



FCC PART 15C TEST REPORT No.2012WLN0350

for

ZTE Corporation

LTE uFi hotspot

Type: MF91

With

FCC ID: Q78-ZTEMF91

Hardware Version: xk1B

Software Version: BD MF91 Telstra V1.0.0B05

Issued Date: 2012-05-24



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Rat

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

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 TMC Beijing.

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1. TEST LABORATORY

1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT
Address: No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China
Postal Code: 100191
Telephone: 008610623046332500
Fax: 008610623046332504

1.2. Testing Environment

Normal Temperature: 15-30°C
Extreme Temperature: -20/+55°C
Relative Humidity: 30-60%
Air Pressure 990hPa-1040hPa

Note: The climatic requirements above are general exclude the special requirements for dedicated test environments listed in section 5 and some specific test cases in other parts of this report.

1.3. Project data

Testing Start Date: 2012-04-06
Testing End Date: 2012-05-24

1.4. Signature



Sun Zhenyu
(Prepared this test report)



Gao Hong
(Reviewed this test report)



Lu Bingsong
Deputy Director of the laboratory
(Approved this test report)

2. CLIENT INFORMATION

2.1. Applicant Information

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Country: China
Contact /
Email /
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2.2. Manufacturer Information

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Postal Code: 518057
Country: China
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Email /
Telephone: +86-21-68897541
Fax: +86-21-50801070

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

3.1. About EUT

Description	LTE uFi hotspot
Type	MF91
FCC ID	Q78-ZTEMF91
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
MAX Conducted Power	20.62dBm(OFDM)
Power Supply	3.7V 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	/	xk1B	BD MF91 Telstra V1.0.0B05
EUT2	/	xk1B	BD MF91 Telstra V1.0.0B05

*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	Battery	LI3723T42P3h704572	/
AE2	Traveller Charger	STC-A22O50I1500M5	/

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

3.4. General Description

Equipment Under Test (EUT) is a model of LTE uFi hotspot with integrated antenna. It consists of normal options: Battery and Charger.

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

Samples undergoing test were selected by the Client.

4. Reference Documents

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. REFERENCE DOCUMENTS FOR TESTING

The following documents listed in this section are referred for testing.

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, 2009 Edition
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 D01	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247	January 18, 2012

5. LABORATORY ENVIRONMENT

Shielding Room1 (6.0 meters×3.0 meters×2.7 meters) did not exceed following limits along the conducted RF performance testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Ground system resistance	< 0.5 Ω
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

Control room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. =30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Semi-anechoic chamber (23 meters×17meters×10meters) did not exceed following limits along the EMC testing::

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.2 dB, 10 m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

Shielding Room2 (7.30 meters×4.00 meters×3.80 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

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 (a)	/	P
Peak Power Spectral Density	15.247 (d)	/	P
Occupied 6dB Bandwidth	15.247 (d)	/	P
Band Edges Compliance	15.247 (b)	/	P
Transmitter Spurious Emission - Conducted	15.247	/	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.

The measurement is made according to Public notice KDB558074 D01 and ANSI C63.10.

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.

Test Conditions

T nom	Normal Temperature
T min	Low Temperature
T max	High Temperature
V nom	Normal Voltage
V min	Low Voltage
V max	High Voltage
H nom	Norm Humidity
A nom	Norm Air Pressure

For this report, all the test cases listed above are tested under Normal Temperature and Normal Voltage which is using a new battery, and also under norm humidity, the specific conditions as following:

Temperature	T nom	26°C
Voltage	V nom	3.7V(By battery)
Humidity	H nom	44%
Air Pressure	A nom	1010hPa

7. TEST EQUIPMENTS UTILIZED

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	2012-07-19
2	Spectrum Analyzer	MS2687B	6200819812	Anritsu	2012-09-22
3	Test Receiver	ESS	847151/015	Rohde & Schwarz	2012-10-30
4	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2012-08-12

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date
1	Test Receiver	ESI40	831564/002	Rohde & Schwarz	2012-08-11
2	BiLog Antenna	3142B	9908-1403	EMCO	2013-03-15
3	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO	2012-12-25
4	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2012-06-30

Anechoic chamber

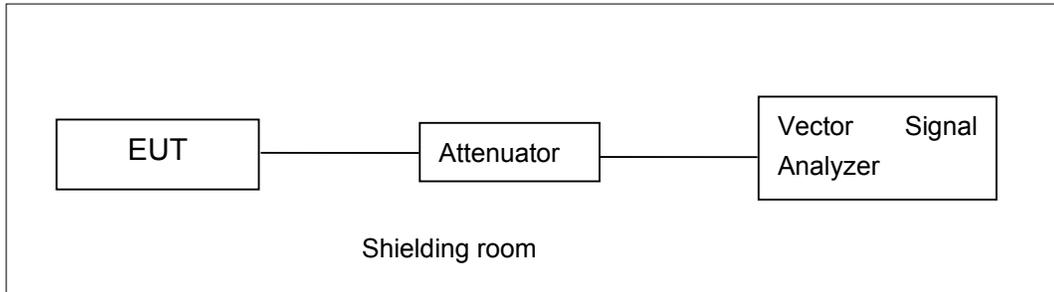
Anechoic chamber by Frankonia German.

ANNEX A: MEASUREMENT RESULTS

A.1. Measurement Method

A.1.1. Conducted Measurements

- 1). Connect the EUT to the test system correctly.
- 2). Set the EUT to the required work mode.
- 3). Set the EUT to the required channel.
- 4). Set the spectrum analyzer to start measurement.
- 5). Record the values. Vector Signal Analyzer

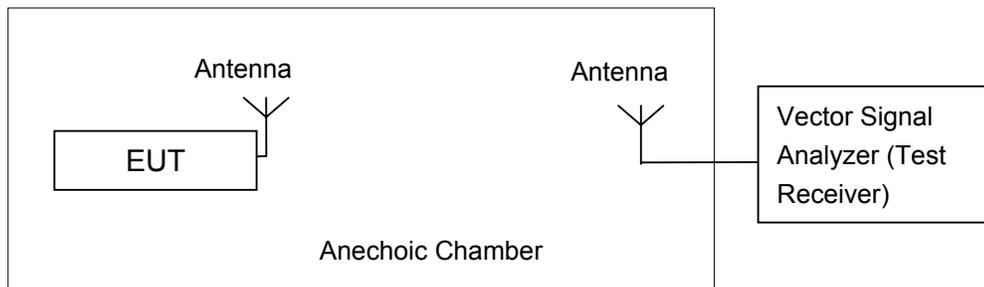


A.1.2. Radiated Emission Measurements

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 and KDB558074 D01

A.2. Maximum 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 and KDB558074 D01, and power output option 1 (RBW=20MHz) in KDB558074 D01 is used for the test. EUT is operating in continuous transmitting mode

Measurement Uncertainty:

Measurement Uncertainty	0.75dB
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A.2.1. Maximum 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	16.51	/	/
	2	16.75	/	/
	5.5	18.08	/	/
	11	20.06	20.11	20.05
802.11g	6	20.13	/	/
	9	20.17	/	/
	12	20.05	/	/
	18	20.06	/	/
	24	20.63	/	/
	36	20.58	/	/
	48	20.62	/	/
	54	20.64	20.62	20.46

The data rate 11Mbps and 54Mbps 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	17.90	/	/
	MCS1	17.74	/	/
	MCS2	17.72	/	/
	MCS3	18.11	/	/
	MCS4	18.15	/	/
	MCS5	18.25	/	/

	MCS6	18.28	/	/
	MCS7	18.29	18.42	18.16

The data rate MCS7 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	/	/	/
	MCS1	/	/	/
	MCS2	/	/	/
	MCS3	/	/	/
	MCS4	/	/	/
	MCS5	/	/	/
	MCS6	/	/	/
	MCS7	/	/	/

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	13.48	13.50	13.32
802.11g	10.64	10.74	10.32

802.11n-HT20 mode

Mode	Test Result (dBm)		
	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	7.66	7.81	7.82

802.11n-HT40 mode

Mode	Test Result (dBm)		
	2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	/	/	/

Conclusion: PASS

A.3. Peak Power Spectral Density

Measurement Limit:

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

The measurement is made according to ANSI C63.10 and KDB558074 D01

Measurement Uncertainty:

Measurement Uncertainty	0.75dB
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Measurement Results:

802.11b/g mode

Mode	Channel	Power Spectral Density (dBm/3 kHz)		Conclusion
		Fig.	Value	
802.11b	1	Fig.1	-7.33	P
	6	Fig.2	-7.27	P
	11	Fig.3	-7.30	P
802.11g	1	Fig.4	-11.24	P
	6	Fig.5	-12.50	P
	11	Fig.6	-11.70	P

802.11n-HT20 mode

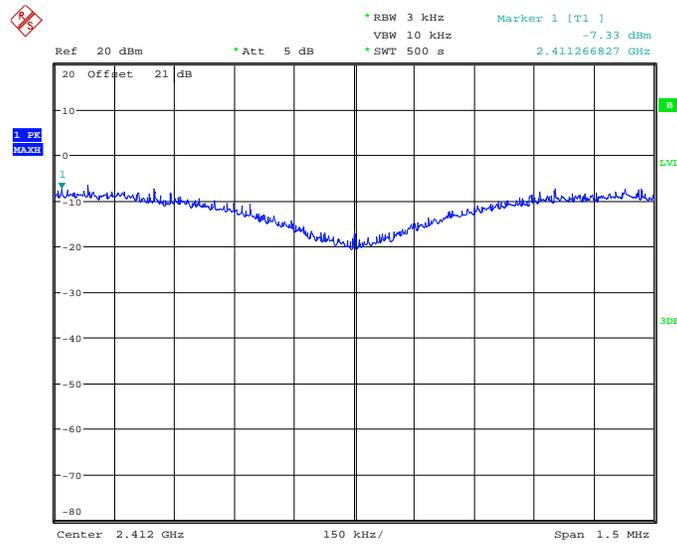
Mode	Channel	Power Spectral Density (dBm/3 kHz)		Conclusion
		Fig.	Value	
802.11n (20MHz)	1	Fig.7	-14.92	P
	6	Fig.8	-15.16	P
	11	Fig.9	-14.49	P

802.11n-HT40 mode

Mode	Channel	Power Spectral Density (dBm/3 kHz)		Conclusion
		Fig.	Value	
802.11n (40MHz)	3	/	/	/
	6	/	/	/
	9	/	/	/

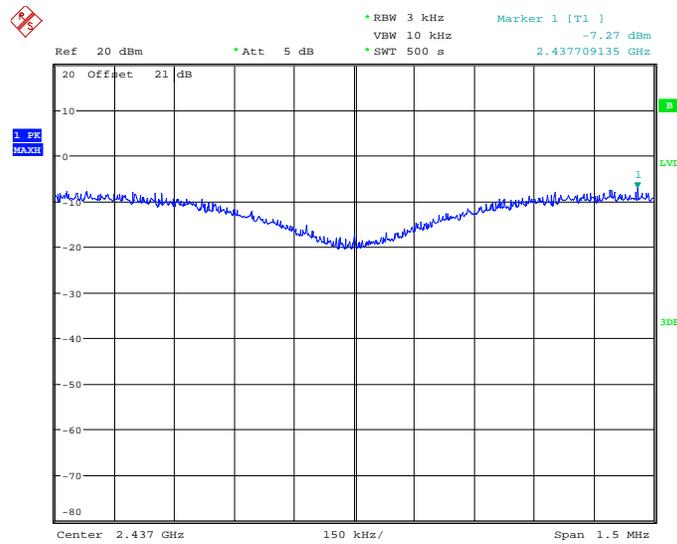
Conclusion: PASS

Test graphs as below:



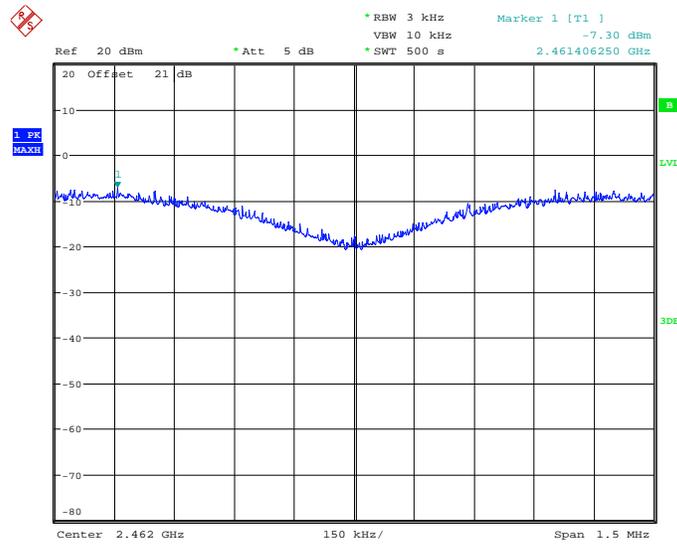
Date: 13.MAY.2012 11:53:42

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



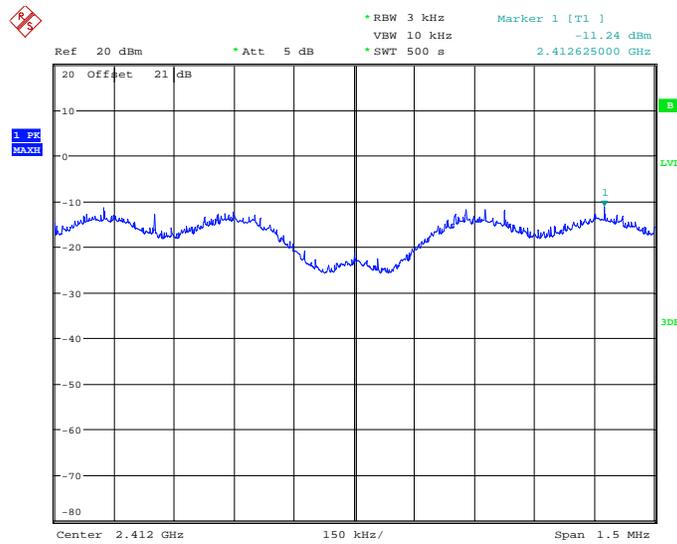
Date: 13.MAY.2012 16:49:29

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



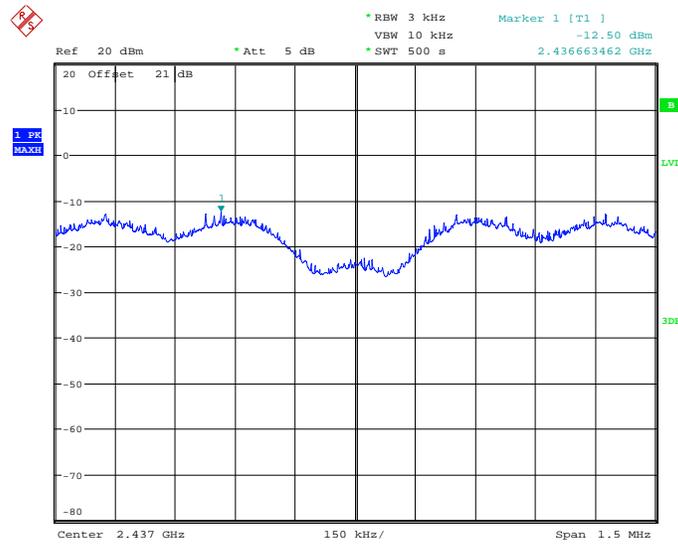
Date: 13.MAY.2012 17:00:27

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



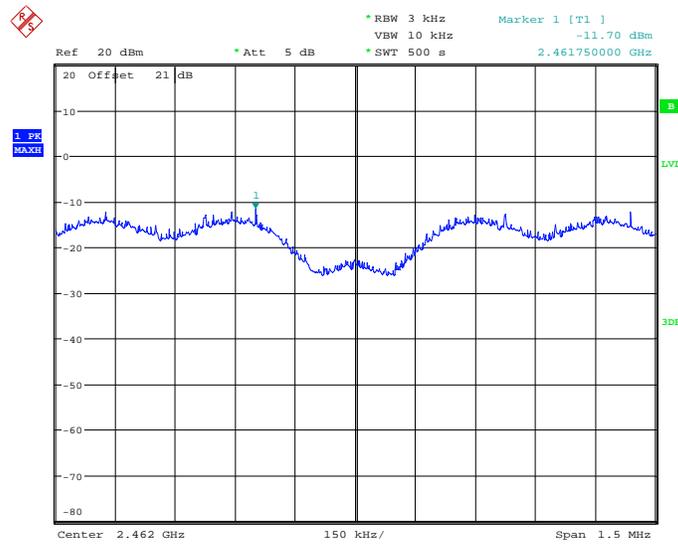
Date: 13.MAY.2012 17:12:59

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



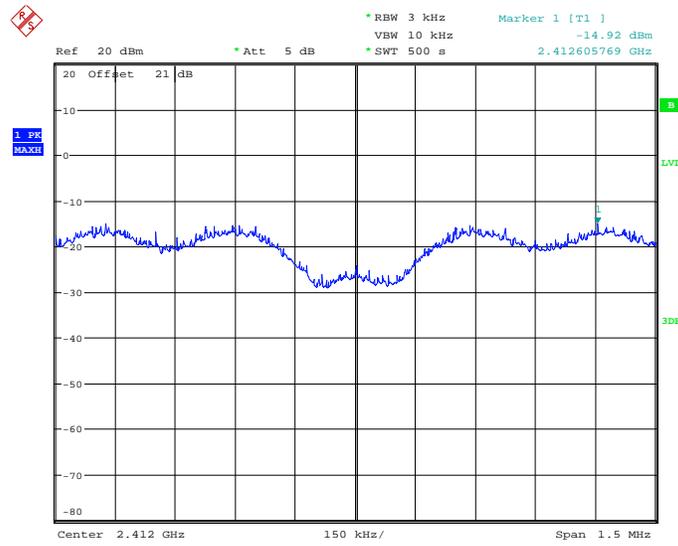
Date: 13.MAY.2012 17:22:21

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



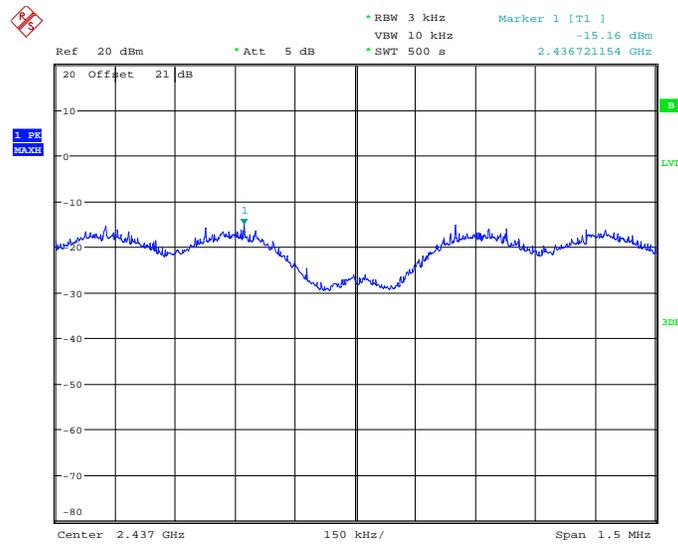
Date: 13.MAY.2012 17:31:49

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



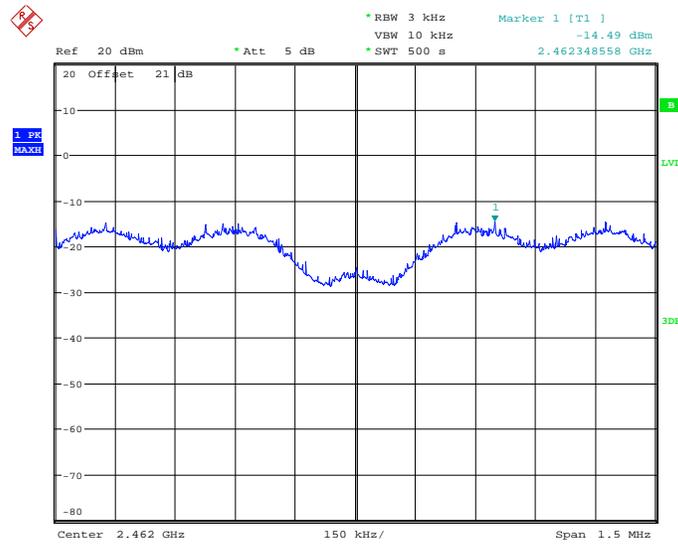
Date: 13.MAY.2012 17:41:01

Fig. 7 Power Spectral Density (802.11n-20MHz, Ch 1)



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Fig. 8 Power Spectral Density (802.11n-20MHz, Ch 6)



Date: 13.MAY.2012 18:11:19

Fig. 9 Power Spectral Density (802.11n-20MHz, Ch 11)

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 and KDB558074 D01

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz
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Measurement Result:

802.11b/g mode

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11b	1	Fig.10	8600	P
	6	Fig.11	8050	P
	11	Fig.12	8050	P
802.11g	1	Fig.13	16400	P
	6	Fig.14	16550	P
	11	Fig.15	16450	P

802.11n-HT20 mode

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11n (20MHz)	1	Fig.16	17400	P
	6	Fig.17	17650	P
	11	Fig.18	16650	P

802.11n-HT40 mode

Mode	Channel	Occupied 6dB Bandwidth (kHz)		conclusion
802.11n (40MHz)	3	/	/	/
	6	/	/	/
	9	/	/	/

Conclusion: PASS

Test graphs as below:

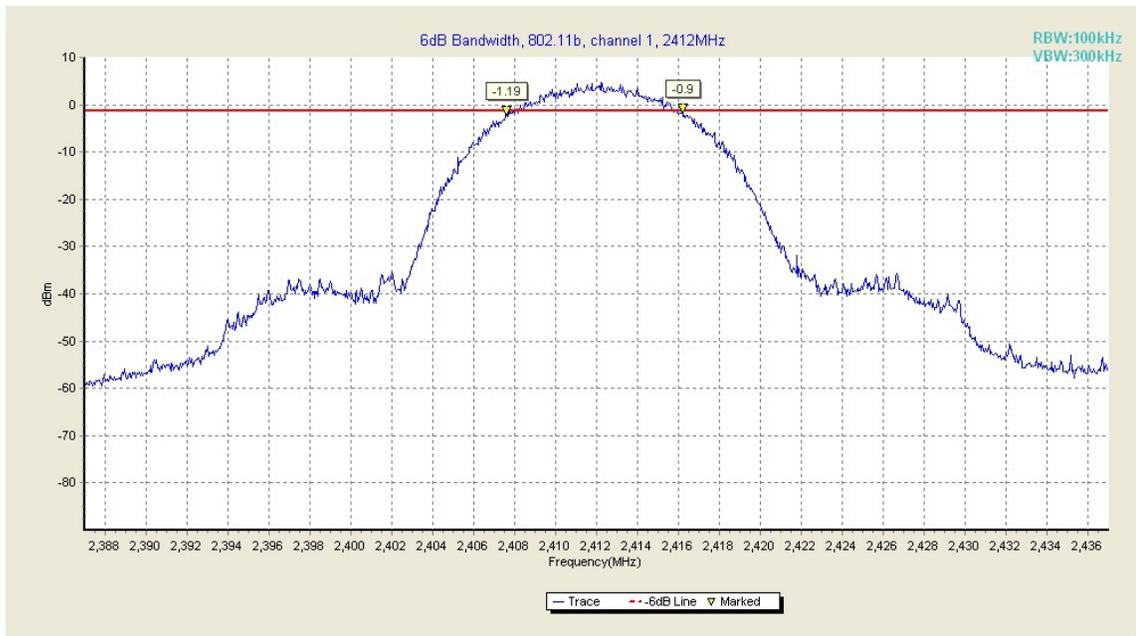


Fig. 10 Occupied 6dB Bandwidth (802.11b, Ch 1)

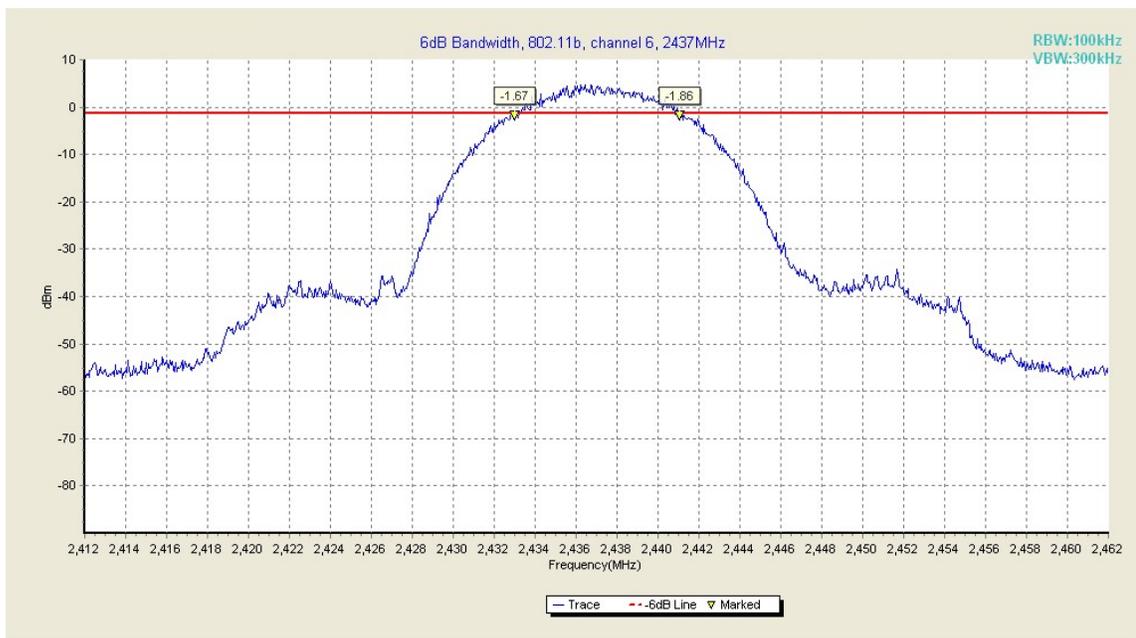


Fig. 11 Occupied 6dB Bandwidth (802.11b, Ch 6)

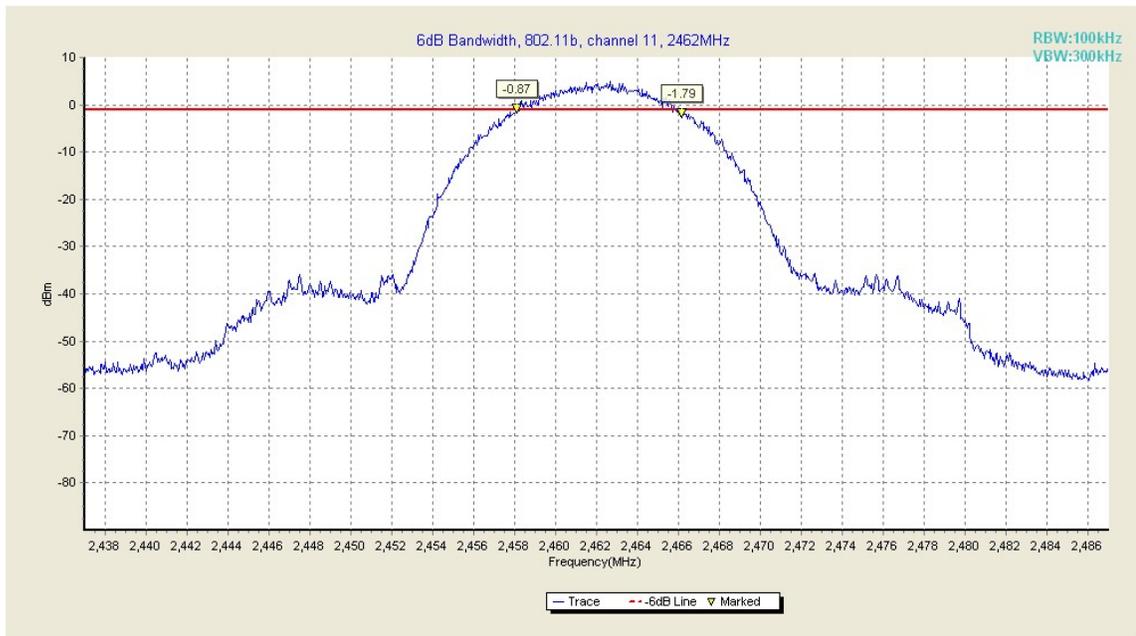


Fig. 12 Occupied 6dB Bandwidth (802.11b, Ch 11)

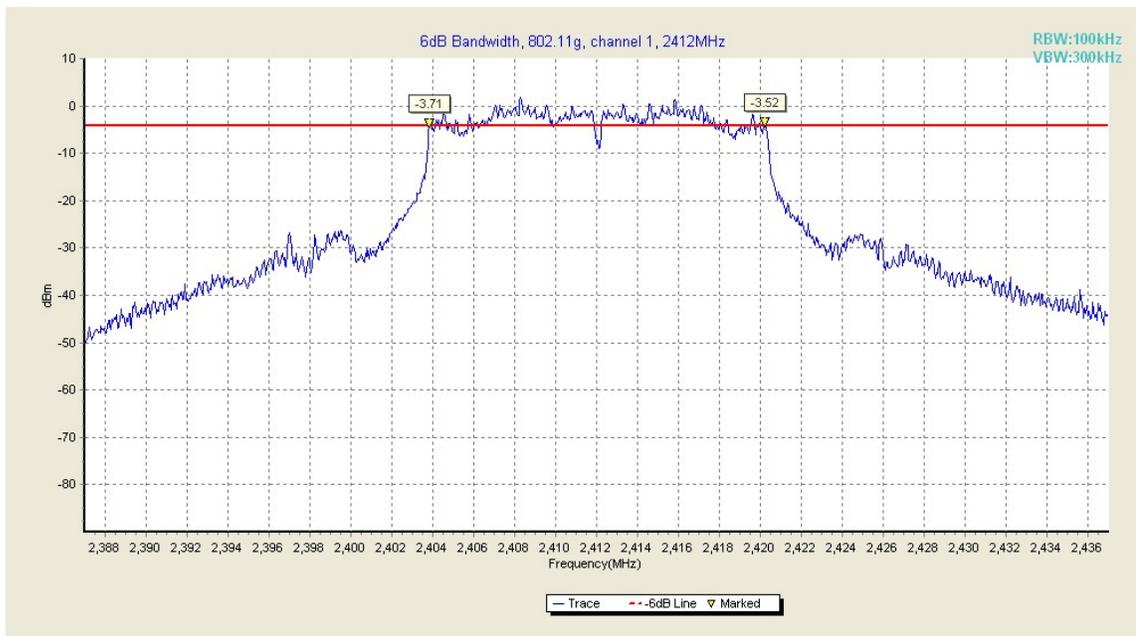


Fig. 13 Occupied 6dB Bandwidth (802.11g, Ch 1)

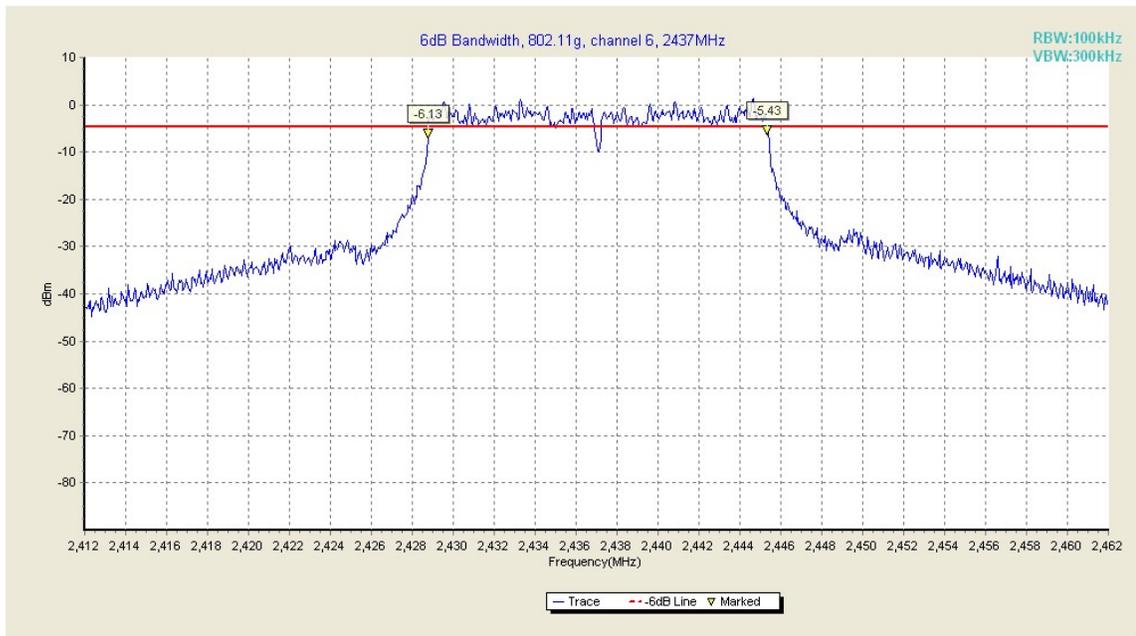


Fig. 14 Occupied 6dB Bandwidth (802.11g, Ch 6)

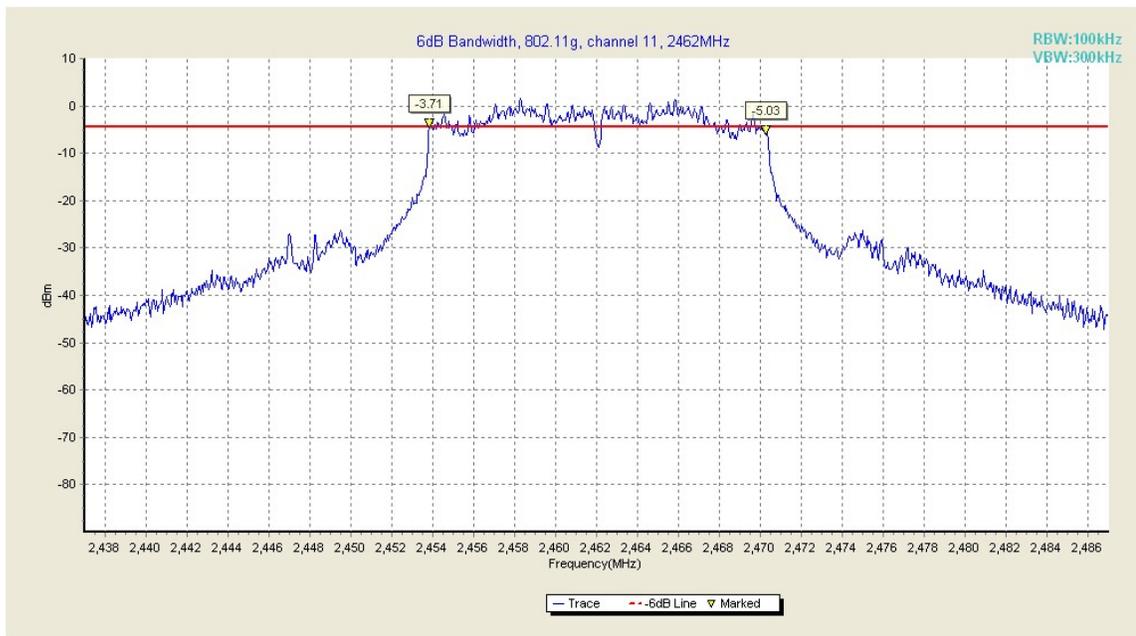


Fig. 15 Occupied 6dB Bandwidth (802.11g, Ch 11)

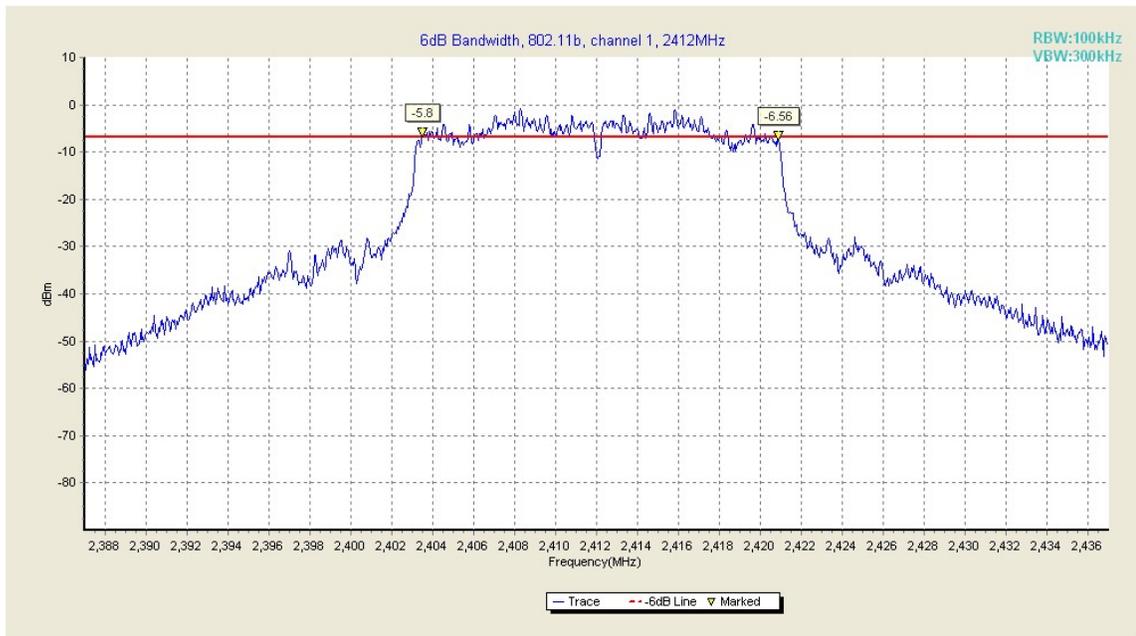


Fig. 16 Occupied 6dB Bandwidth (802.11n-20MHz, Ch 1)

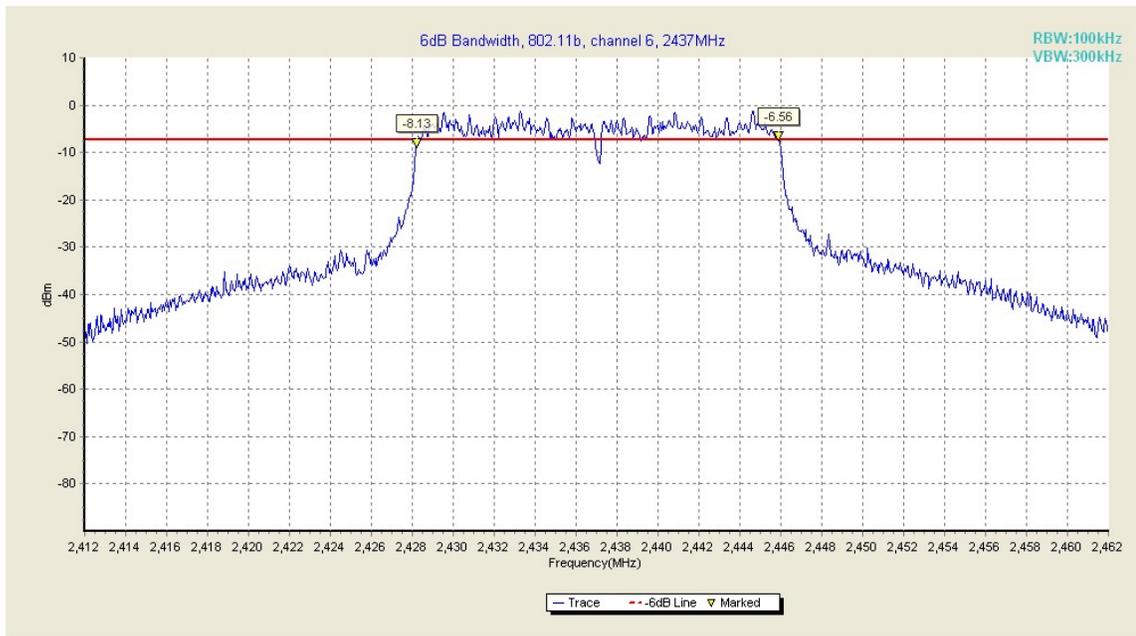


Fig. 17 Occupied 6dB Bandwidth (802.11n-20MHz, Ch 6)



Fig. 18 Occupied 6dB Bandwidth (802.11n-20MHz, 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 and KDB558074 D01

Measurement Uncertainty:

Measurement Uncertainty	0.75dB
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Measurement Result:

802.11b/g mode

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.19	P
	11	Fig.20	P
802.11g	1	Fig.21	P
	11	Fig.22	P

802.11n-HT20 mode

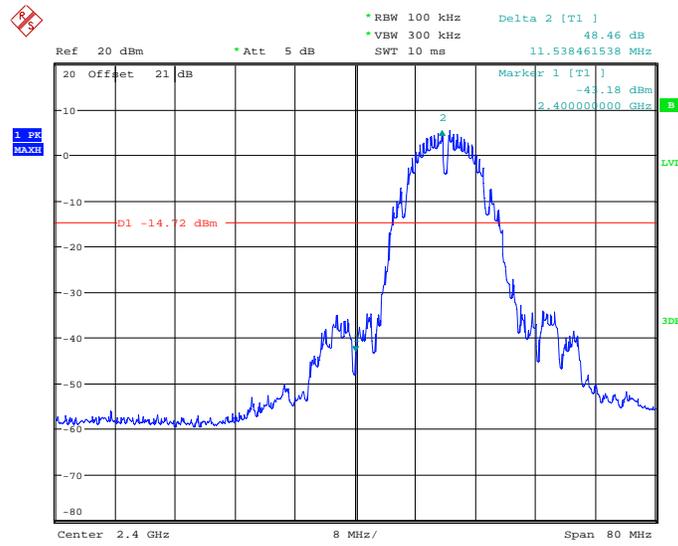
Mode	Channel	Test Results	Conclusion
802.11n (20MHz)	1	Fig.23	P
	11	Fig.24	P

802.11n-HT40 mode

Mode	Channel	Test Results	Conclusion
802.11n (40MHz)	3	/	/
	9	/	/

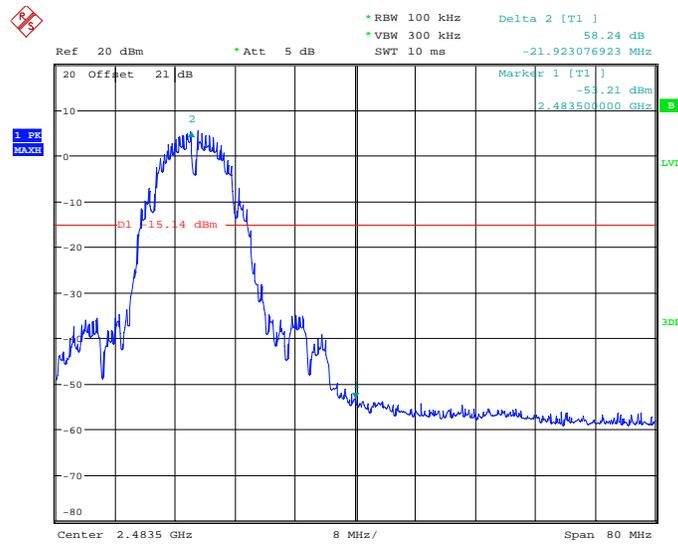
Conclusion: PASS

Test graphs as below:



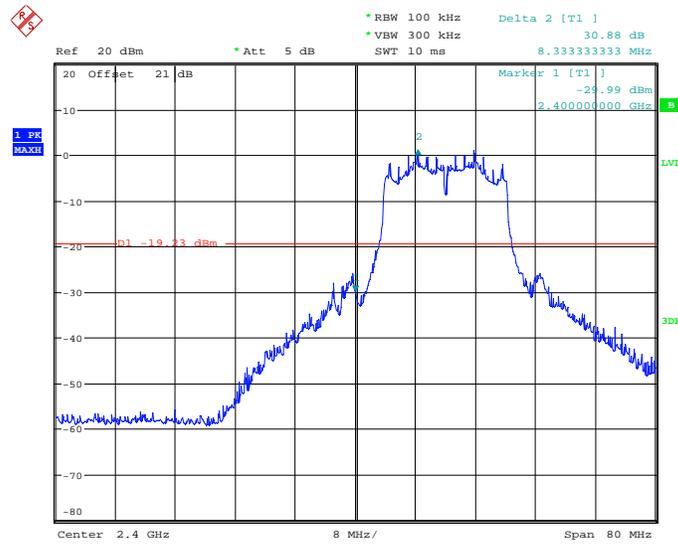
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Fig. 19 Band Edges (802.11b, Ch 1)



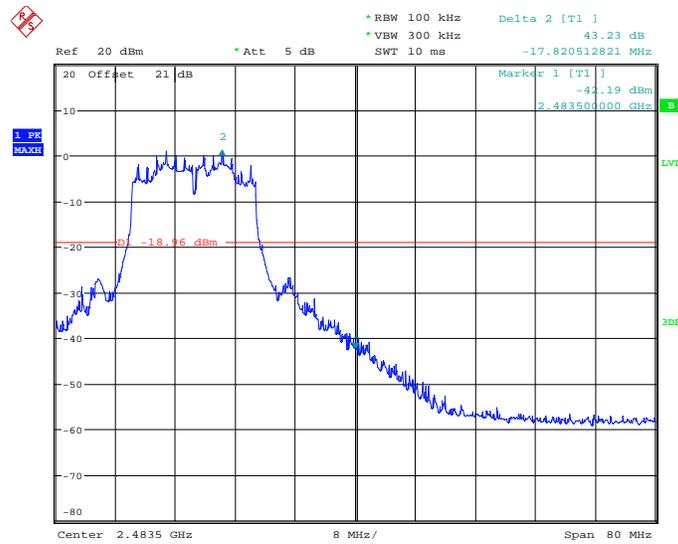
Date: 13.MAY.2012 11:40:37

Fig. 20 Band Edges (802.11b, Ch 11)



Date: 13.MAY.2012 11:33:24

Fig. 21 Band Edges (802.11g, Ch 1)



Date: 13.MAY.2012 11:35:35

Fig. 22 Band Edges (802.11g, Ch 11)

A.6. Transmitter Spurious Emission

A.6.1 Transmitter Spurious Emission - Conducted

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 and KDB558074 D01

Measurement Uncertainty:

Frequency Range	Uncertainty
$30\text{MHz} \leq f \leq 2\text{GHz}$	0.63
$2\text{GHz} \leq f \leq 3.6\text{GHz}$	0.82
$3.6\text{GHz} \leq f \leq 8\text{GHz}$	1.55
$8\text{GHz} \leq f \leq 20\text{GHz}$	1.86
$20\text{GHz} \leq f \leq 22\text{GHz}$	1.90
$22\text{GHz} \leq f \leq 26\text{GHz}$	2.20

Measurement Results:

802.11b/g mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11b	1	2.412 GHz	Fig.25	P
		30 MHz ~ 1 GHz	Fig.26	P
		1 GHz ~ 2.5 GHz	Fig.27	P
		2.5 GHz ~ 7.5 GHz	Fig.28	P
		7.5 GHz ~ 10 GHz	Fig.29	P
		10 GHz ~ 15 GHz	Fig.30	P
		15 GHz ~ 20 GHz	Fig.31	P
		20 GHz ~ 26 GHz	Fig.32	P
	6	2.437 GHz	Fig.33	P
		30 MHz ~ 1 GHz	Fig.34	P
		1 GHz ~ 2.5 GHz	Fig.35	P
		2.5 GHz ~ 7.5 GHz	Fig.36	P
		7.5 GHz ~ 10 GHz	Fig.37	P
		10 GHz ~ 15 GHz	Fig.38	P
		15 GHz ~ 20 GHz	Fig.39	P
		20 GHz ~ 26 GHz	Fig.40	P
	11	2.462 GHz	Fig.41	P
		30 MHz ~ 1 GHz	Fig.42	P
		1 GHz ~ 2.5 GHz	Fig.43	P
		2.5 GHz ~ 7.5 GHz	Fig.44	P

		7.5 GHz ~ 10 GHz	Fig.45	P
		10 GHz ~ 15 GHz	Fig.46	P
		15 GHz ~ 20 GHz	Fig.47	P
		20 GHz ~ 26 GHz	Fig.48	P
802.11g	1	2.412 GHz	Fig.49	P
		30 MHz ~ 1 GHz	Fig.50	P
		1 GHz ~ 2.5 GHz	Fig.51	P
		2.5 GHz ~ 7.5 GHz	Fig.52	P
		7.5 GHz ~ 10 GHz	Fig.53	P
		10 GHz ~ 15 GHz	Fig.54	P
		15 GHz ~ 20 GHz	Fig.55	P
		20 GHz ~ 26 GHz	Fig.56	P
	6	2.437 GHz	Fig.57	P
		30 MHz ~ 1 GHz	Fig.58	P
		1 GHz ~ 2.5 GHz	Fig.59	P
		2.5 GHz ~ 7.5 GHz	Fig.60	P
		7.5 GHz ~ 10 GHz	Fig.61	P
		10 GHz ~ 15 GHz	Fig.62	P
		15 GHz ~ 20 GHz	Fig.63	P
		20 GHz ~ 26 GHz	Fig.64	P
	11	2.462 GHz	Fig.65	P
		30 MHz ~ 1 GHz	Fig.66	P
		1 GHz ~ 2.5 GHz	Fig.67	P
		2.5 GHz ~ 7.5 GHz	Fig.68	P
		7.5 GHz ~ 10 GHz	Fig.69	P
		10 GHz ~ 15 GHz	Fig.70	P
		15 GHz ~ 20 GHz	Fig.71	P
		20 GHz ~ 26 GHz	Fig.72	P

802.11n-HT20 mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11n (20MHz)	1	2.412 GHz	Fig.73	P
		30 MHz ~ 1 GHz	Fig.74	P
		1 GHz ~ 2.5 GHz	Fig.75	P
		2.5 GHz ~ 7.5 GHz	Fig.76	P
		7.5 GHz ~ 10 GHz	Fig.77	P
		10 GHz ~ 15 GHz	Fig.78	P
		15 GHz ~ 20 GHz	Fig.79	P
		20 GHz ~ 26 GHz	Fig.80	P
	6	2.437 GHz	Fig.81	P
		30 MHz ~ 1 GHz	Fig.82	P
		1 GHz ~ 2.5 GHz	Fig.83	P
		2.5 GHz ~ 7.5 GHz	Fig.84	P
		7.5 GHz ~ 10 GHz	Fig.85	P
		10 GHz ~ 15 GHz	Fig.86	P
		15 GHz ~ 20 GHz	Fig.87	P
		20 GHz ~ 26 GHz	Fig.88	P
	11	2.462 GHz	Fig.89	P
		30 MHz ~ 1 GHz	Fig.90	P
		1 GHz ~ 2.5 GHz	Fig.91	P
		2.5 GHz ~ 7.5 GHz	Fig.92	P
		7.5 GHz ~ 10 GHz	Fig.93	P
		10 GHz ~ 15 GHz	Fig.94	P
		15 GHz ~ 20 GHz	Fig.95	P
		20 GHz ~ 26 GHz	Fig.96	P

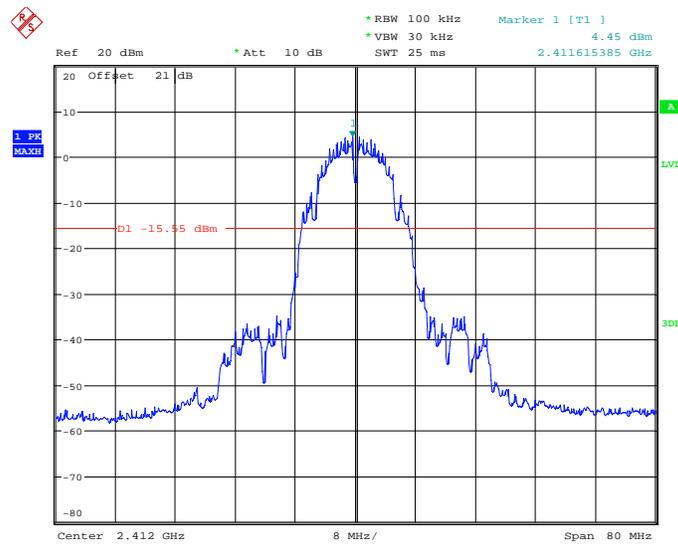
802.11n-HT40 mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11n (40MHz)	3	2.422 GHz	/	/
		30 MHz ~ 1 GHz	/	/
		1 GHz ~ 2.5 GHz	/	/
		2.5 GHz ~ 7.5 GHz	/	/
		7.5 GHz ~ 10 GHz	/	/
		10 GHz ~ 15 GHz	/	/
		15 GHz ~ 20 GHz	/	/
		20 GHz ~ 26 GHz	/	/
	6	2.437 GHz	/	/
		30 MHz ~ 1 GHz	/	/
		1 GHz ~ 2.5 GHz	/	/
		2.5 GHz ~ 7.5 GHz	/	/
		7.5 GHz ~ 10 GHz	/	/
		10 GHz ~ 15 GHz	/	/
		15 GHz ~ 20 GHz	/	/

		15 GHz ~ 20 GHz	/	/
		20 GHz ~ 26 GHz	/	/
	9	2.452 GHz	/	/
		30 MHz ~ 1 GHz	/	/
		1 GHz ~ 2.5 GHz	/	/
		2.5 GHz ~ 7.5 GHz	/	/
		7.5 GHz ~ 10 GHz	/	/
		10 GHz ~ 15 GHz	/	/
		15 GHz ~ 20 GHz	/	/
		20 GHz ~ 26 GHz	/	/

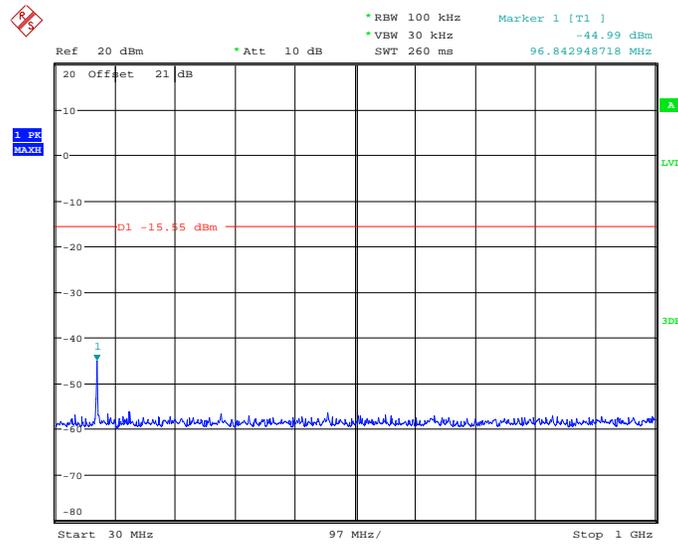
Conclusion: PASS

Test graphs as below:



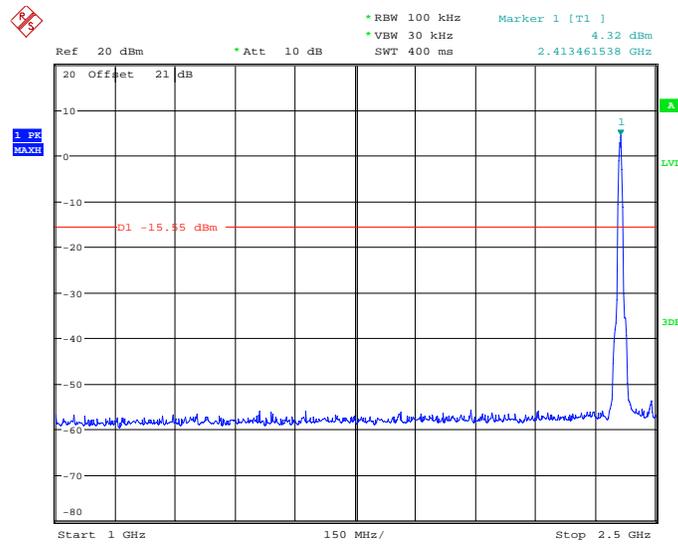
Date: 14.MAY.2012 11:00:48

Fig. 25 Conducted Spurious Emission (802.11b, Ch1, Center Frequency)



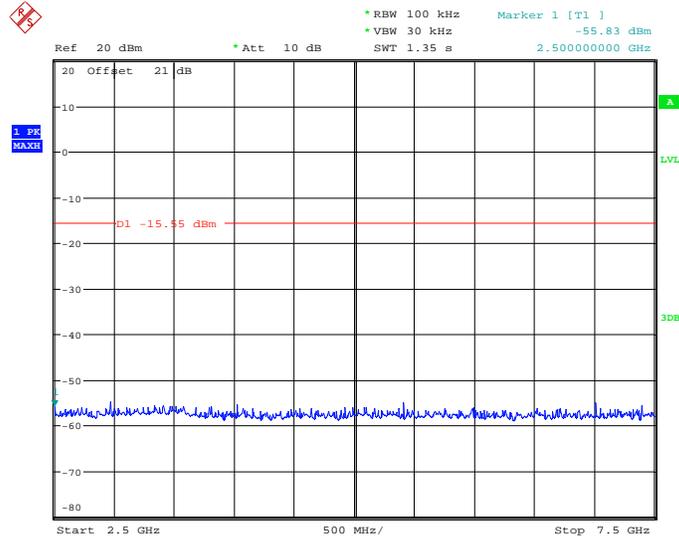
Date: 14.MAY.2012 11:01:22

Fig. 26 Conducted Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)



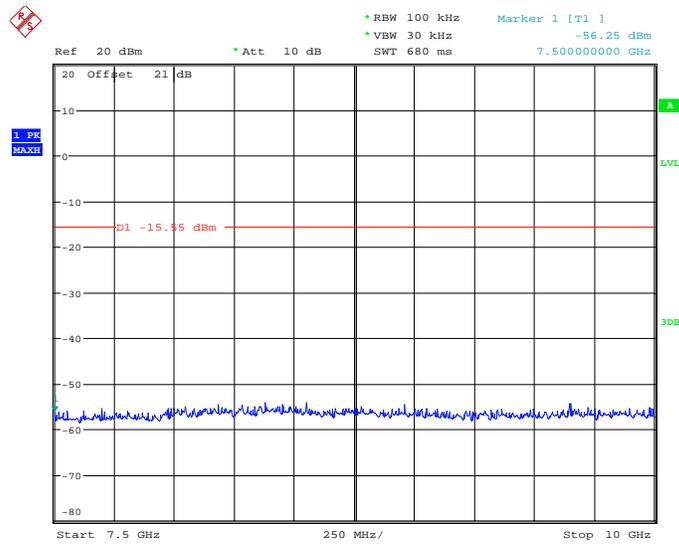
Date: 14.MAY.2012 11:02:06

Fig. 27 Conducted Spurious Emission (802.11b, Ch1, 1 GHz-2.5 GHz)



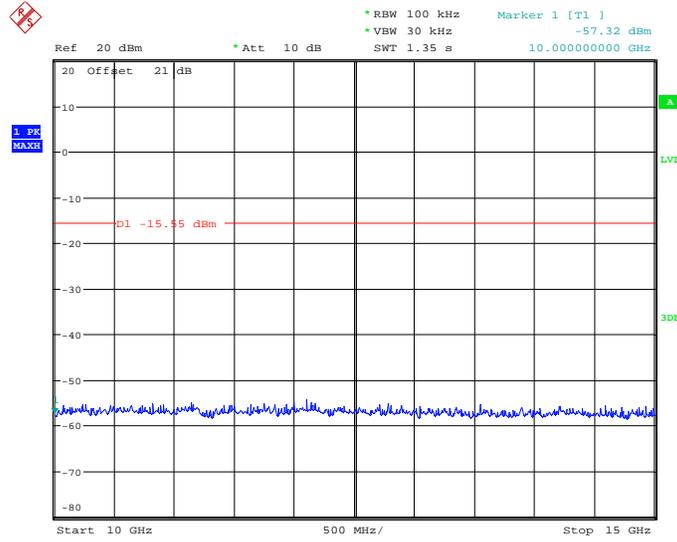
Date: 14.MAY.2012 11:02:35

Fig. 28 Conducted Spurious Emission (802.11b, Ch1, 2.5 GHz-7.5 GHz)



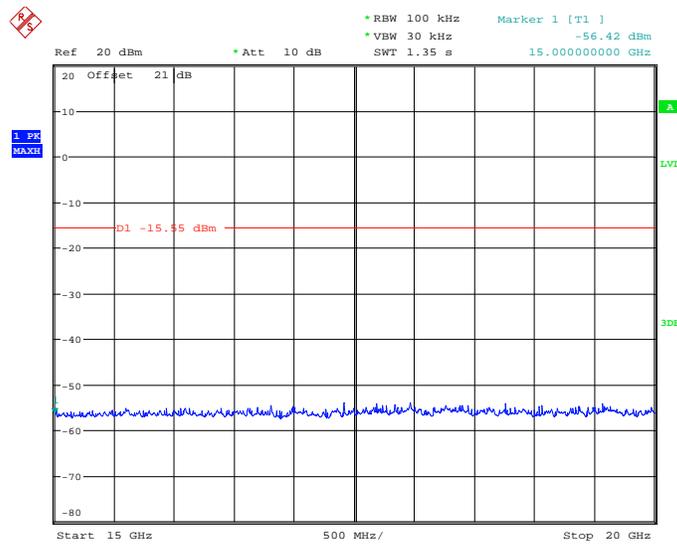
Date: 14.MAY.2012 11:03:12

Fig. 29 Conducted Spurious Emission (802.11b, Ch1, 7.5 GHz-10 GHz)



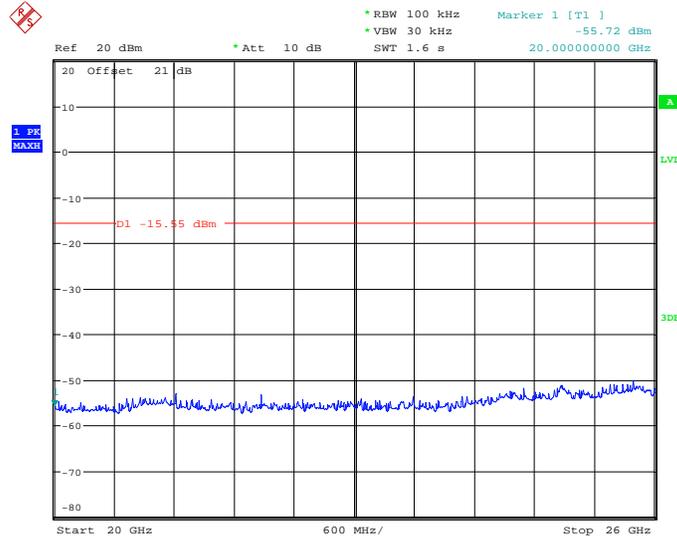
Date: 14.MAY.2012 11:03:41

Fig. 30 Conducted Spurious Emission (802.11b, Ch1, 10 GHz-15 GHz)



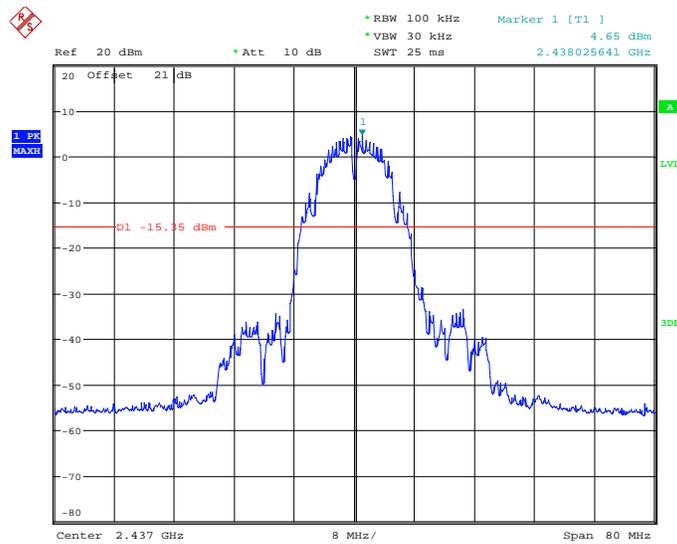
Date: 14.MAY.2012 11:04:33

Fig. 31 Conducted Spurious Emission (802.11b, Ch1, 15 GHz-20 GHz)



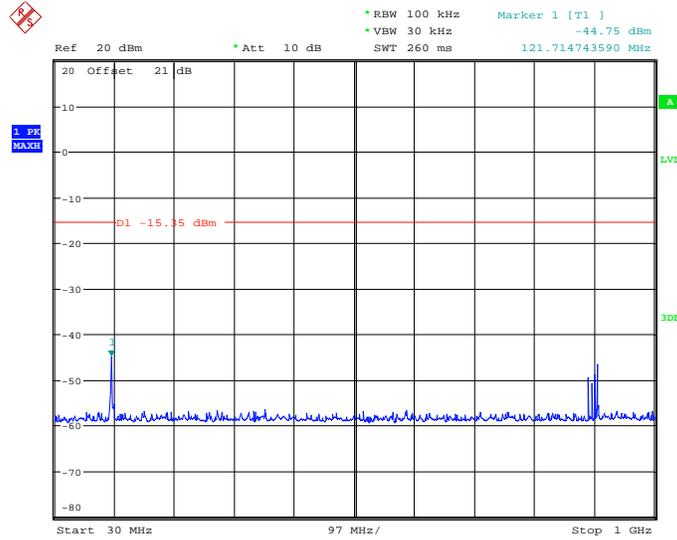
Date: 14.MAY.2012 11:04:55

Fig. 32 Conducted Spurious Emission (802.11b, Ch1, 20 GHz-26 GHz)



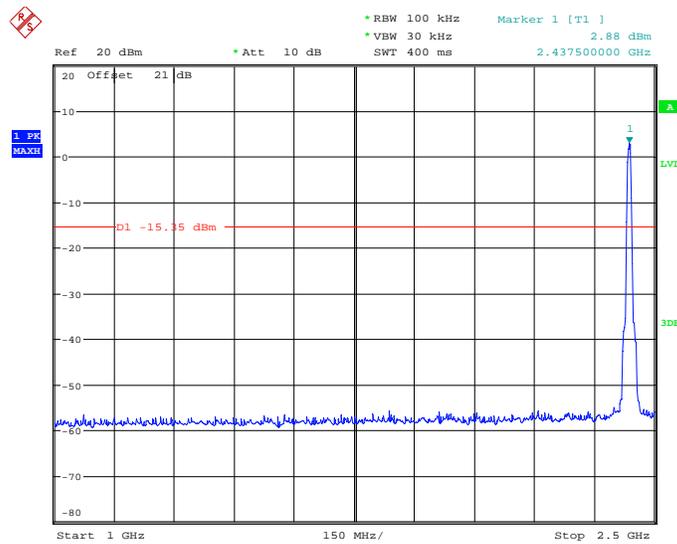
Date: 14.MAY.2012 10:42:55

Fig. 33 Conducted Spurious Emission (802.11b, Ch6, Center Frequency)



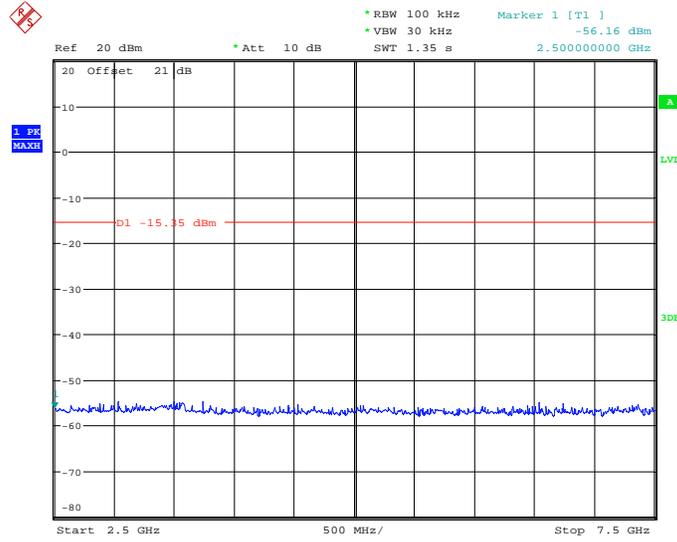
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Fig. 34 Conducted Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)



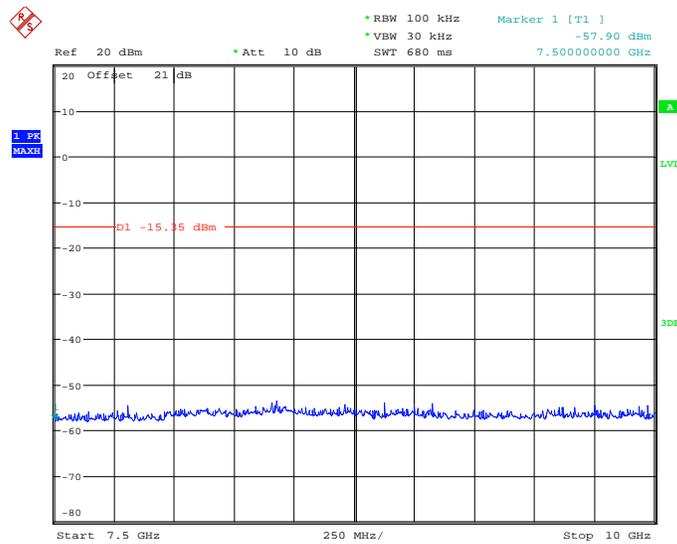
Date: 14.MAY.2012 10:44:28

Fig. 35 Conducted Spurious Emission (802.11b, Ch6, 1 GHz-2.5 GHz)



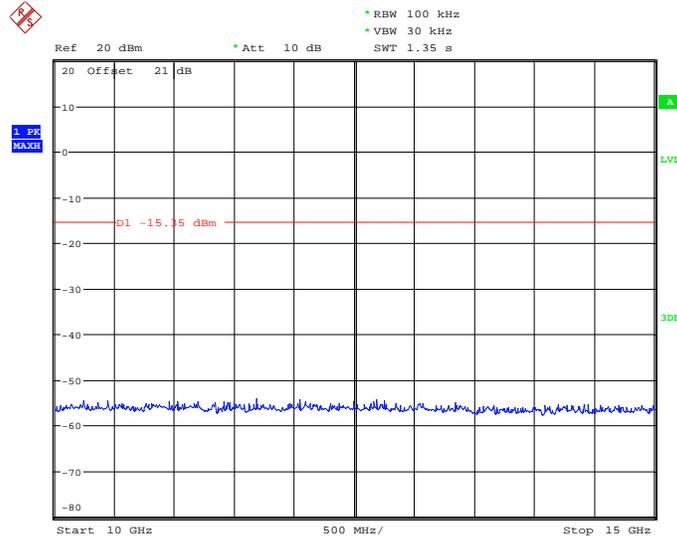
Date: 14.MAY.2012 10:46:25

Fig. 36 Conducted Spurious Emission (802.11b, Ch6, 2.5 GHz-7.5 GHz)



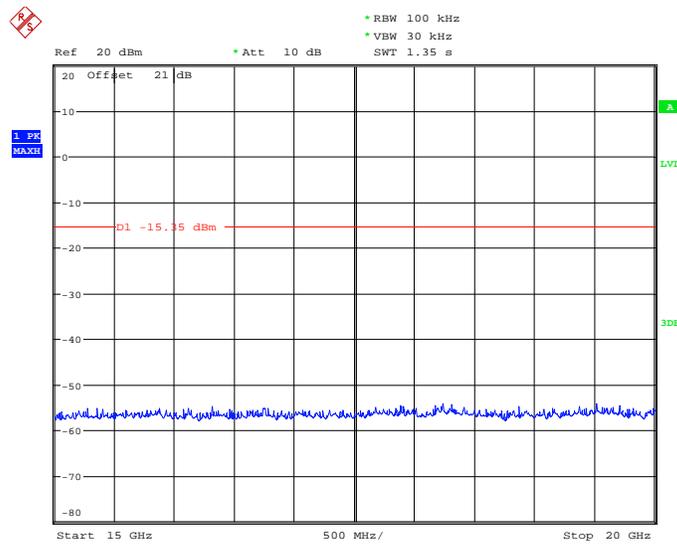
Date: 14.MAY.2012 10:47:11

Fig. 37 Conducted Spurious Emission (802.11b, Ch6, 7.5 GHz-10 GHz)



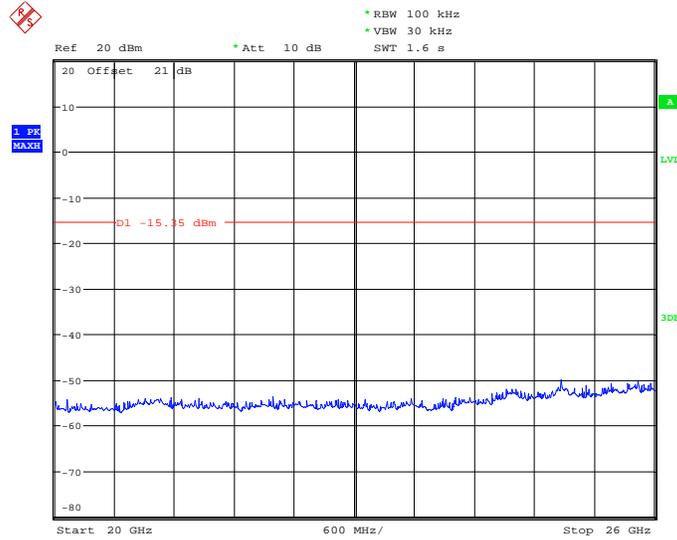
Date: 14.MAY.2012 10:48:55

Fig. 38 Conducted Spurious Emission (802.11b, Ch6, 10 GHz-15 GHz)



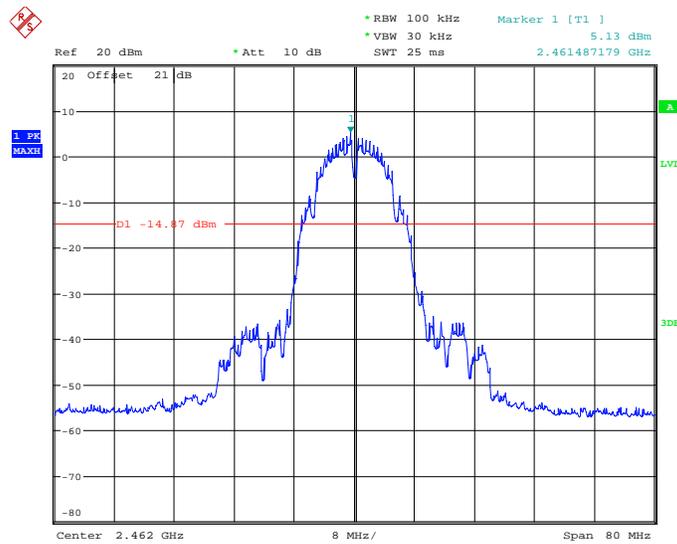
Date: 14.MAY.2012 10:49:27

Fig. 39 Conducted Spurious Emission (802.11b, Ch6, 15 GHz-20 GHz)



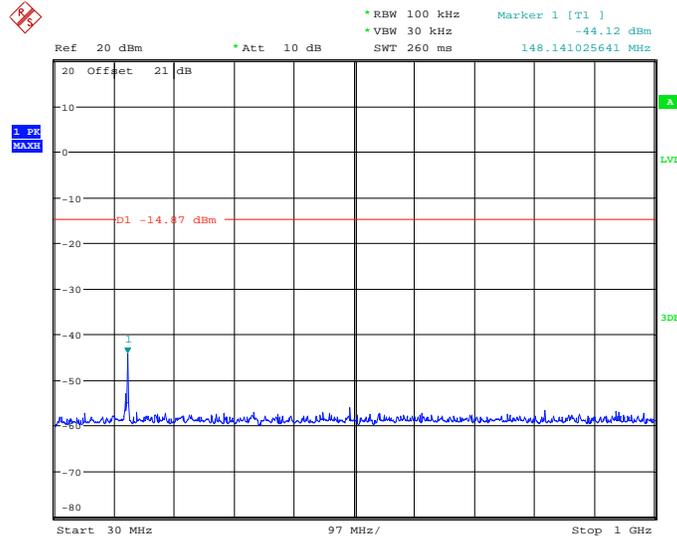
Date: 14.MAY.2012 10:50:03

Fig. 40 Conducted Spurious Emission (802.11b, Ch6, 20 GHz-26 GHz)



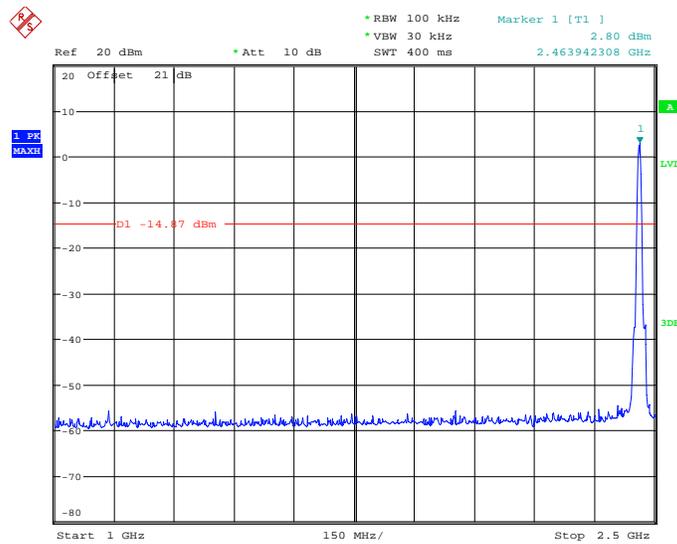
Date: 14.MAY.2012 10:52:48

Fig. 41 Conducted Spurious Emission (802.11b, Ch11, Center Frequency)



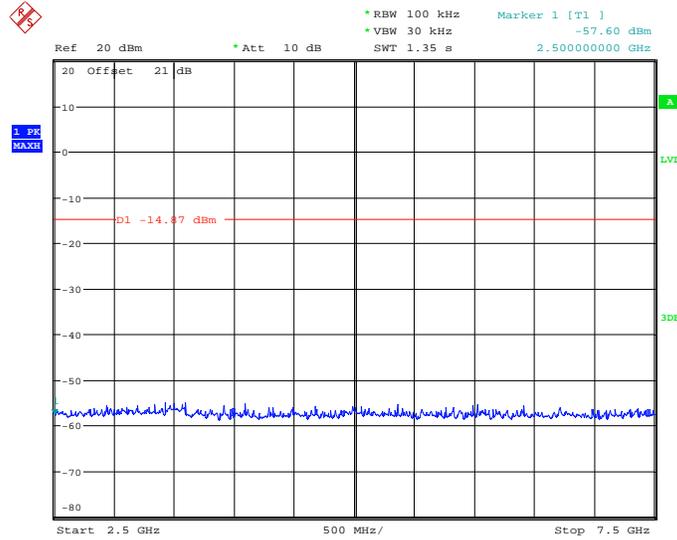
Date: 14.MAY.2012 10:53:10

Fig. 42 Conducted Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)



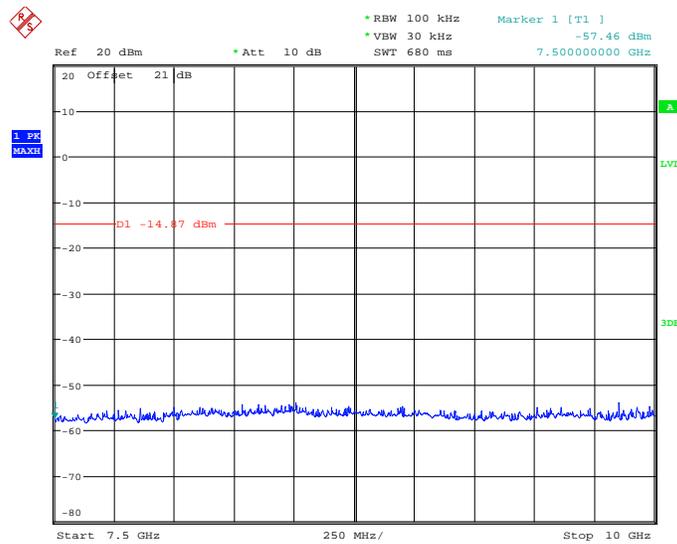
Date: 14.MAY.2012 10:53:48

Fig. 43 Conducted Spurious Emission (802.11b, Ch11, 1 GHz-2.5 GHz)



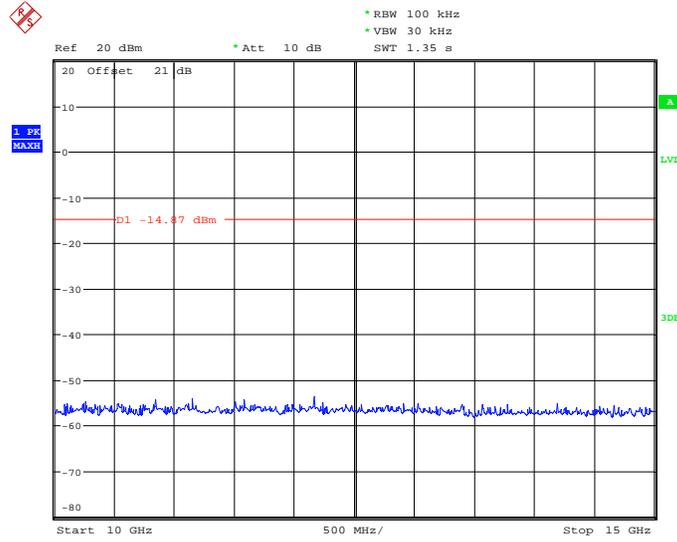
Date: 14.MAY.2012 10:54:18

Fig. 44 Conducted Spurious Emission (802.11b, Ch11, 2.5 GHz-7.5 GHz)



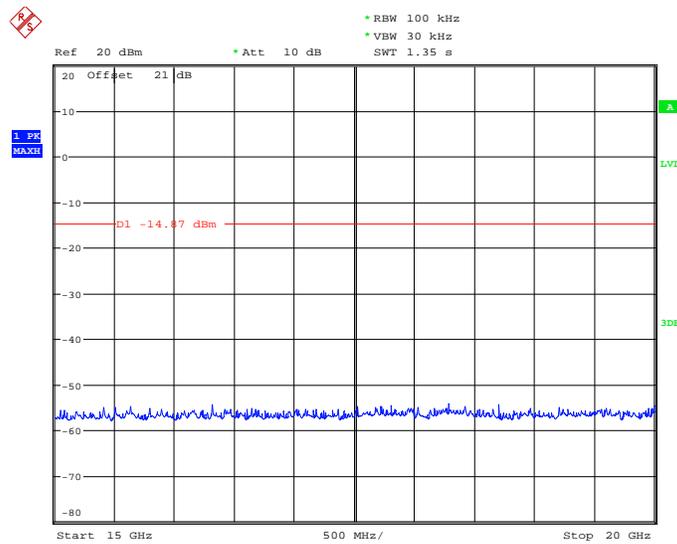
Date: 14.MAY.2012 10:55:19

Fig. 45 Conducted Spurious Emission (802.11b, Ch11, 7.5 GHz-10 GHz)



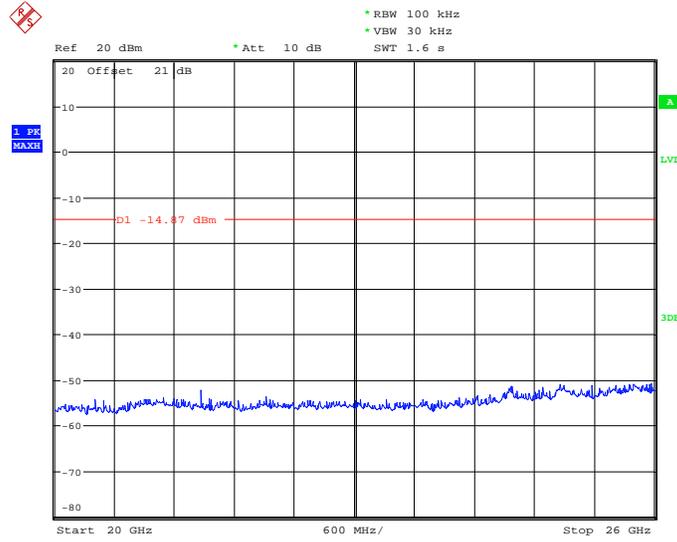
Date: 14.MAY.2012 10:56:11

Fig. 46 Conducted Spurious Emission (802.11b, Ch11, 10 GHz-15 GHz)



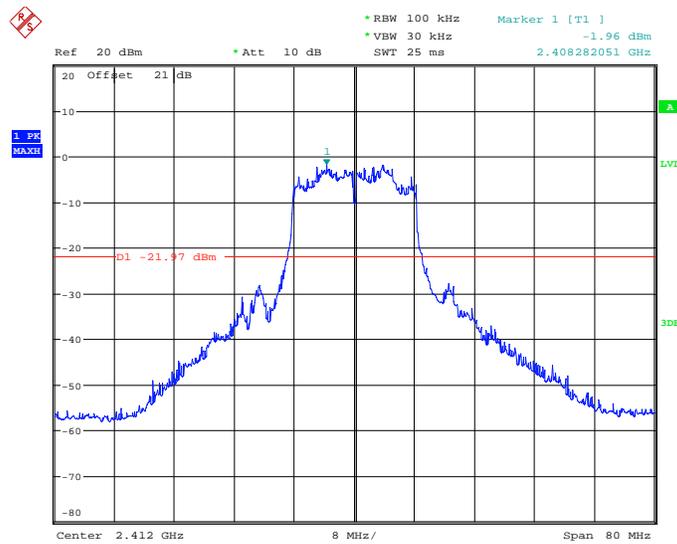
Date: 14.MAY.2012 10:56:34

Fig. 47 Conducted Spurious Emission (802.11b, Ch11, 15 GHz-20 GHz)



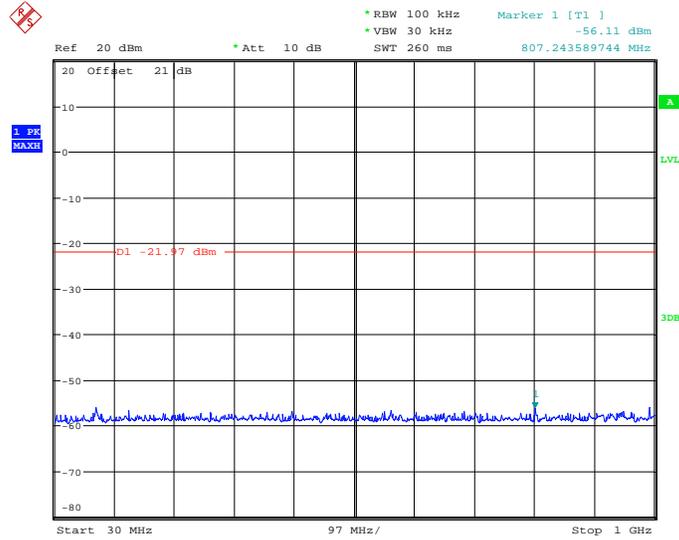
Date: 14.MAY.2012 10:57:06

Fig. 48 Conducted Spurious Emission (802.11b, Ch11, 20 GHz-26 GHz)



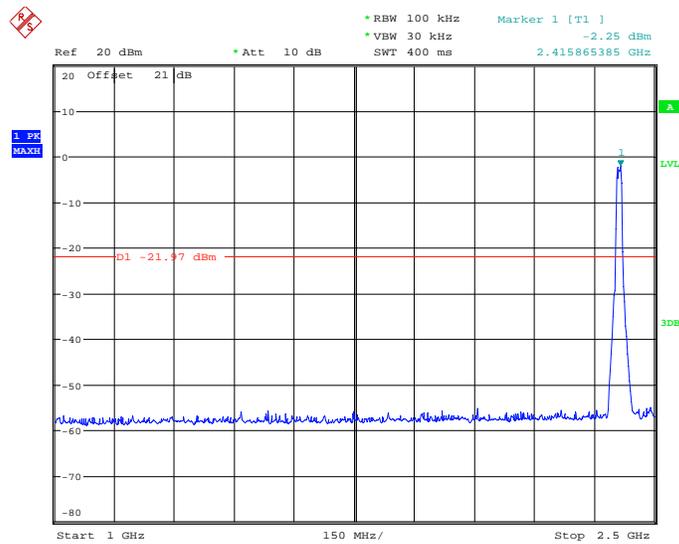
Date: 14.MAY.2012 11:07:48

Fig. 49 Conducted Spurious Emission (802.11g, Ch1, Center Frequency)



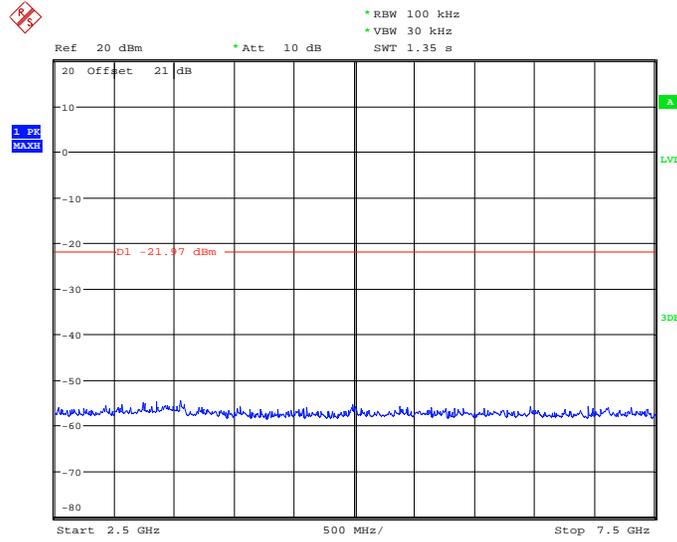
Date: 14.MAY.2012 11:08:26

Fig. 50 Conducted Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)



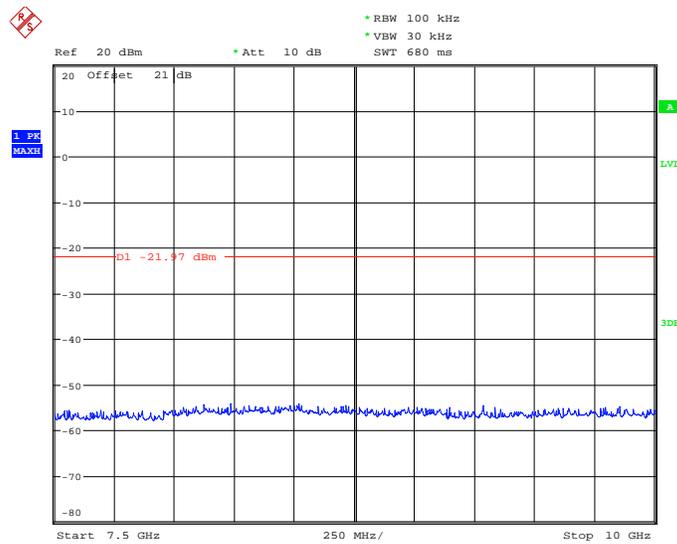
Date: 14.MAY.2012 11:09:33

Fig. 51 Conducted Spurious Emission (802.11g, Ch1, 1 GHz-2.5 GHz)



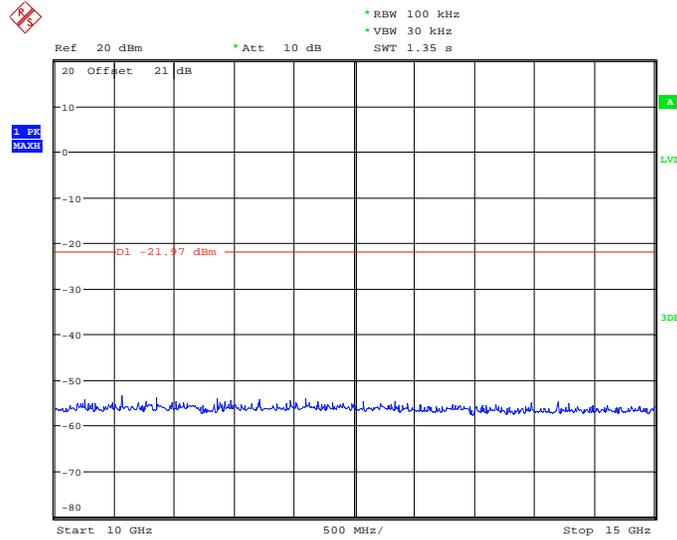
Date: 14.MAY.2012 11:10:25

Fig. 52 Conducted Spurious Emission (802.11g, Ch1, 2.5 GHz-7.5 GHz)



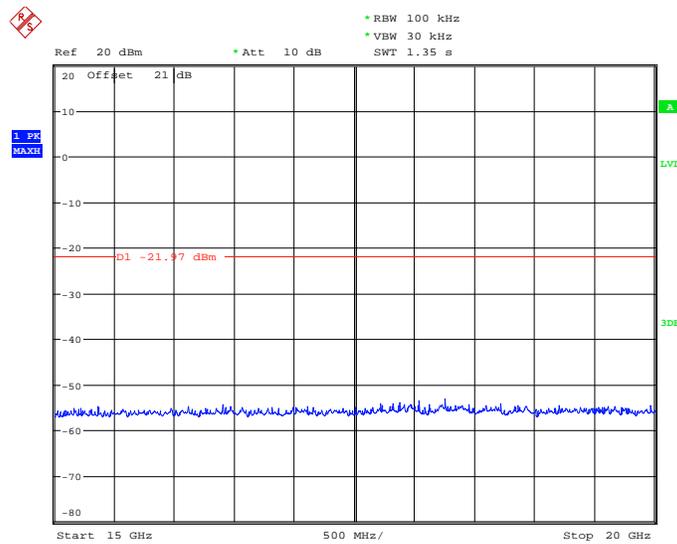
Date: 14.MAY.2012 11:11:15

Fig. 53 Conducted Spurious Emission (802.11g, Ch1, 7.5 GHz-10 GHz)



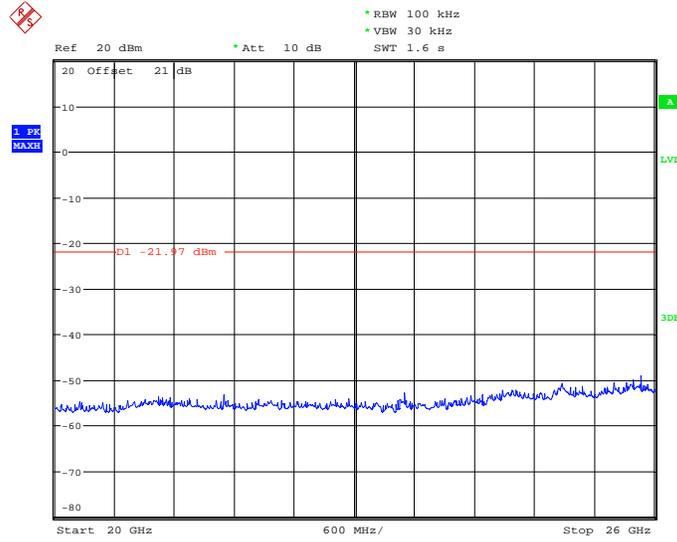
Date: 14.MAY.2012 11:12:28

Fig. 54 Conducted Spurious Emission (802.11g, Ch1, 10 GHz-15 GHz)



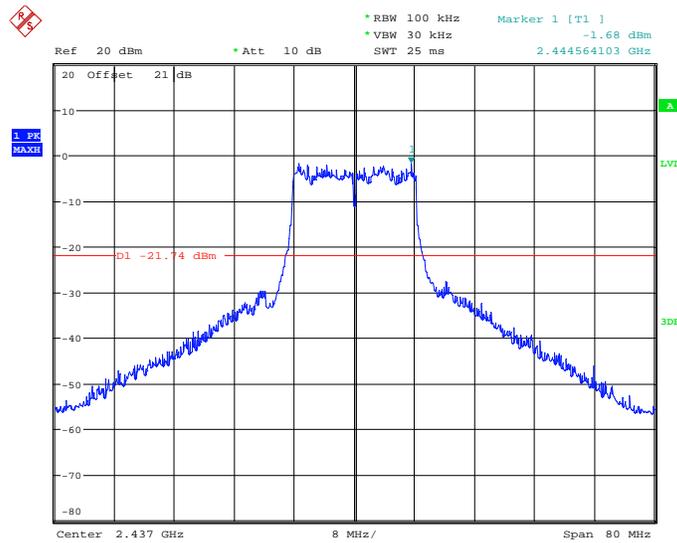
Date: 14.MAY.2012 11:13:51

Fig. 55 Conducted Spurious Emission (802.11g, Ch1, 15 GHz-20 GHz)



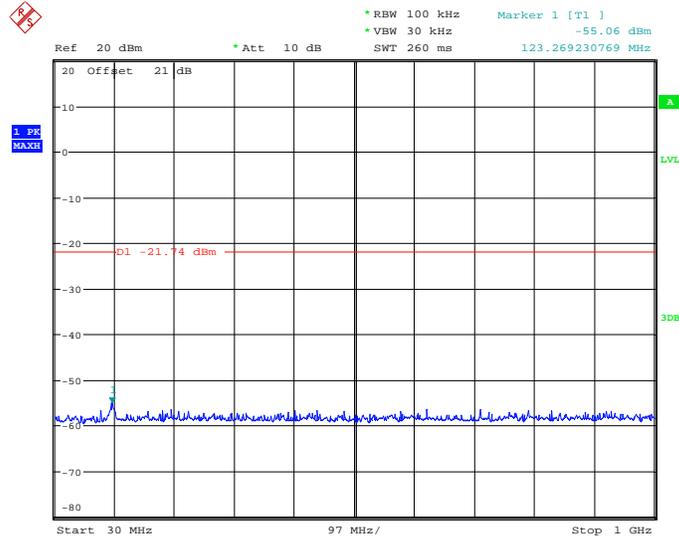
Date: 14.MAY.2012 11:14:28

Fig. 56 Conducted Spurious Emission (802.11g, Ch1, 20 GHz-26 GHz)



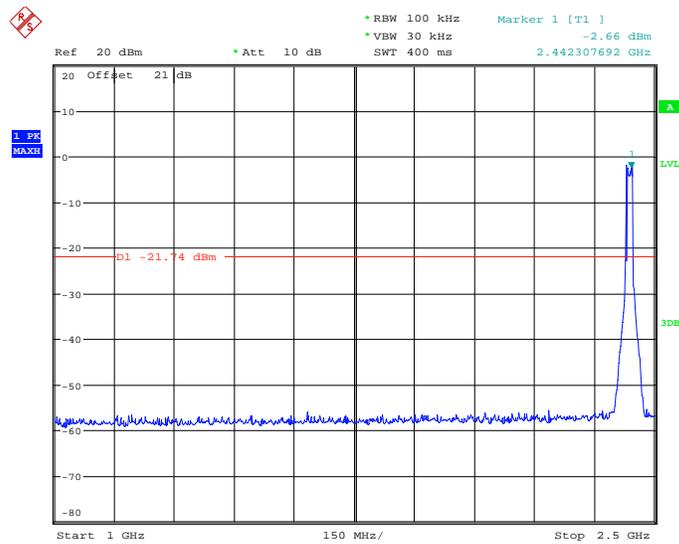
Date: 14.MAY.2012 13:24:58

Fig. 57 Conducted Spurious Emission (802.11g, Ch6, Center Frequency)



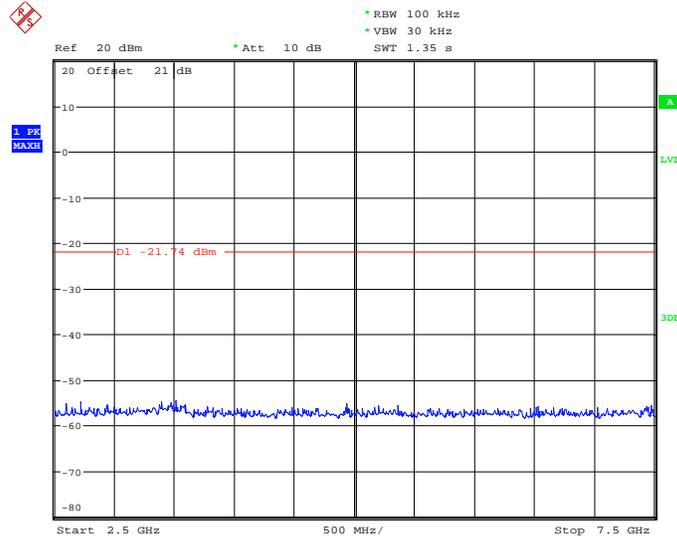
Date: 14.MAY.2012 13:25:49

Fig. 58 Conducted Spurious Emission (802.11g, Ch6, 30 MHz-1 GHz)



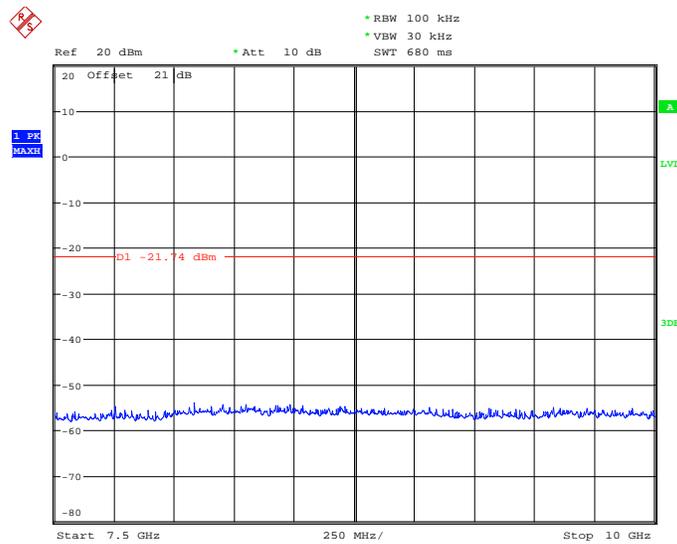
Date: 14.MAY.2012 13:26:36

Fig. 59 Conducted Spurious Emission (802.11g, Ch6, 1 GHz-2.5 GHz)



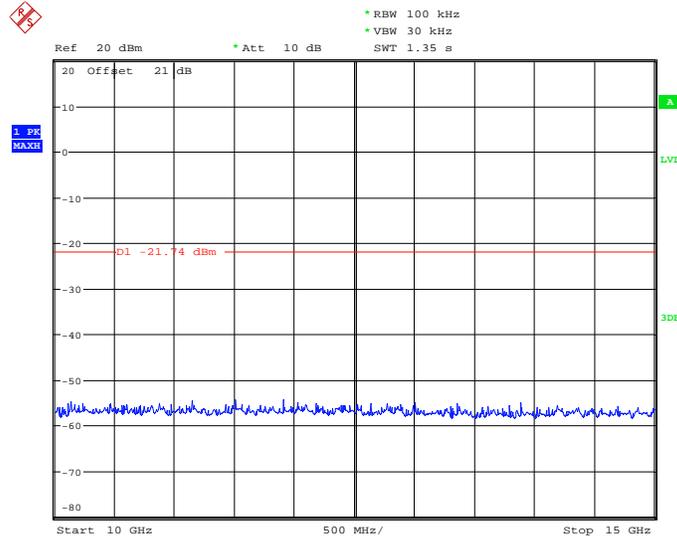
Date: 14.MAY.2012 13:27:14

Fig. 60 Conducted Spurious Emission (802.11g, Ch6, 2.5 GHz-7.5 GHz)



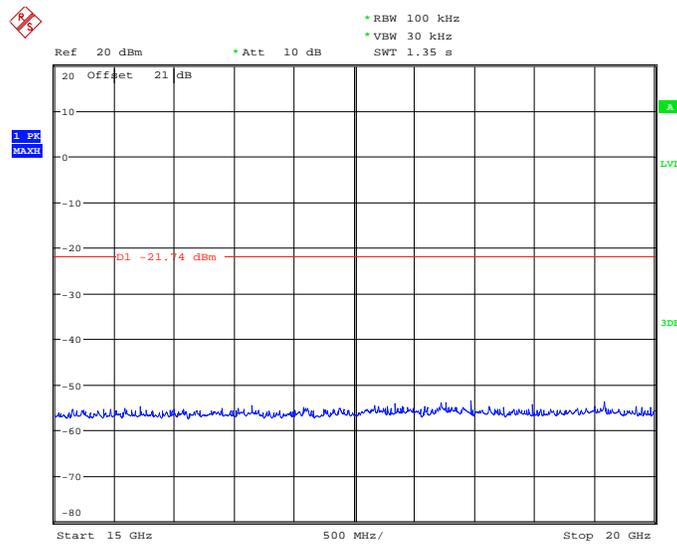
Date: 14.MAY.2012 13:27:55

Fig. 61 Conducted Spurious Emission (802.11g, Ch6, 7.5 GHz-10 GHz)



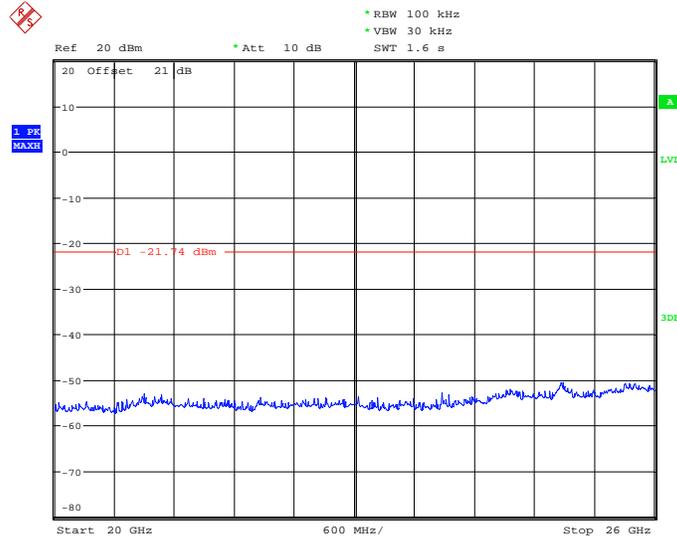
Date: 14.MAY.2012 13:28:16

Fig. 62 Conducted Spurious Emission (802.11g, Ch6, 10 GHz-15 GHz)



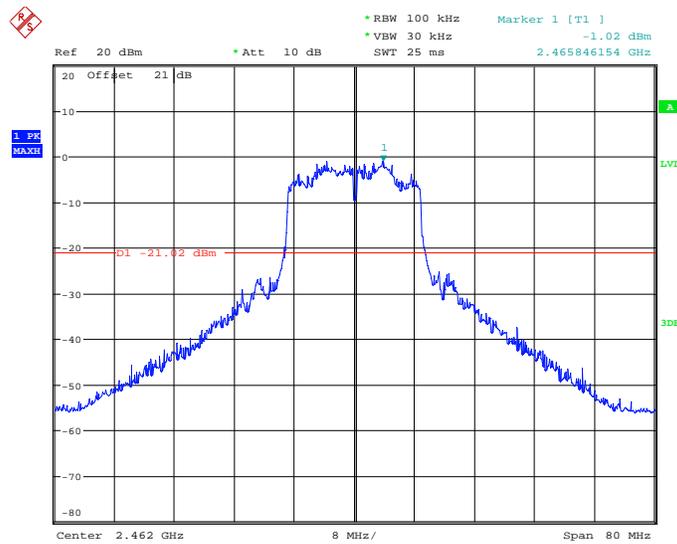
Date: 14.MAY.2012 13:28:53

Fig. 63 Conducted Spurious Emission (802.11g, Ch6, 15 GHz-20 GHz)



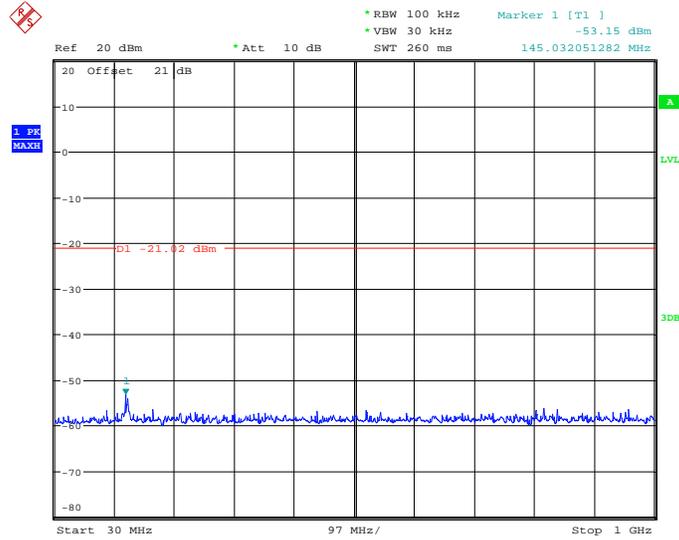
Date: 14.MAY.2012 13:29:24

Fig. 64 Conducted Spurious Emission (802.11g, Ch6, 20 GHz-26 GHz)



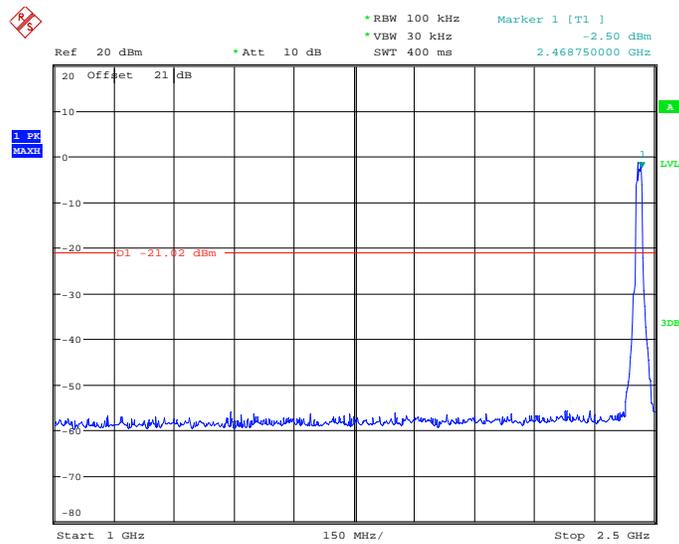
Date: 14.MAY.2012 13:15:37

Fig. 65 Conducted Spurious Emission (802.11g, Ch11, Center Frequency)



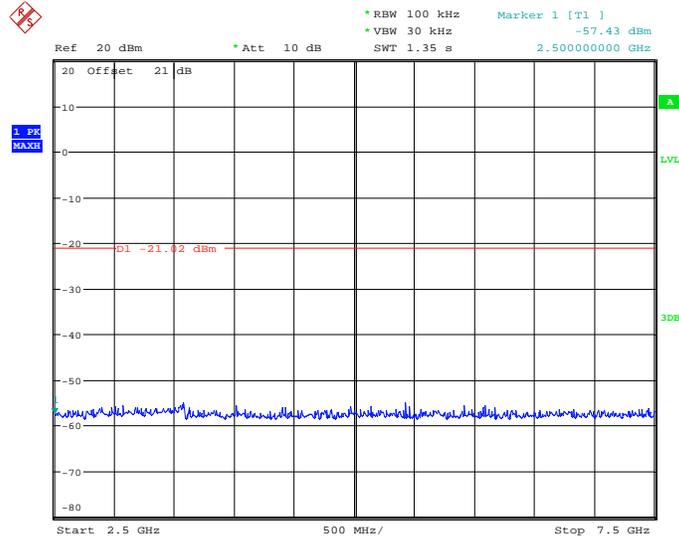
Date: 14.MAY.2012 13:16:05

Fig. 66 Conducted Spurious Emission (802.11g, Ch11, 30 MHz-1 GHz)



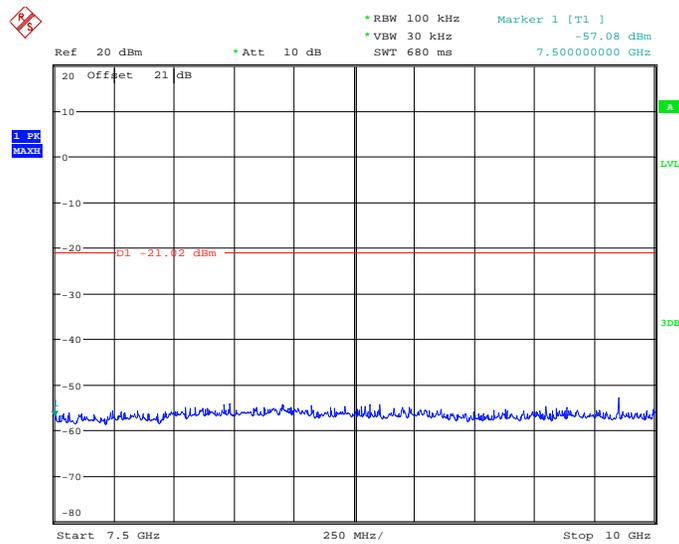
Date: 14.MAY.2012 13:16:35

Fig. 67 Conducted Spurious Emission (802.11g, Ch11, 1 GHz-2.5 GHz)



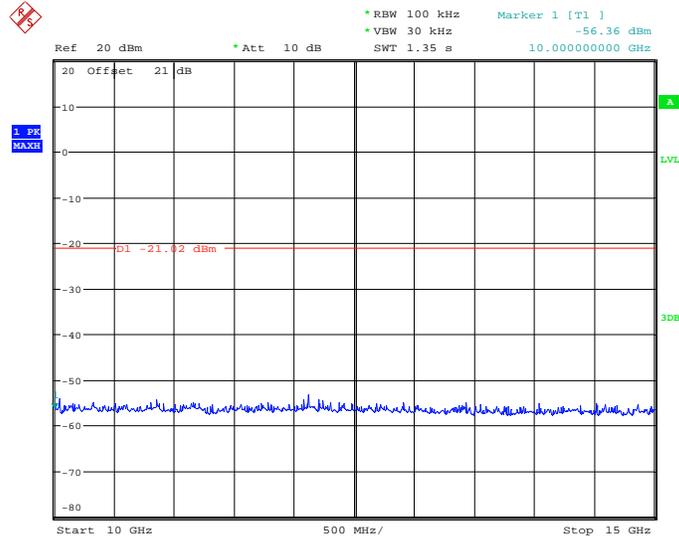
Date: 14.MAY.2012 13:17:22

Fig. 68 Conducted Spurious Emission (802.11g, Ch11, 2.5 GHz-7.5 GHz)



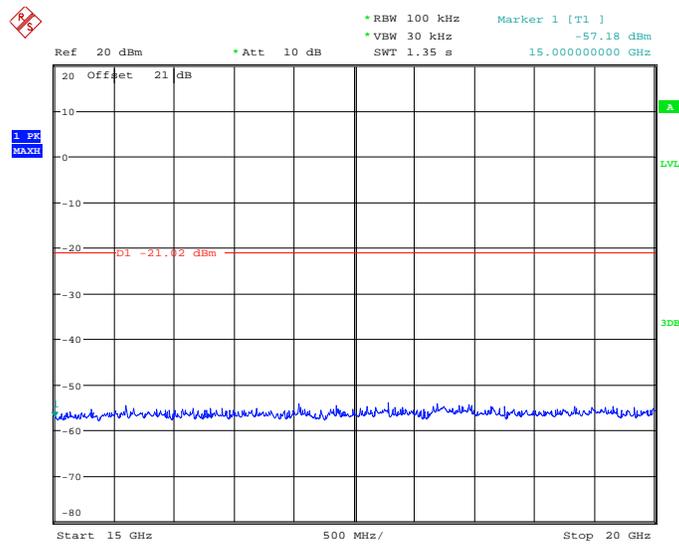
Date: 14.MAY.2012 13:17:52

Fig. 69 Conducted Spurious Emission (802.11g, Ch11, 7.5 GHz-10 GHz)



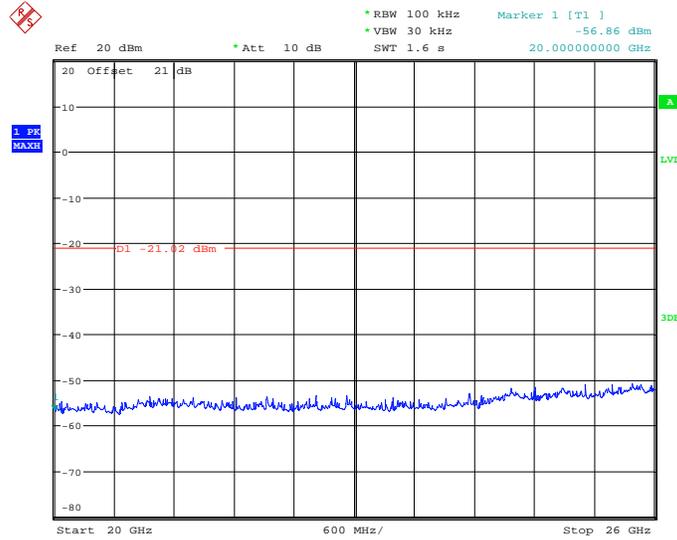
Date: 14.MAY.2012 13:18:34

Fig. 70 Conducted Spurious Emission (802.11g, Ch11, 10 GHz-15 GHz)



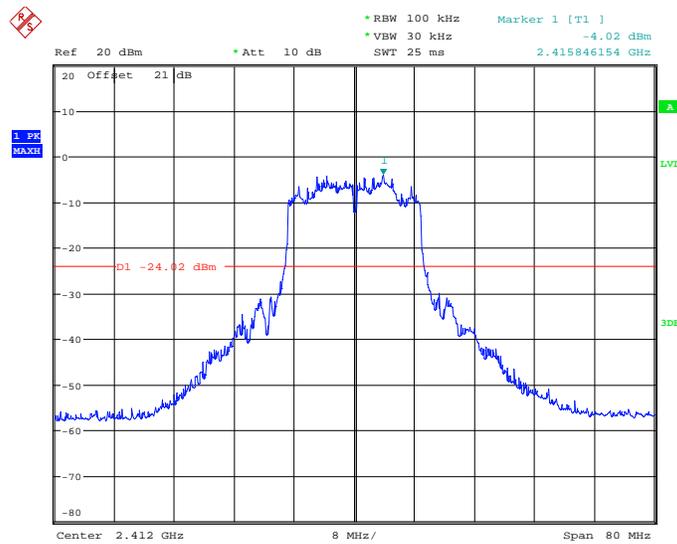
Date: 14.MAY.2012 13:19:02

Fig. 71 Conducted Spurious Emission (802.11g, Ch11, 15 GHz-20 GHz)



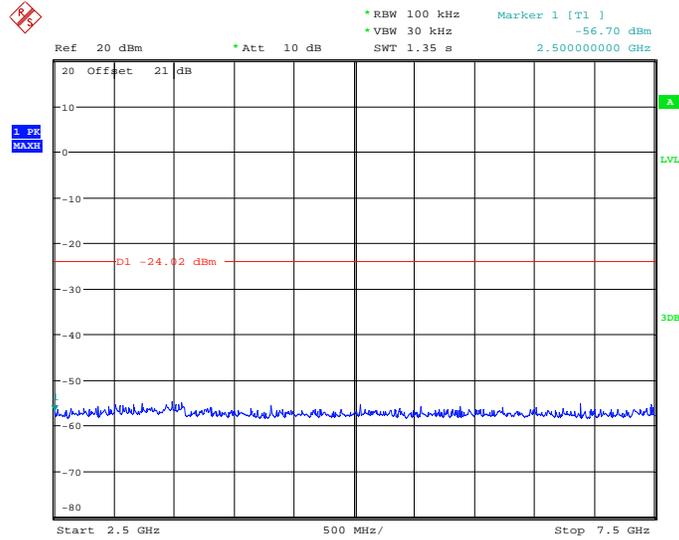
Date: 14.MAY.2012 13:19:29

Fig. 72 Conducted Spurious Emission (802.11g, Ch11, 20 GHz-26 GHz)



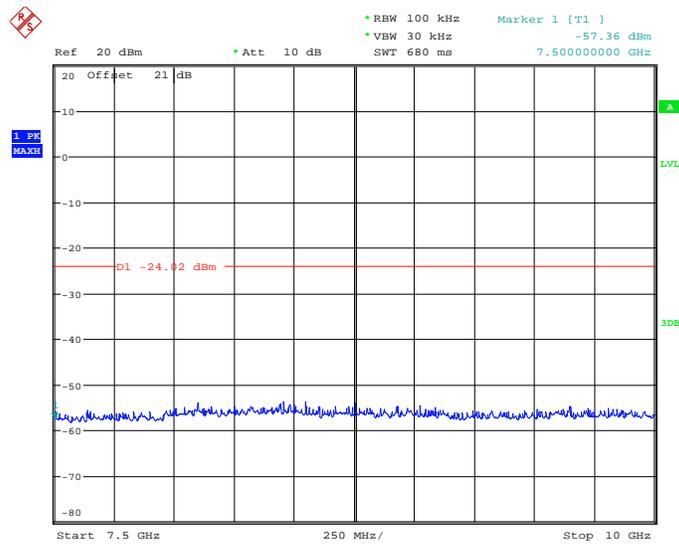
Date: 14.MAY.2012 11:16:53

Fig. 73 Conducted Spurious Emission (802.11n-HT20, Ch1, Center Frequency)



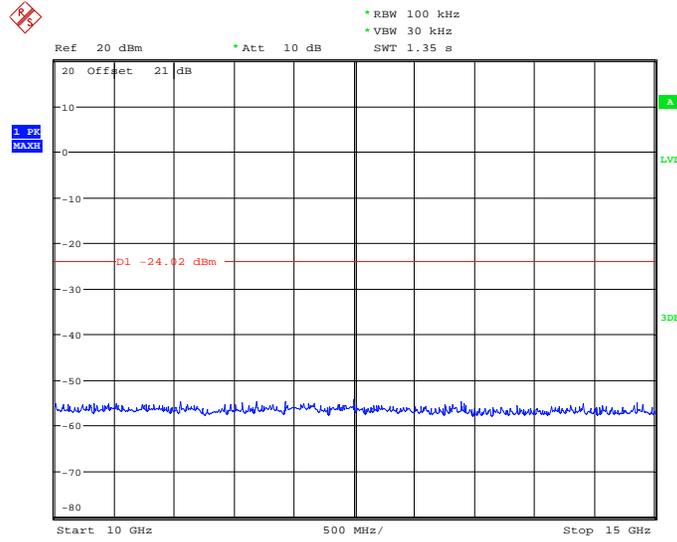
Date: 14.MAY.2012 11:18:45

Fig. 76 Conducted Spurious Emission (802.11n-HT20, Ch1, 2.5 GHz-7.5 GHz)



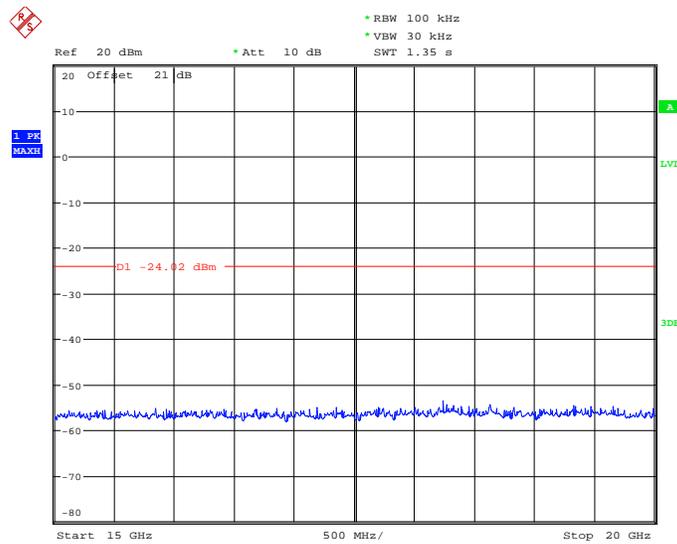
Date: 14.MAY.2012 11:19:22

Fig. 77 Conducted Spurious Emission (802.11n-HT20, Ch1, 7.5 GHz-10 GHz)



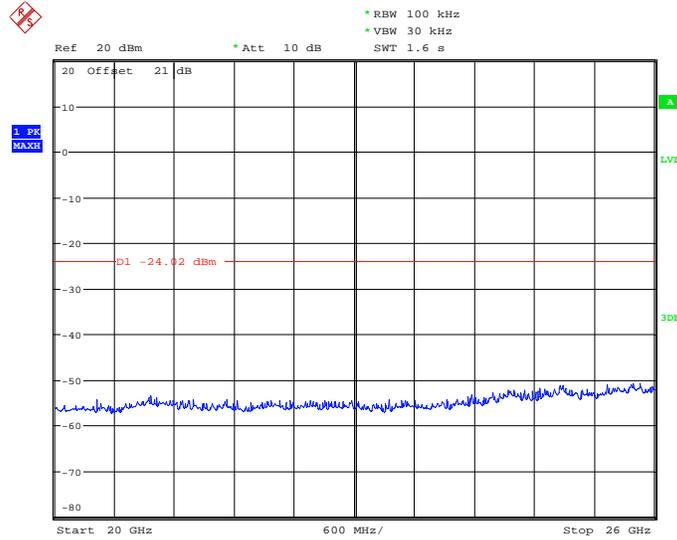
Date: 14.MAY.2012 11:20:12

Fig. 78 Conducted Spurious Emission (802.11n-HT20, Ch1, 10 GHz-15 GHz)



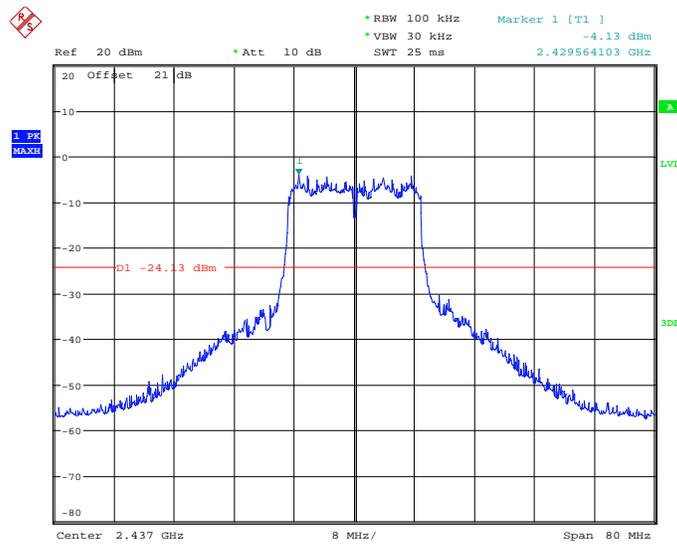
Date: 14.MAY.2012 11:20:54

Fig. 79 Conducted Spurious Emission (802.11n-HT20, Ch1, 15 GHz-20 GHz)



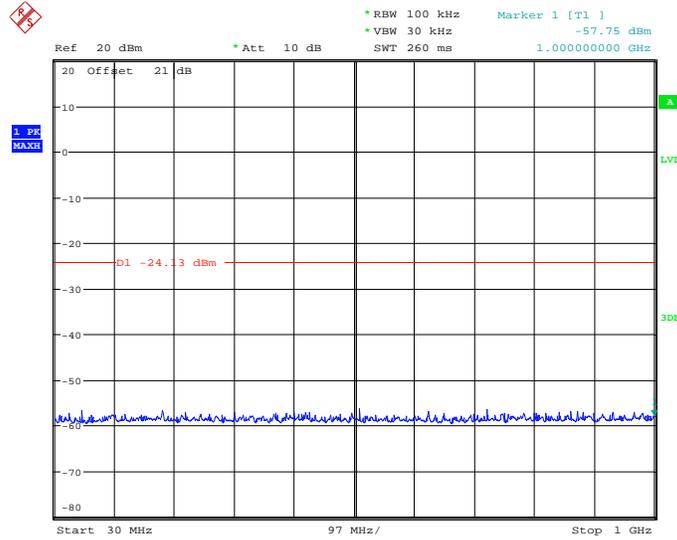
Date: 14.MAY.2012 11:21:25

Fig. 80 Conducted Spurious Emission (802.11n-HT20, Ch1, 20 GHz-26 GHz)



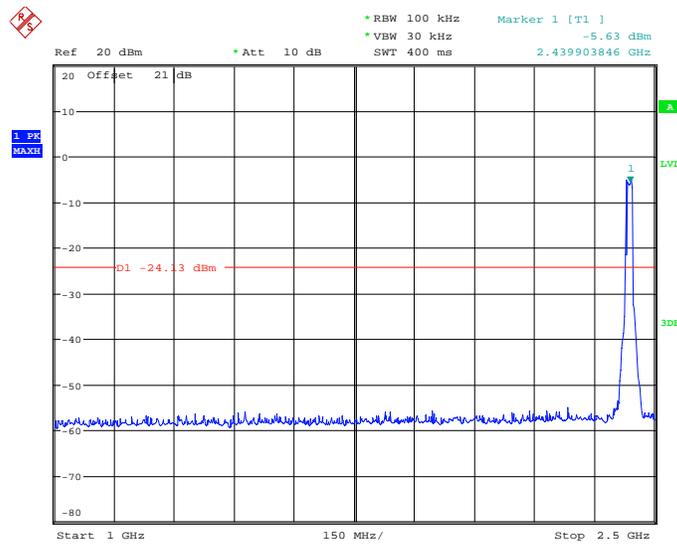
Date: 14.MAY.2012 13:31:24

Fig. 81 Conducted Spurious Emission (802.11n-HT20, Ch6, Center Frequency)



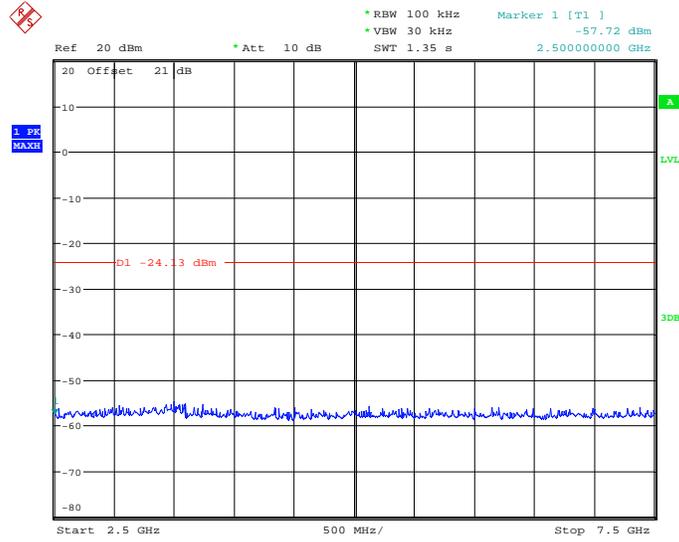
Date: 14.MAY.2012 13:31:55

Fig. 82 Conducted Spurious Emission (802.11n-HT20, Ch6, 30 MHz-1 GHz)



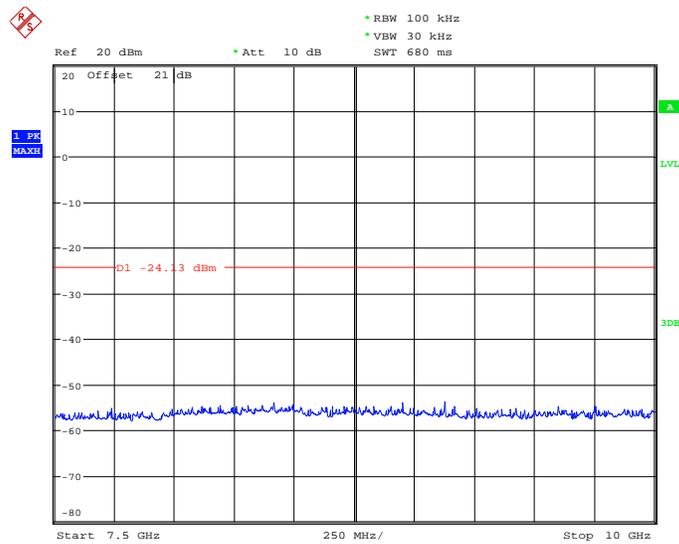
Date: 14.MAY.2012 13:32:30

Fig. 83 Conducted Spurious Emission (802.11n-HT20, Ch6, 1 GHz-2.5 GHz)



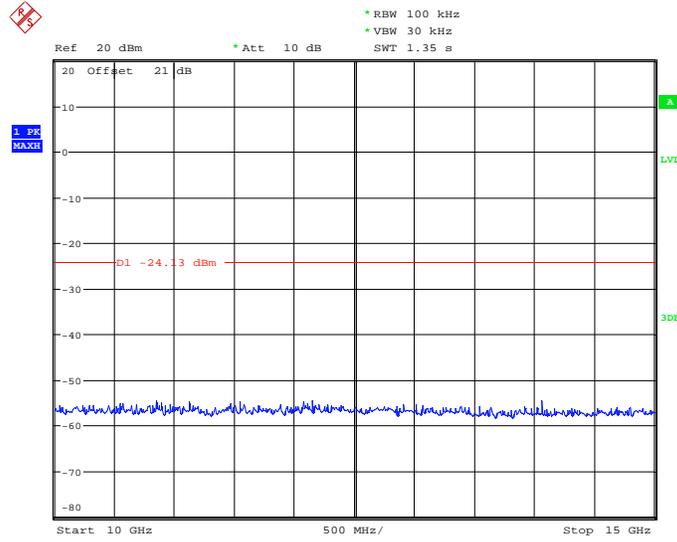
Date: 14.MAY.2012 13:32:54

Fig. 84 Conducted Spurious Emission (802.11n-HT20, Ch6, 2.5 GHz-7.5 GHz)



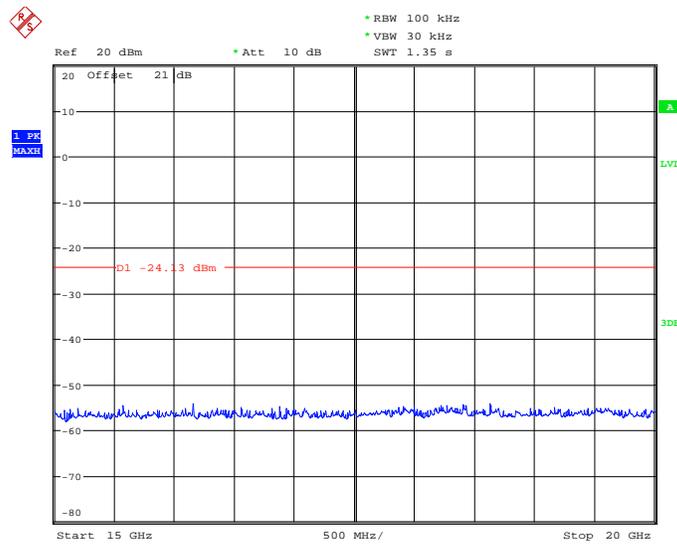
Date: 14.MAY.2012 13:33:36

Fig. 85 Conducted Spurious Emission (802.11n-HT20, Ch6, 7.5 GHz-10 GHz)



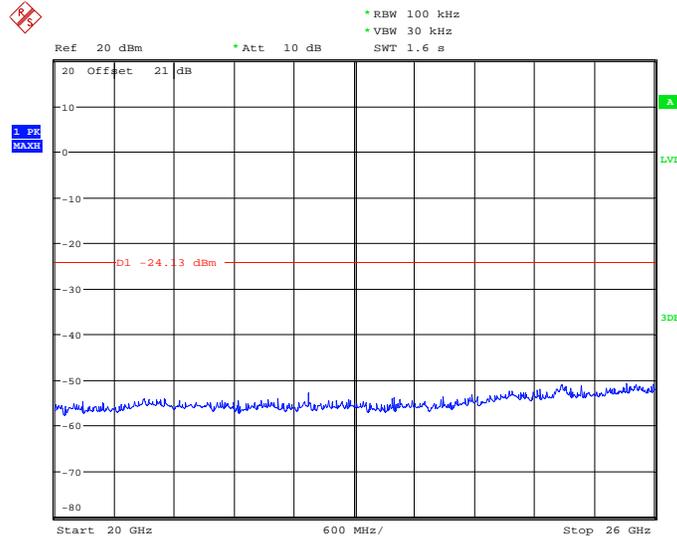
Date: 14.MAY.2012 13:33:59

Fig. 86 Conducted Spurious Emission (802.11n-HT20, Ch6, 10 GHz-15 GHz)



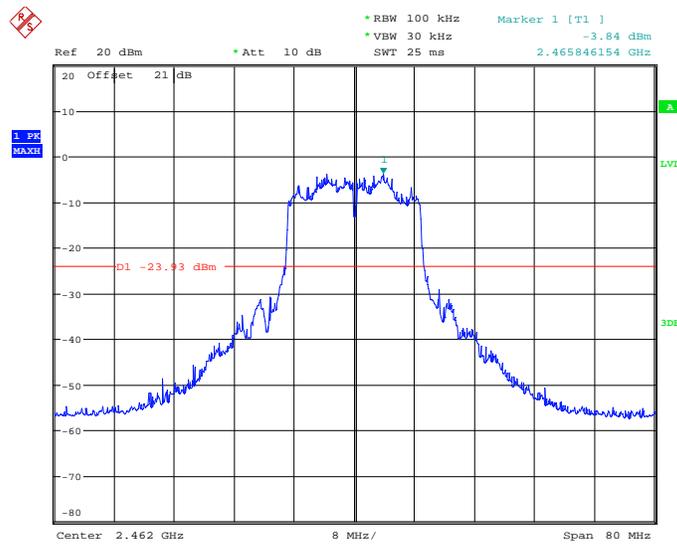
Date: 14.MAY.2012 13:34:26

Fig. 87 Conducted Spurious Emission (802.11n-HT20, Ch6, 15 GHz-20 GHz)



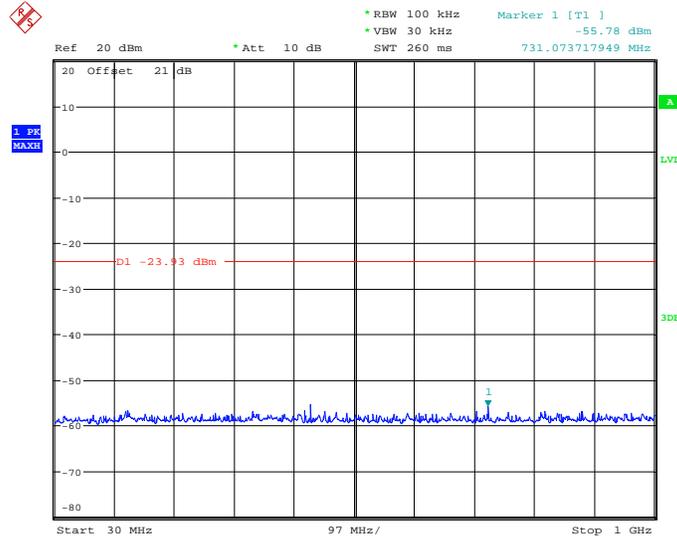
Date: 14.MAY.2012 13:34:50

Fig. 88 Conducted Spurious Emission (802.11n-HT20, Ch6, 20 GHz-26 GHz)



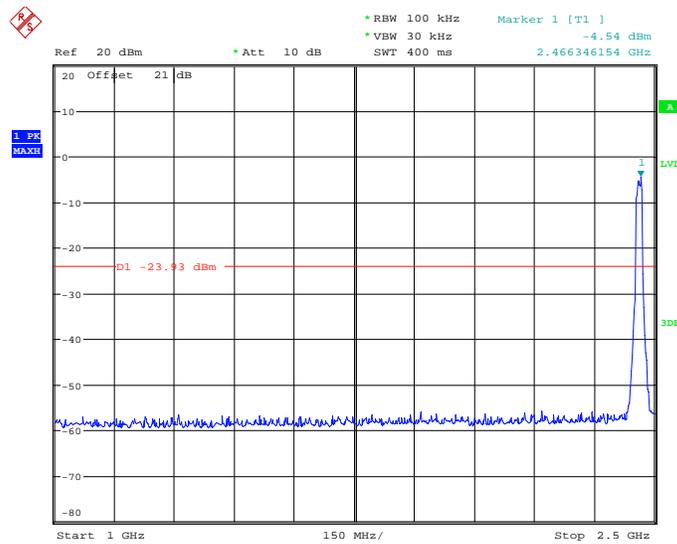
Date: 14.MAY.2012 11:29:15

Fig. 89 Conducted Spurious Emission (802.11n-HT20, Ch11, Center Frequency)



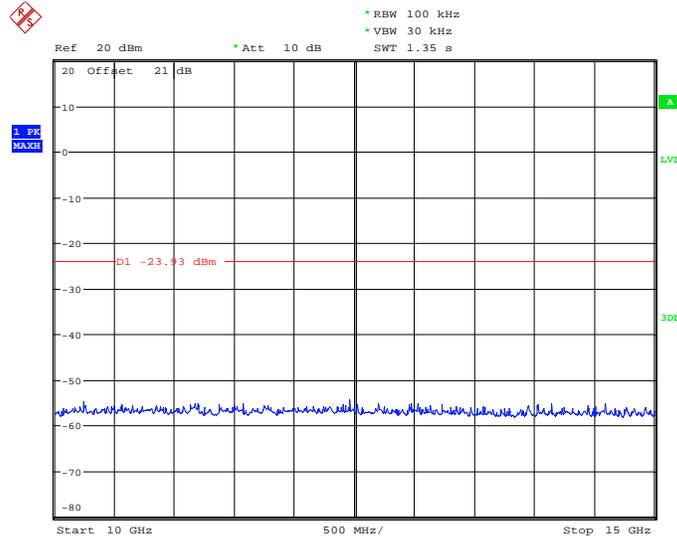
Date: 14.MAY.2012 11:29:46

Fig. 90 Conducted Spurious Emission (802.11n-HT20, Ch11, 30 MHz-1 GHz)



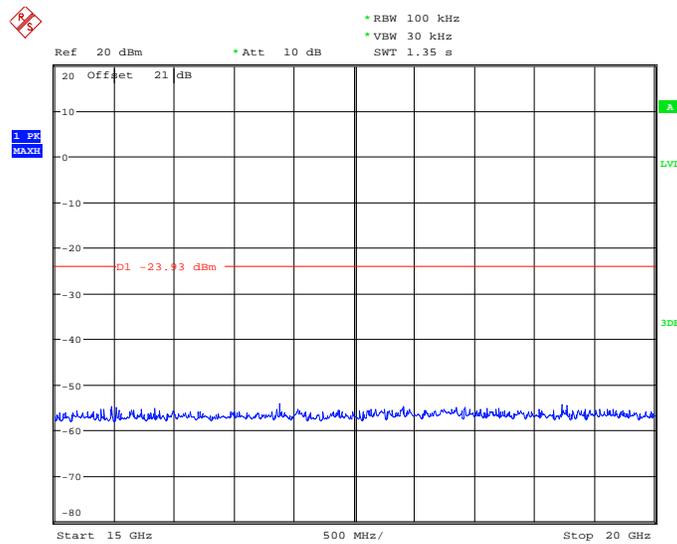
Date: 14.MAY.2012 11:30:12

Fig. 91 Conducted Spurious Emission (802.11n-HT20, Ch11, 1 GHz-2.5 GHz)



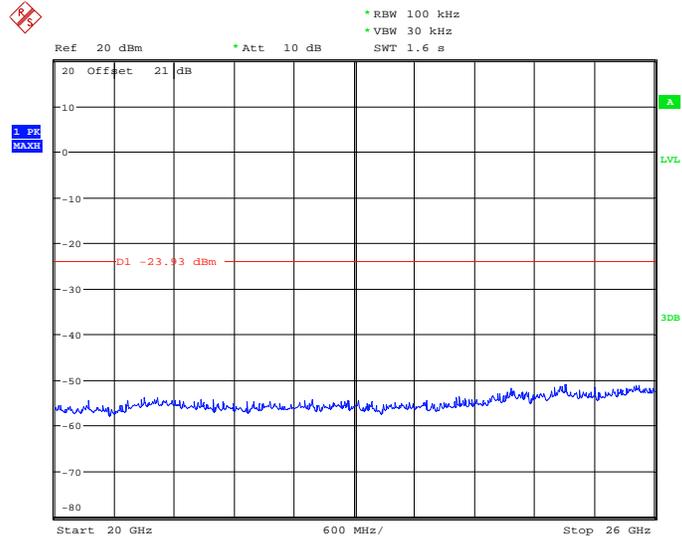
Date: 14.MAY.2012 11:32:37

Fig. 94 Conducted Spurious Emission (802.11n-HT20, Ch11, 10 GHz-15 GHz)



Date: 14.MAY.2012 11:33:40

Fig. 95 Conducted Spurious Emission (802.11n-HT20, Ch11, 15 GHz-20 GHz)



Date: 14.MAY.2012 11:33:59

Fig. 96 Conducted Spurious Emission (802.11n-HT20, Ch11, 20 GHz-26 GHz)

A.6.2 Transmitter Spurious Emission - Radiated

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

The measurement is made according to ANSI C63.10 and KDB558074 D01.

Limit in restricted band:

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

Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

Measurement Results:

802.11b/g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.38GHz ~2.45GHz	Fig.97	P
	1	30 MHz ~1 GHz	Fig.98	P
		1 GHz ~ 3 GHz	Fig.99	P
		3 GHz ~ 18 GHz	Fig.100	P
	6	30 MHz ~1 GHz	Fig.101	P
		1 GHz ~ 3 GHz	Fig.102	P
		3 GHz ~ 18 GHz	Fig.103	P
	Power	2.45GHz ~2.5GHz	Fig.104	P
	11	30 MHz ~1 GHz	Fig.105	P
		1 GHz ~ 3 GHz	Fig.106	P
		3 GHz ~ 18 GHz	Fig.107	P
	802.11g	Power	2.38GHz ~2.43GHz	Fig.108
1		30 MHz ~1 GHz	Fig.109	P
		1 GHz ~ 3 GHz	Fig.110	P
		3 GHz ~ 18 GHz	Fig.111	P
6		30 MHz ~1 GHz	Fig.112	P
		1 GHz ~ 3 GHz	Fig.113	P
		3 GHz ~ 18 GHz	Fig.114	P
Power		2.45GHz ~2.5GHz	Fig.115	P
11		30 MHz ~1 GHz	Fig.116	P
		1 GHz ~ 3 GHz	Fig.117	P
		3 GHz ~ 18 GHz	Fig.118	P

802.11n mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (20MHz)	Power	2.38GHz ~2.45GHz	Fig.119	P
	1	30 MHz ~1 GHz	Fig.120	P
		1 GHz ~ 4 GHz	Fig.121	P
		4 GHz ~ 18 GHz	Fig.122	P
	6	30 MHz ~1 GHz	Fig.123	P
		1 GHz ~ 3 GHz	Fig.124	P
		3 GHz ~ 18 GHz	Fig.125	P
	Power	2.45GHz ~2.5GHz	Fig.126	P
	11	30 MHz ~1 GHz	Fig.127	P
		1 GHz ~ 3 GHz	Fig.128	P
		3 GHz ~ 18 GHz	Fig.129	P
	802.11n (40MHz)	Power	2.38GHz ~2.45GHz	/
3		30 MHz ~1 GHz	/	/
		1 GHz ~ 3 GHz	/	/

		3 GHz ~ 18 GHz	/	/
	6	30 MHz ~1 GHz	/	/
		1 GHz ~ 3 GHz	/	/
		3 GHz ~ 18 GHz	/	/
	Power	2.45GHz ~2.5GHz	/	/
	9	30 MHz ~1 GHz	/	/
		1 GHz ~ 3 GHz	/	/
		3 GHz ~ 18 GHz	/	/
/	All channels	18 GHz~ 26.5 GHz	Fig.130	P

Conclusion: PASS

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

802.11b

Ch1

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
17541.75	43.00	28.80	-31.72	45.92	HORIZONTAL
17542.50	42.87	28.80	-31.72	45.78	VERTICAL
17988.75	42.79	28.80	-31.78	45.78	HORIZONTAL
17990.25	42.64	28.80	-31.78	45.62	HORIZONTAL
17991.75	42.70	28.80	-31.78	45.68	VERTICAL
17993.25	42.56	28.80	-31.78	45.54	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
17512.50	42.82	28.80	-31.72	45.74	VERTICAL
17530.50	42.78	28.80	-31.72	45.70	HORIZONTAL
17550.00	43.03	28.80	-31.72	45.95	HORIZONTAL
17984.25	42.79	28.80	-31.78	45.77	VERTICAL
17985.75	42.92	28.80	-31.78	45.90	HORIZONTAL
17995.50	42.57	28.80	-31.78	45.55	VERTICAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
17518.50	42.85	28.80	-31.72	45.77	HORIZONTAL
17519.25	42.78	28.80	-31.72	45.70	HORIZONTAL
17522.25	43.02	28.80	-31.72	45.94	VERTICAL
17523.75	42.94	28.80	-31.72	45.86	HORIZONTAL
17538.00	42.94	28.80	-31.72	45.86	VERTICAL
17540.25	42.80	28.80	-31.72	45.72	HORIZONTAL

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
17481.75	42.92	28.80	-31.72	45.83	VERTICAL
17490.00	42.77	28.80	-31.72	45.68	HORIZONTAL
17531.25	43.15	28.80	-31.72	46.06	HORIZONTAL
17535.75	42.97	28.80	-31.72	45.88	VERTICAL
17811.00	42.79	28.80	-31.78	45.77	HORIZONTAL
17973.75	42.89	28.80	-31.78	45.88	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
17500.50	42.92	28.80	-31.72	45.84	VERTICAL
17512.50	43.02	28.80	-31.72	45.93	VERTICAL
17517.75	43.06	28.80	-31.72	45.98	VERTICAL
17520.75	42.98	28.80	-31.72	45.90	HORIZONTAL
17534.25	42.90	28.80	-31.72	45.81	HORIZONTAL
17760.00	42.89	28.80	-31.78	45.87	VERTICAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
17507.25	42.88	28.80	-31.72	45.79	VERTICAL
17512.50	42.93	28.80	-31.72	45.85	HORIZONTAL
17520.75	43.08	28.80	-31.72	46.00	VERTICAL
17523.75	43.05	28.80	-31.72	45.96	VERTICAL
17537.25	42.93	28.80	-31.72	45.84	HORIZONTAL
17550.75	43.07	28.80	-31.72	45.98	HORIZONTAL

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
17480.25	42.85	28.80	-31.72	45.77	HORIZONTAL
17485.50	43.25	28.80	-31.72	46.17	HORIZONTAL
17508.75	42.86	28.80	-31.72	45.77	HORIZONTAL
17511.75	43.06	28.80	-31.72	45.98	VERTICAL
17517.75	43.05	28.80	-31.72	45.97	VERTICAL
17558.25	42.91	28.80	-31.72	45.82	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
17497.50	42.76	28.80	-31.72	45.67	HORIZONTAL
17499.75	42.95	28.80	-31.72	45.87	HORIZONTAL
17515.50	42.83	28.80	-31.72	45.74	VERTICAL
17518.50	42.98	28.80	-31.72	45.89	HORIZONTAL
17522.25	43.00	28.80	-31.72	45.92	VERTICAL
17524.50	42.91	28.80	-31.72	45.83	VERTICAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
17508.75	42.82	28.80	-31.72	45.73	HORIZONTAL
17523.00	42.95	28.80	-31.72	45.86	HORIZONTAL
17523.75	43.05	28.80	-31.72	45.96	HORIZONTAL
17525.25	42.89	28.80	-31.72	45.81	HORIZONTAL
17526.75	42.90	28.80	-31.72	45.82	HORIZONTAL
17954.25	43.55	28.80	-31.78	46.53	VERTICAL

802.11n-HT40

Ch3

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/

Ch6

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/

Ch9

Frequency(MHz)	Result (dBuV/m)	Antenna Factor	Cable Loss	P _{Mea} (dBuV)	Polarization
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/

Test graphs as below:

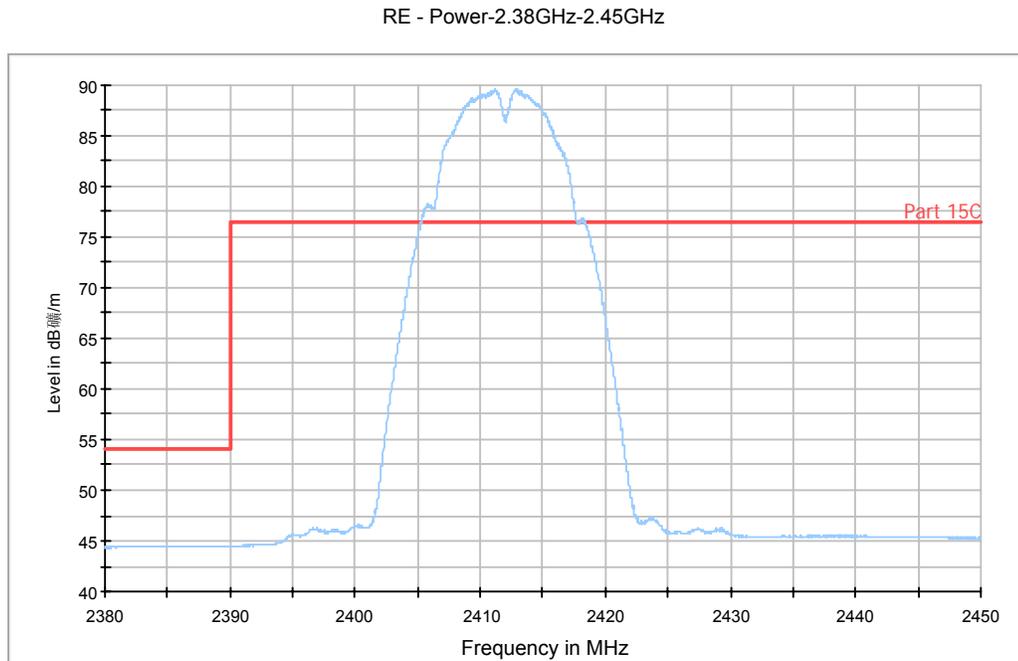


Fig. 97 Radiated Spurious Emission (Power): 802.11b, ch1, 2.38 GHz - 245GHz

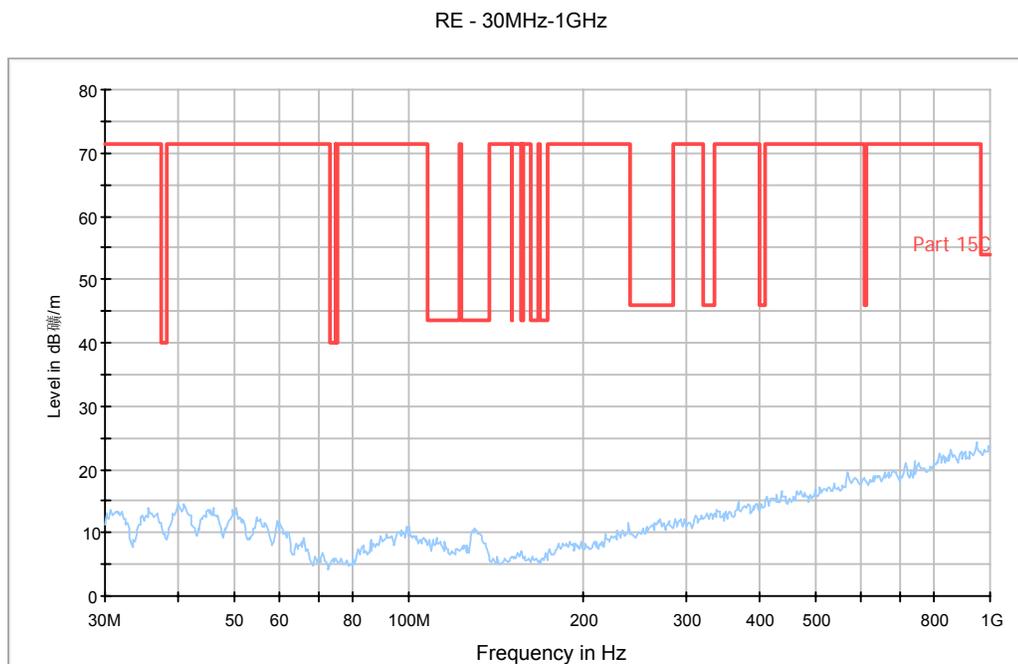


Fig. 98 Radiated Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)

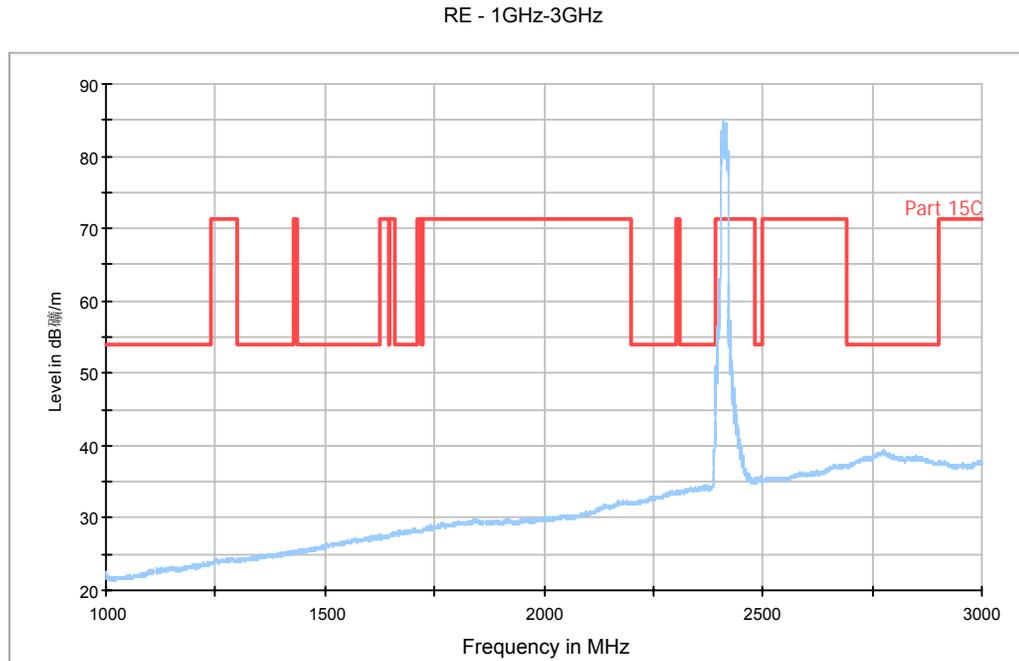


Fig. 99 Radiated Spurious Emission (802.11b, Ch1, 1 GHz-3 GHz)

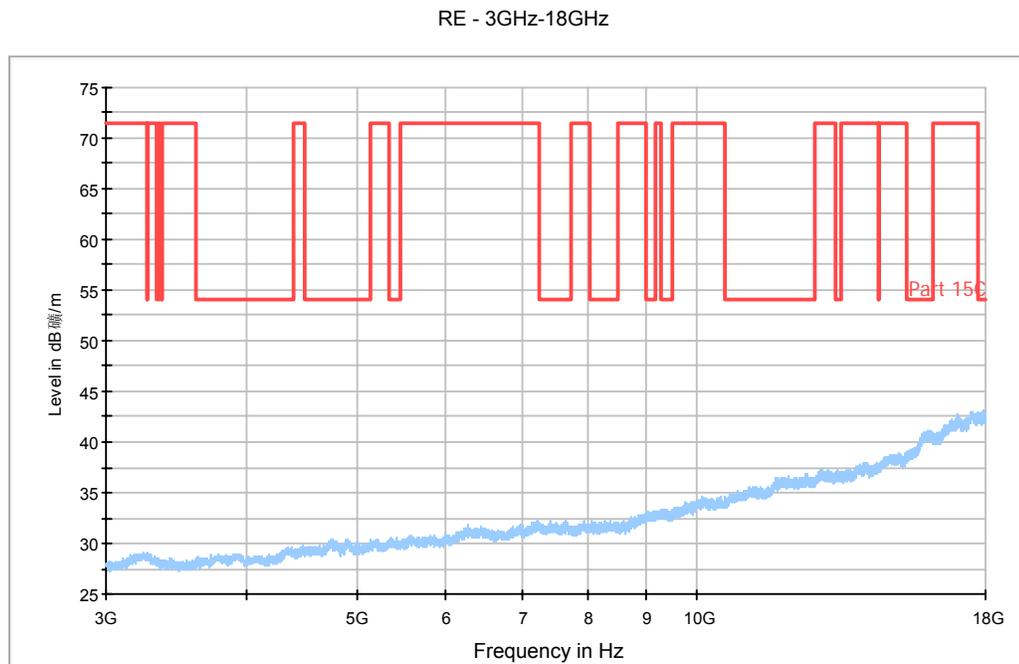


Fig. 100 Radiated Spurious Emission (802.11b, Ch1, 3 GHz-18 GHz)

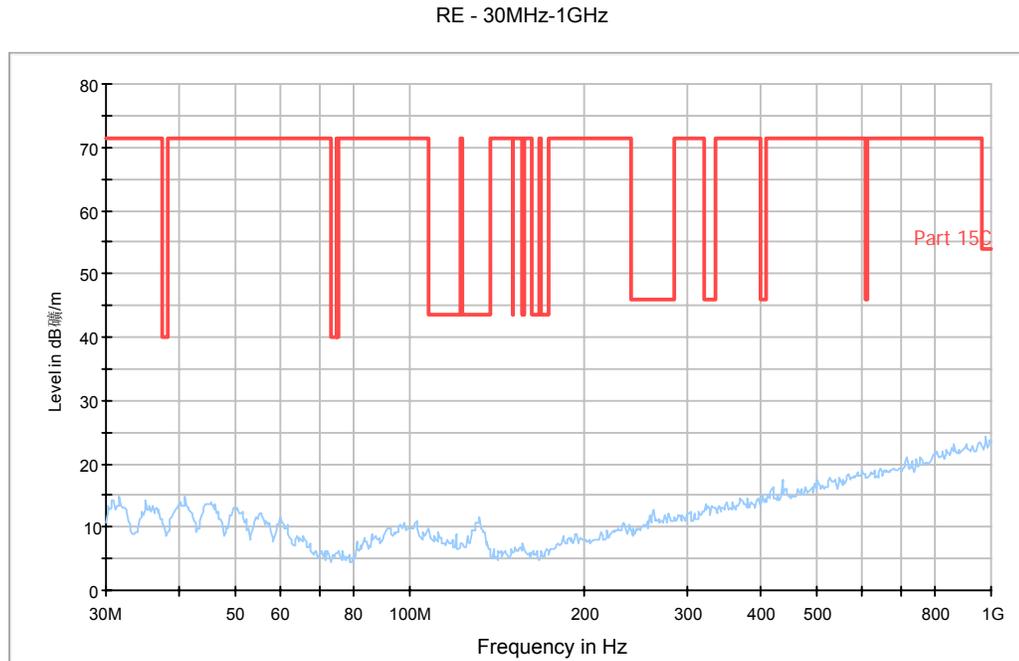


Fig. 101 Radiated Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)

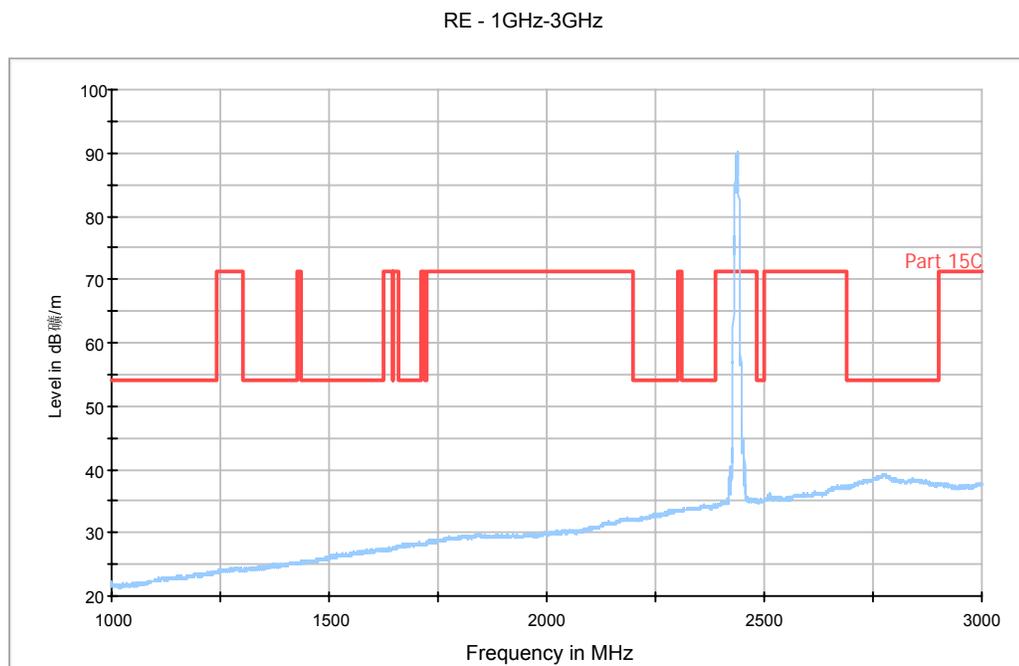


Fig. 102 Radiated Spurious Emission (802.11b, Ch6, 1 GHz-3 GHz)

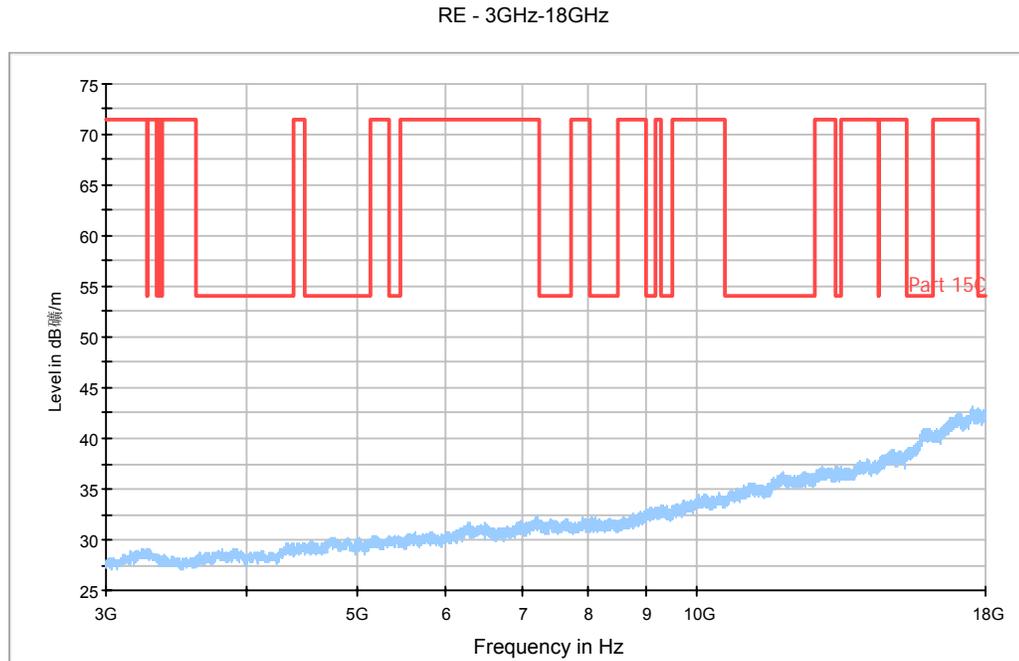


Fig. 103 Radiated Spurious Emission (802.11b, Ch6, 3 GHz-18 GHz)

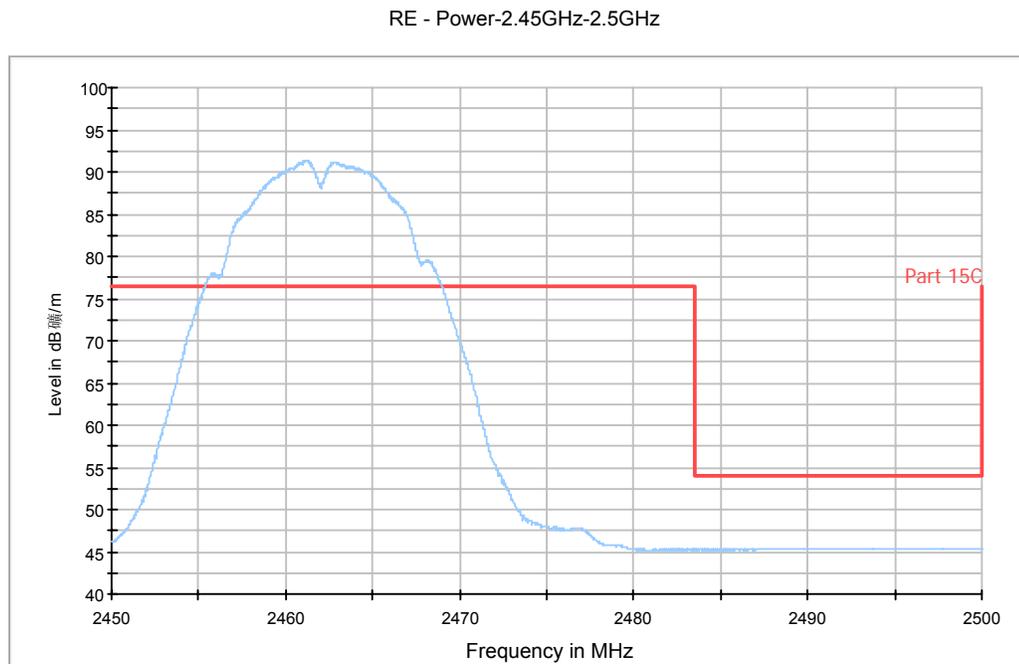


Fig. 104 Radiated Spurious Emission (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

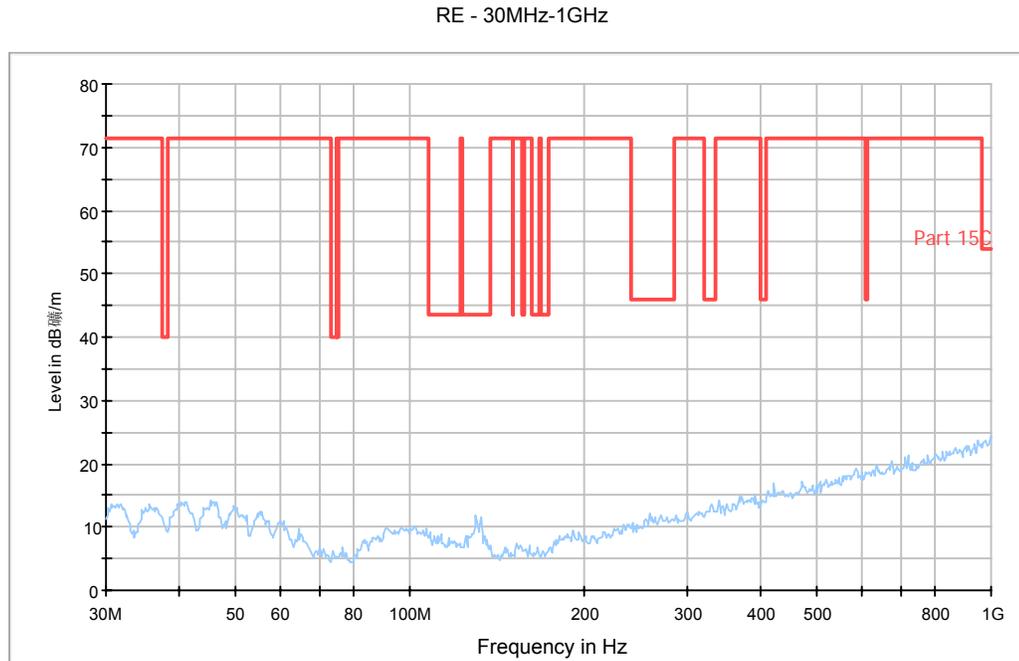


Fig. 105 Radiated Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)

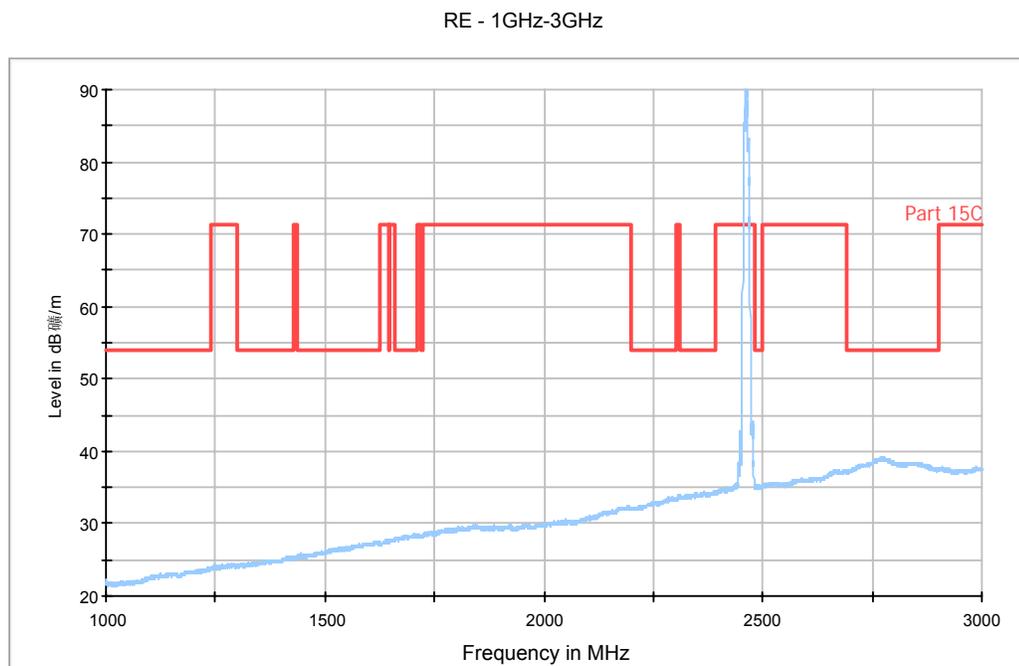


Fig. 106 Radiated Spurious Emission (802.11b, Ch11, 1 GHz-3 GHz)

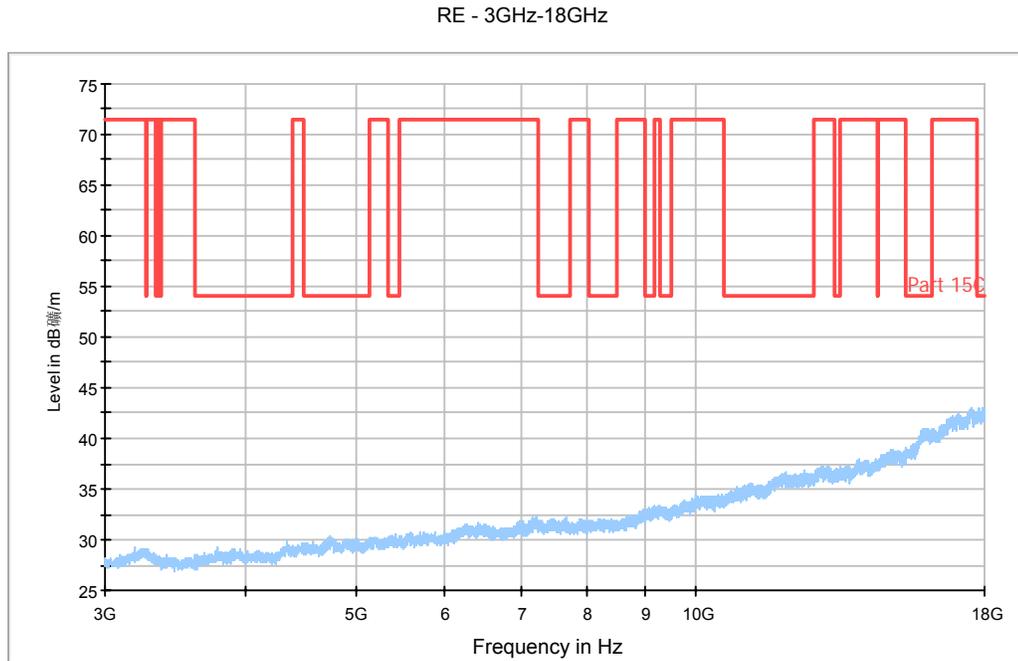


Fig. 107 Radiated Spurious Emission (802.11b, Ch11, 3 GHz-18 GHz)

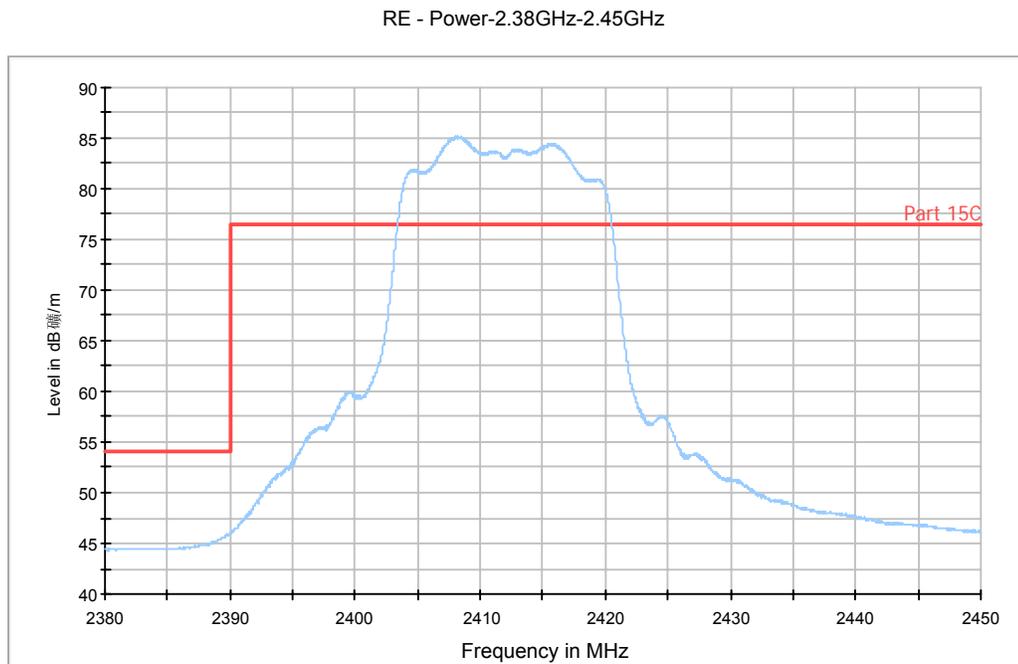


Fig. 108 Radiated Spurious Emission (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

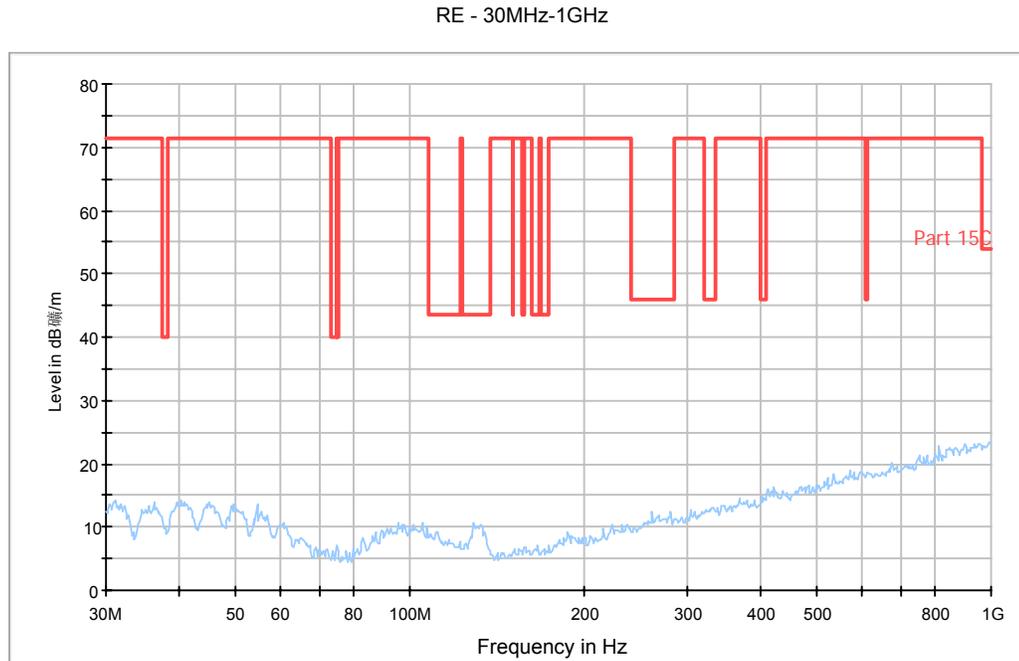


Fig. 109 Radiated Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)

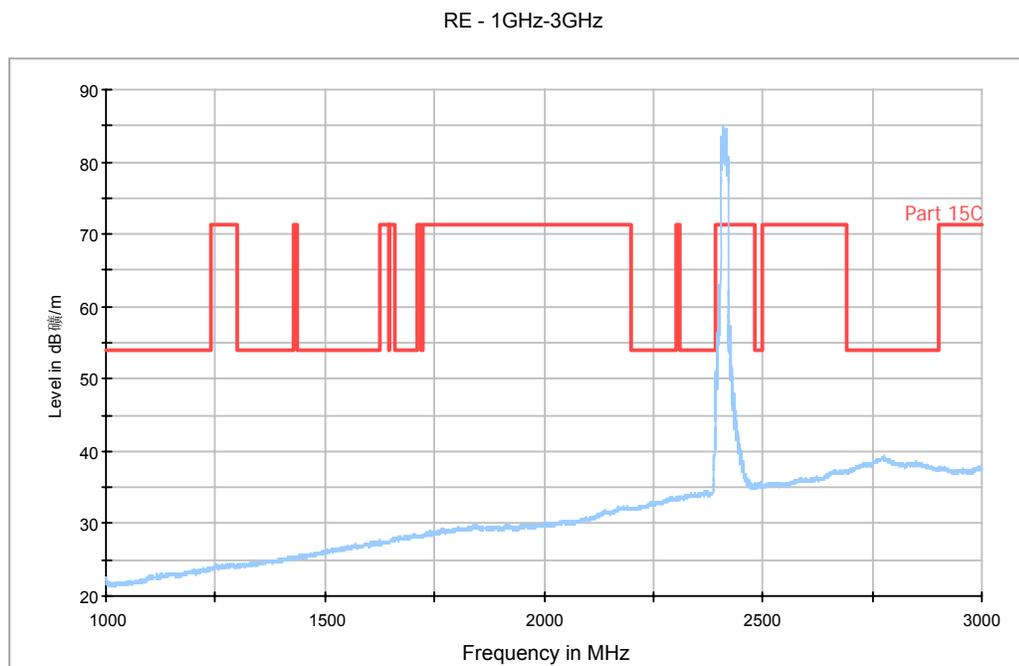


Fig. 110 Radiated Spurious Emission (802.11g, Ch1, 1 GHz-3 GHz)

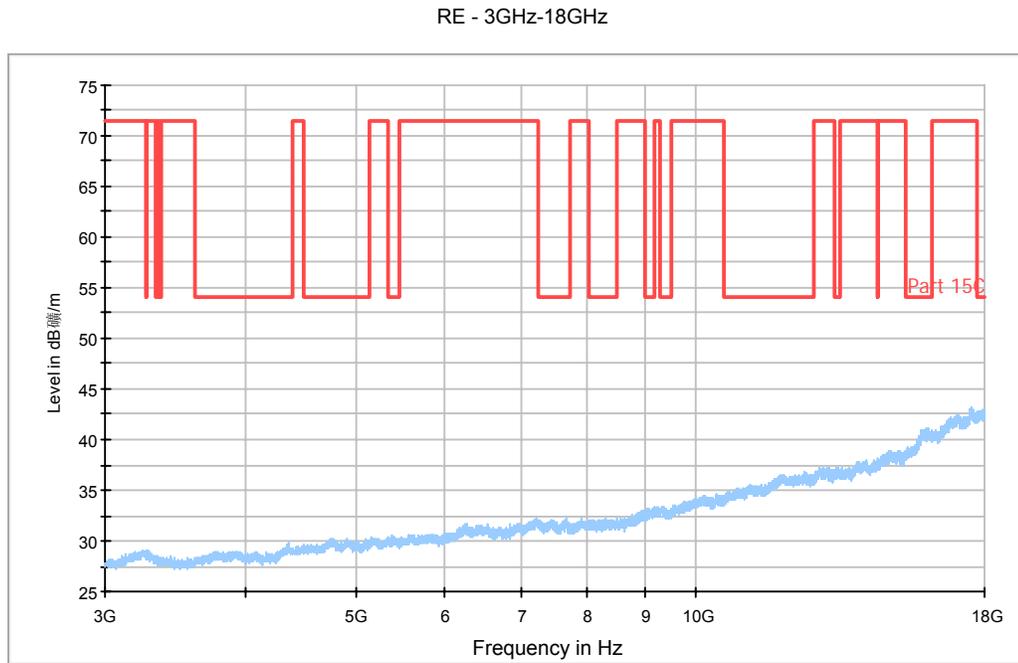


Fig. 111 Radiated Spurious Emission (802.11g, Ch1, 3 GHz-18 GHz)

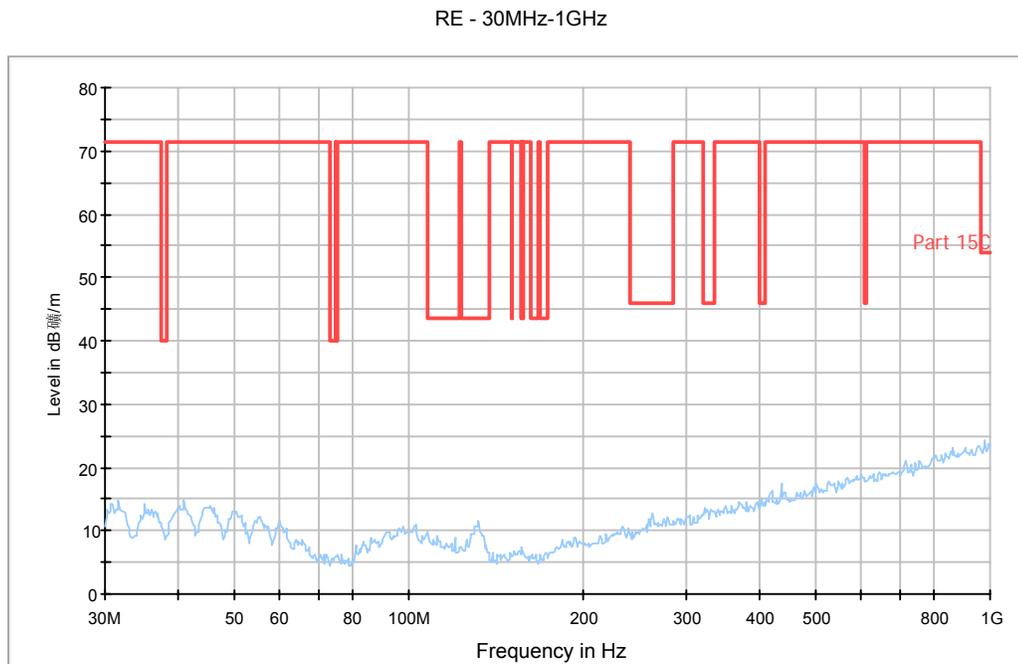


Fig. 112 Radiated Spurious Emission (802.11g, Ch6, 30 MHz-1 GHz)

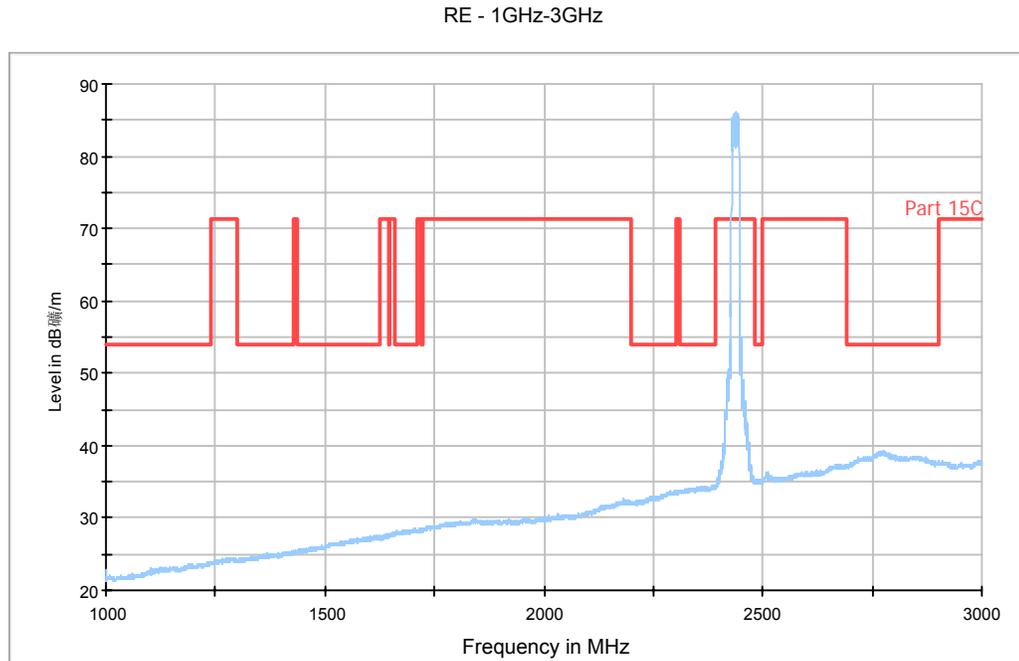


Fig. 113 Radiated Spurious Emission (802.11g, Ch6, 1 GHz-3 GHz)

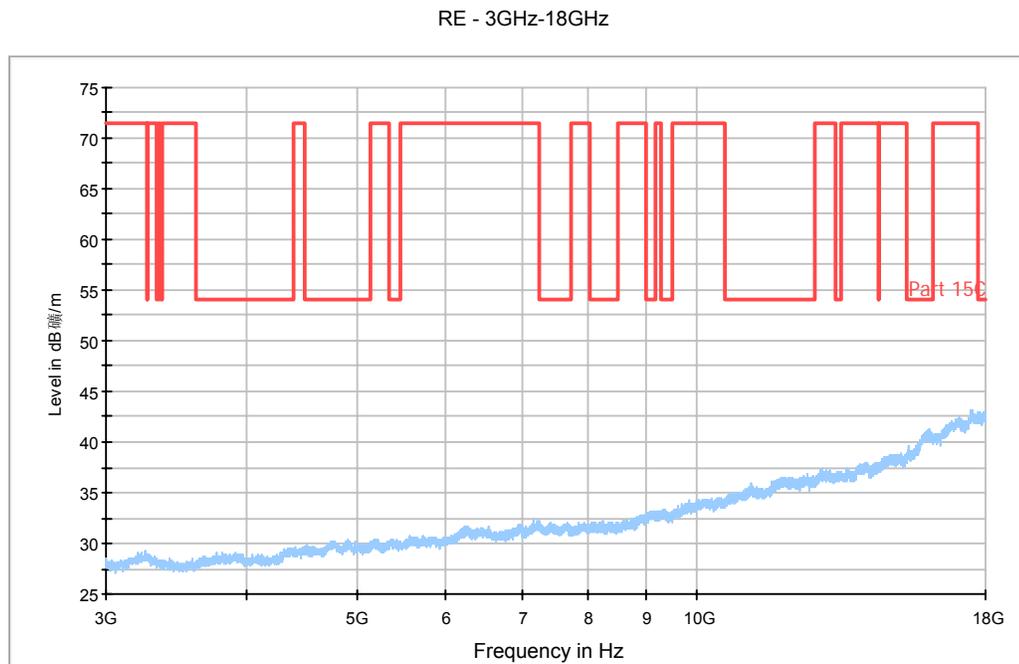


Fig. 114 Radiated Spurious Emission (802.11g, Ch6, 3 GHz-18 GHz)

RE - Power-2.45GHz-2.5GHz

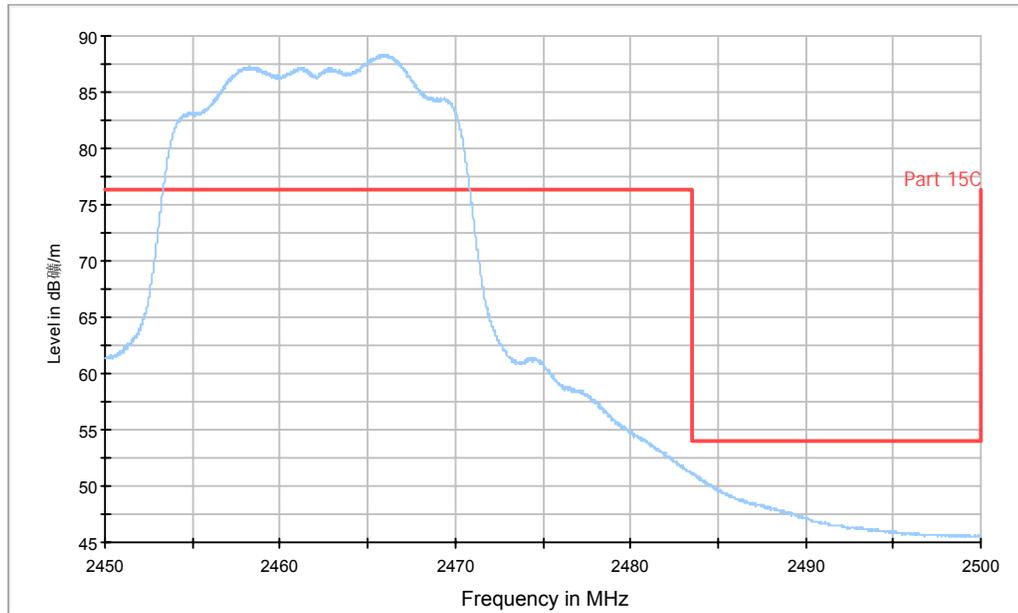


Fig. 115 Radiated Spurious Emission (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

RE - 30MHz-1GHz

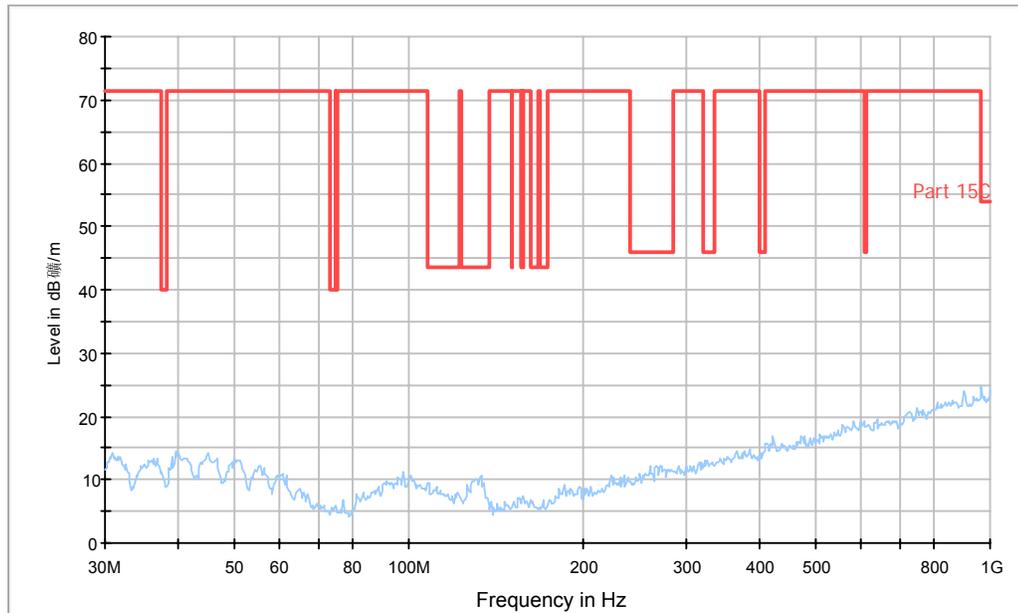


Fig. 116 Radiated Spurious Emission (802.11g, Ch11, 30 MHz-1 GHz)

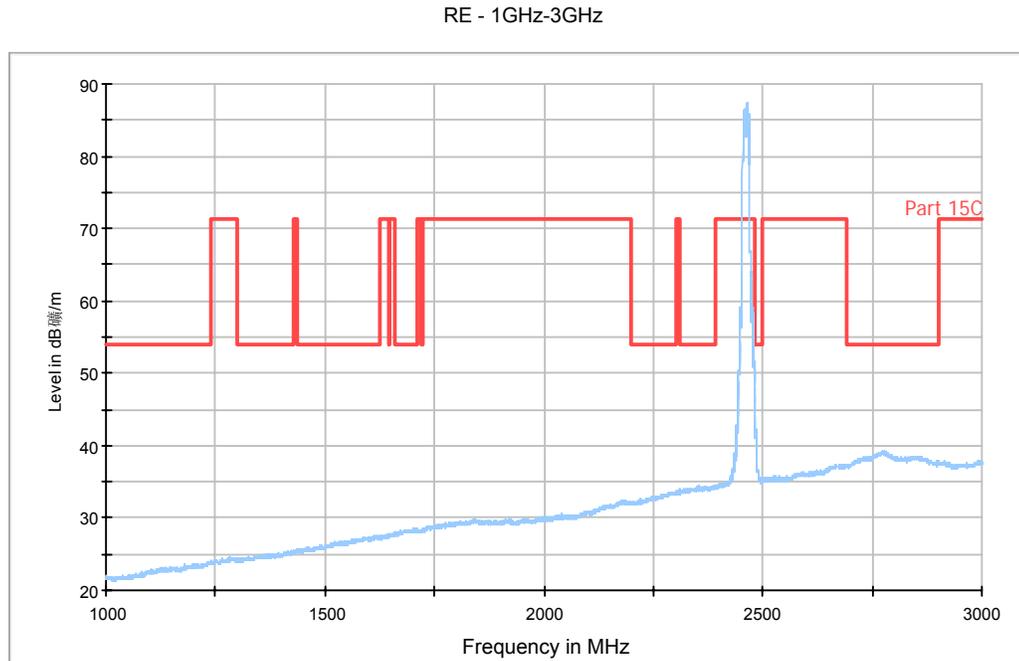


Fig. 117 Radiated Spurious Emission (802.11g, Ch11, 1 GHz-3 GHz)

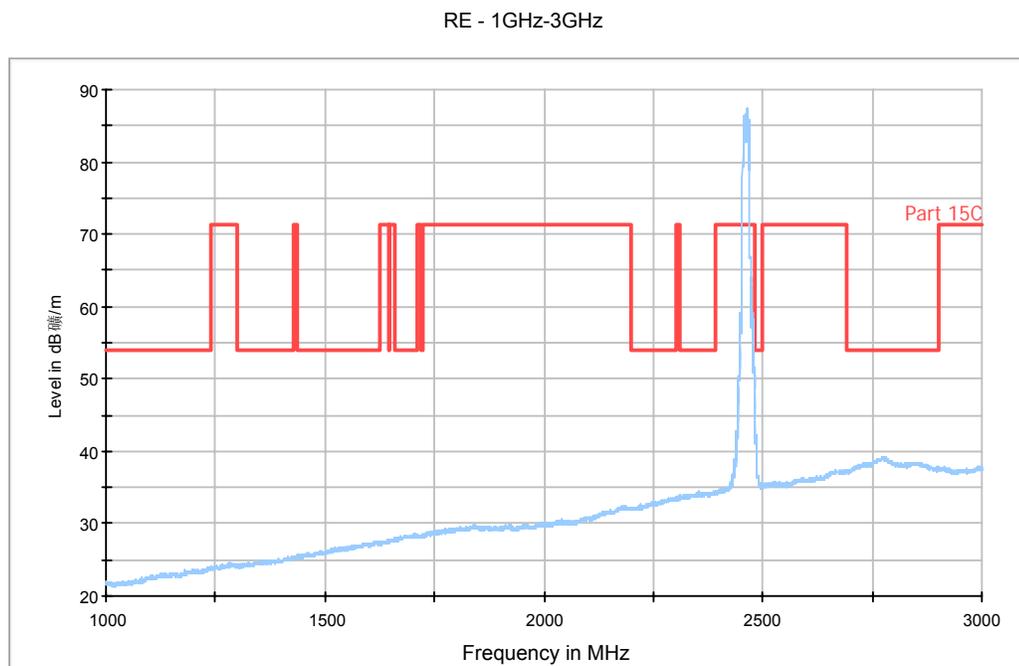


Fig. 118 Radiated Spurious Emission (802.11g, Ch11, 3 GHz-18 GHz)

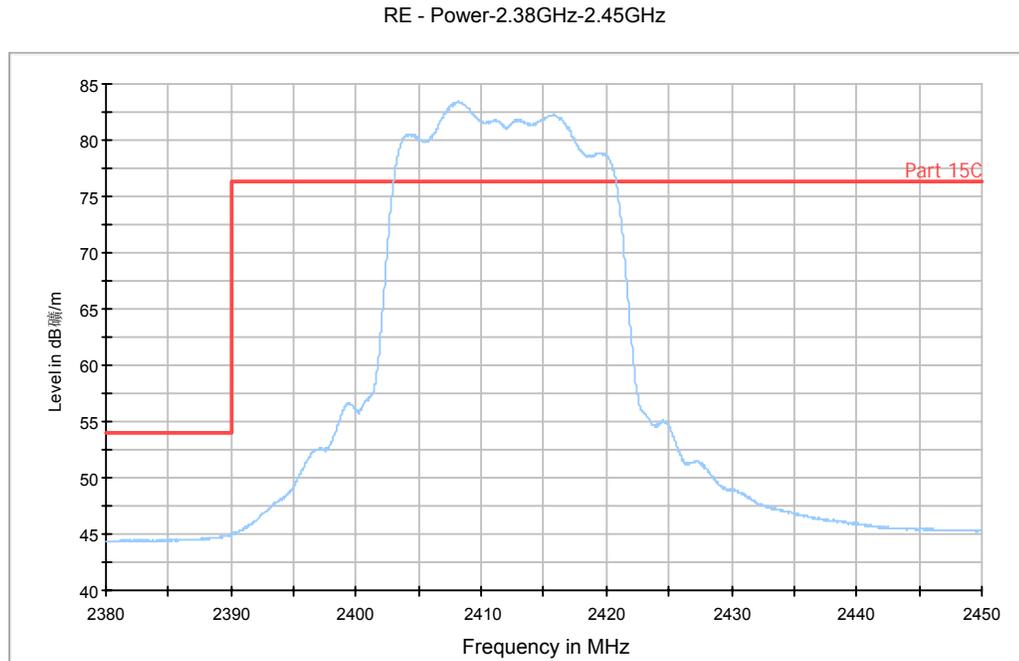


Fig. 119 Radiated Spurious Emission (Power): 802.11n-20MHz, ch1, 2.38 GHz - 2.45GHz

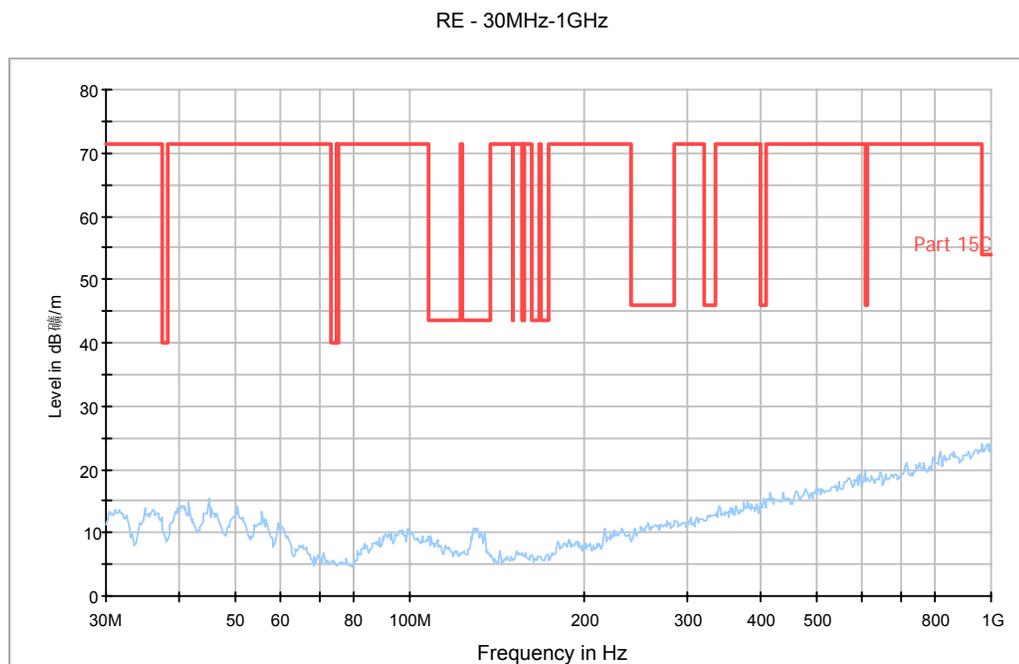


Fig. 120 Radiated Spurious Emission (802.11n-20MHz, Ch1, 30 MHz-1 GHz)

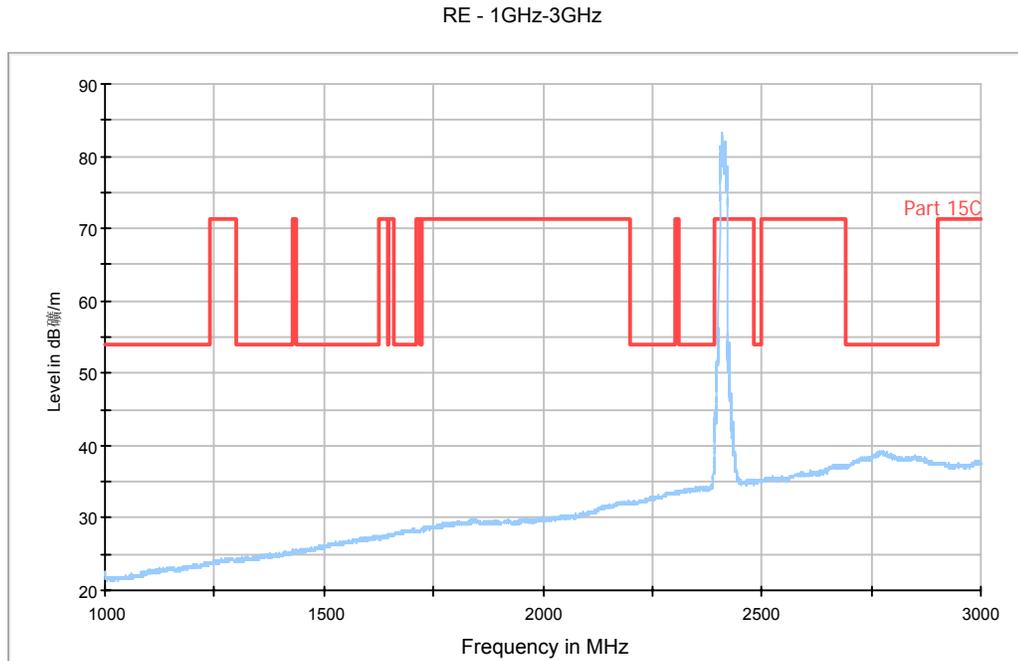


Fig. 121 Radiated Spurious Emission (802.11n-20MHz, Ch1, 1 GHz-3 GHz)

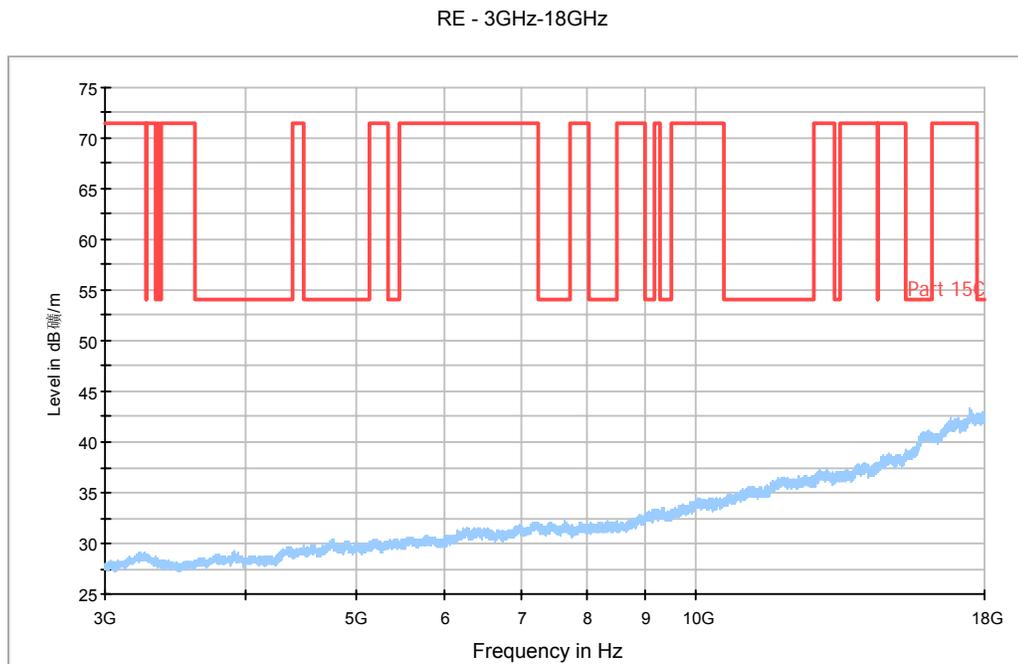


Fig. 122 Radiated Spurious Emission (802.11n-20MHz, Ch1, 3 GHz-18 GHz)

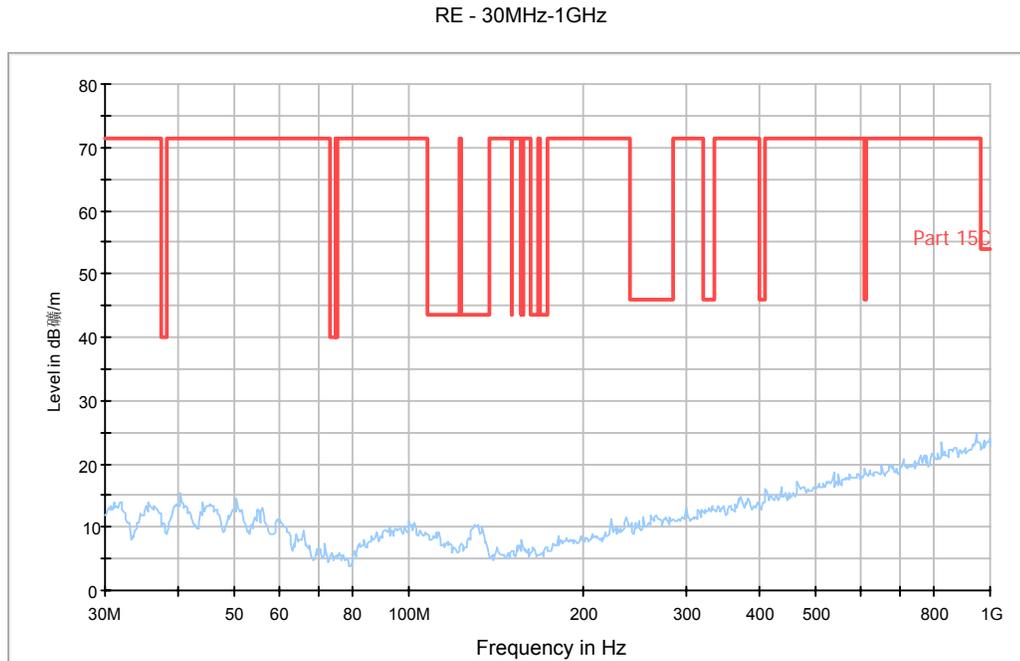


Fig. 123 Radiated Spurious Emission (802.11n-20MHz, Ch6, 30 MHz-1 GHz)

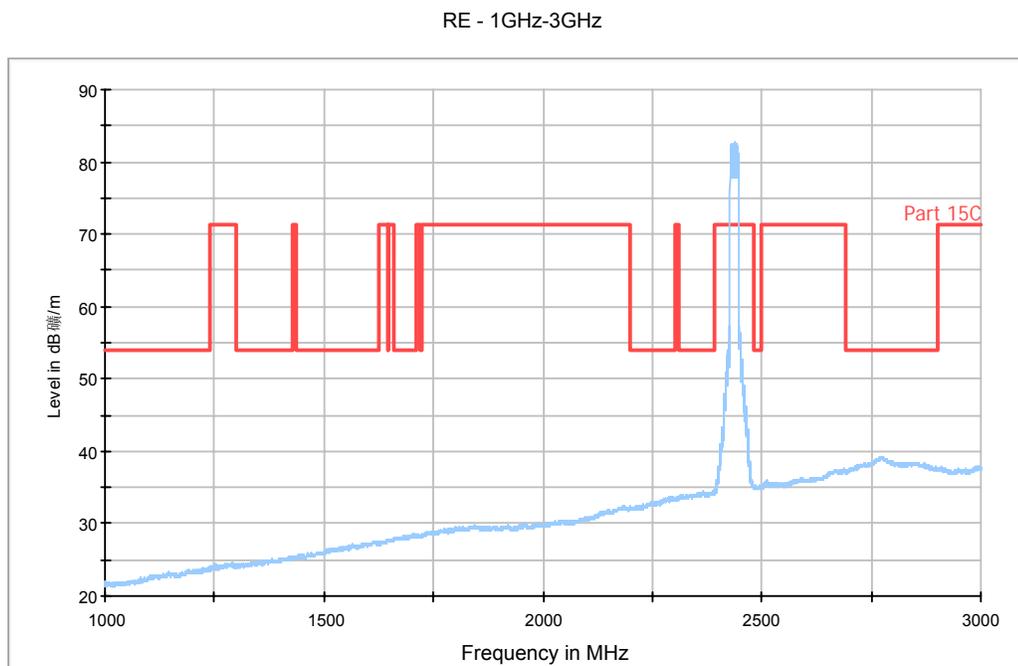


Fig. 124 Radiated Spurious Emission (802.11n-20MHz, Ch6, 1 GHz-3 GHz)

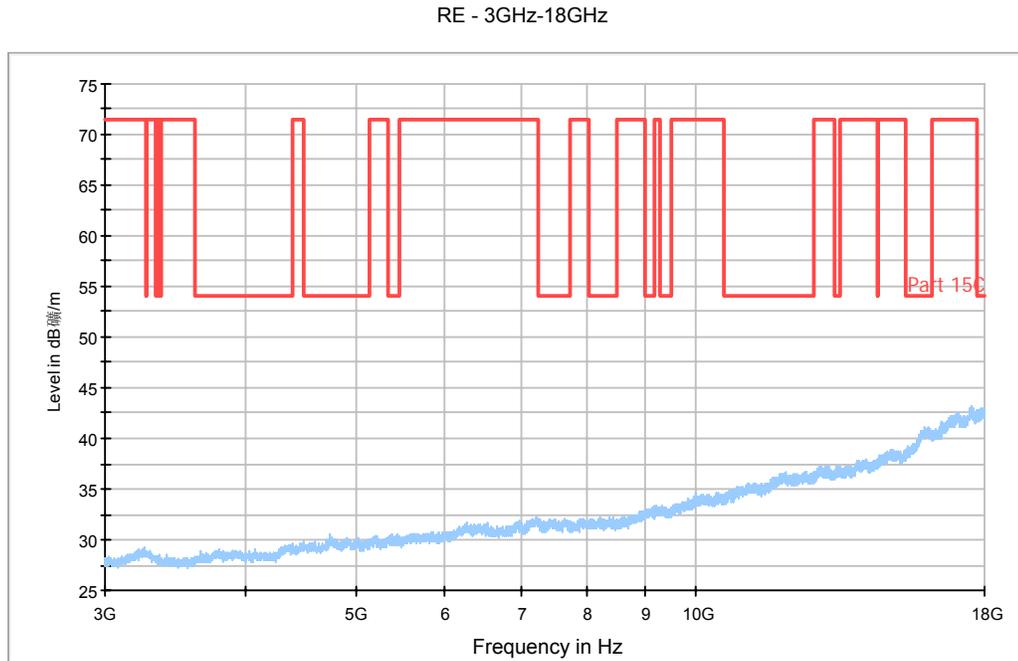


Fig. 125 Radiated Spurious Emission (802.11n-20MHz, Ch6, 3 GHz-18 GHz)

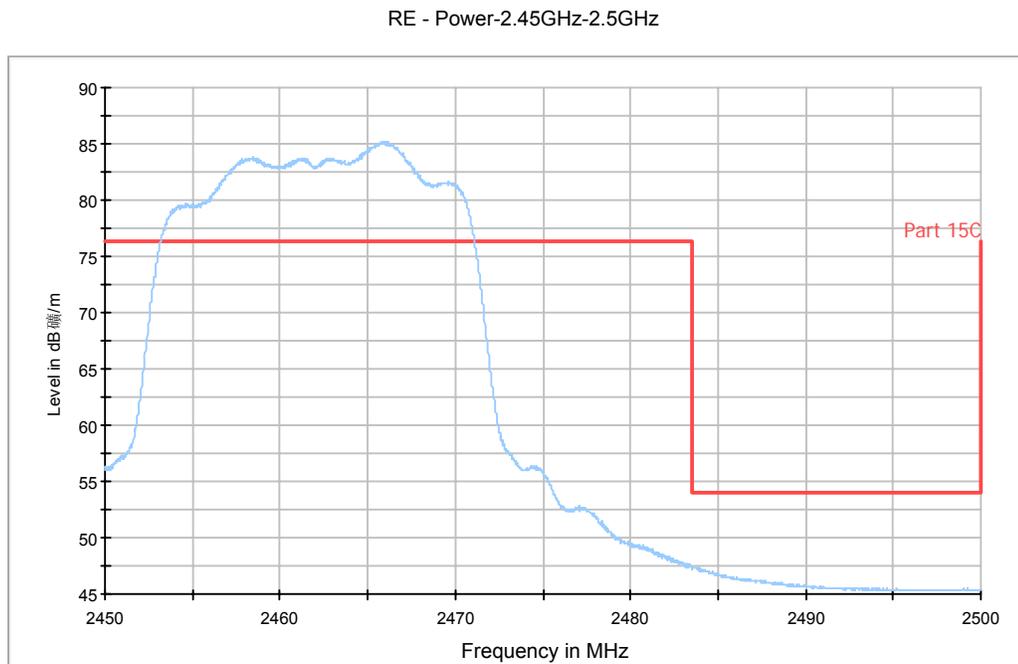


Fig. 126 Radiated Spurious Emission (Power): 802.11n-20MHz, ch11, 2.45 GHz - 2.50GHz

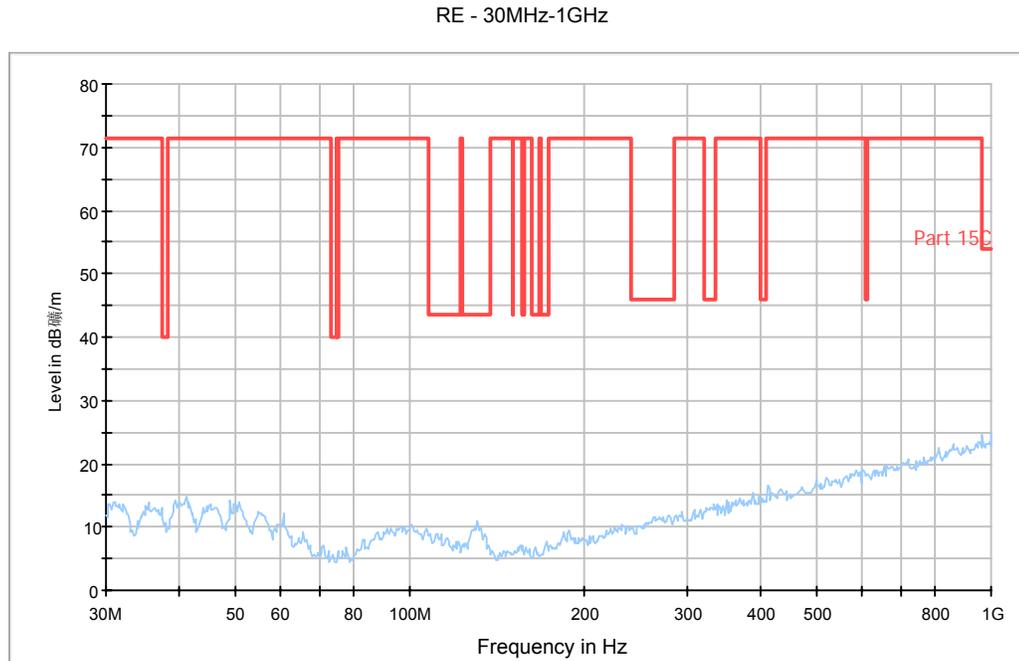


Fig. 127 Radiated Spurious Emission (802.11n-20MHz, Ch11, 30 MHz-1 GHz)

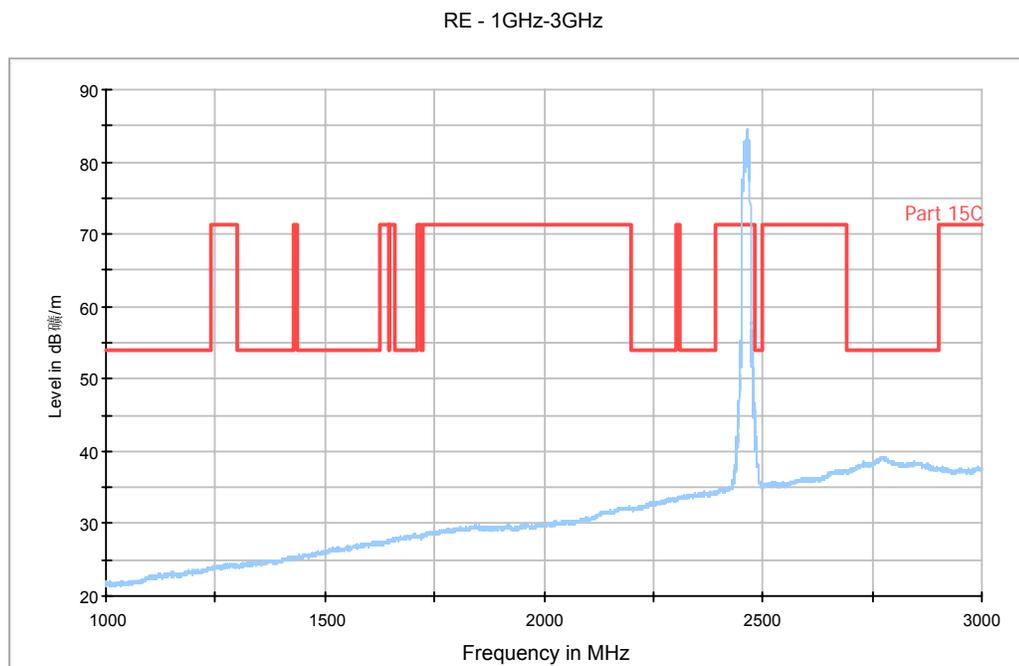


Fig. 128 Radiated Spurious Emission (802.11n-20MHz, Ch11, 1 GHz-3 GHz)

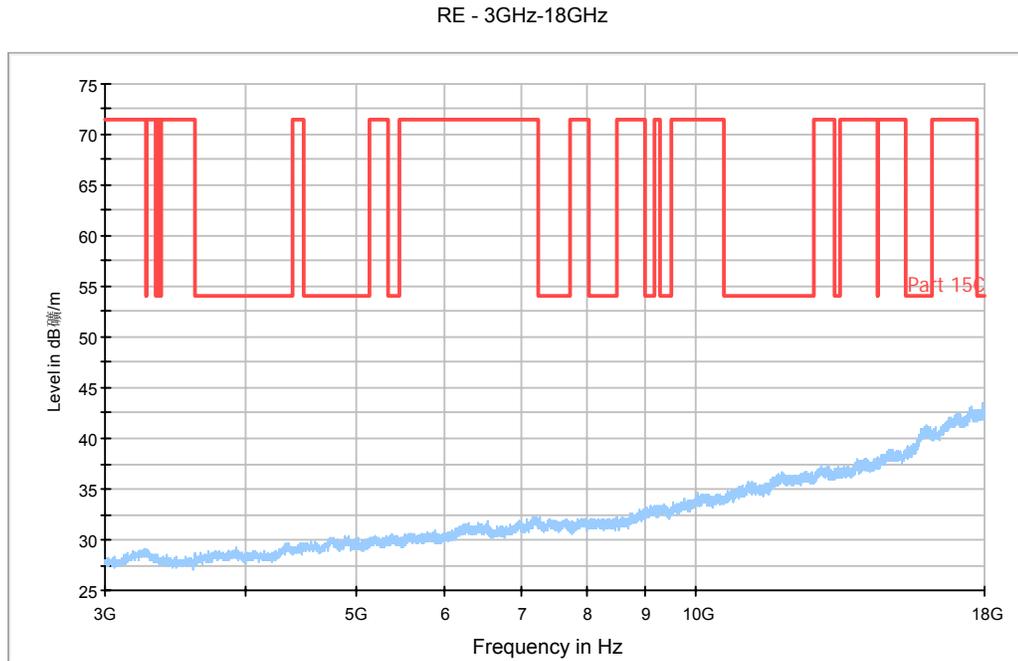


Fig. 129 Radiated Spurious Emission (802.11n-20MHz, Ch11, 3 GHz-18 GHz)

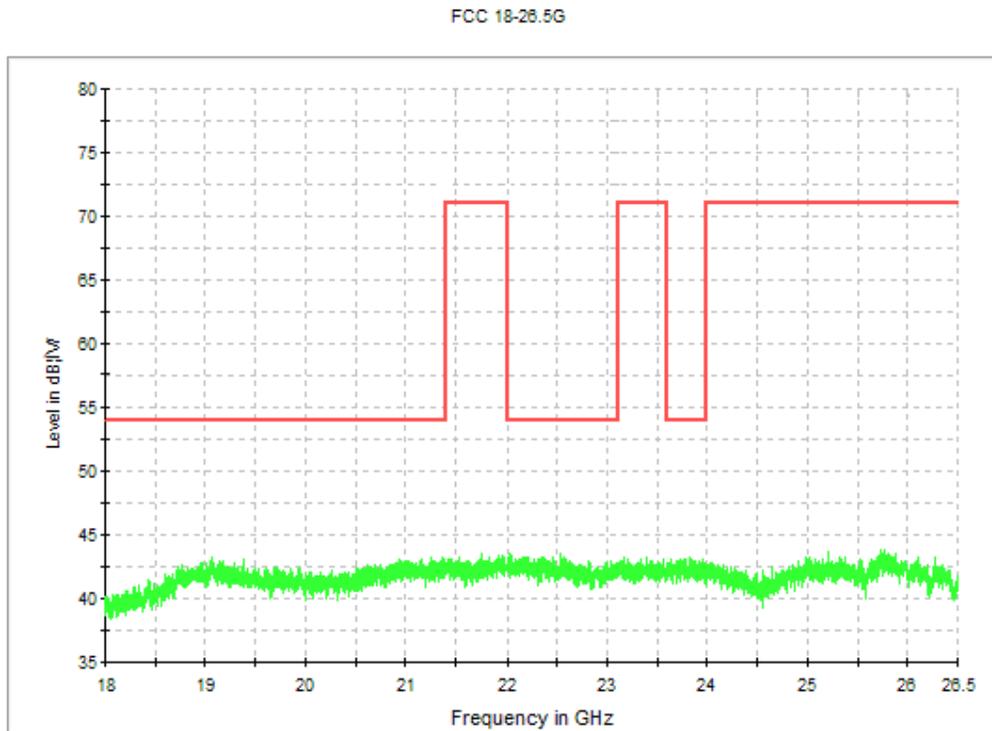


Fig. 130 Radiated emission: 18 GHz - 26.5 GHz

A.7. AC Powerline Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		With charger		
		802.11n	Idle	
0.15 to 0.5	66 o 56	Fig. 131	Fig.132	P
0.5 to 5	56			
5 to 30	60			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dB μ V)	Result (dB μ V)		Conclusion
		With charger		
		802.11n	Idle	
0.15 to 0.5	56 to 46	Fig.131	Fig.132	P
0.5 to 5	46			
5 to 30	50			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

The measurement is made according to ANSI C63.10 and KDB558074 D01

Conclusion: PASS

Test graphs as below:

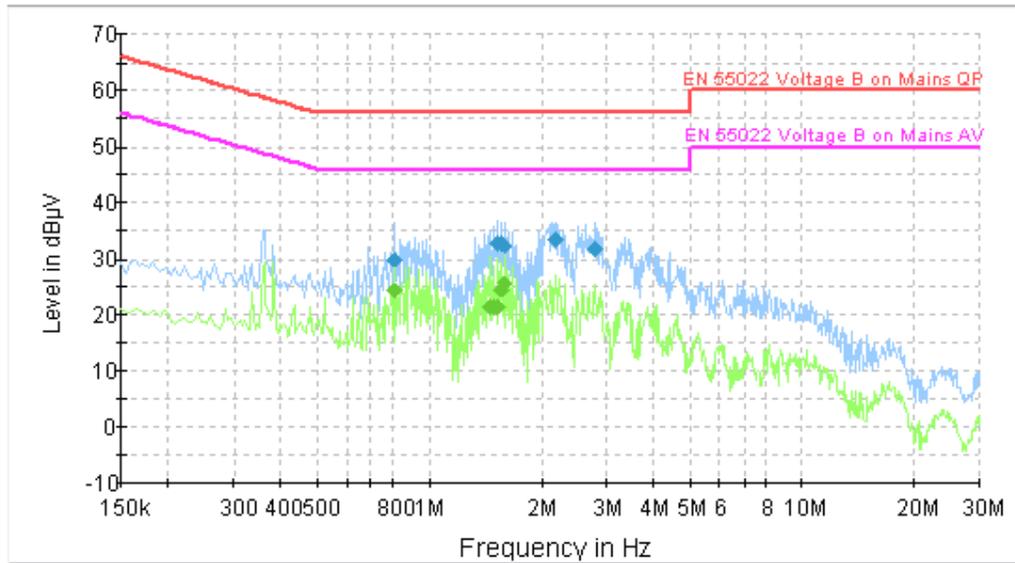


Fig. 131 AC Powerline Conducted Emission-802.11n

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.811500	29.9	GND	N	9.9	26.1	56.0
1.540500	32.9	GND	N	9.8	23.1	56.0
1.563000	32.9	GND	N	9.8	23.1	56.0
1.590000	32.4	GND	N	9.8	23.6	56.0
2.187858	33.4	GND	N	9.8	22.6	56.0
2.793548	31.8	GND	N	9.8	24.2	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.811500	24.3	GND	N	9.9	21.7	46.0
1.464000	21.3	GND	N	9.8	24.7	46.0
1.491000	21.3	GND	L1	9.8	24.7	46.0
1.540500	21.3	GND	L1	9.8	24.7	46.0
1.567500	24.6	GND	N	9.8	21.4	46.0
1.590000	25.5	GND	N	9.8	20.5	46.0

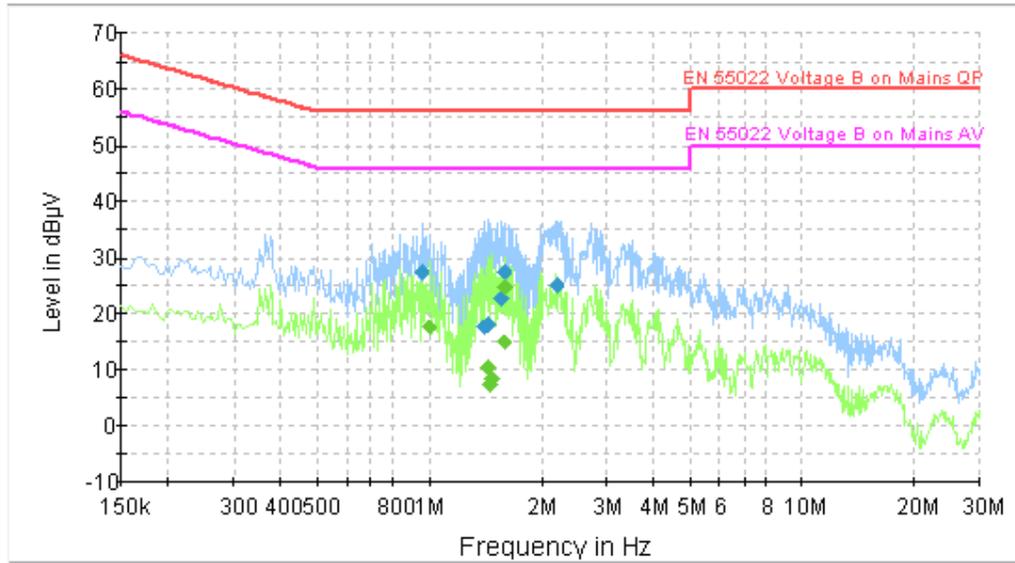


Fig. 132 AC Powerline Conducted Emission-Idle

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.955500	27.4	GND	N	9.9	28.6	56.0
1.405500	17.7	GND	L1	9.8	38.3	56.0
1.432500	18.1	GND	L1	9.8	37.9	56.0
1.558500	22.6	GND	L1	9.8	33.4	56.0
1.585500	27.4	GND	N	9.8	28.6	56.0
2.209791	25.0	GND	N	9.8	31.0	56.0

Final Result 2

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.005000	17.6	GND	L1	9.8	28.4	46.0
1.432500	10.4	GND	L1	9.8	35.6	46.0
1.459500	7.3	GND	N	9.8	38.7	46.0
1.482000	8.5	GND	N	9.8	37.5	46.0
1.585500	15.0	GND	L1	9.8	31.0	46.0
1.608000	24.7	GND	N	9.8	21.3	46.0

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