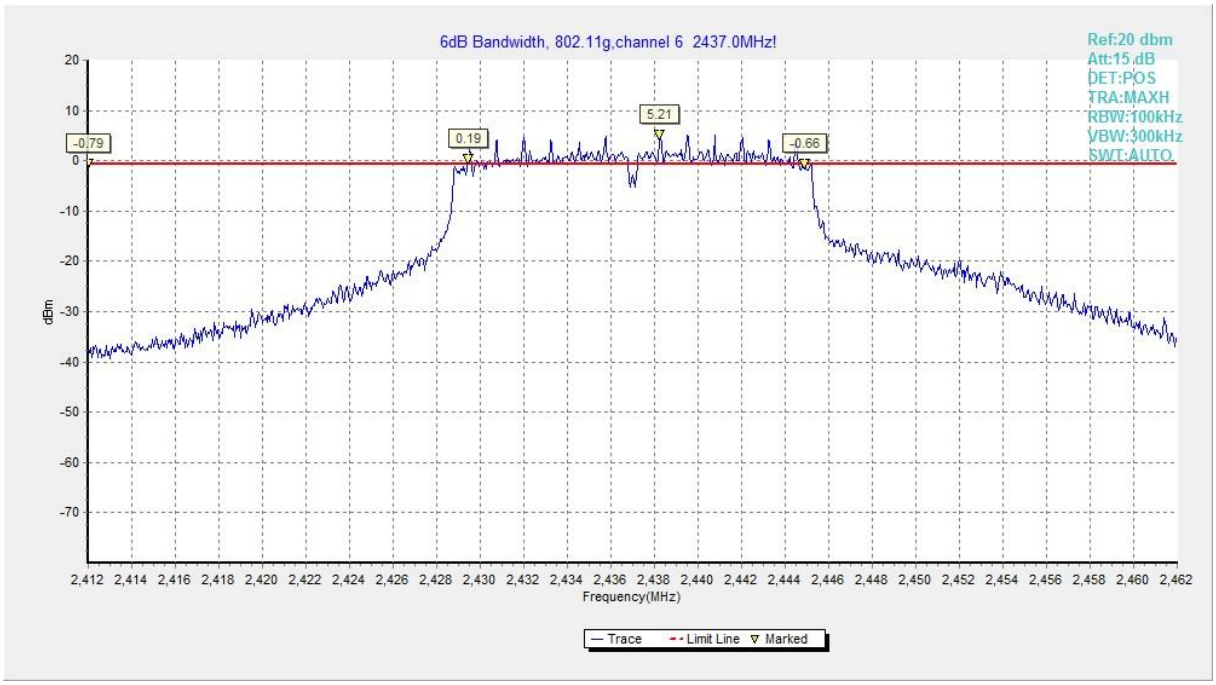


Fig.A.4.5 Occupied 6dB Bandwidth (802.11g, Ch 6)

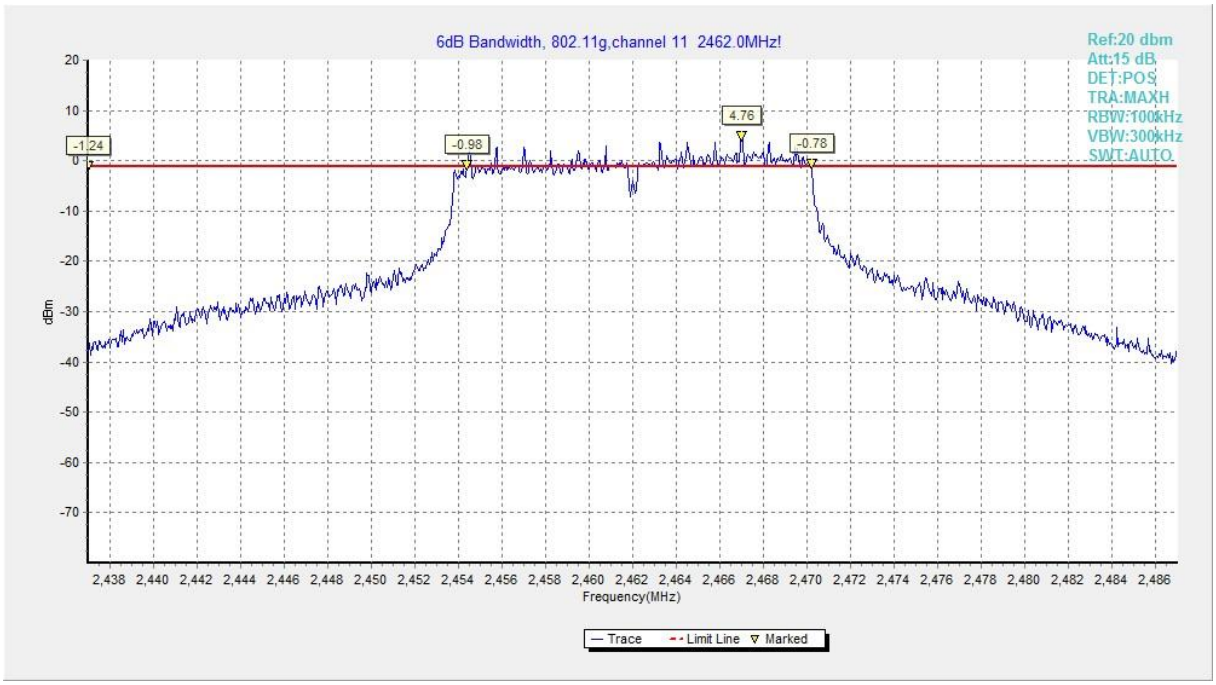


Fig.A.4.6 Occupied 6dB Bandwidth (802.11g, Ch 11)

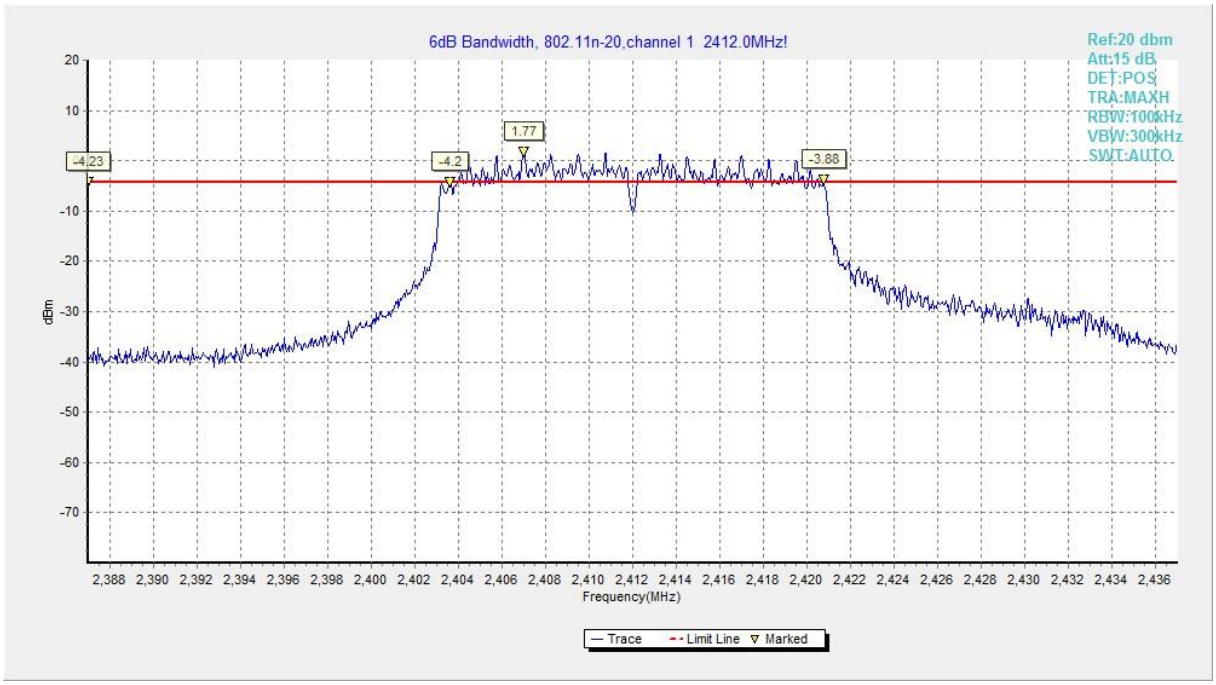


Fig.A.4.7 Occupied 6dB Bandwidth (802.11n-20MHz, Ch 1)

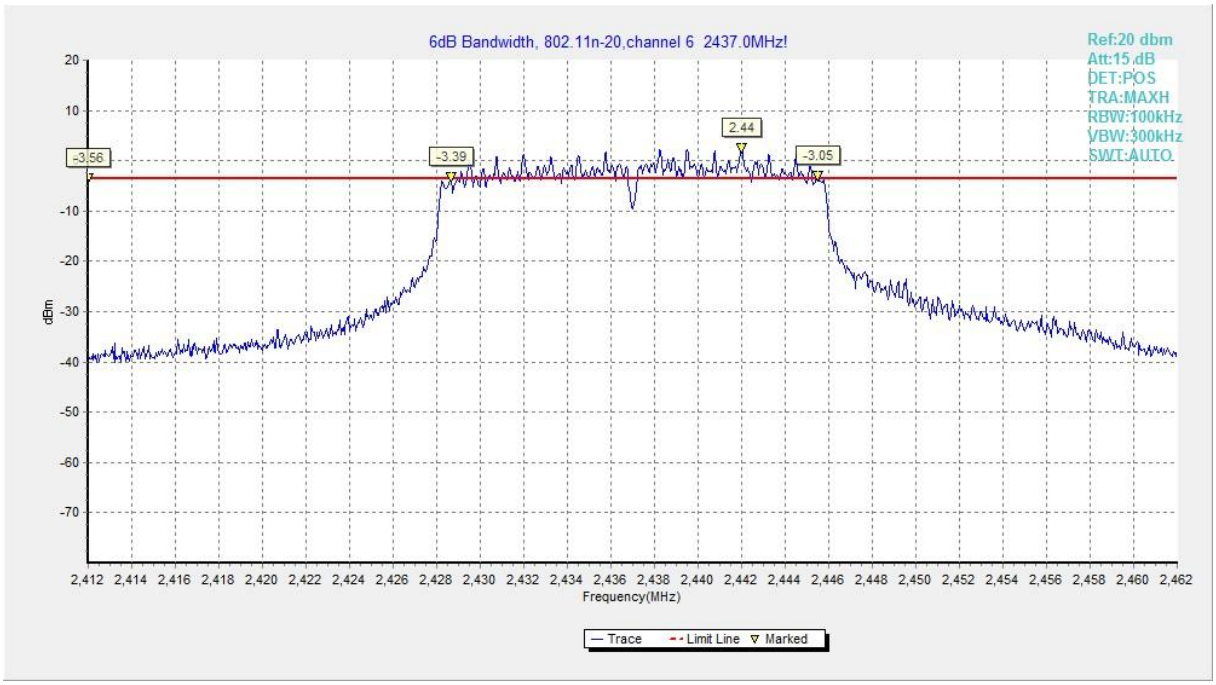


Fig.A.4.8 Occupied 6dB Bandwidth (802.11n-HT20, Ch 6)

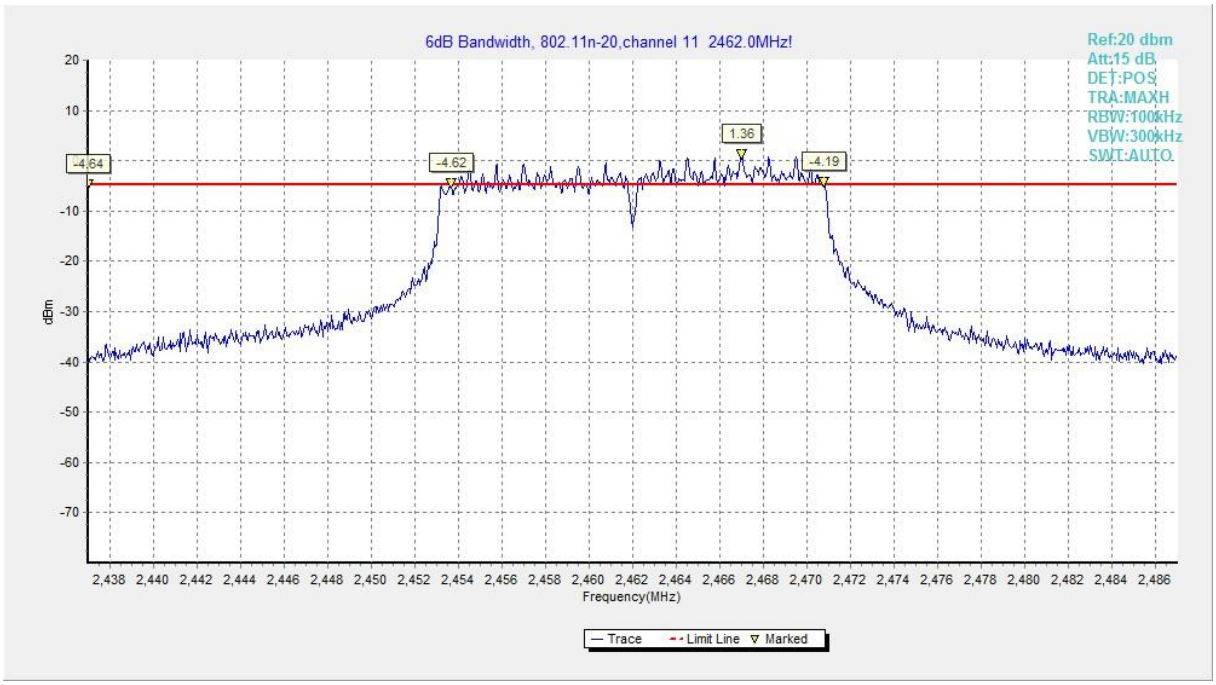


Fig.A.4.9 Occupied 6dB Bandwidth (802.11n-HT20, Ch 11)

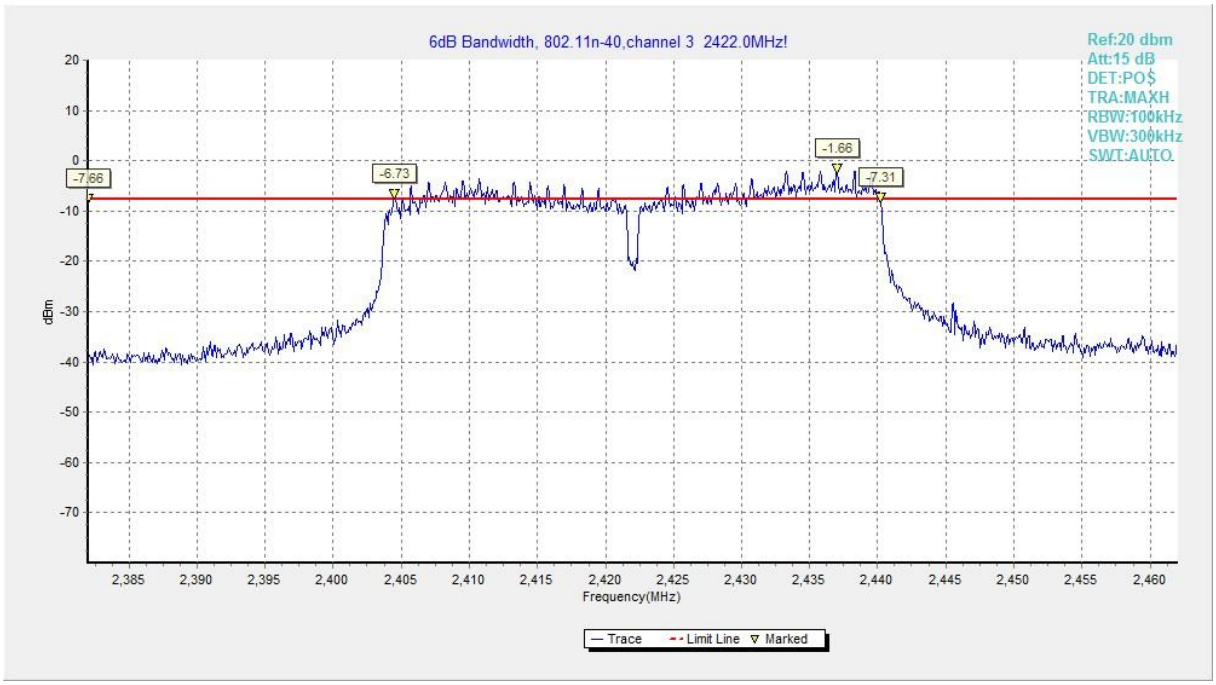


Fig.A.4.10 Occupied 6dB Bandwidth (802.11n-40MHz, Ch 3)

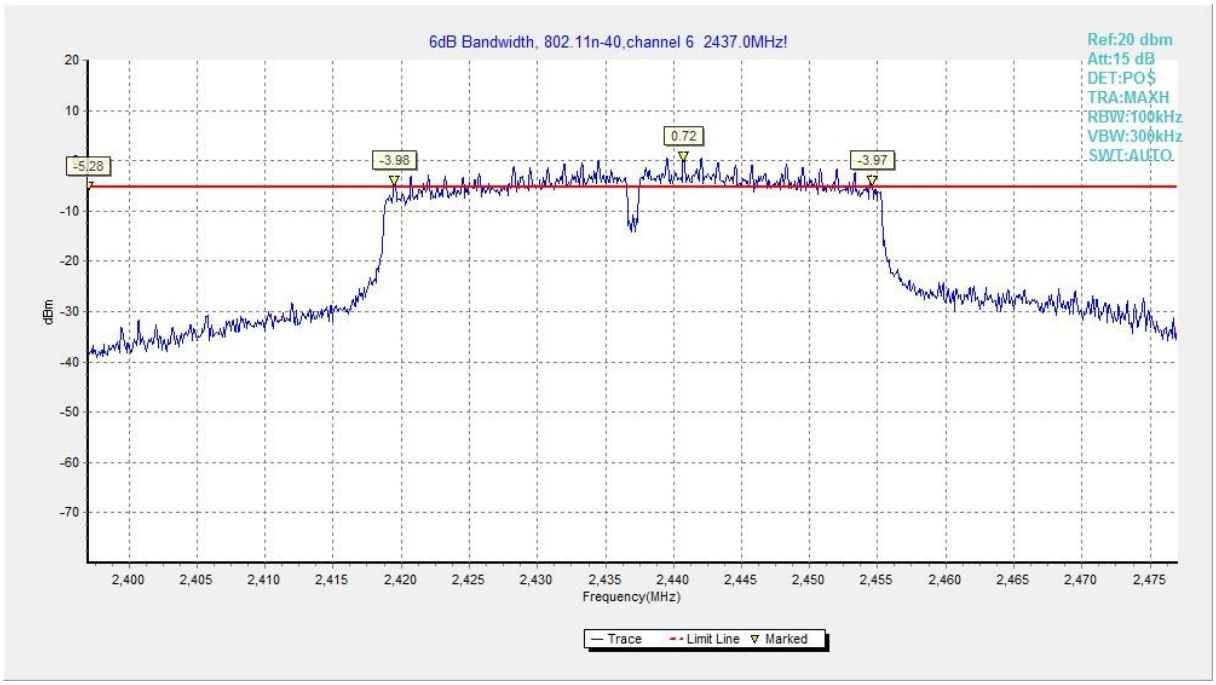


Fig.A.4.11 Occupied 6dB Bandwidth (802.11n-HT40, Ch 6)

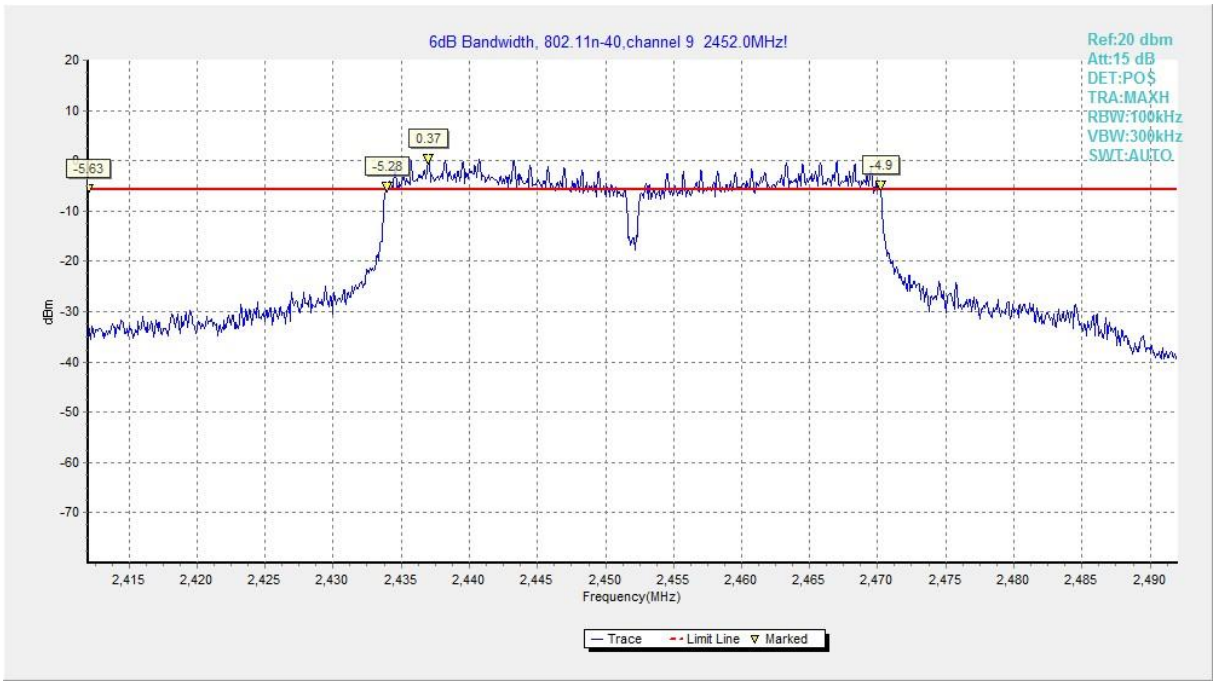


Fig.A.4.12 Occupied 6dB Bandwidth (802.11n-HT40, Ch 9)

A.5. Band Edges Compliance

Method of Measurement: See ANSI C63.10-2009-clause 6.9.2

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: EUT2

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

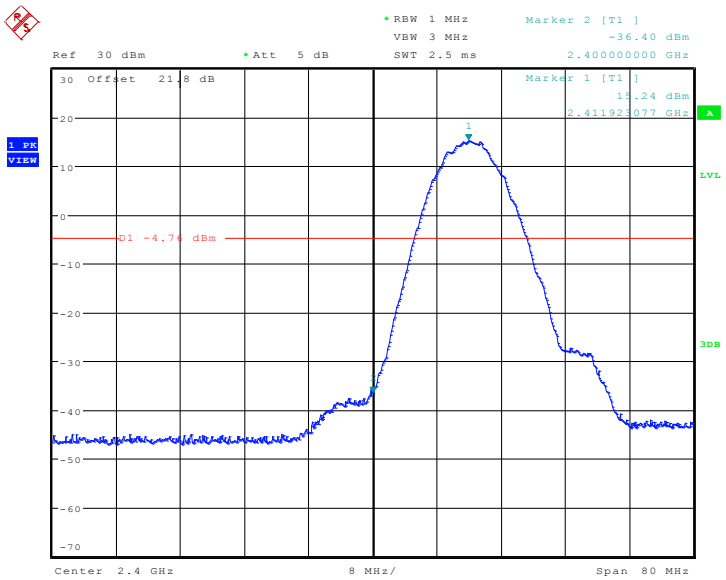
Mode	Channel	Test Results	Conclusion
802.11n (HT20)	1	Fig.A.5.5	**P**
	11	Fig.A.5.6	**P**

802.11n-HT40 mode

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

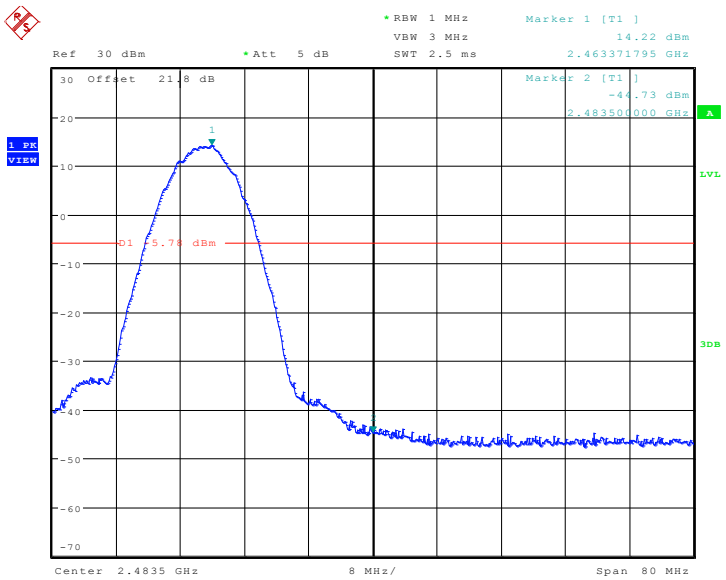
Conclusion: Pass

Test graphs as below:



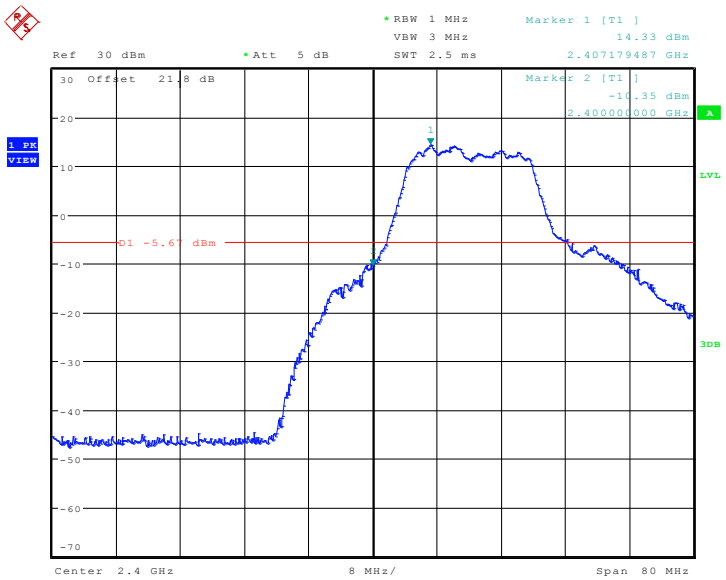
Date: 19.JUN.2015 18:43:38

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



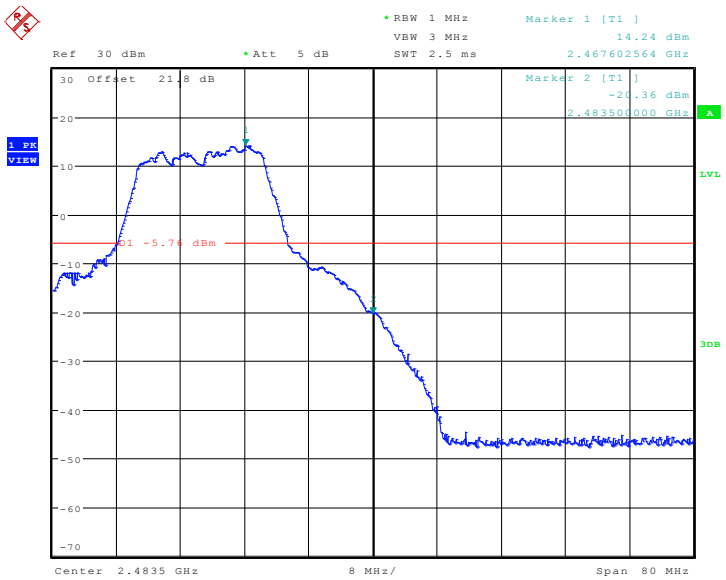
Date: 19.JUN.2015 18:51:58

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



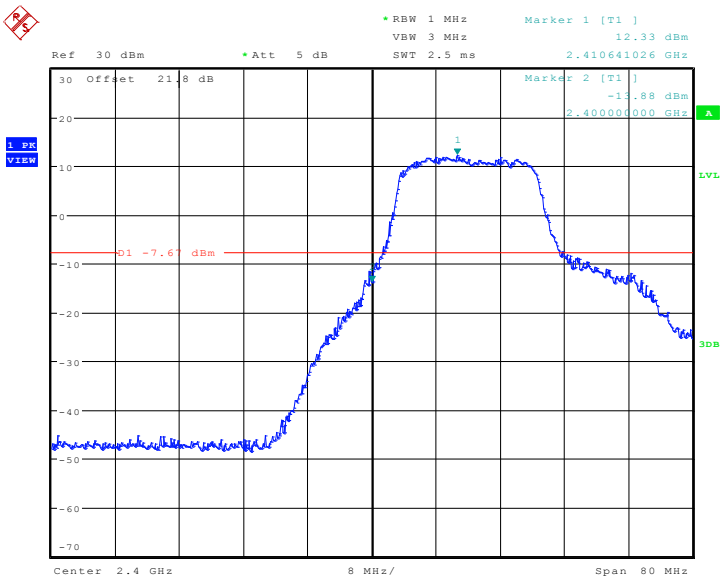
Date: 19.JUN.2015 18:45:09

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



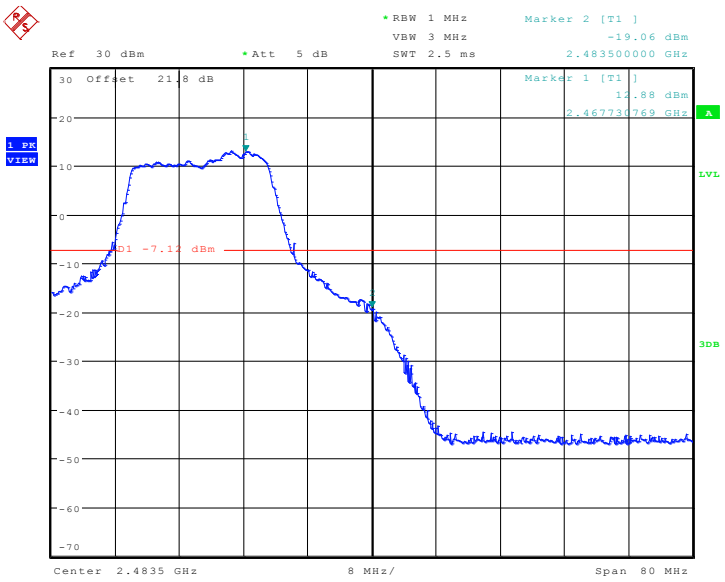
Date: 19.JUN.2015 18:51:12

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



Date: 19.JUN.2015 18:46:34

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



Date: 19.JUN.2015 18:50:14

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

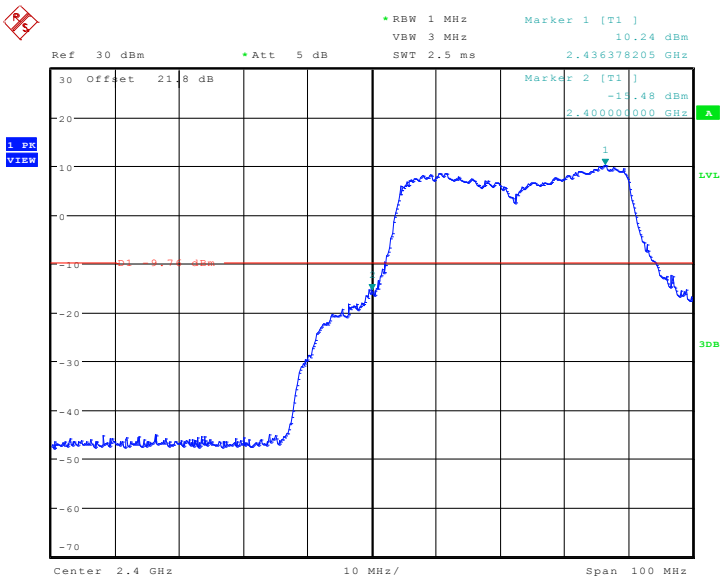


Fig.A.5.7 Band Edges (802.11n-HT40, Ch 3)

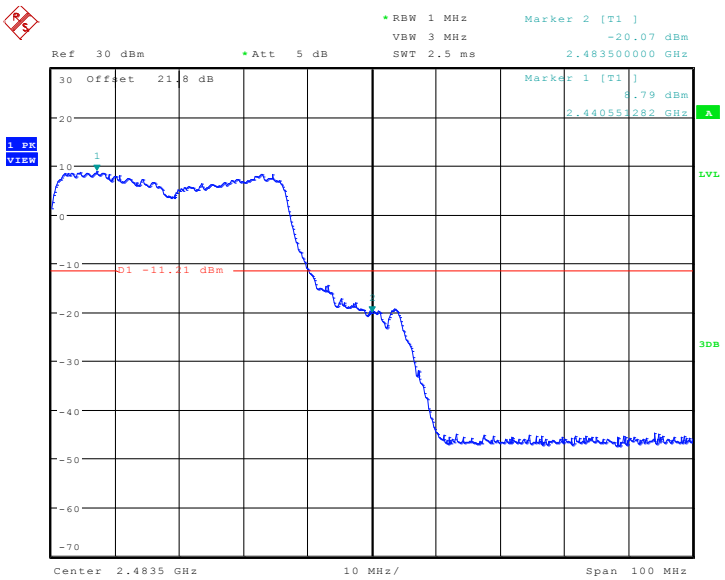


Fig.A.5.8 Band Edges (802.11n-HT40, Ch 9)

A.6. Transmitter Spurious Emission

A.6.1 Transmitter Spurious Emission – Conducted

Method of Measurement: See ANSI C63.10-2009-clause 6.5&6.6

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: EUT2

Measurement Results:

802.11b mode

MODE	Channel	FrequencyRange	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	FrequencyRange	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

Chain0：

MODE	Channel	FrequencyRange	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**

Chain1：

MODE	Channel	FrequencyRange	Test Results	Conclusion
802.11n (HT20)	1	2.412 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**
	11	2.462 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**

802.11n-HT40 mode

Chain0：

MODE	Channel	FrequencyRange	Test Results	Conclusion
802.11n (HT40)	3	2.422 GHz	Fig.A.6.1.97	**P**
		30 MHz ~ 1 GHz	Fig.A.6.1.98	**P**
		1 GHz ~ 2.5 GHz	Fig.A.6.1.99	**P**
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.100	**P**
		7.5 GHz ~ 10 GHz	Fig.A.6.1.101	**P**
		10 GHz ~ 15 GHz	Fig.A.6.1.102	**P**
		15 GHz ~ 20 GHz	Fig.A.6.1.103	**P**
		20 GHz ~ 26 GHz	Fig.A.6.1.104	**P**
	6	2.437 GHz	Fig.A.6.1.105	**P**
		30 MHz ~ 1 GHz	Fig.A.6.1.106	**P**
		1 GHz ~ 2.5 GHz	Fig.A.6.1.107	**P**
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.108	**P**
		7.5 GHz ~ 10 GHz	Fig.A.6.1.109	**P**
		10 GHz ~ 15 GHz	Fig.A.6.1.110	**P**
		15 GHz ~ 20 GHz	Fig.A.6.1.111	**P**
		20 GHz ~ 26 GHz	Fig.A.6.1.112	**P**
	9	2.452 GHz	Fig.A.6.1.113	**P**
		30 MHz ~ 1 GHz	Fig.A.6.1.114	**P**
		1 GHz ~ 2.5 GHz	Fig.A.6.1.115	**P**
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.116	**P**
		7.5 GHz ~ 10 GHz	Fig.A.6.1.117	**P**
		10 GHz ~ 15 GHz	Fig.A.6.1.118	**P**
		15 GHz ~ 20 GHz	Fig.A.6.1.119	**P**
		20 GHz ~ 26 GHz	Fig.A.6.1.120	**P**

Chain1：

MODE	Channel	FrequencyRange	Test Results	Conclusion
802.11n (HT40)	3	2.422 GHz	Fig.A.6.1.121	**P**
		30 MHz ~ 1 GHz	Fig.A.6.1.122	**P**
		1 GHz ~ 2.5 GHz	Fig.A.6.1.123	**P**
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.124	**P**
		7.5 GHz ~ 10 GHz	Fig.A.6.1.125	**P**
		10 GHz ~ 15 GHz	Fig.A.6.1.126	**P**
		15 GHz ~ 20 GHz	Fig.A.6.1.127	**P**
		20 GHz ~ 26 GHz	Fig.A.6.1.128	**P**
	6	2.437 GHz	Fig.A.6.1.129	**P**
		30 MHz ~ 1 GHz	Fig.A.6.1.130	**P**
		1 GHz ~ 2.5 GHz	Fig.A.6.1.131	**P**
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.132	**P**
		7.5 GHz ~ 10 GHz	Fig.A.6.1.133	**P**
		10 GHz ~ 15 GHz	Fig.A.6.1.134	**P**
		15 GHz ~ 20 GHz	Fig.A.6.1.135	**P**
		20 GHz ~ 26 GHz	Fig.A.6.1.136	**P**
	9	2.452 GHz	Fig.A.6.1.137	**P**
		30 MHz ~ 1 GHz	Fig.A.6.1.138	**P**
		1 GHz ~ 2.5 GHz	Fig.A.6.1.139	**P**
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.140	**P**
		7.5 GHz ~ 10 GHz	Fig.A.6.1.141	**P**
		10 GHz ~ 15 GHz	Fig.A.6.1.142	**P**
		15 GHz ~ 20 GHz	Fig.A.6.1.143	**P**
		20 GHz ~ 26 GHz	Fig.A.6.1.144	**P**

Conclusion: Pass

Test graphs as below:

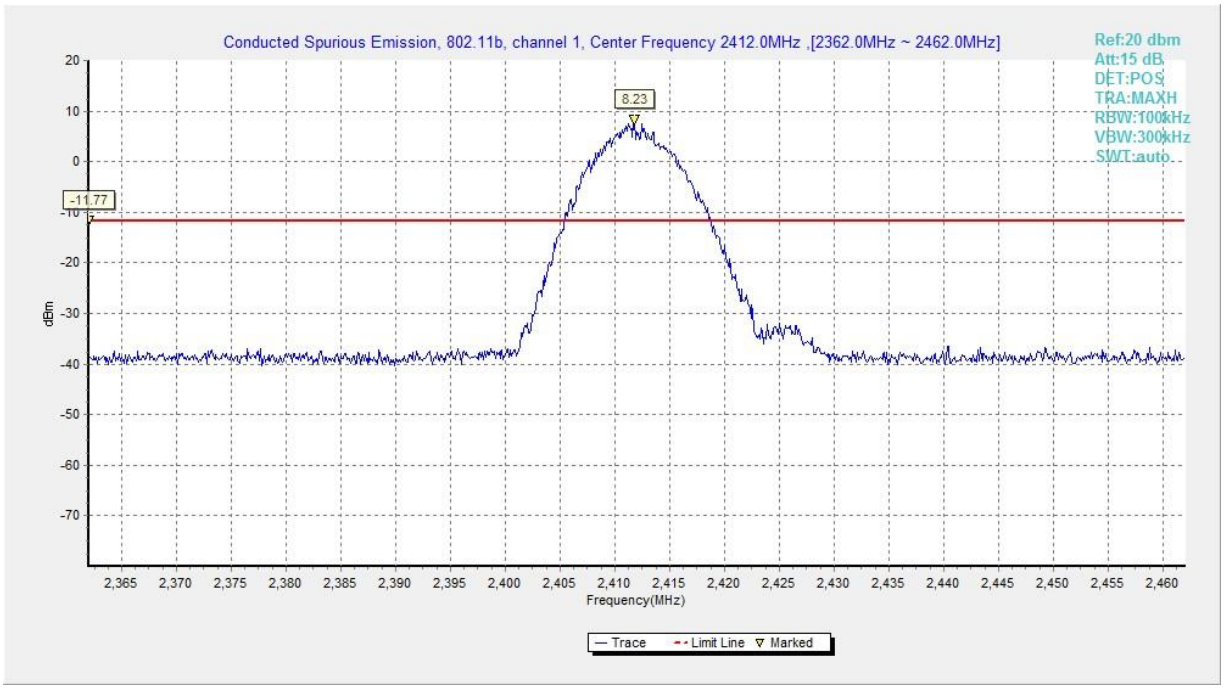


Fig.A.6.1.1 Transmitter Spurious Emission - Conducted (802.11b, Ch1, Center Frequency)

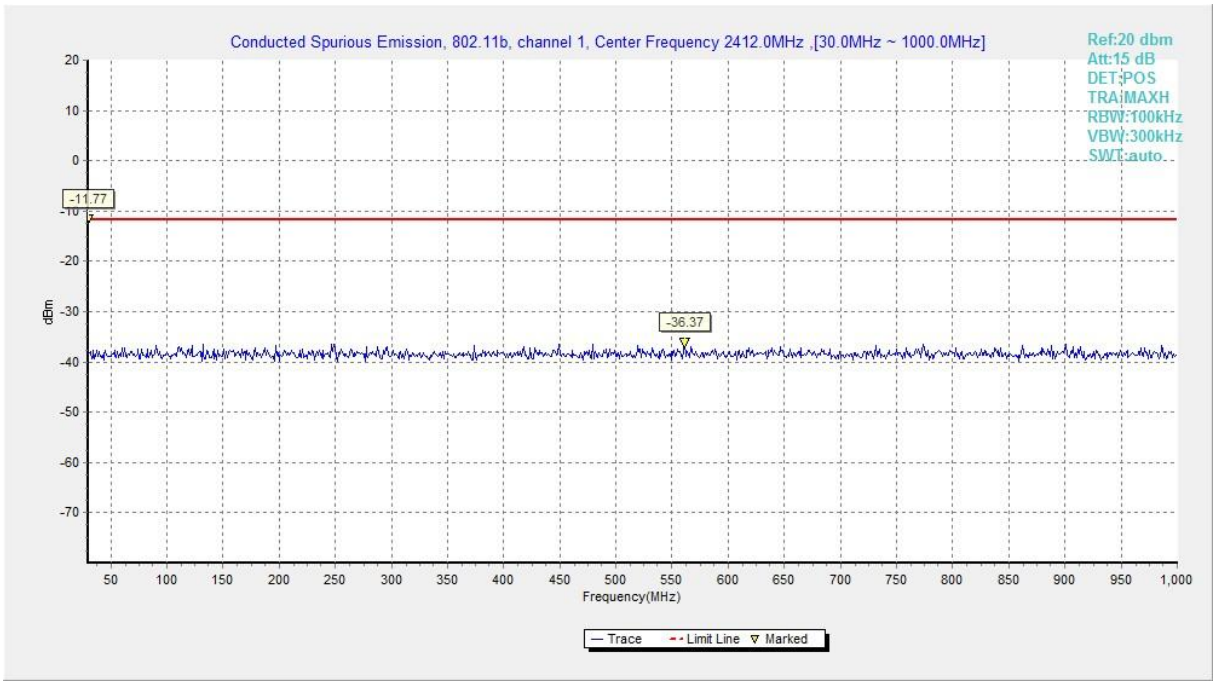


Fig.A.6.1.2 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 30 MHz-1 GHz)

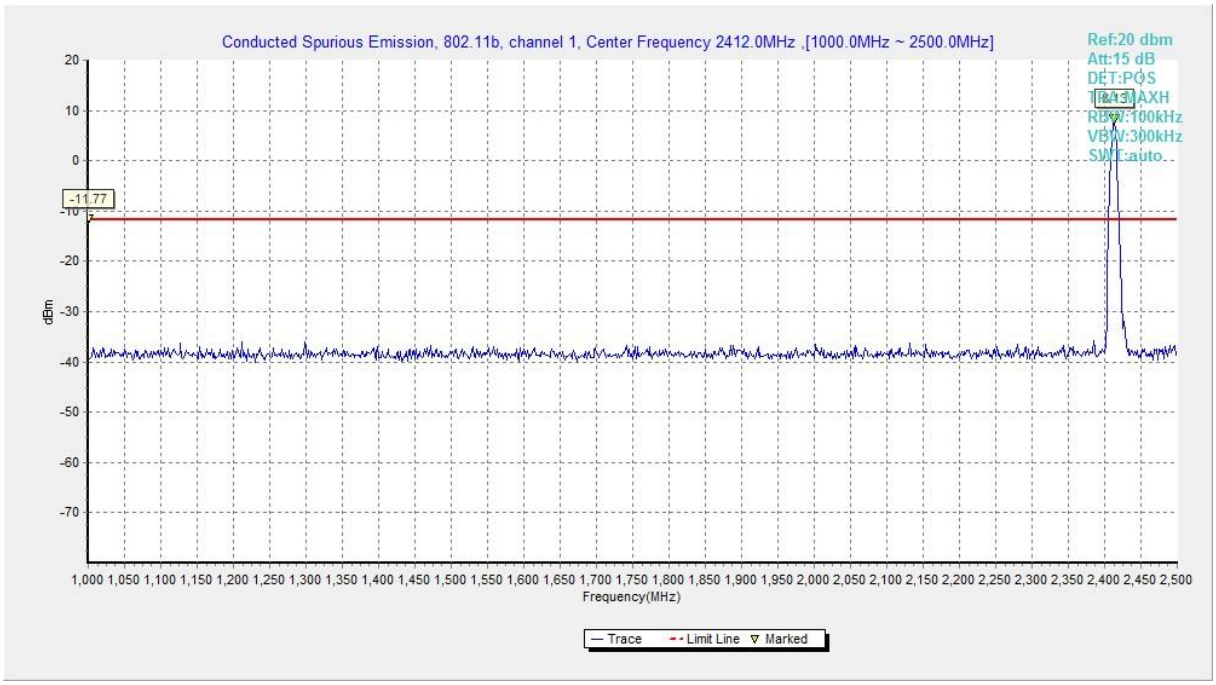


Fig.A.6.1.3 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 1 GHz-2.5 GHz)

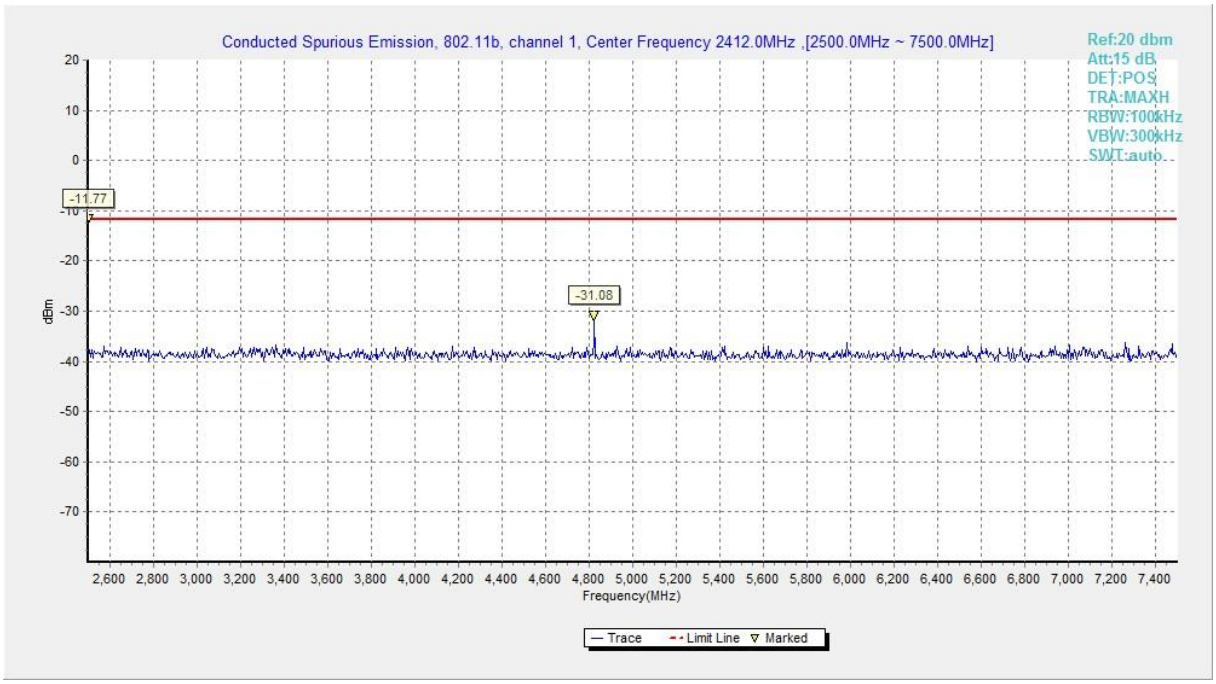


Fig.A.6.1.4 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 2.5 GHz-7.5 GHz)

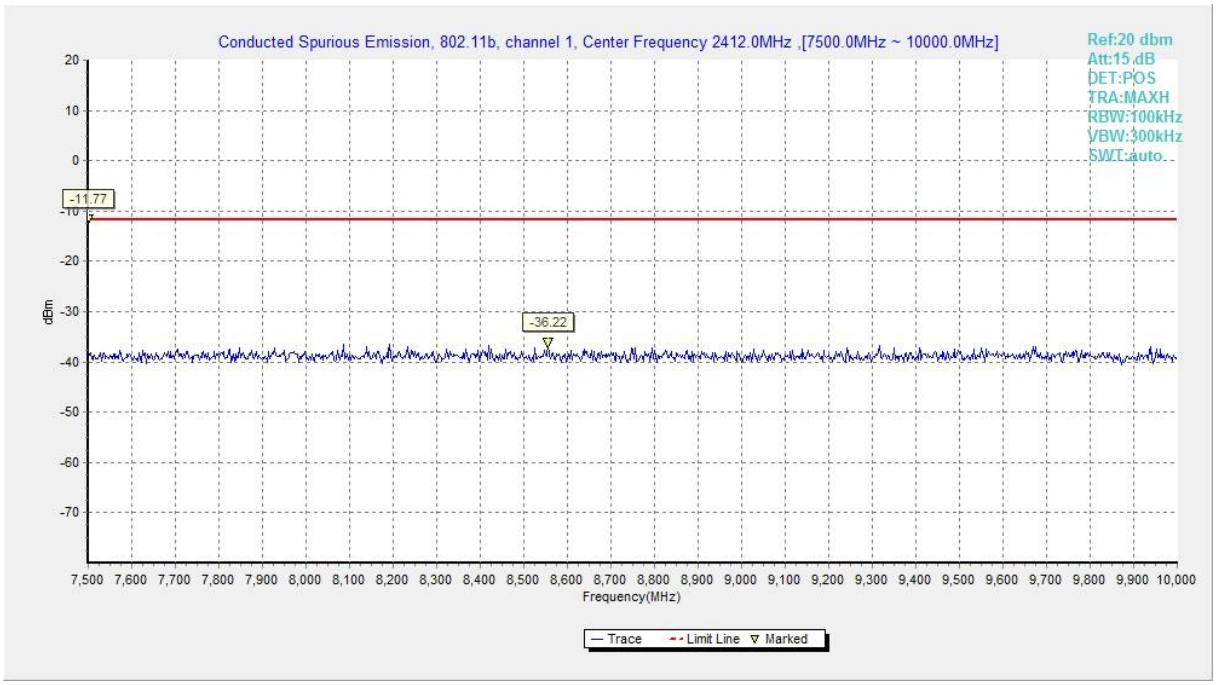


Fig.A.6.1.5 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 7.5 GHz-10 GHz)

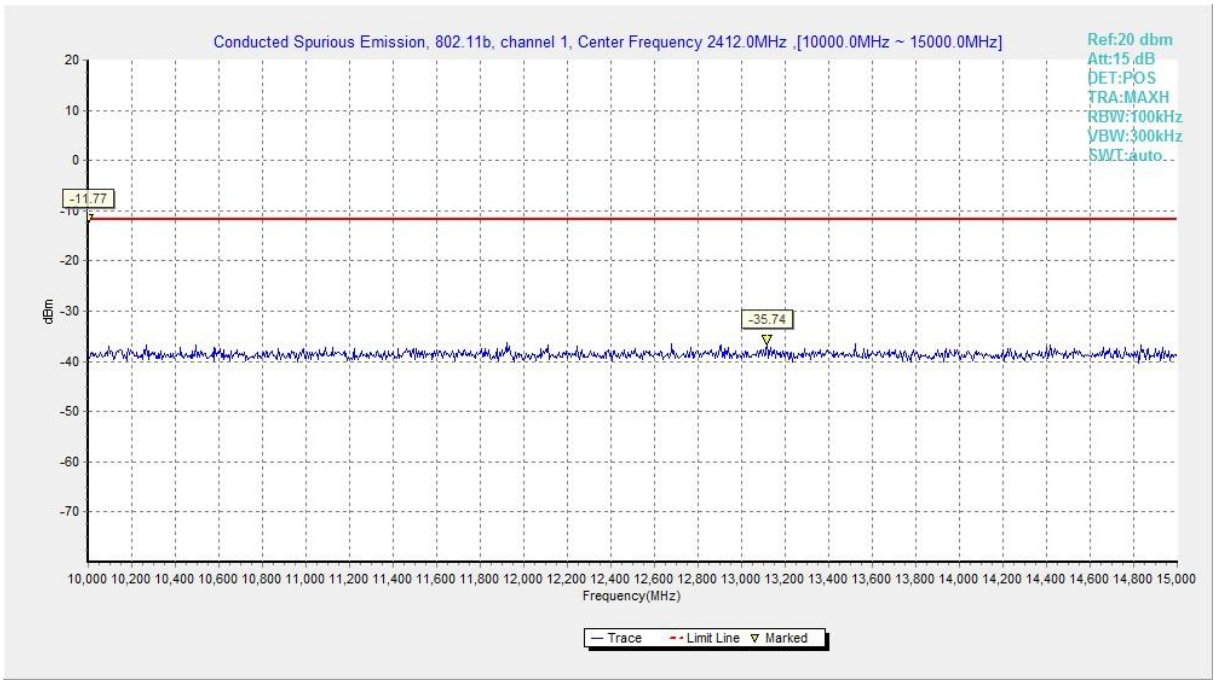


Fig.A.6.1.6 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 10 GHz-15 GHz)

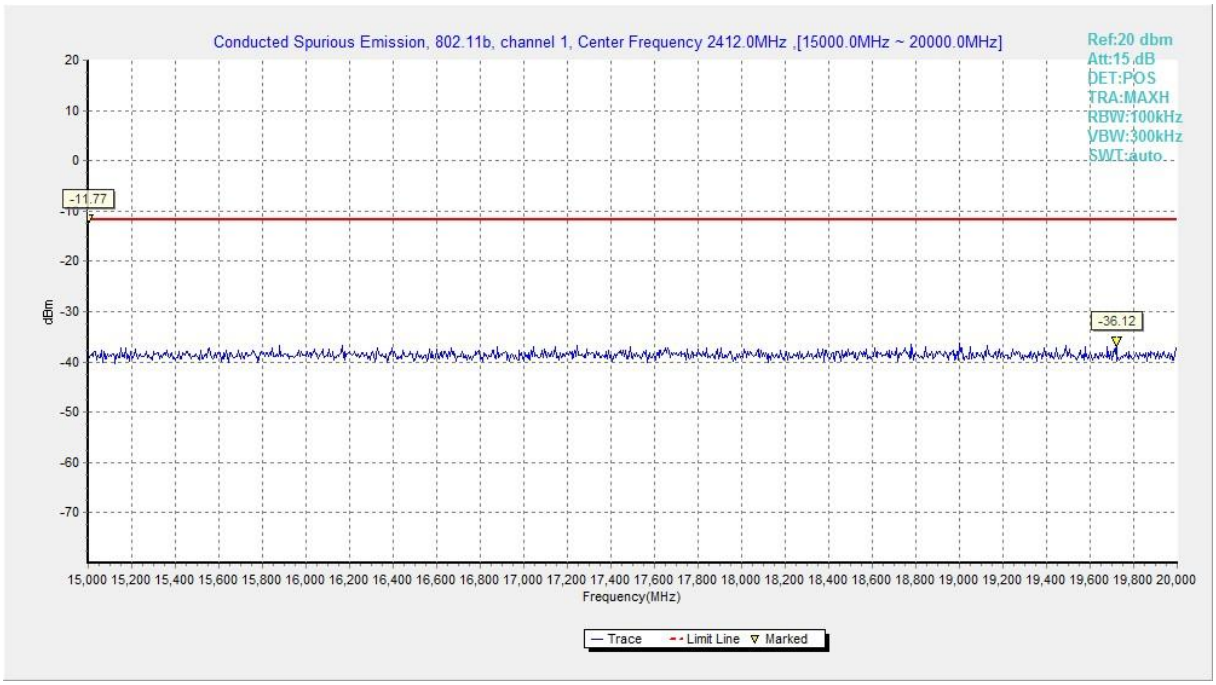


Fig.A.6.1.7 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 15 GHz-20 GHz)

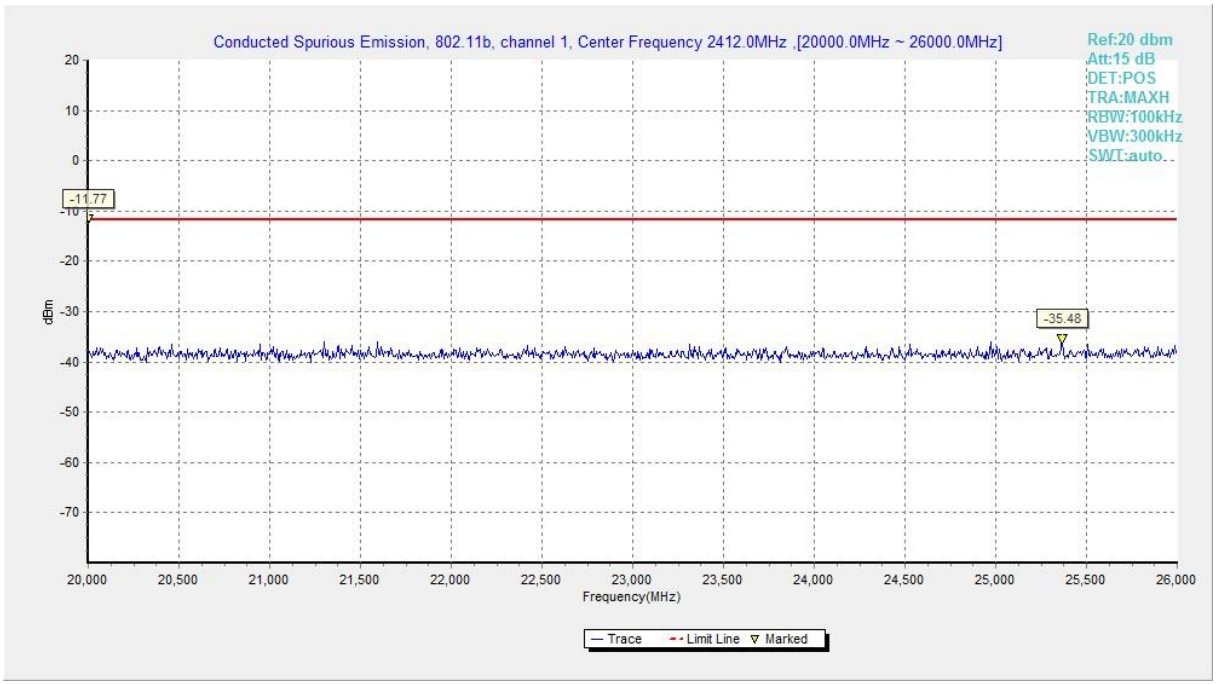


Fig.A.6.1.8 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 20 GHz-26 GHz)

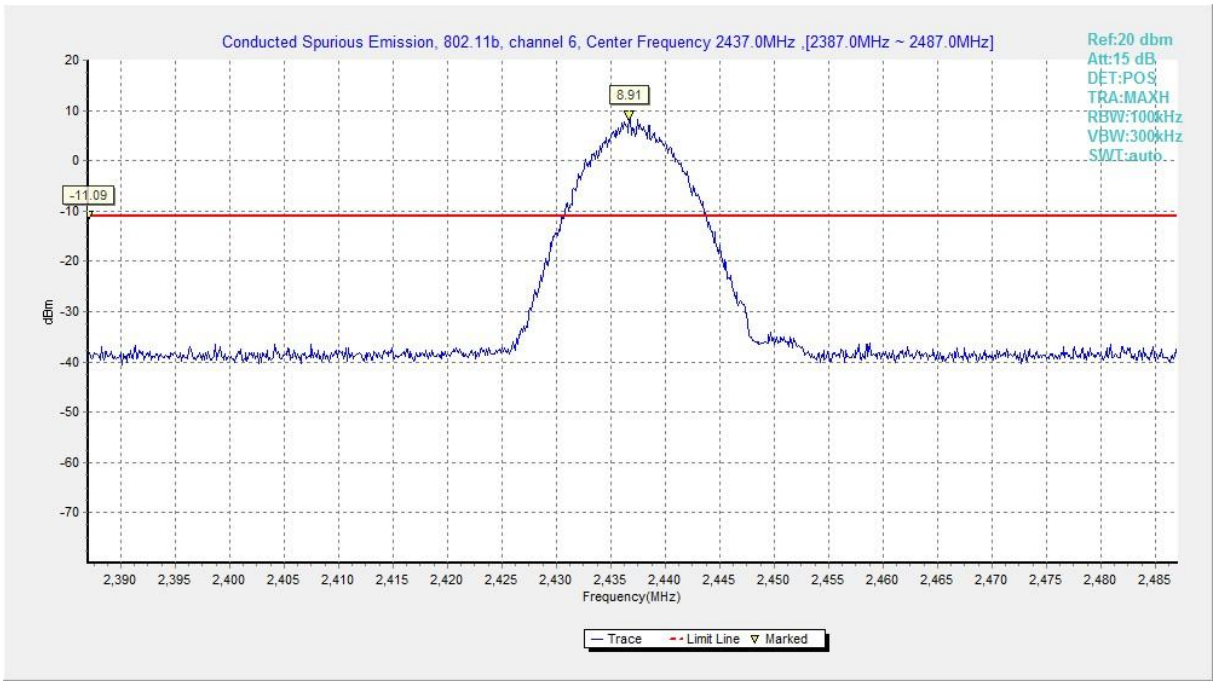


Fig.A.6.1.9 Transmitter Spurious Emission - Conducted (802.11b, Ch6, Center Frequency)

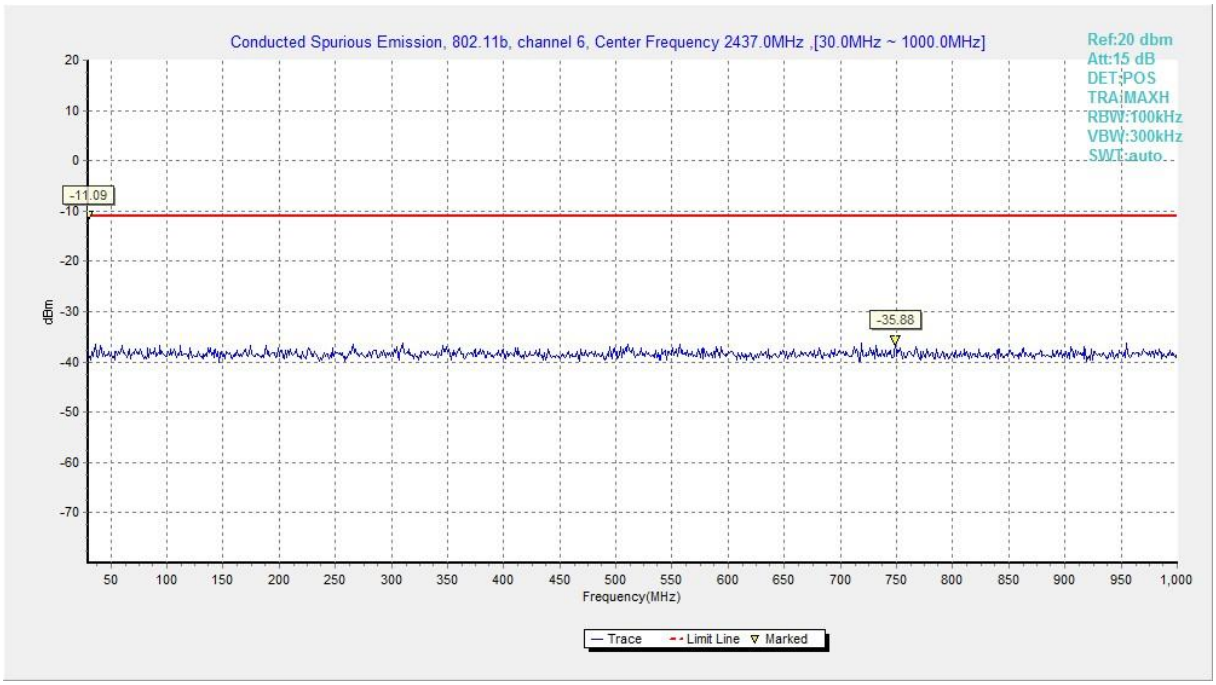


Fig.A.6.1.10 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 30 MHz-1 GHz)

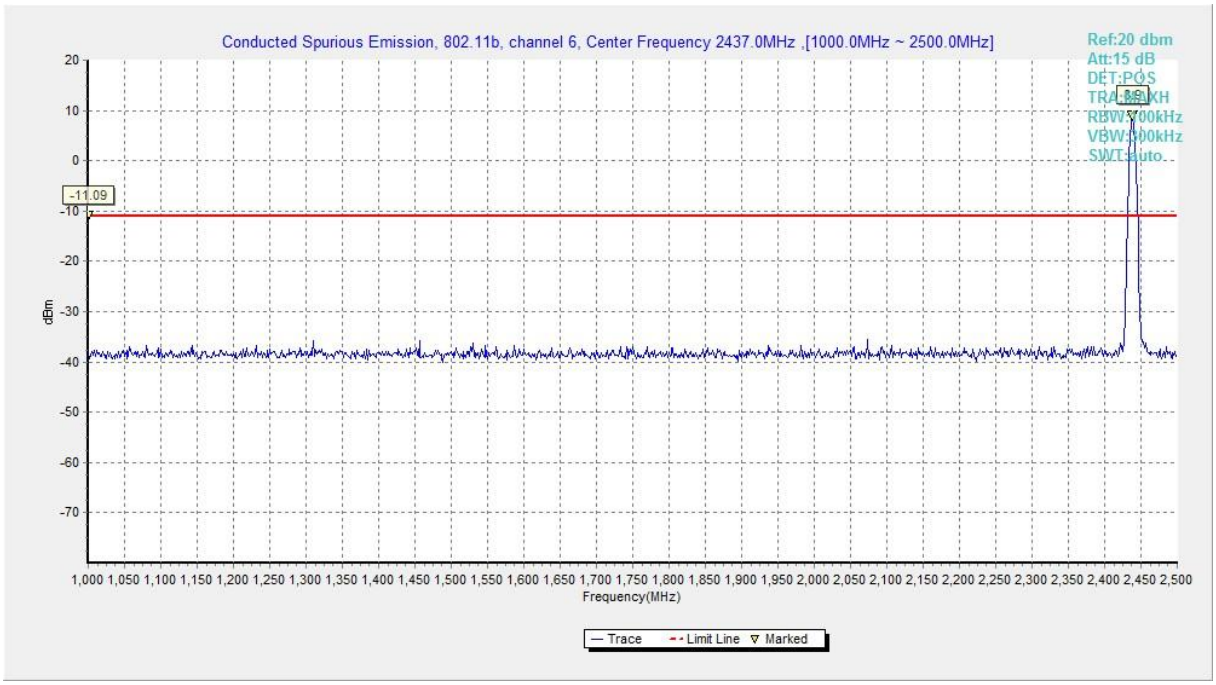


Fig.A.6.1.11 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 1 GHz-2.5 GHz)

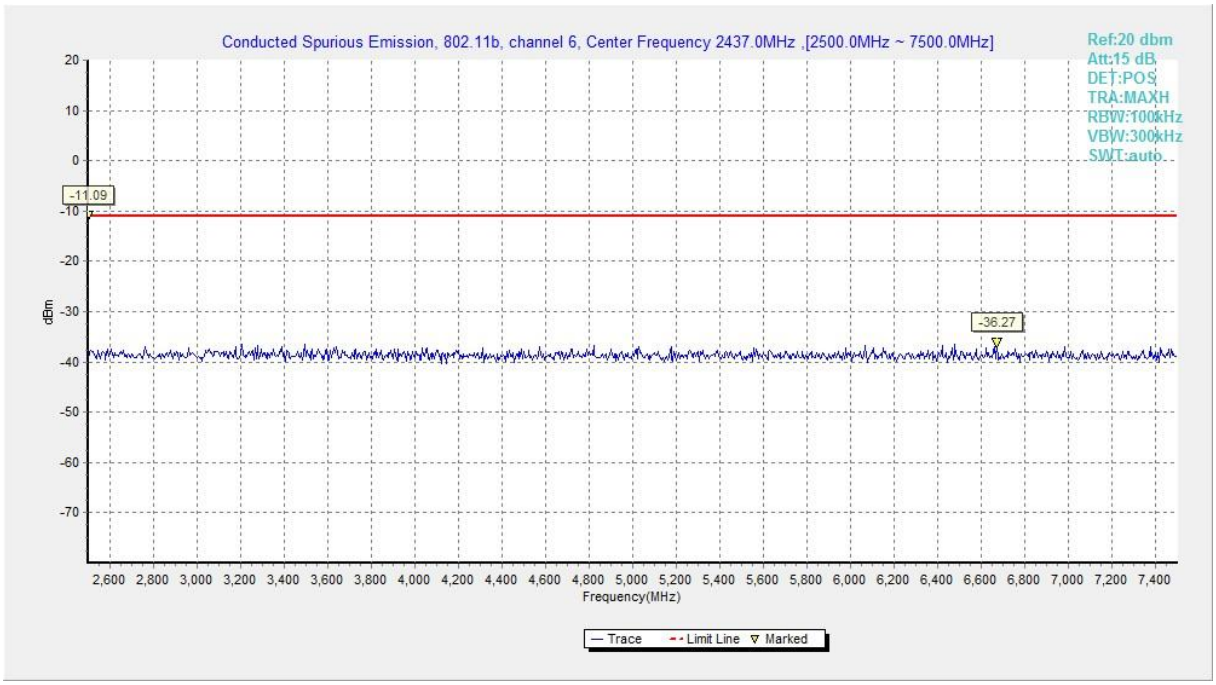


Fig.A.6.1.12 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 2.5 GHz-7.5 GHz)

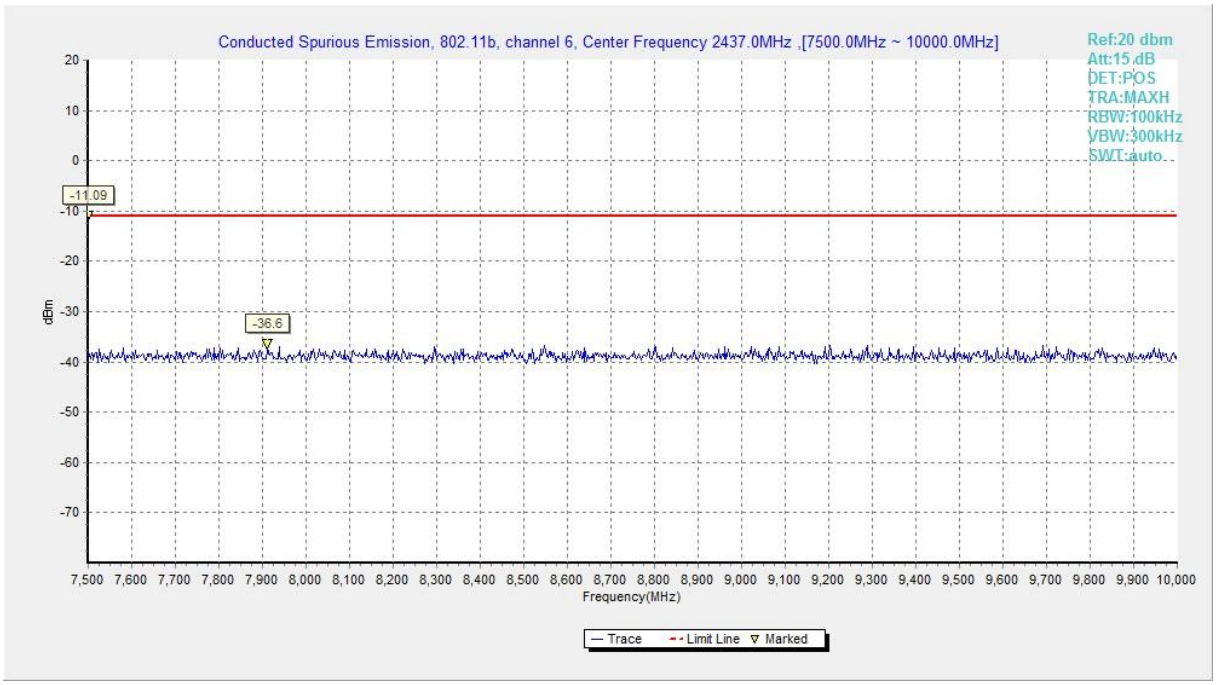


Fig.A.6.1.13 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 7.5 GHz-10 GHz)

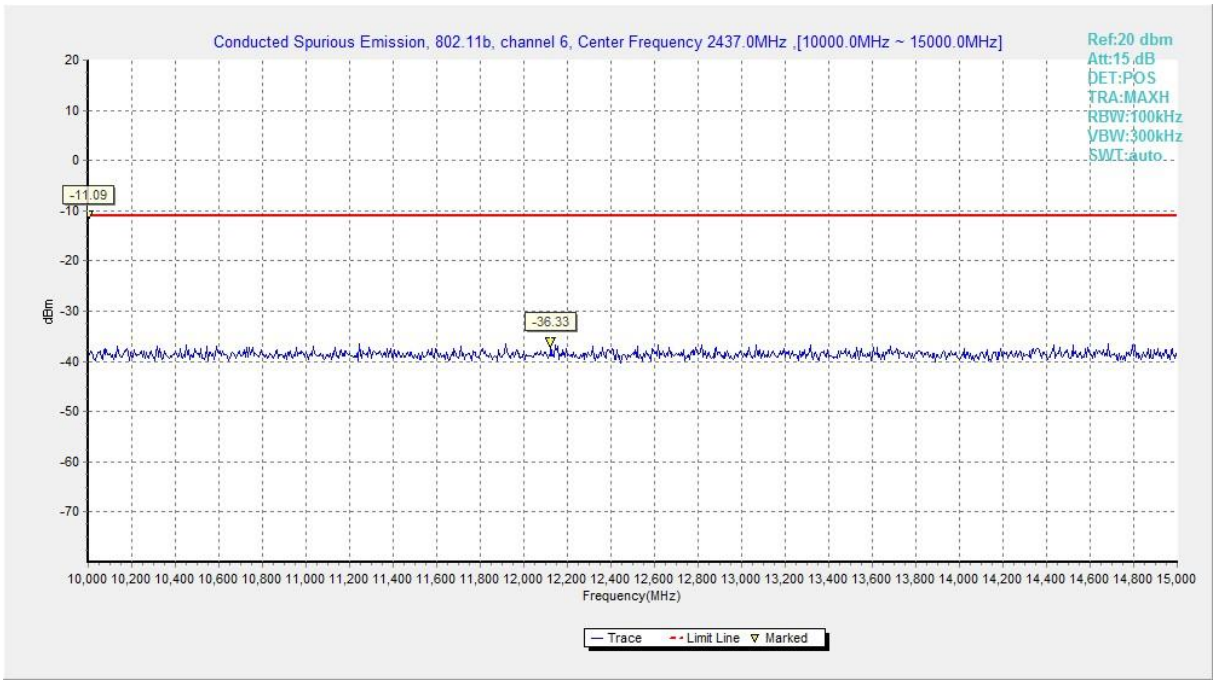


Fig.A.6.1.14 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 10 GHz-15 GHz)

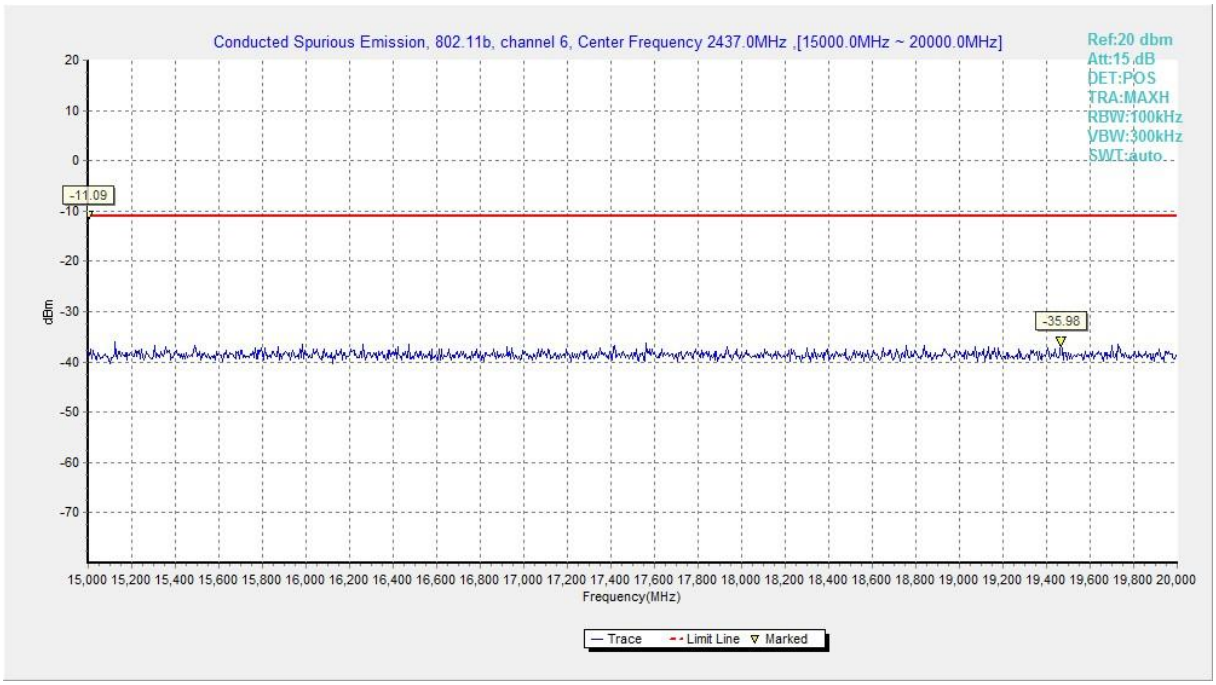


Fig.A.6.1.15 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 15 GHz-20 GHz)

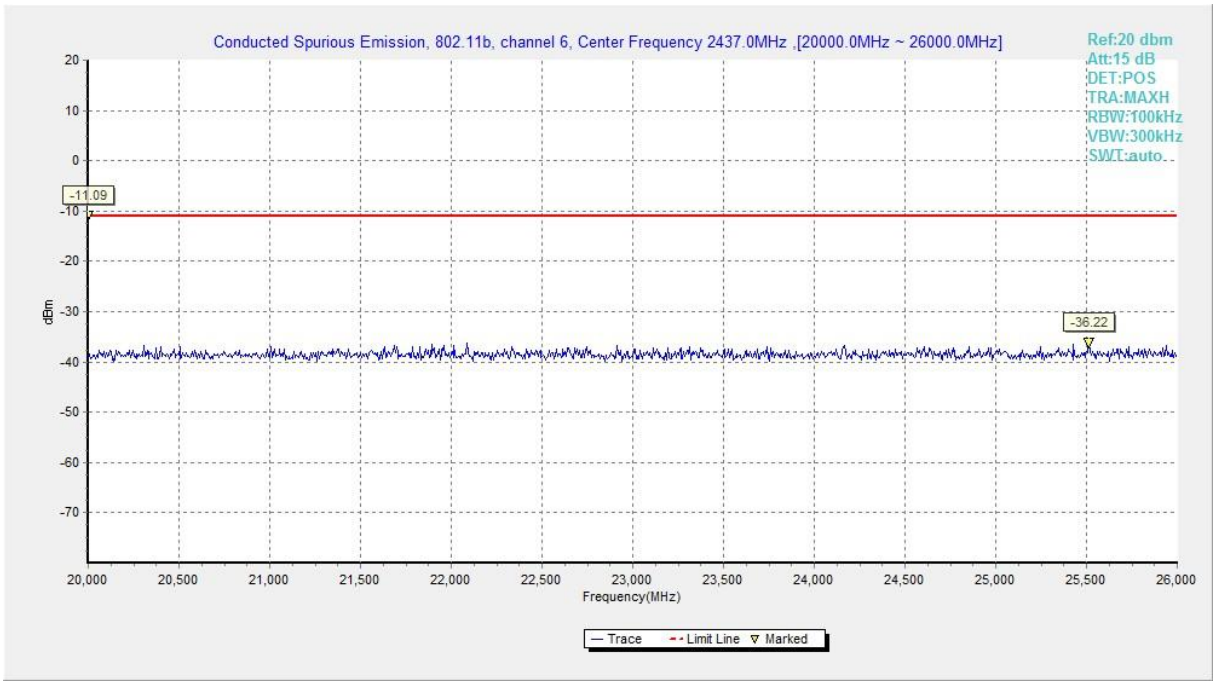
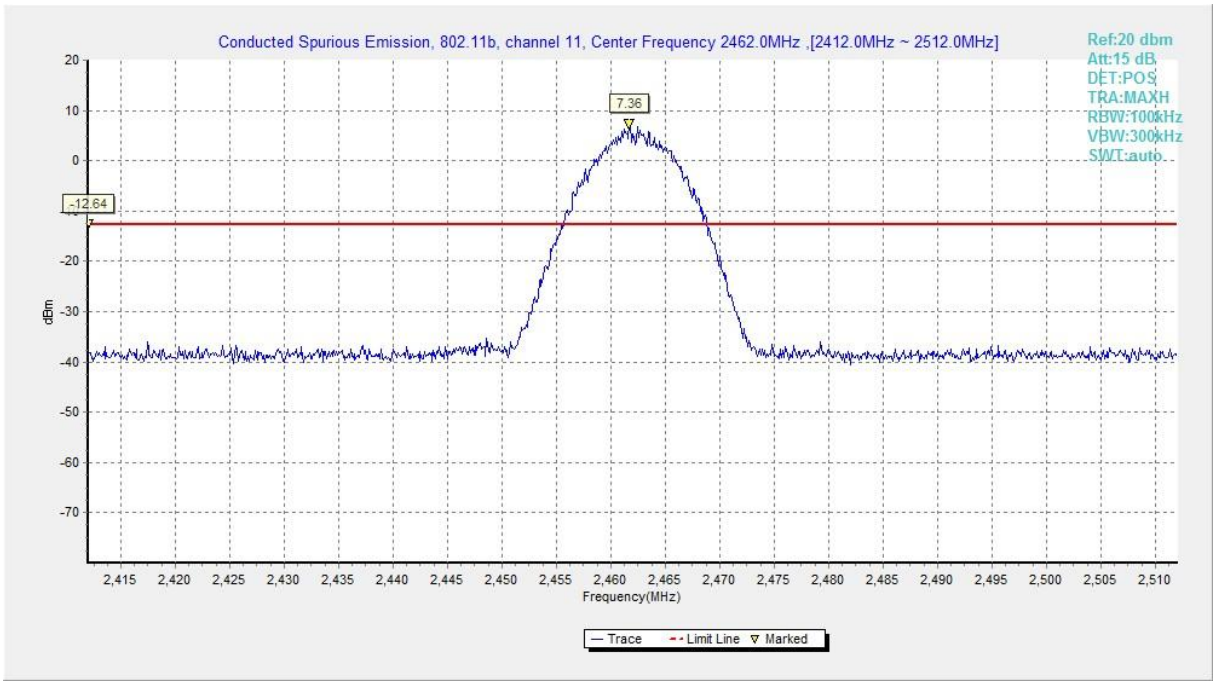


Fig.A.6.1.16 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 20 GHz-26 GHz)



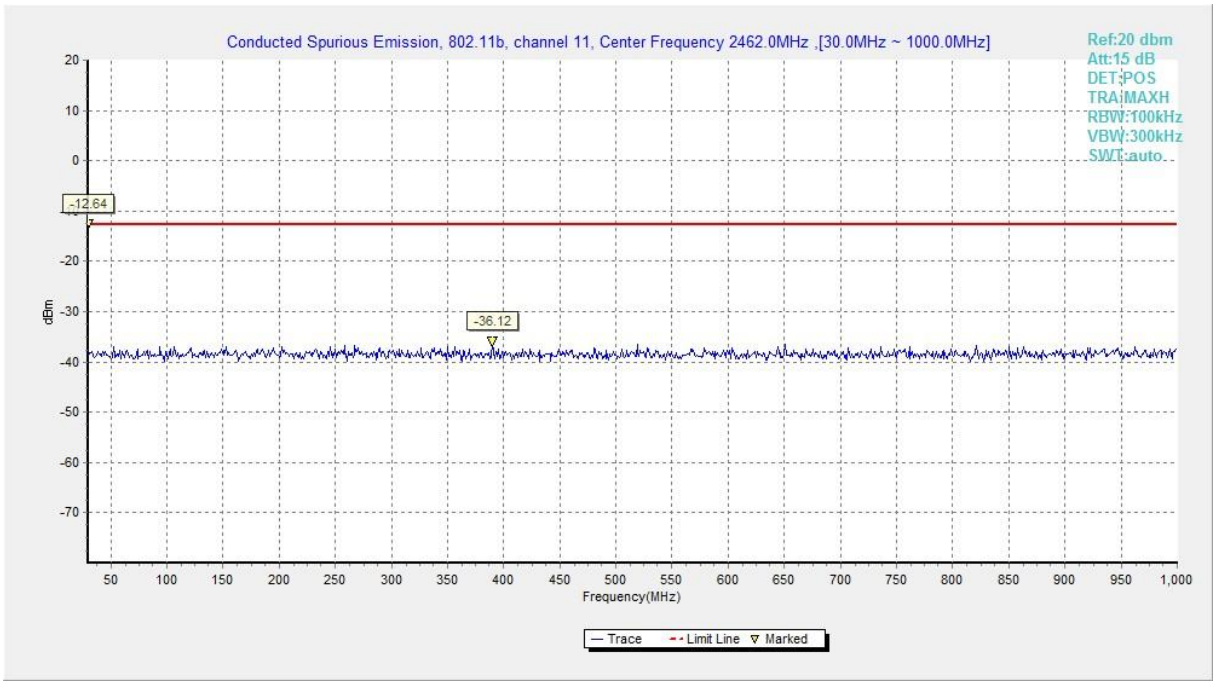


Fig.A.6.1.17 Transmitter Spurious Emission - Conducted (802.11b, Ch11, Center Frequency)