FCC PART 15C
TEST REPORT
No. I14Z47557-SRD01

for

TCT Mobile Limited

HSUPA/HSDPA/UMTS dualband / GSM quadband mobile phone

Model Name: 3075M

With

FCC ID: RAD418

Hardware Version: 04

Software Version: A6E

Issued Date: 2014-09-22

DAkkS Deutsche Akkreditierungsstelle D-PL-12123-01-01

FCC 2.948 Listed: No.733176

IC O.A.T.S listed: No.6629A-1

Test Laboratory:

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1. TEST LATORATORY

1.1. Testing Location

Location 1:TMC(Huayuan North Road)

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

Location 2:TMC(Shouxiang)

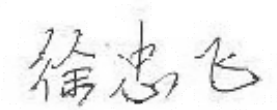
Address: No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191

1.2. Project data

Testing Start Date: 2013-11-08

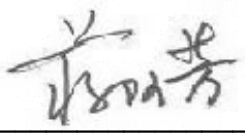
Testing End Date: 2013-11-25

1.3. Signature



Xu Zhongfei

(Prepared this test report)



Jiang Afang

(Reviewed this test report)

Xiao Li

Deputy Director of the laboratory

(Approved this test report)

2. CLIENT INFORMATION

2.1. Applicant Information

Company Name:	TCT Mobile Limited
Address /Post:	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Postal Code:	/
Country:	China
Contact Person:	Gong Zhizhou
Telephone:	0086-21-61460890
Fax:	0086-21-61460602

2.2. Manufacturer Information

Company Name:	TCT Mobile Limited
Address /Post:	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Postal Code:	/
Country:	China
Contact Person:	Gong Zhizhou
Telephone:	0086-21-61460890
Fax:	0086-21-61460602

3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT(AE)

3.1. About EUT

Description	HSUPA/HSDPA/UMTS dualband / GSM quadband mobile phone
Model name	3075M
FCC ID	RAD418
WLAN Frequency Range	ISM Band: 2400MHz~2483.5MHz
Type of modulation	DSSS/CCK/OFDM
Number of Channels	11
Antenna	Internal
MAX Conducted Power	21.55dBm(OFDM)
Power Supply	3.8V DC by Battery

Note: Photographs of EUT are shown in ANNEX C of this test report.

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version
EUT1	/	04	A6E
EUT2	/	04	A6E

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

3.3. Internal Identification of AE used during the test

AE ID*	Description	Type	SN
AE1	Travel Charger	CBA3007A*0C1	/
AE2	Battery	CAB3120000C1	/
AE3	USB Cable	CDA3122002C1	/

*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 HSUPA/HSDPA/UMTS dualband / GSM quadband mobile phone with integrated antenna and inbuilt battery.
The EUT supports GSM 850/900/1800/1900 quad bands, GPRS, EDGE,
UMTS FDD bands 2/5, HSDPA, HSUPA, WLAN (802.11 b/g/n).
It has functions of MP3/Camera.
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.

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, 2012
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

5. LABORATORY ENVIRONMENT

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

6. SUMMARY OF TEST RESULTS

6.1. 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, 15.209	/	**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 TMC
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

TMC has evaluated the test cases requested by the client/manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

This model is a variant product which market name is 3075A; all the test result has been derived from test report of 3075A.

6.3. Test Conditions

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

Temperature	26℃
Voltage	3.8V
Humidity	44%

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	2013-07-08	2014-07-07
2	Test Receiver	ESS	847151/015	Rohde & Schwarz	2013-10-20	2014-10-30
3	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2013-4-15	2014-08-12
4	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

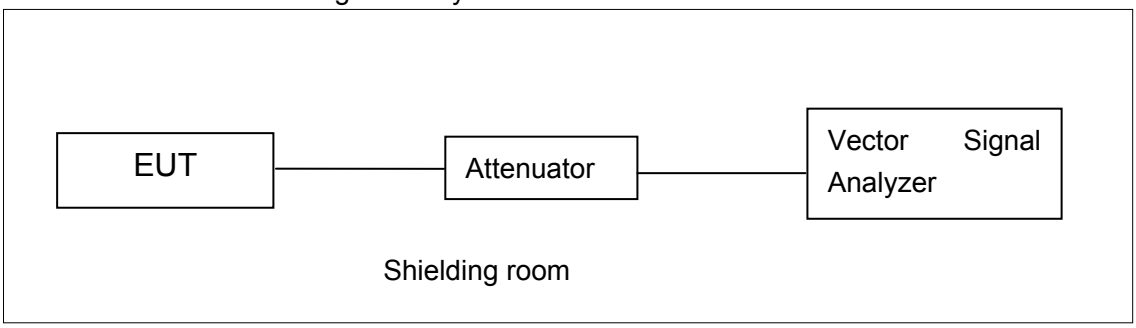
No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Test Receiver	ESU26	100376	Rohde & Schwarz	2013-10-20	2014-10-30
2	BiLog Antenna	VULB9163	9163-514	Schwarzbeck	2011-11-11	2014-11-10
3	Dual-Ridge Waveguide Horn Antenna	3117	00119024	ETS-Lindgren	2011-2-2	2014-2-1
4	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2011-7-1	2014-06-30
5	Loop antenna	HFH2-Z2	829324/007	Rohde & Schwarz	2011-12-21	2014-12-20
6	Semi-anechoic chamber	/	CT000332-1074	Frankonia German	/	/

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

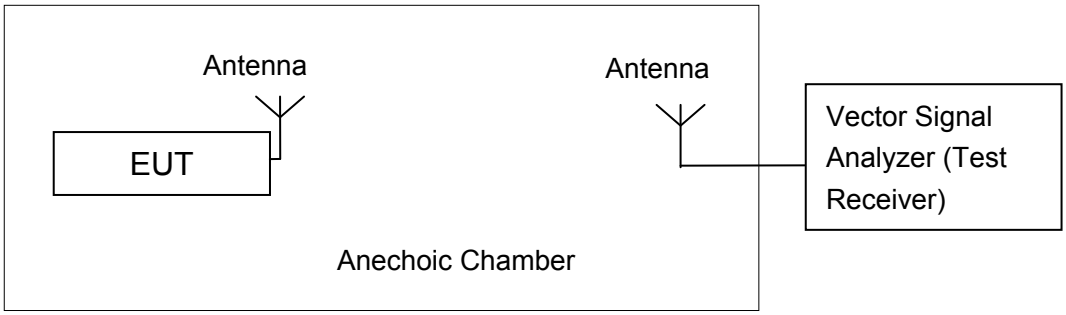
A.1.1. Conducted Measurements

Connect the EUT to the test system as follow 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



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;



The measurement is made according to ANSI C63.10
The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.

A.2. Maximum Peak Output Power

Measurement Limit and Method:

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

The measurement is made according to ANSI C63.10.

Measurement Uncertainty:

Measurement Uncertainty	0.75dB

A.2.1. Maximum Peak Output Power-conducted

Measurement Results:

802.11b mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	18.08	/	/
	2	18.37	/	/
	5.5	19.64	/	/
	11	20.93	20.97	21.47

The data rate 11Mbps is selected as worse condition, and the following cases are performed with this condition.

802.11g mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11g	6	21.18	/	/
	9	21.22	/	/
	12	20.96	/	/
	18	20.72	/	/
	24	21.28	20.91	21.55
	36	21.02	/	/
	48	21.04	/	/
	54	21.09	/	/

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

802.11n mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	MCS0	19.21	/	/
	MCS1	19.05	/	/
	MCS2	18.78	/	/
	MCS3	19.22	19.09	19.31
	MCS4	19.06	/	/
	MCS5	19.08	/	/
	MCS6	19.04	/	/
	MCS7	19.07	/	/

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

Conclusion: PASS

A.2.2. Maximum Average Output Power-conducted

802.11b/g mode

Mode	Test Result (dBm)		
	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	13.33	13.56	14.08
802.11g	11.02	11.41	11.75

802.11n-HT20 mode

Mode	Test Result (dBm)		
	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	8.77	9.38	9.60

Conclusion: Pass

Measurement Uncertainty:

Measurement Uncertainty	0.75dB

A.3. Peak Power Spectral Density

Measurement Limit:

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

The measurement is made according to ANSI C63.10 Clause 6.11.2.4 is used for peak power spectral density measurement.

Measurement Uncertainty:

Measurement Uncertainty	0.75dB

Note: Configuration information to be tested as follows:

Modulation type and data rate:

802.11b	802.11g	802.11n
11Mbps(CCK)	24Mbps(OFDM)	MCS3(OFDM)

Measurement Results:

Mode	Channel	Power Spectral Density (dBm/3 kHz)	Conclusion
802.11b	1	-8.19	P
	6	-9.05	P
	11	-9.02	P
802.11g	1	-13.60	P
	6	-12.68	P
	11	-14.06	P
802.11n	1	-16.76	P
	6	-15.84	P
	11	-14.34	P

Conclusion: PASS

A.4. Occupied 6dB Bandwidth

Measurement Limit:

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

The measurement is made according to ANSI C63.10 Clause 6.9.1 is used for Occupied 6dB Bandwidth measurement.

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

Note: Configuration information to be tested as follows:

Modulation type and data rate:

802.11b	802.11g	802.11n
11Mbps(CCK)	24Mbps(OFDM)	MCS3(OFDM)

Measurement Result:

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11b	1	Fig.1	9800	P
	6	Fig.2	9450	P
	11	Fig.3	9550	P
802.11g	1	Fig.4	1650	P
	6	Fig.5	16450	P
	11	Fig.6	16450	P
802.11n	1	Fig.7	17700	P
	6	Fig.8	17700	P
	11	Fig.9	17700	P

Conclusion: PASS

Test graphs as below:

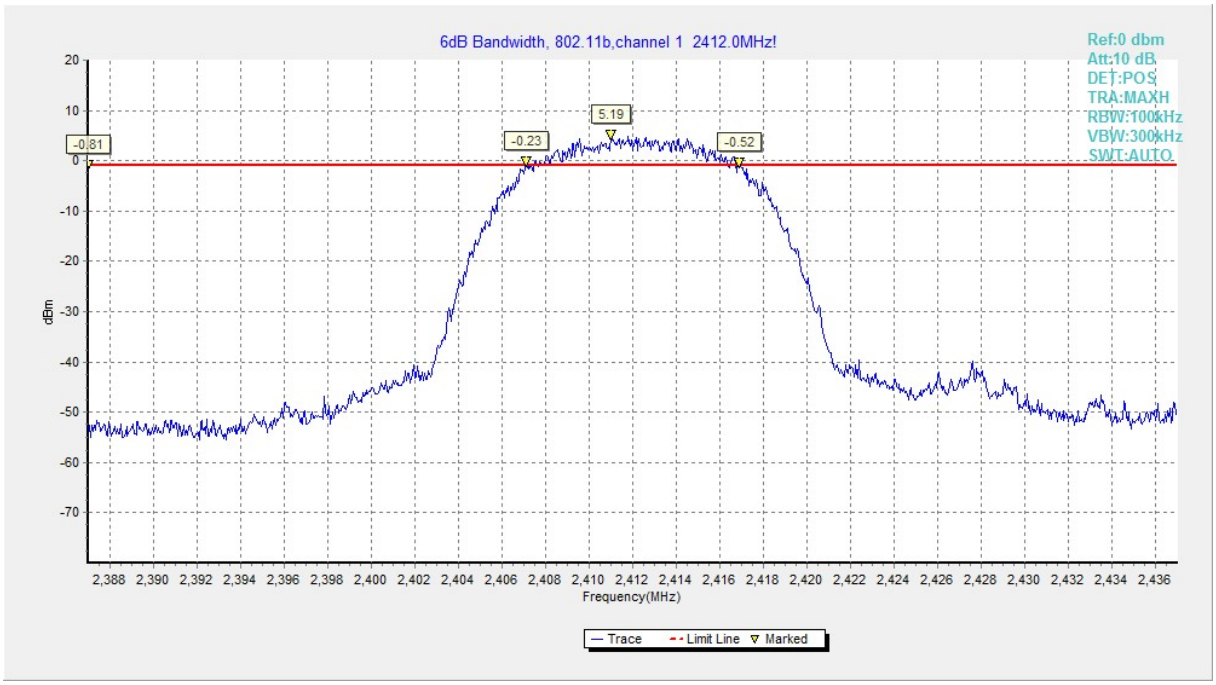


Fig. 1 Occupied 6dB Bandwidth (802.11b, Ch 1)

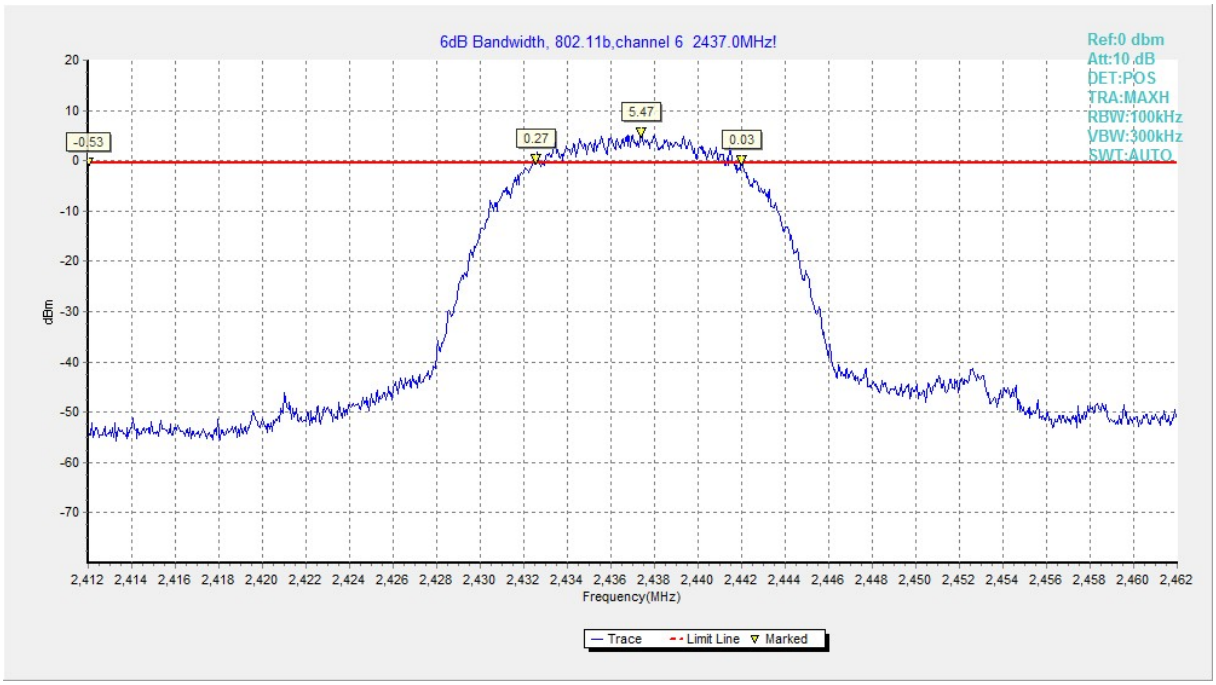


Fig. 2 Occupied 6dB Bandwidth (802.11b, Ch 6)

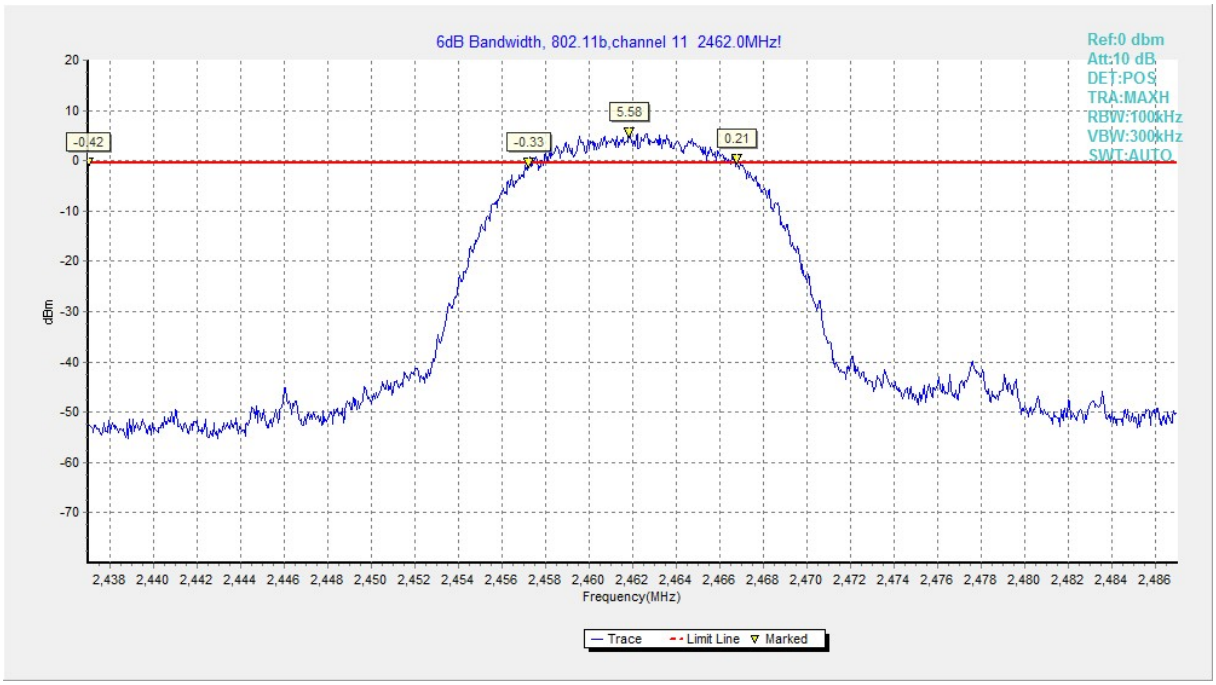


Fig. 3 Occupied 6dB Bandwidth (802.11b, Ch 11)

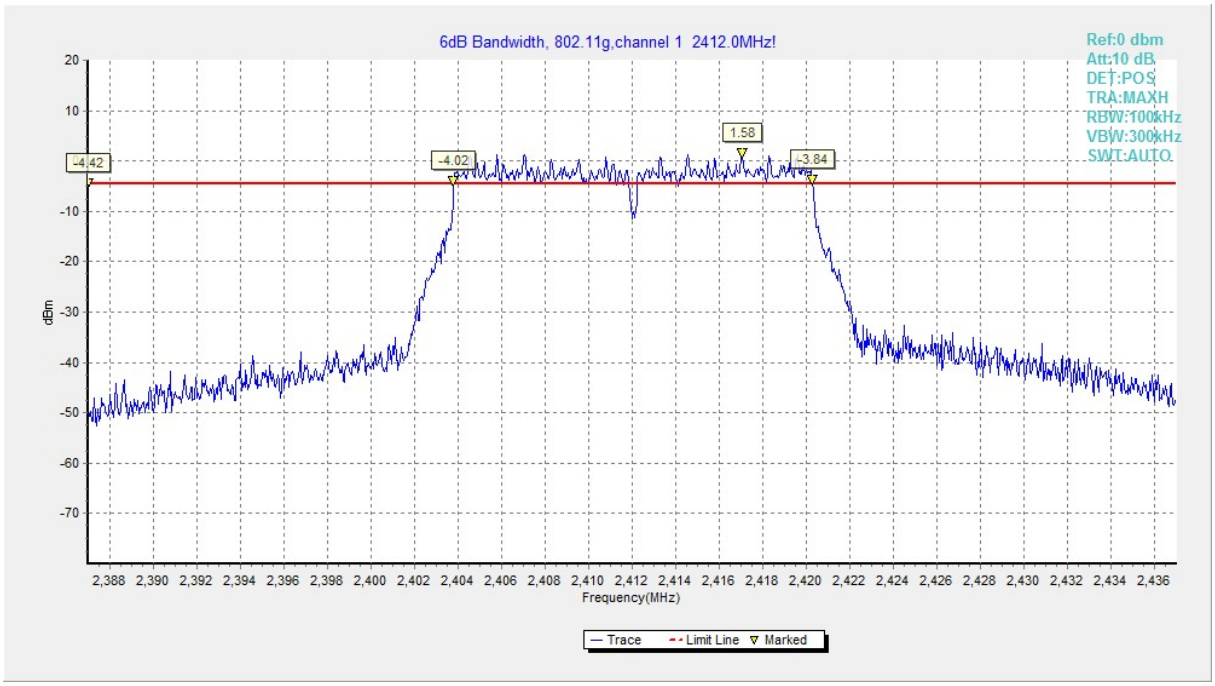


Fig. 4 Occupied 6dB Bandwidth (802.11g, Ch 1)

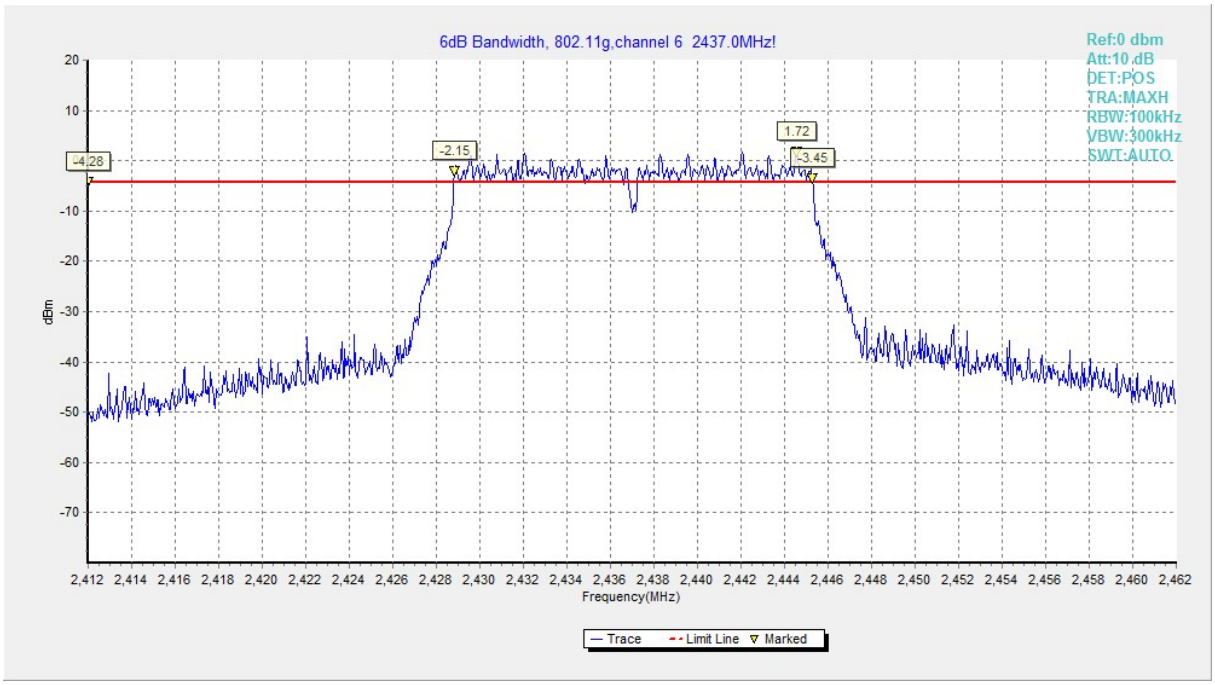


Fig. 5 Occupied 6dB Bandwidth (802.11g, Ch 6)

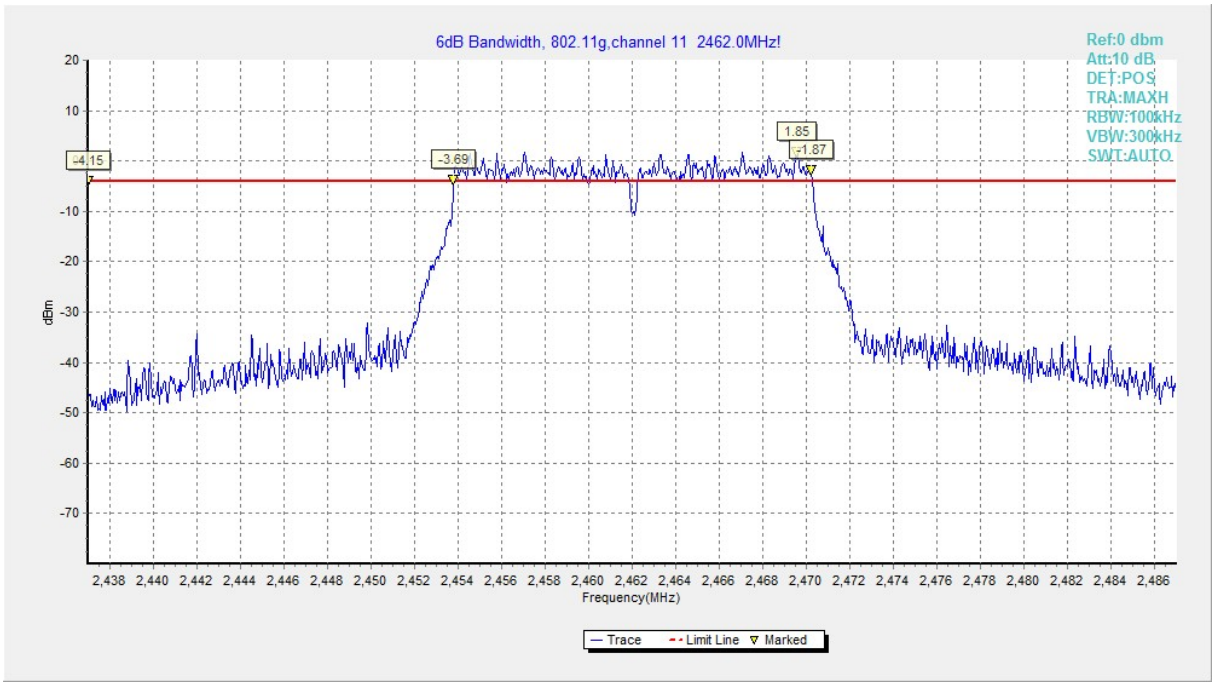


Fig. 6 Occupied 6dB Bandwidth (802.11g, Ch 11)

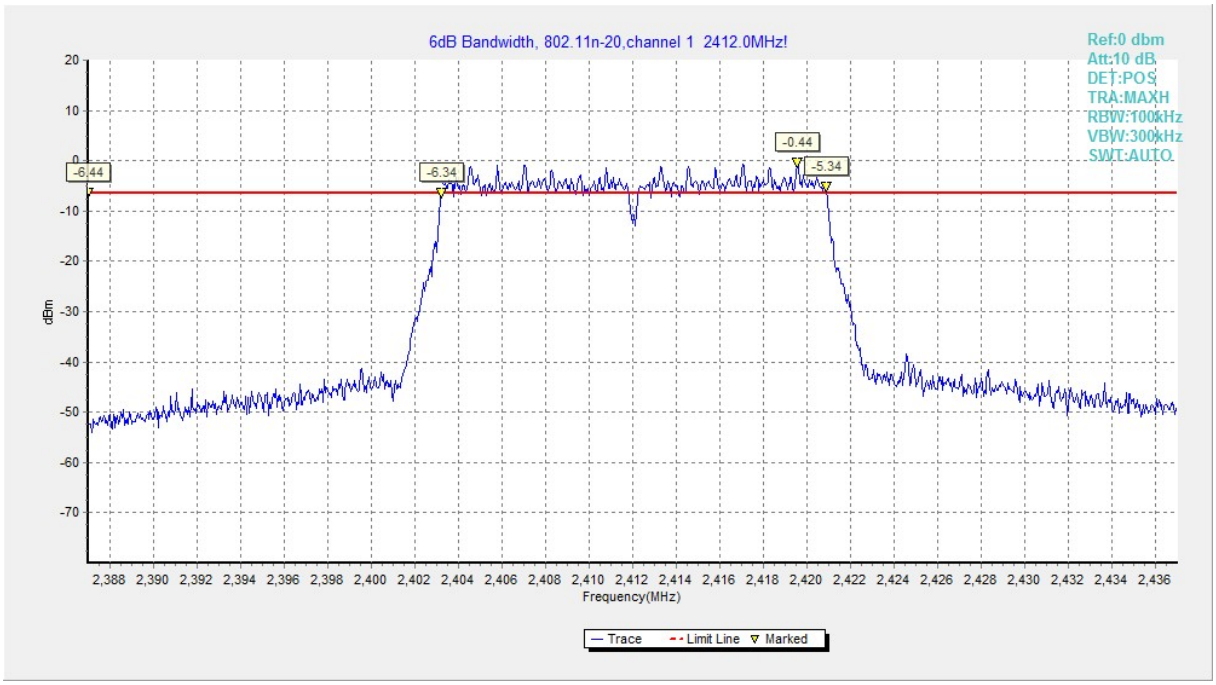


Fig. 7 Occupied 6dB Bandwidth (802.11n-HT20, Ch 1)

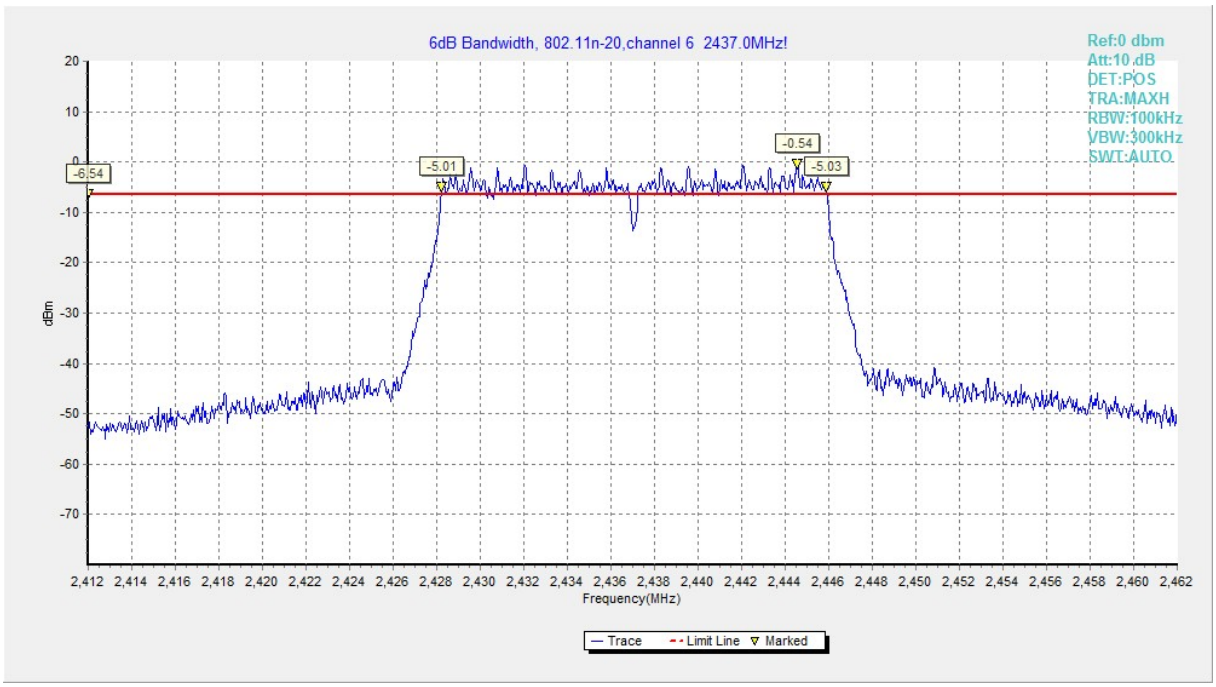


Fig. 8 Occupied 6dB Bandwidth (802.11n-HT20, Ch 6)

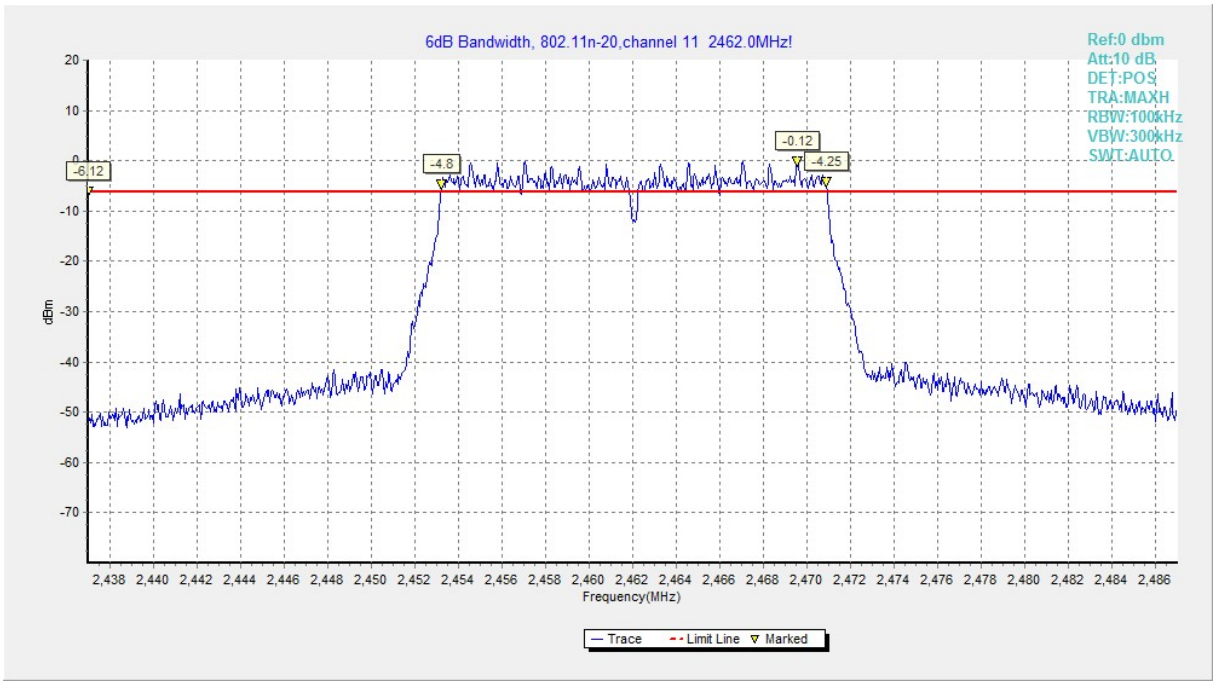


Fig. 9 Occupied 6dB Bandwidth (802.11n-HT20, Ch 11)

A.5. Band Edges Compliance

Measurement Limit:

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

The measurement is made according to ANSI C63.10 Clause 6.9.2 is used for Band Edges Compliance measurement.

Measurement Uncertainty:

Measurement Uncertainty	0.75dB

Note: Configuration information to be tested as follows:

Modulation type and data rate:

802.11b	802.11g	802.11n
11Mbps(CCK)	24Mbps(OFDM)	MCS3(OFDM)

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.10	P
	11	Fig.11	P
802.11g	1	Fig.12	P
	11	Fig.13	P
802.11n	1	Fig.14	P
	11	Fig.15	P

Conclusion: PASS

Test graphs as below:

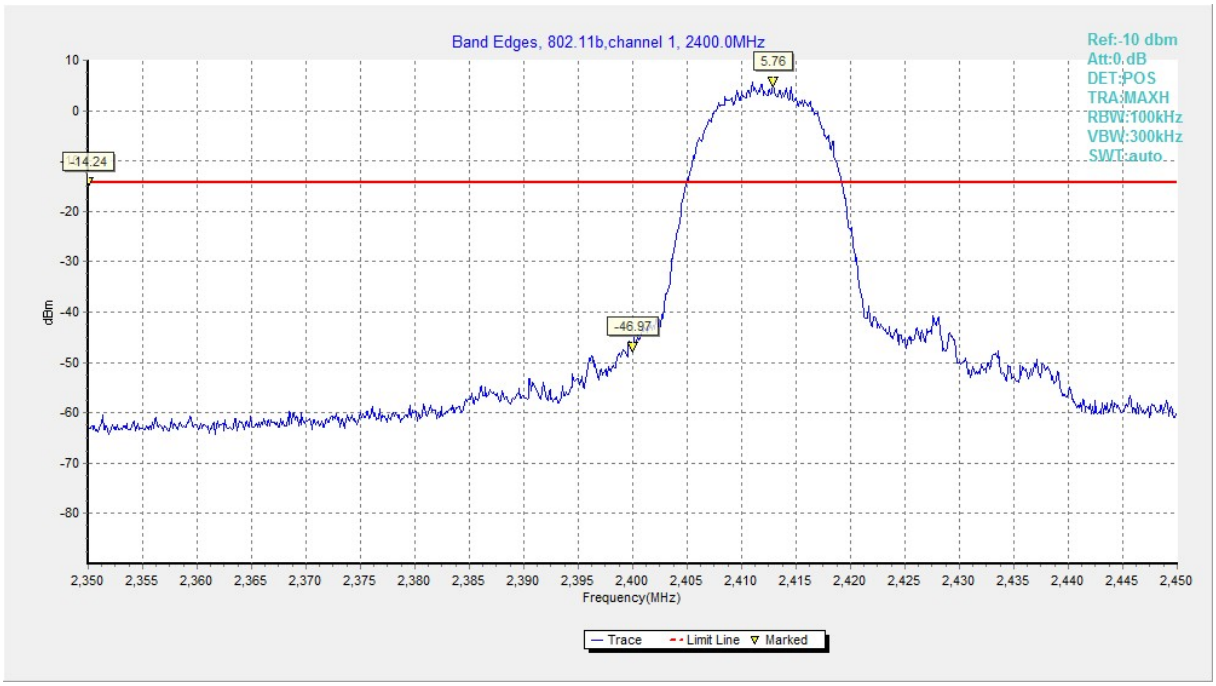


Fig. 10 Band Edges (802.11b, Ch 1)

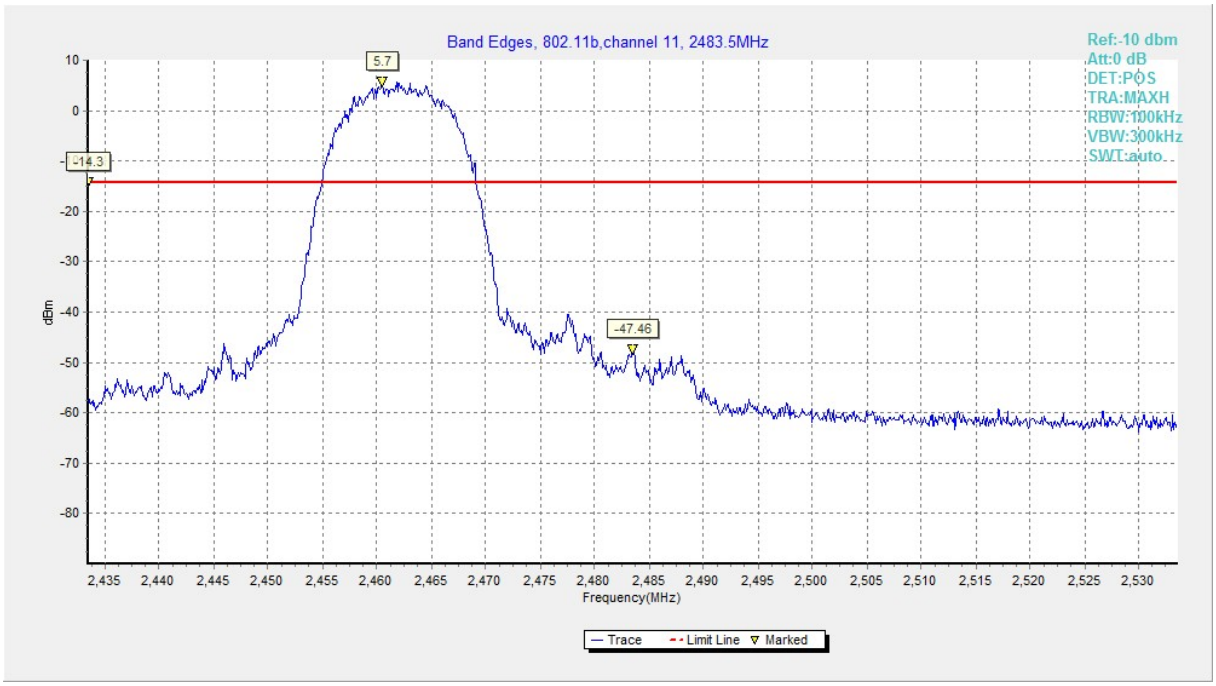


Fig. 11 Band Edges (802.11b, Ch 11)

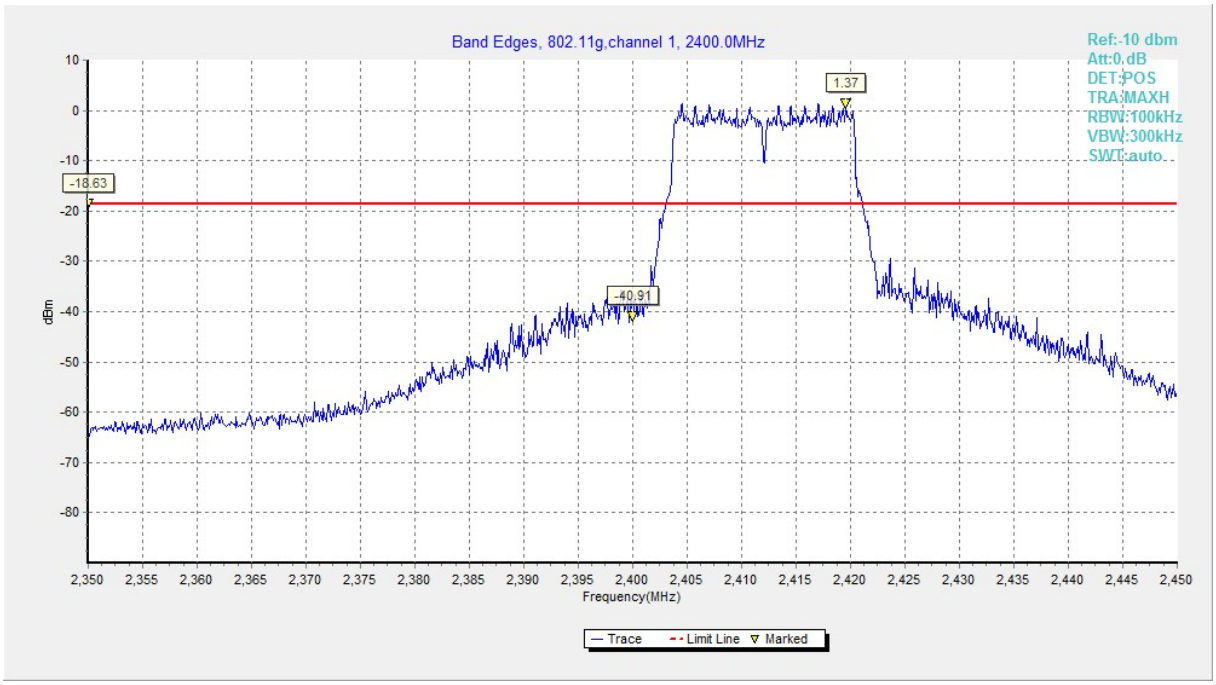


Fig. 12 Band Edges (802.11g, Ch 1)

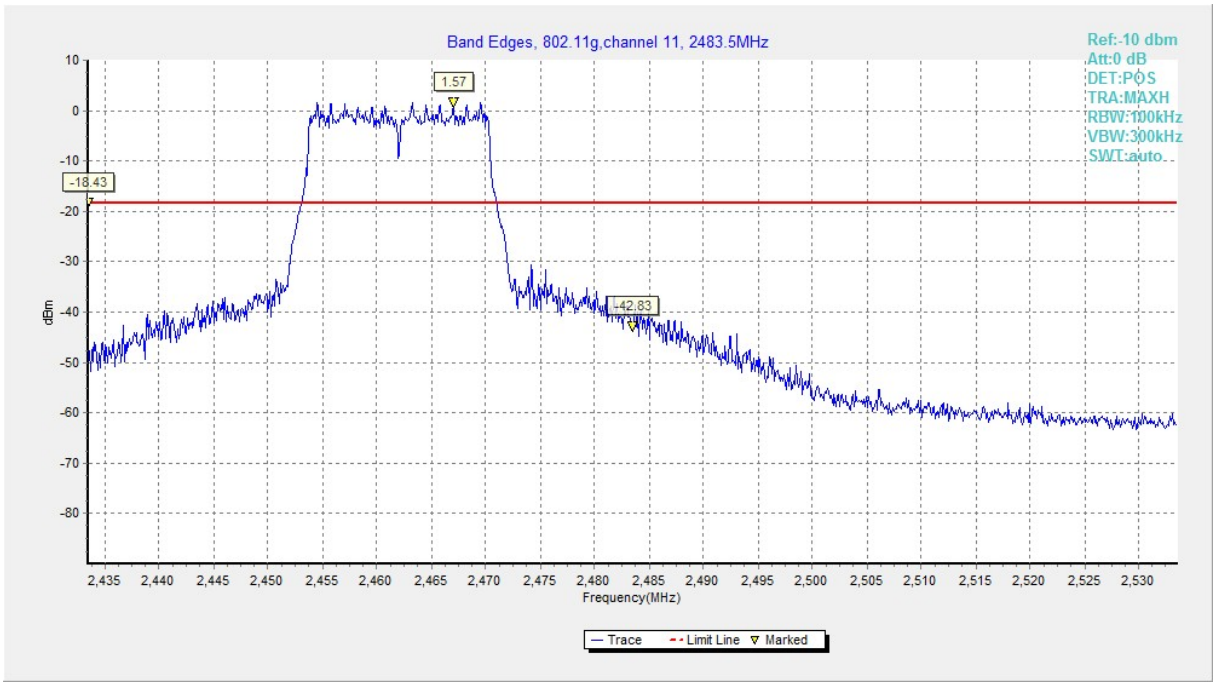


Fig. 13 Band Edges (802.11g, Ch 11)

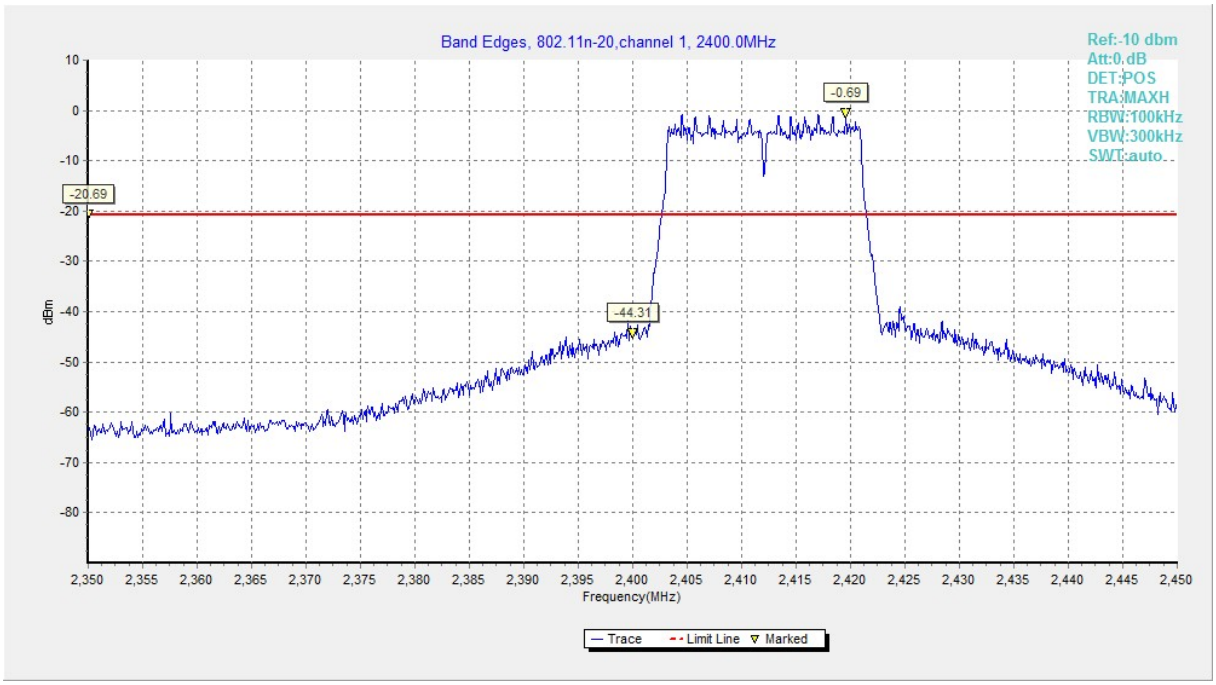


Fig. 14 Band Edges (802.11n-HT20, Ch 1)

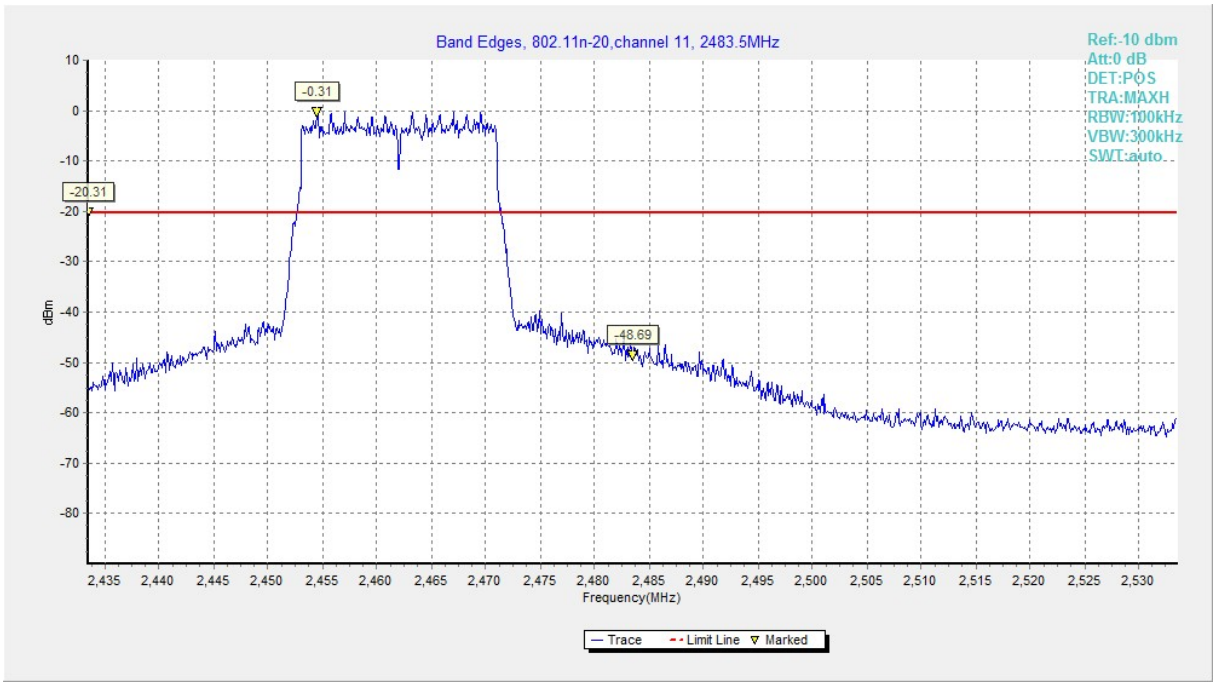


Fig. 15 Band Edges (802.11n-HT20, Ch 11)

A.6. Transmitter Spurious Emission

Measurement Limit:

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

The measurement is made according to ANSI C63.10.

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)).

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Measurement Uncertainty:

Frequency Range	Uncertainty
30MHz ≤ f ≤ 2GHz	0.63 dB
2GHz ≤ f ≤3.6GHz	0.82 dB
3.6GHz ≤ f ≤8GHz	1.55 dB
8GHz ≤ f ≤20GHz	1.86 dB
20GHz ≤ f ≤22GHz	1.90 dB
22GHz ≤ f ≤26GHz	2.20 dB

Note: Configuration information to be tested as follows:

Modulation type and data rate:

802.11b	802.11g	802.11n
11Mbps(CCK)	24Mbps(OFDM)	MCS34(OFDM)

A.6.1 Transmitter Spurious Emission - Conducted

Measurement Results:

802.11b mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11b	1	2.412 GHz	Fig.16	P
		30 MHz ~ 1 GHz	Fig.17	P
		1 GHz ~ 2.5 GHz	Fig.18	P
		2.5 GHz ~ 7.5 GHz	Fig.19	P
		7.5 GHz ~ 10 GHz	Fig.20	P
		10 GHz ~ 15 GHz	Fig.21	P
		15 GHz ~ 20 GHz	Fig.22	P
		20 GHz ~ 26 GHz	Fig.23	P
	6	2.437 GHz	Fig.24	P
		30 MHz ~ 1 GHz	Fig.25	P
		1 GHz ~ 2.5 GHz	Fig.26	P
		2.5 GHz ~ 7.5 GHz	Fig.27	P
		7.5 GHz ~ 10 GHz	Fig.28	P
		10 GHz ~ 15 GHz	Fig.29	P
		15 GHz ~ 20 GHz	Fig.30	P
		20 GHz ~ 26 GHz	Fig.31	P
	11	2.462 GHz	Fig.32	P
		30 MHz ~ 1 GHz	Fig.33	P
		1 GHz ~ 2.5 GHz	Fig.34	P
		2.5 GHz ~ 7.5 GHz	Fig.35	P
		7.5 GHz ~ 10 GHz	Fig.36	P
		10 GHz ~ 15 GHz	Fig.37	P
		15 GHz ~ 20 GHz	Fig.38	P
		20 GHz ~ 26 GHz	Fig.39	P

802.11g mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11g	1	2.412 GHz	Fig.40	P
		30 MHz ~ 1 GHz	Fig.41	P
		1 GHz ~ 2.5 GHz	Fig.42	P
		2.5 GHz ~ 7.5 GHz	Fig.43	P
		7.5 GHz ~ 10 GHz	Fig.44	P
		10 GHz ~ 15 GHz	Fig.45	P
		15 GHz ~ 20 GHz	Fig.46	P
		20 GHz ~ 26 GHz	Fig.47	P
	6	2.437 GHz	Fig.48	P
		30 MHz ~ 1 GHz	Fig.49	P
		1 GHz ~ 2.5 GHz	Fig.50	P
		2.5 GHz ~ 7.5 GHz	Fig.51	P
		7.5 GHz ~ 10 GHz	Fig.52	P
		10 GHz ~ 15 GHz	Fig.53	P
		15 GHz ~ 20 GHz	Fig.54	P
		20 GHz ~ 26 GHz	Fig.55	P
	11	2.462 GHz	Fig.56	P
		30 MHz ~ 1 GHz	Fig.57	P
		1 GHz ~ 2.5 GHz	Fig.58	P
		2.5 GHz ~ 7.5 GHz	Fig.59	P
		7.5 GHz ~ 10 GHz	Fig.60	P
		10 GHz ~ 15 GHz	Fig.61	P
		15 GHz ~ 20 GHz	Fig.62	P
		20 GHz ~ 26 GHz	Fig.63	P

802.11n-HT20 mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11n (20MHz)	1	2.412 GHz	Fig.64	P
		30 MHz ~ 1 GHz	Fig.65	P
		1 GHz ~ 2.5 GHz	Fig.66	P
		2.5 GHz ~ 7.5 GHz	Fig.67	P
		7.5 GHz ~ 10 GHz	Fig.68	P
		10 GHz ~ 15 GHz	Fig.69	P
		15 GHz ~ 20 GHz	Fig.70	P
		20 GHz ~ 26 GHz	Fig.71	P
	6	2.437 GHz	Fig.72	P
		30 MHz ~ 1 GHz	Fig.73	P
		1 GHz ~ 2.5 GHz	Fig.74	P
		2.5 GHz ~ 7.5 GHz	Fig.75	P
		7.5 GHz ~ 10 GHz	Fig.76	P
		10 GHz ~ 15 GHz	Fig.77	P
		15 GHz ~ 20 GHz	Fig.78	P
		20 GHz ~ 26 GHz	Fig.79	P
	11	2.462 GHz	Fig.80	P
		30 MHz ~ 1 GHz	Fig.81	P
		1 GHz ~ 2.5 GHz	Fig.82	P
		2.5 GHz ~ 7.5 GHz	Fig.83	P
		7.5 GHz ~ 10 GHz	Fig.84	P
		10 GHz ~ 15 GHz	Fig.85	P
		15 GHz ~ 20 GHz	Fig.86	P
		20 GHz ~ 26 GHz	Fig.87	P

Conclusion: PASS

Test graphs as below:

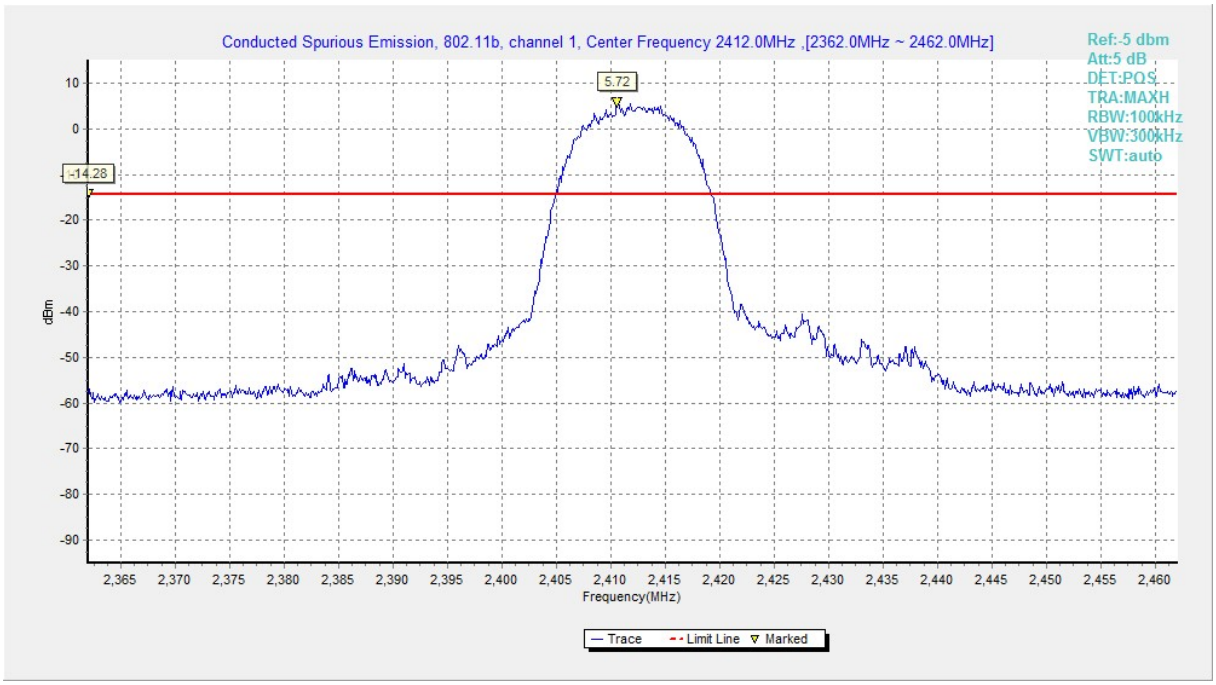


Fig. 16 Conducted Spurious Emission (802.11b, Ch1, Center Frequency)

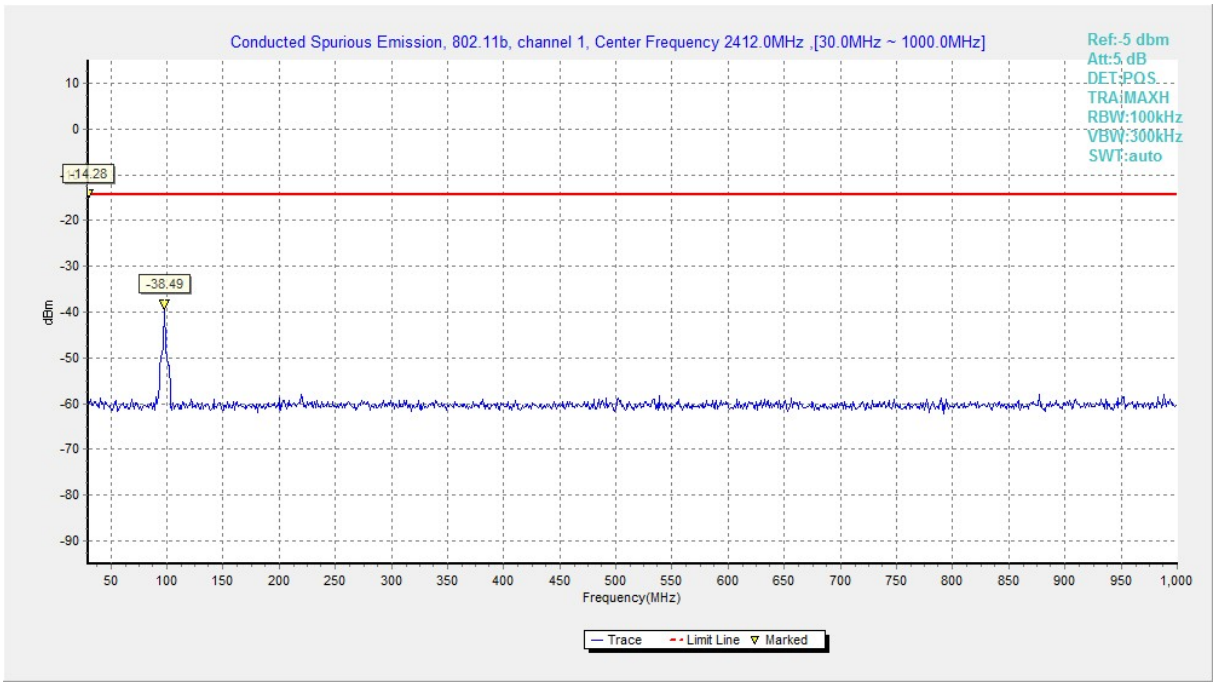


Fig. 17 Conducted Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)

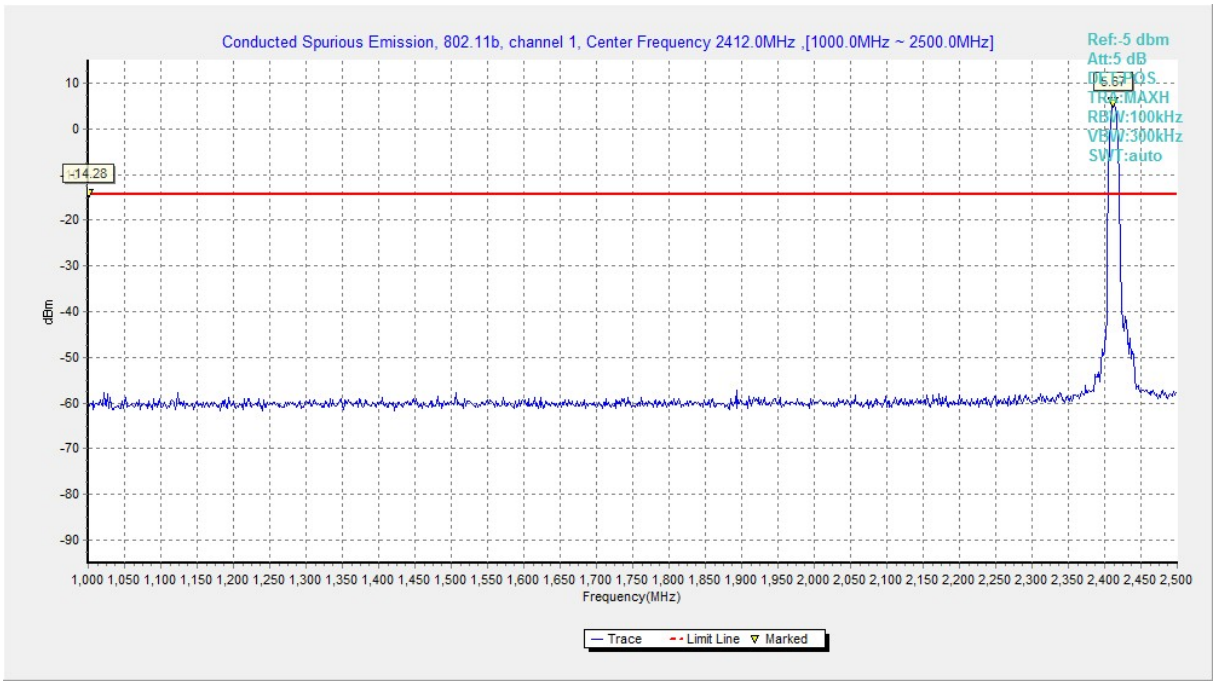


Fig. 18 Conducted Spurious Emission (802.11b, Ch1, 1 GHz-2.5 GHz)

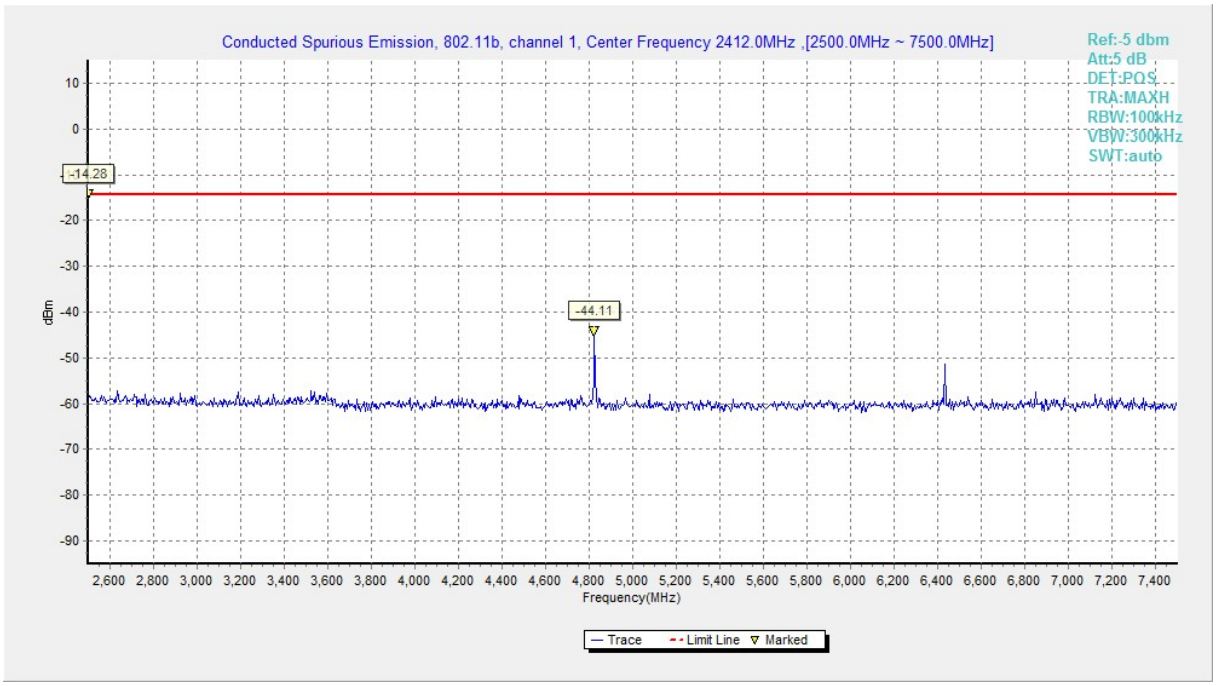


Fig. 19 Conducted Spurious Emission (802.11b, Ch1, 2.5 GHz-7.5 GHz)

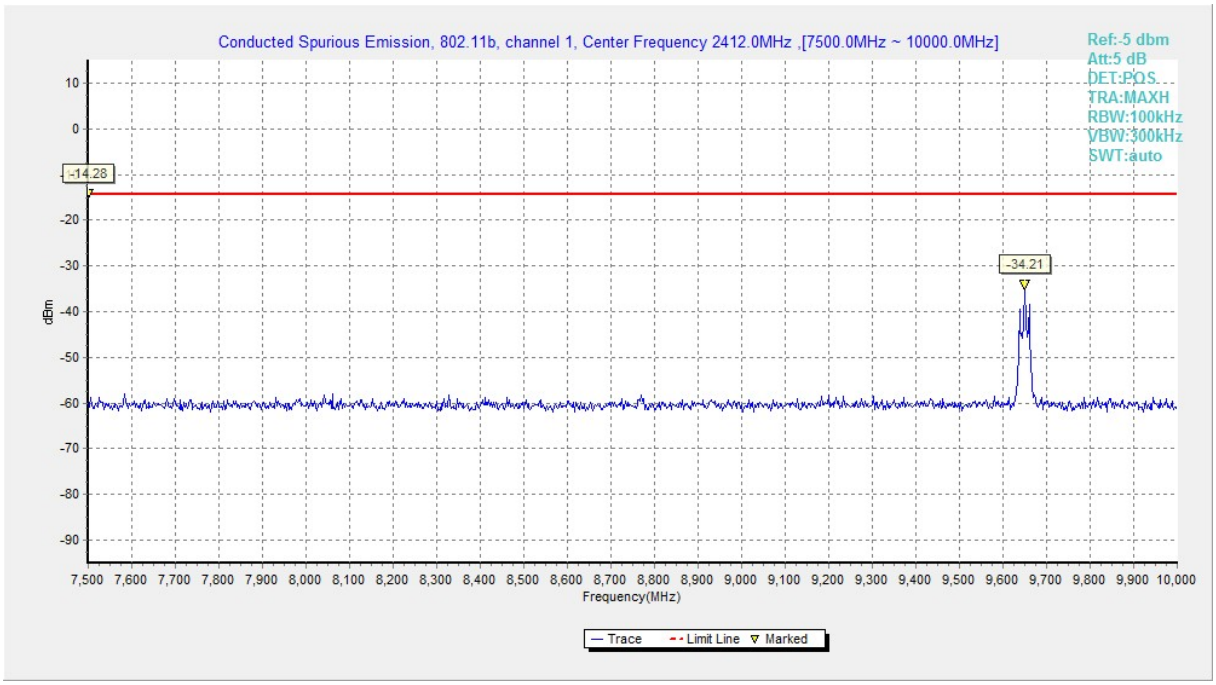


Fig. 20 Conducted Spurious Emission (802.11b, Ch1, 7.5 GHz-10 GHz)

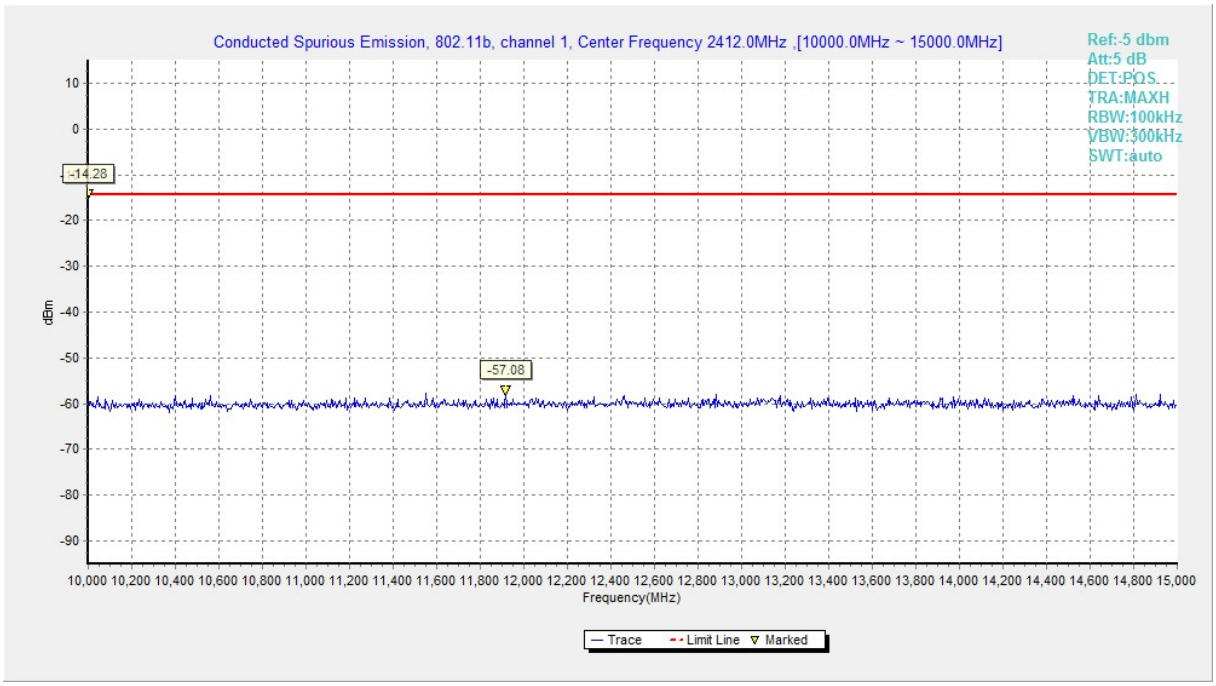


Fig. 21 Conducted Spurious Emission (802.11b, Ch1, 10 GHz-15 GHz)

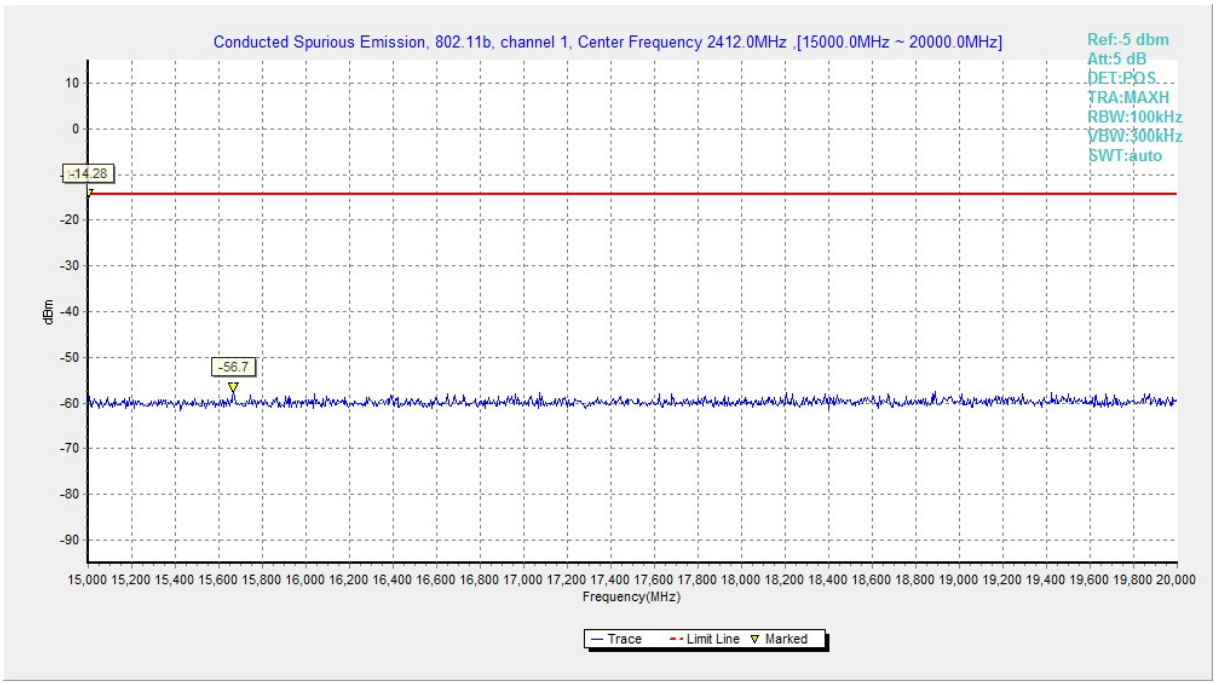


Fig. 22 Conducted Spurious Emission (802.11b, Ch1, 15 GHz-20 GHz)

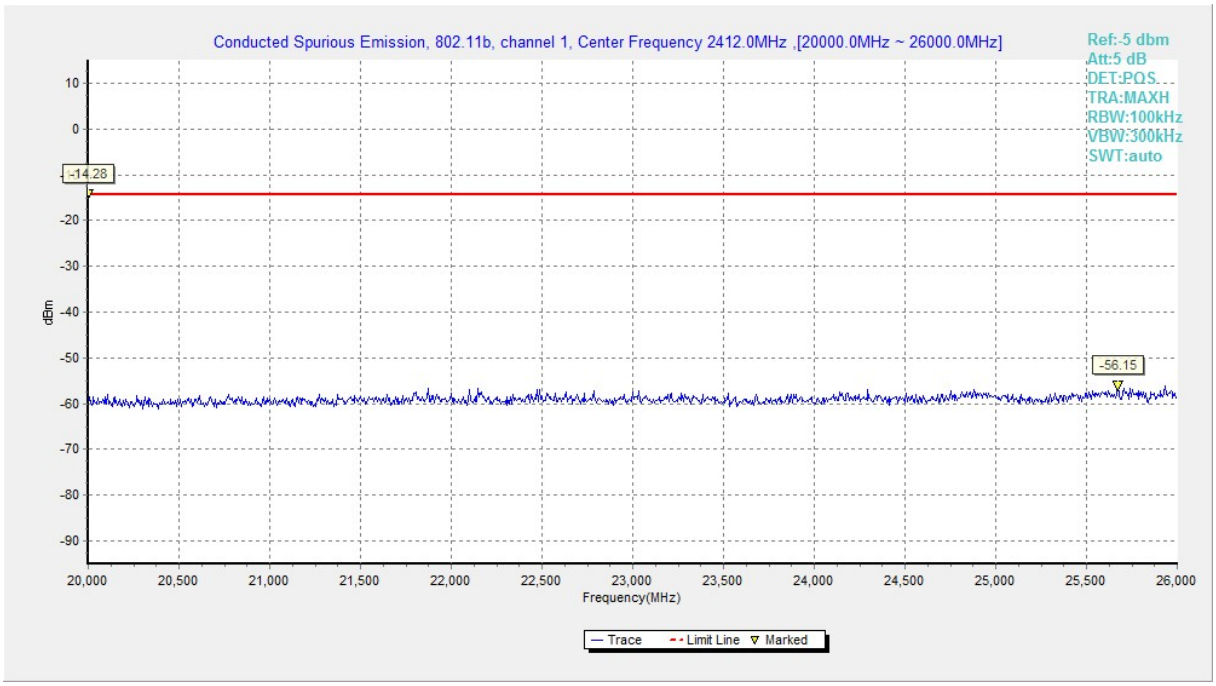


Fig. 23 Conducted Spurious Emission (802.11b, Ch1, 20 GHz-26 GHz)

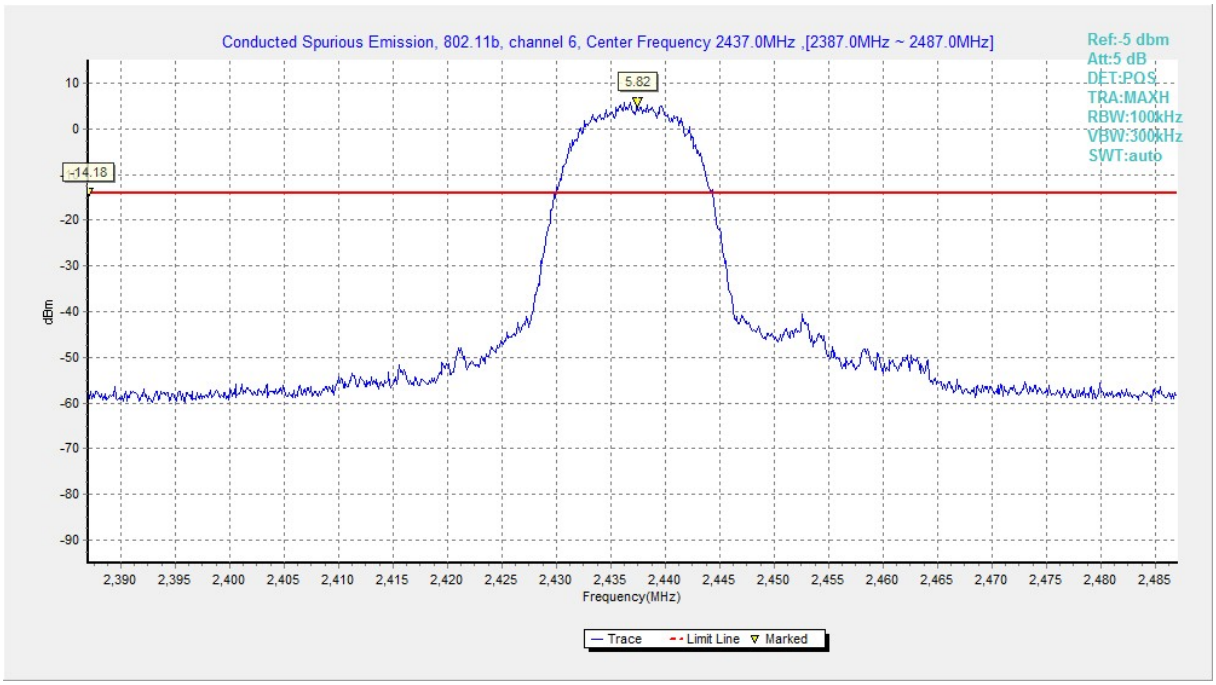


Fig. 24 Conducted Spurious Emission (802.11b, Ch6, Center Frequency)

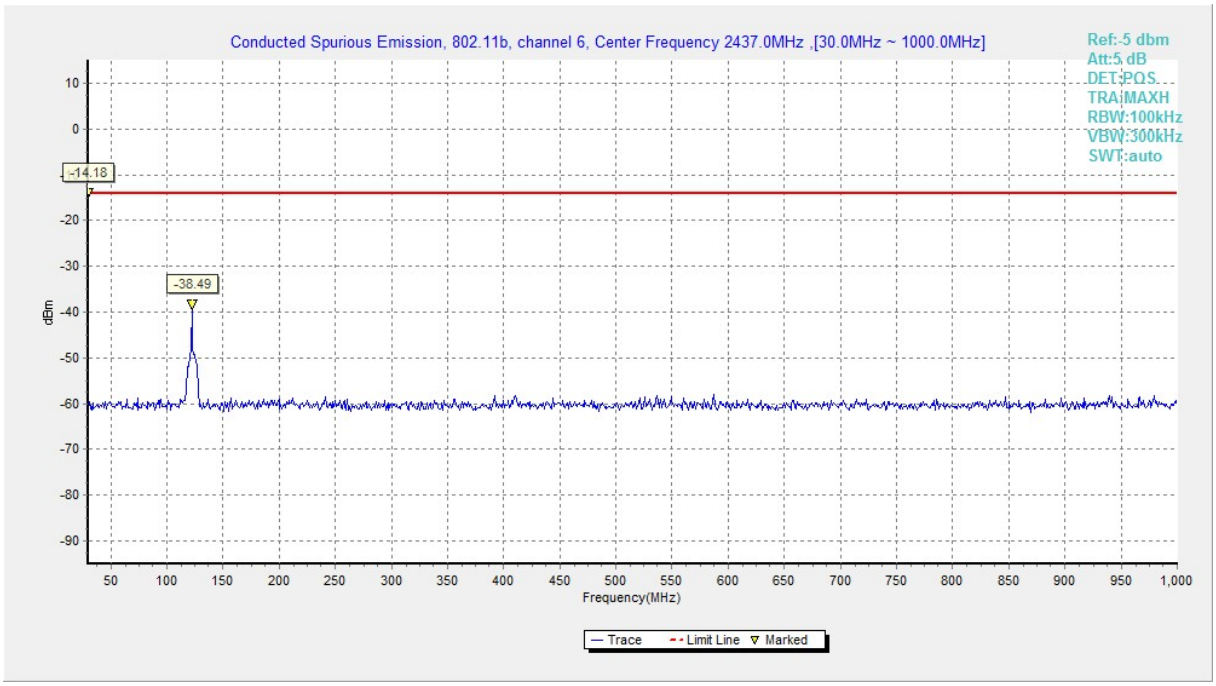


Fig. 25 Conducted Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)

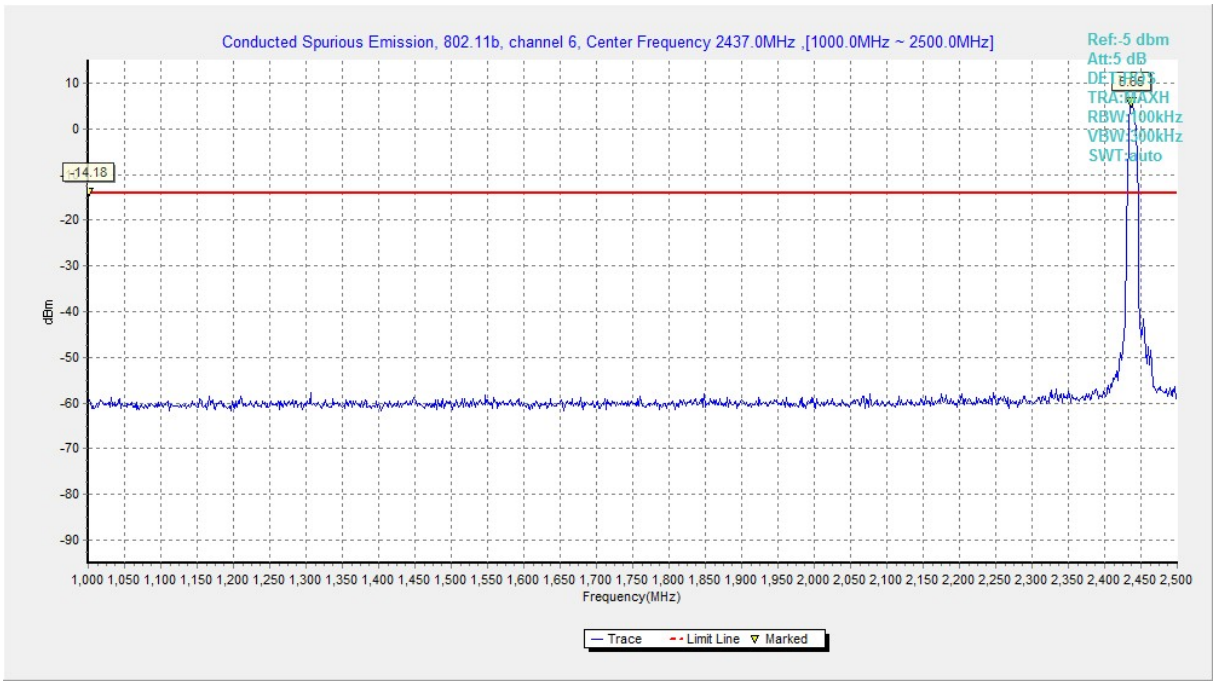


Fig. 26 Conducted Spurious Emission (802.11b, Ch6, 1 GHz-2.5 GHz)

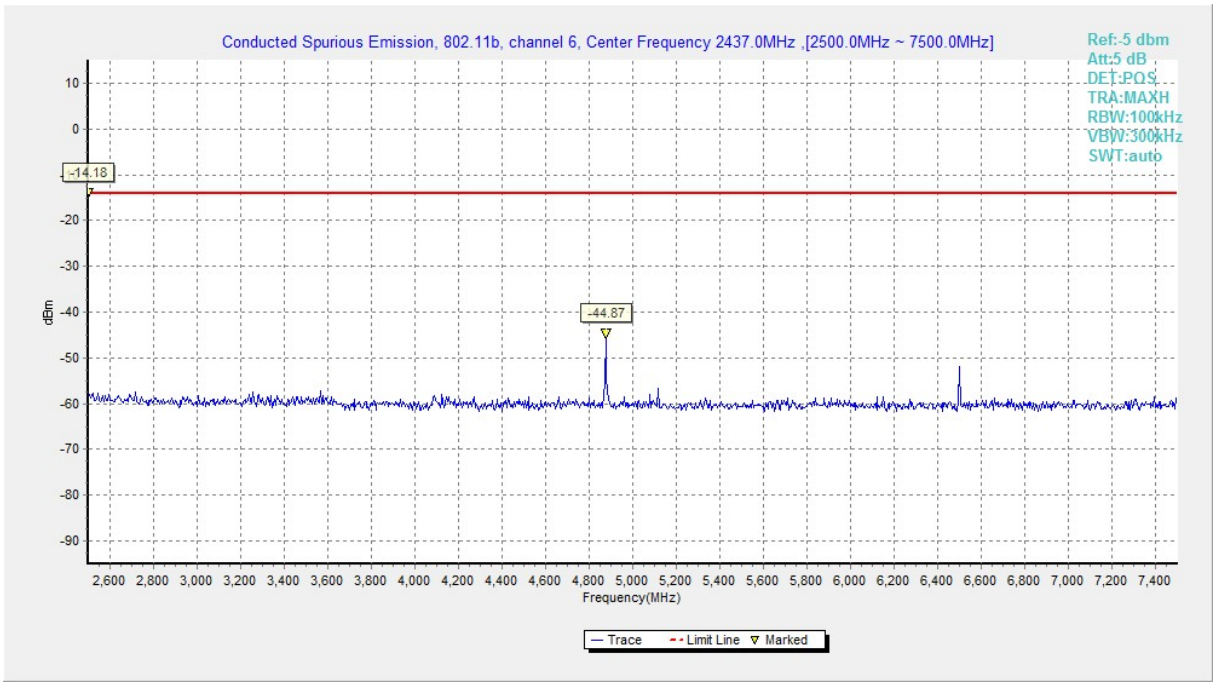


Fig. 27 Conducted Spurious Emission (802.11b, Ch6, 2.5 GHz-7.5 GHz)

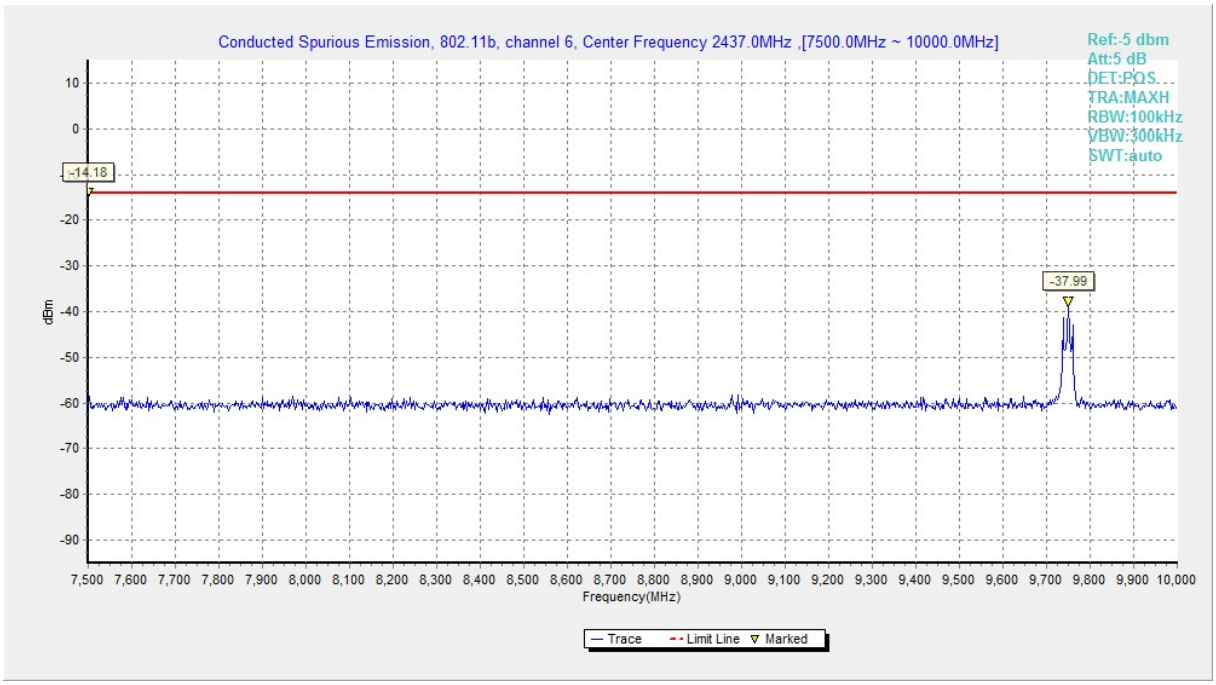


Fig. 28 Conducted Spurious Emission (802.11b, Ch6, 7.5 GHz-10 GHz)

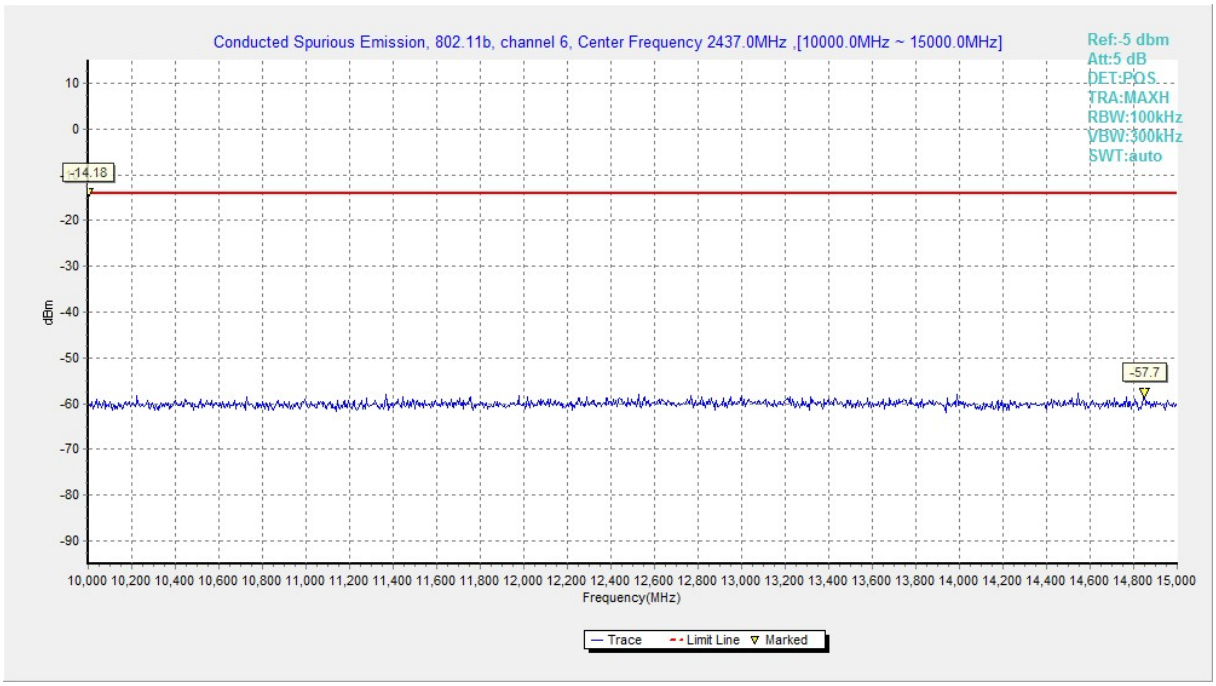


Fig. 29 Conducted Spurious Emission (802.11b, Ch6, 10 GHz-15 GHz)

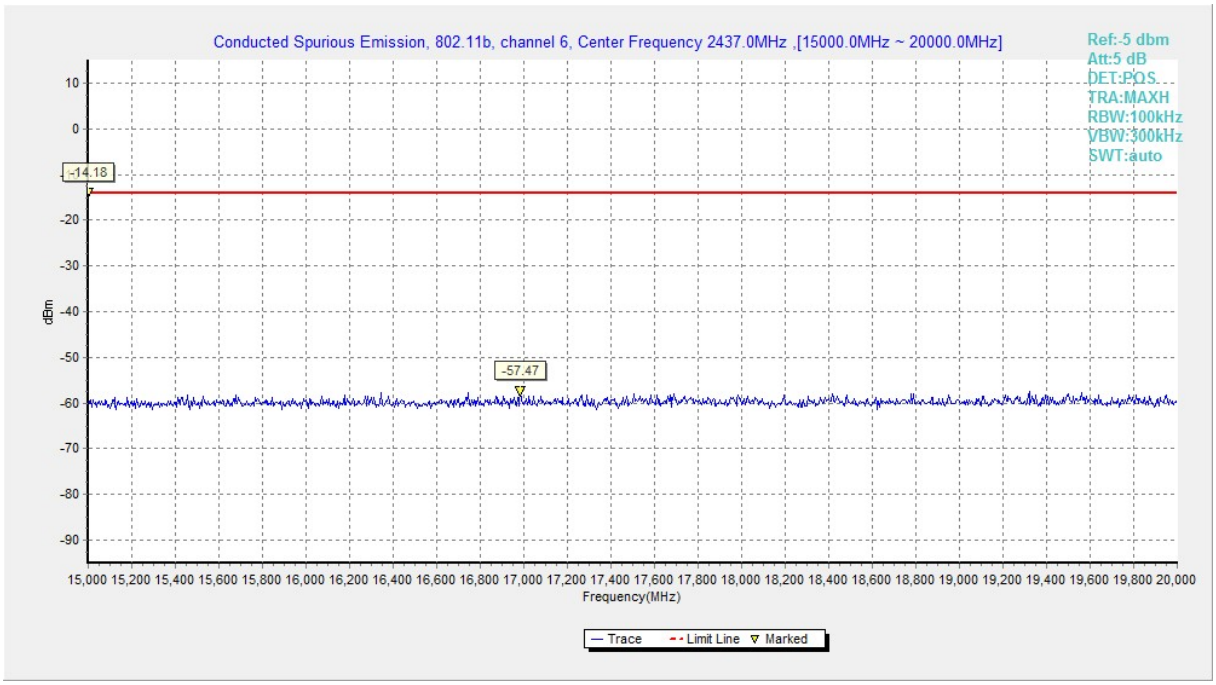


Fig. 30 Conducted Spurious Emission (802.11b, Ch6, 15 GHz-20 GHz)

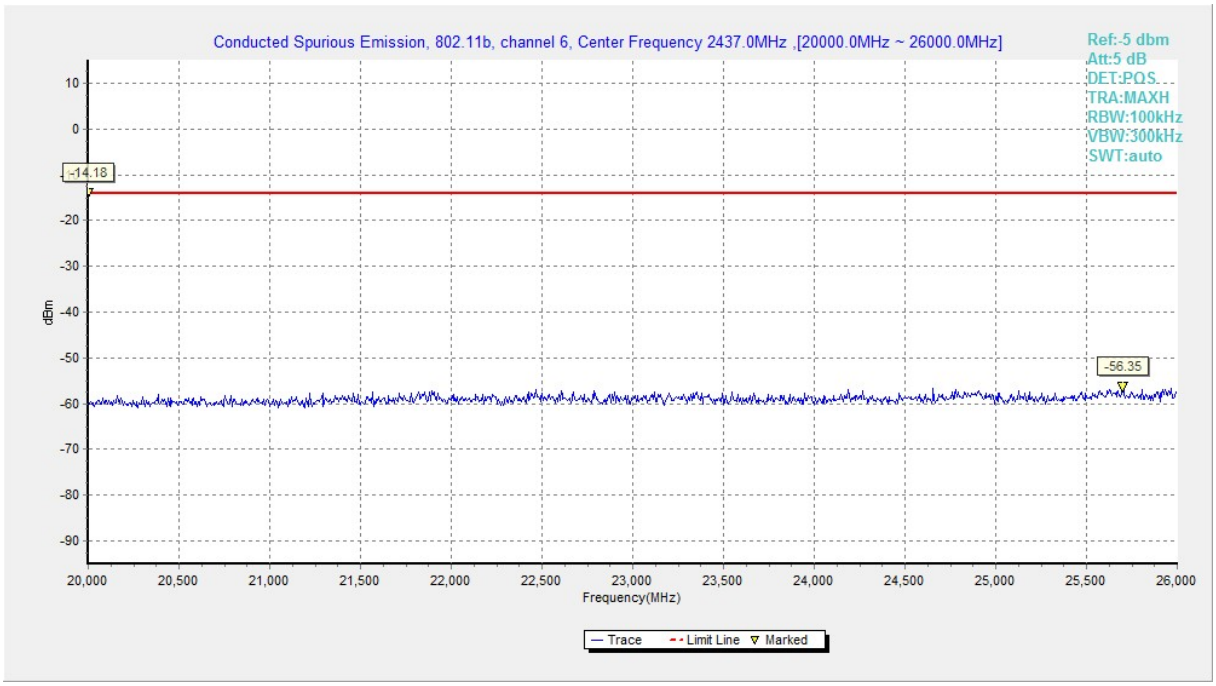


Fig. 31 Conducted Spurious Emission (802.11b, Ch6, 20 GHz-26 GHz)

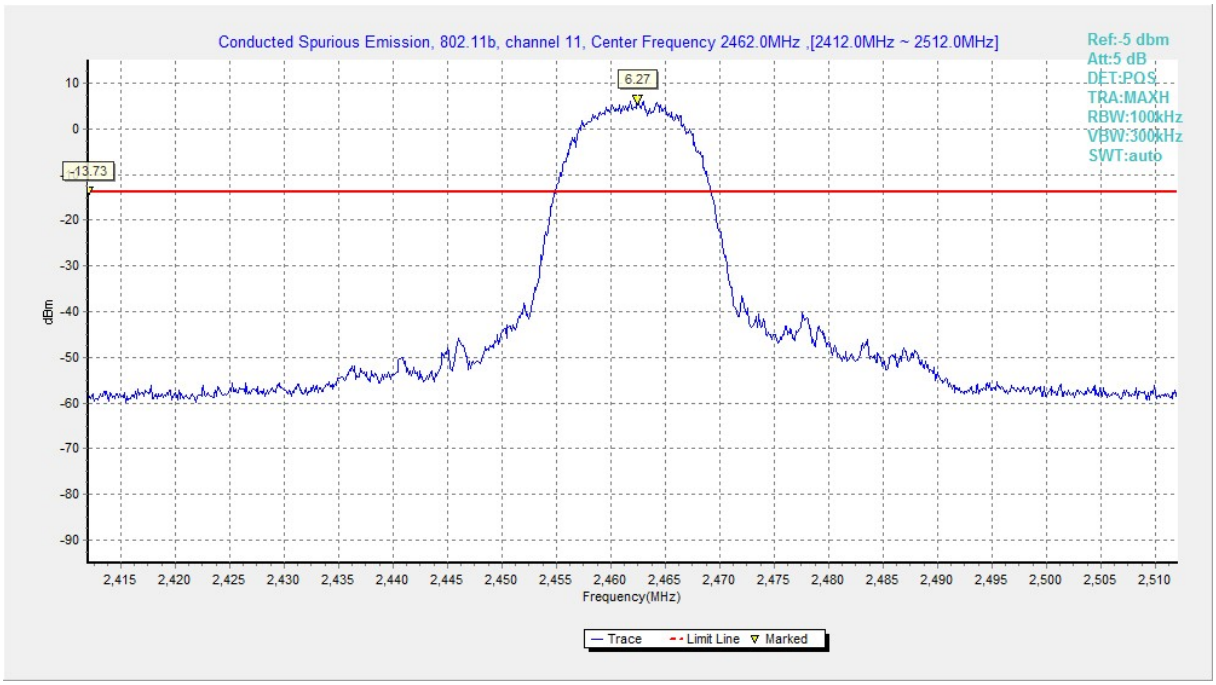


Fig. 32 Conducted Spurious Emission (802.11b, Ch11, Center Frequency)

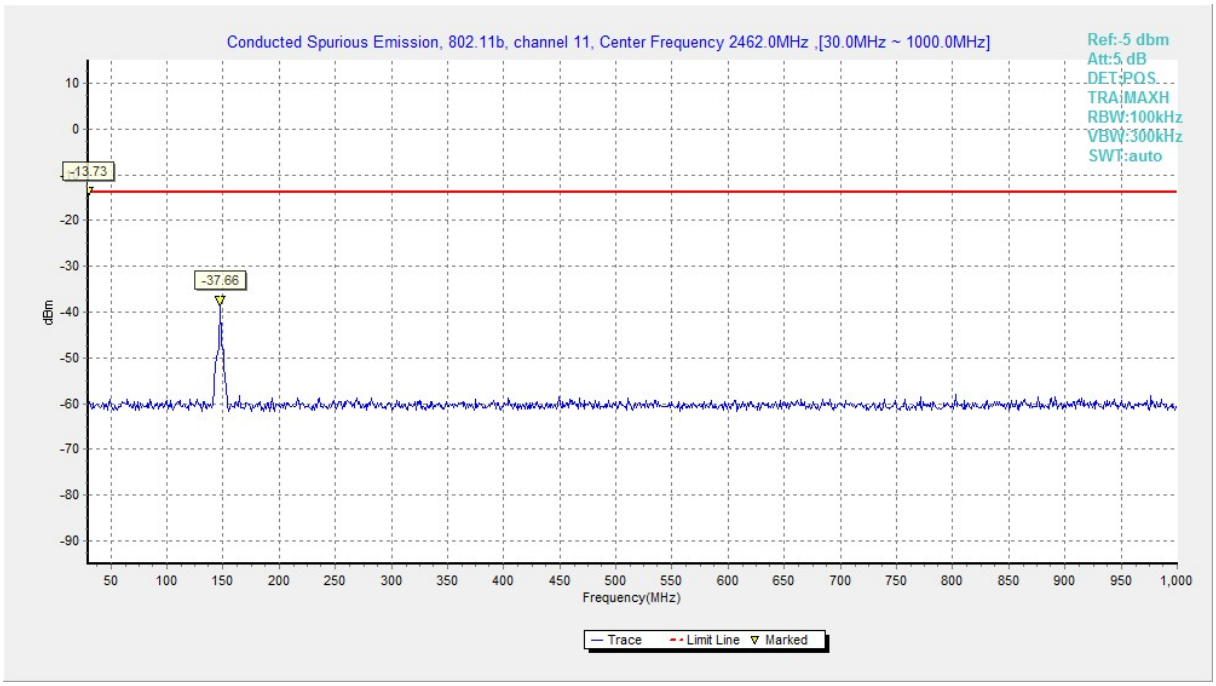


Fig. 33 Conducted Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)

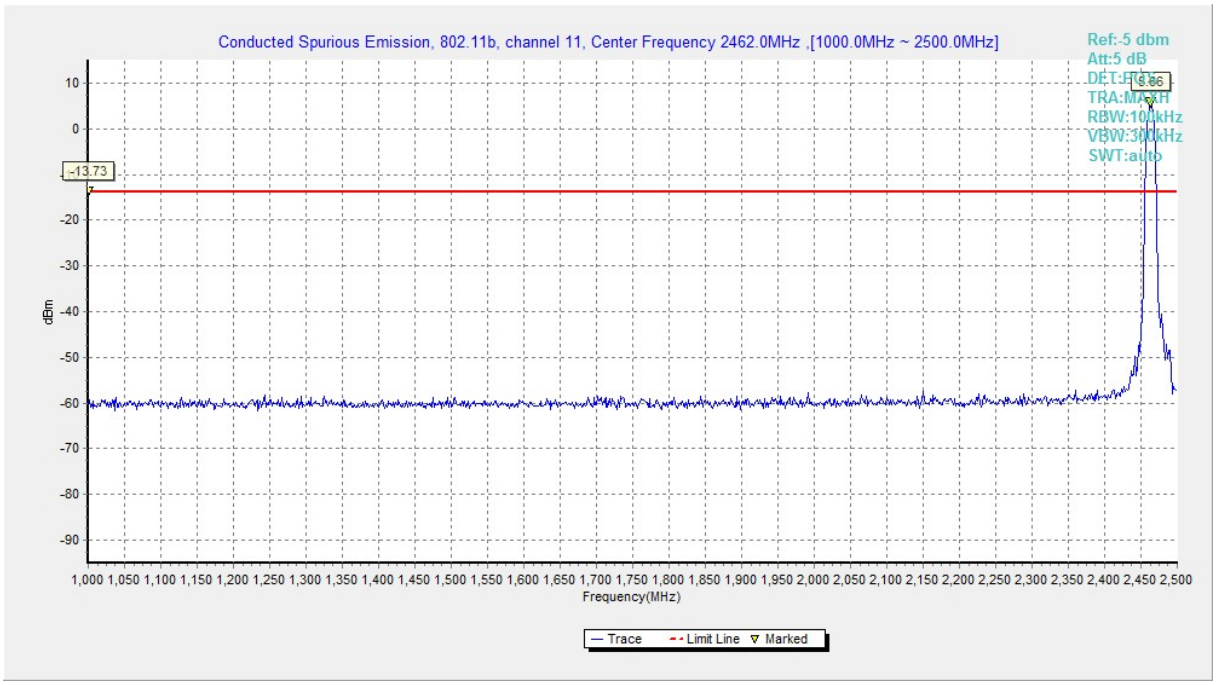


Fig. 34 Conducted Spurious Emission (802.11b, Ch11, 1 GHz-2.5 GHz)

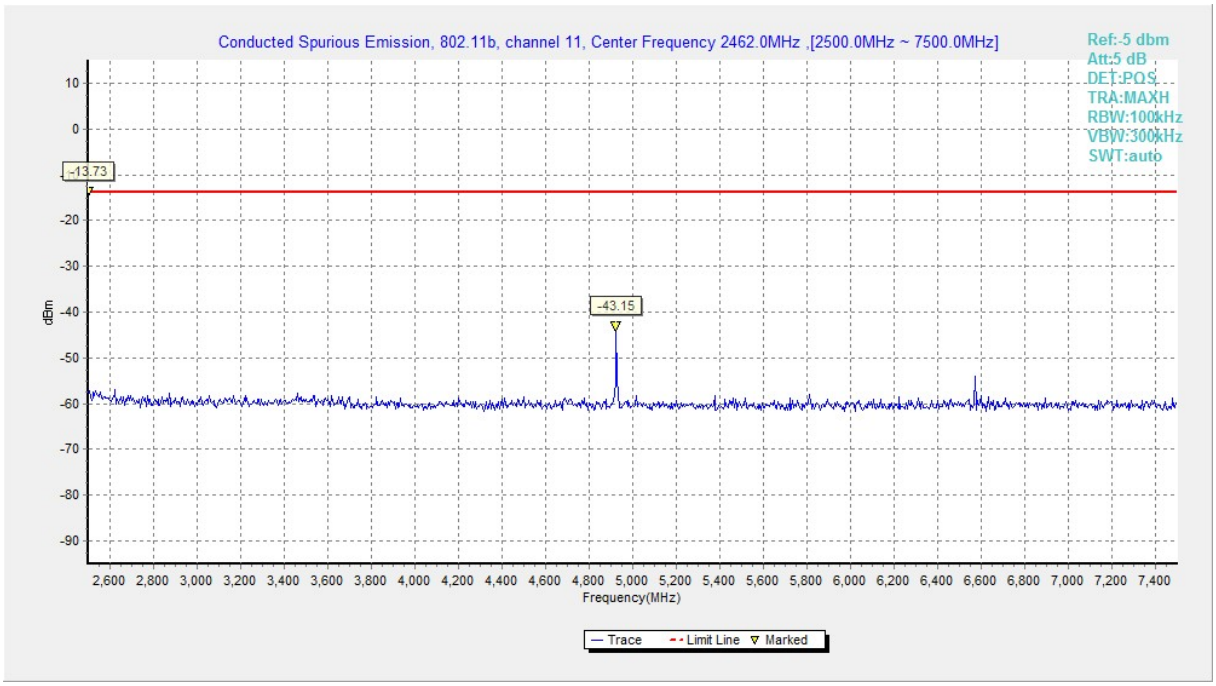


Fig. 35 Conducted Spurious Emission (802.11b, Ch11, 2.5 GHz-7.5 GHz)

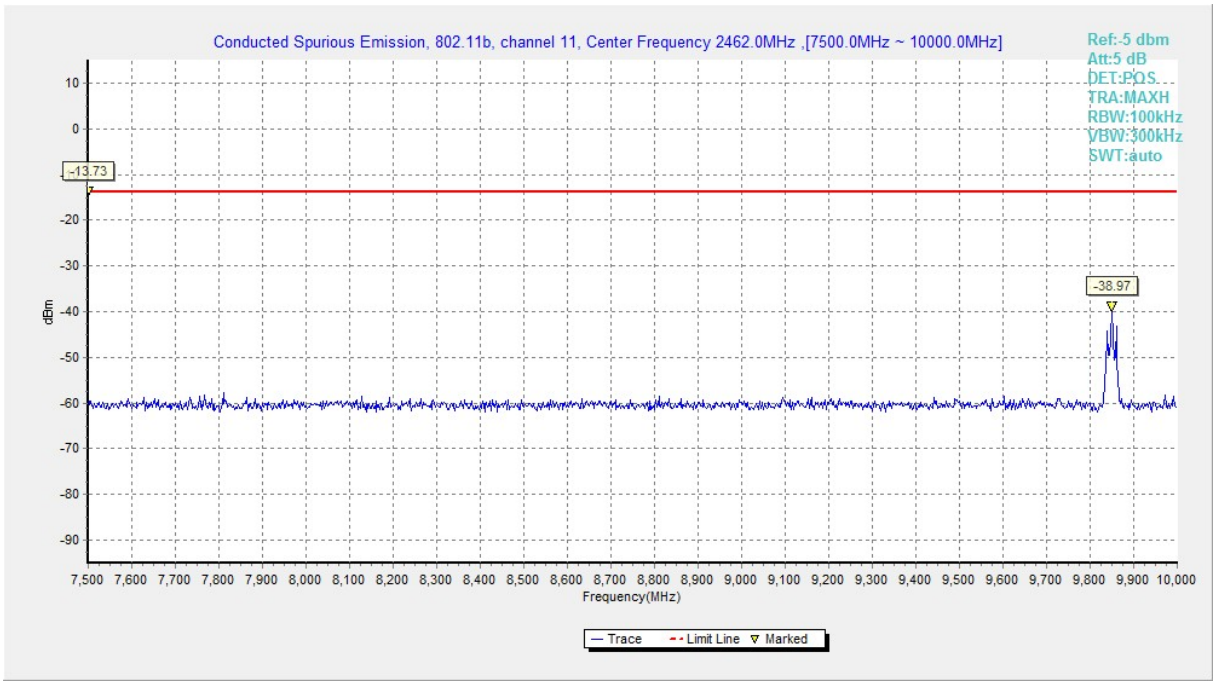


Fig. 36 Conducted Spurious Emission (802.11b, Ch11, 7.5 GHz-10 GHz)

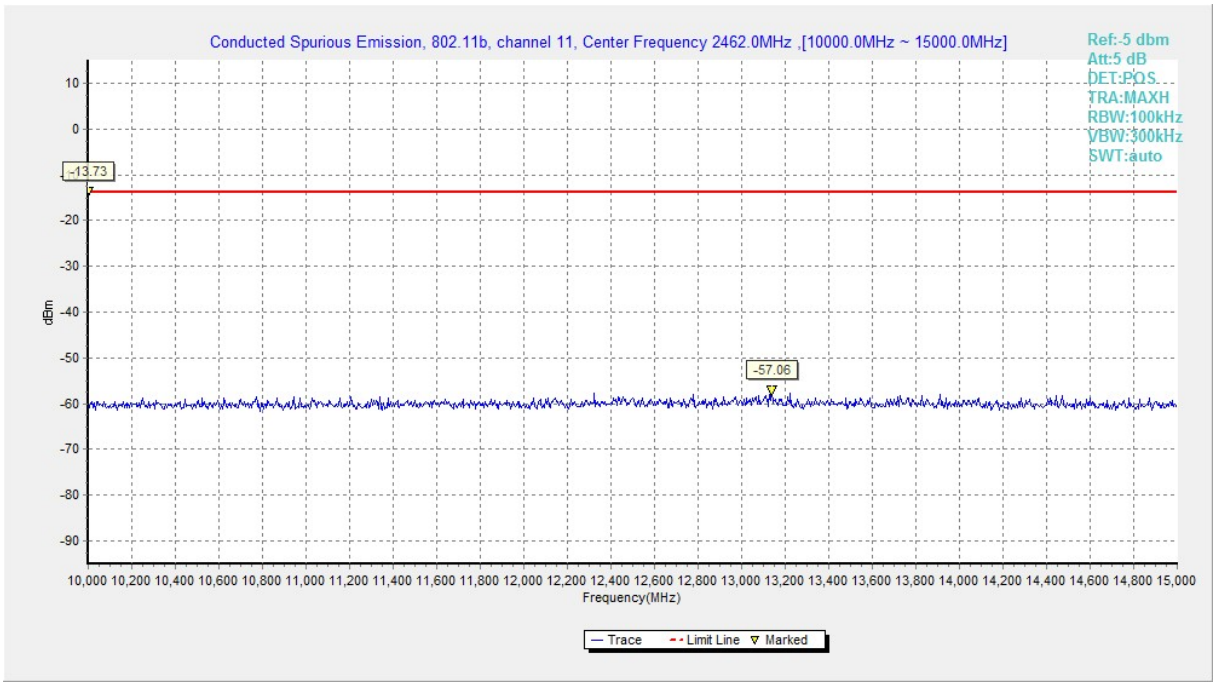


Fig. 37 Conducted Spurious Emission (802.11b, Ch11, 10 GHz-15 GHz)