



# FCC PART 15C TEST REPORT No. 2013WLN0623

for

**TCT Mobile Limited**

**HSDPA/HSUPA/UMTS Tri-band / GSM quad bands mobile phone**

**Type: Scribe 5 US\_SS**

**Market Name: ONE TOUCH 8000A**

**With**

**FCC ID: RAD323**

**Hardware Version: PIO**

**Software Version: v152**

**Issued Date: 2013-03-26**



**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: 008610623046332561  
Fax: 008610623046332504

### 1.2. Testing Environment

Normal Temperature: 15-30℃  
Extreme Temperature: -20/+55℃  
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: 2013-02-19  
Testing End Date: 2013-03-17

### 1.4. Signature



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Xu Zhongfei

(Prepared this test report)



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Gao Hong

(Reviewed this test report)



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Xiao Li

Deputy Director of the laboratory  
(Approved this test report)

## **2. CLIENT INFORMATION**

### **2.1. Applicant Information**

Company Name: TCT Mobile Limited  
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### **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  
Country: China  
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### **3. EQUIPMENT UNDER TEST(EUT) AND ANCILLARY**

#### **EQUIPMENT(AE)**

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

Description	HSDPA/HSUPA/UMTS Tri-band / GSM quad bands mobile phone
Type	Scribe 5 US_SS
Market name	ONE TOUCH 8000A
FCC ID	RAD323
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	21.21dBm(CCK)
Power Supply	3.9V 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**

<b>EUT ID*</b>	<b>IMEI</b>	<b>HW Version</b>	<b>SW Version</b>
EUT1	013488000100901	PIO	v152
EUT2	013488000100844	PIO	v152

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

##### **3.3. Internal Identification of AE used during the test**

<b>AE ID*</b>	<b>Description</b>	<b>Type</b>	<b>SN</b>
AE1	Battery	Battery	/
AE2	Charger	CBA3000AG0C1	/
AE3	Charger	CBA3000AA0C1	/
AE4	Charger	CBA3000AB0C1	/

\*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 HSDPA/HSUPA/UMTS Tri-band / GSM quad bands mobile phone 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	Procedures for testing compliance of a wide variety of unlicensed wireless devices	2009

## 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

**Semi-anechoic chamber** (10 meters×6.7meters×6.15meters) 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	> 2 M ohm
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.5 dB, 3 m distance
Site voltage standing-wave ratio ( $S_{VSWR}$ )	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 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 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	3.9V(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	2013-07-19
2	Test Receiver	ESS	847151/015	Rohde & Schwarz	2013-10-30
3	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2013-08-12

### Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date
1	Test Receiver	ESI40	831564/002	Rohde & Schwarz	2013-08-11
2	BiLog Antenna	3142B	9908-1403	EMCO	2014-03-15
3	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO	2014-12-25
4	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2013-06-30

### Anechoic chamber

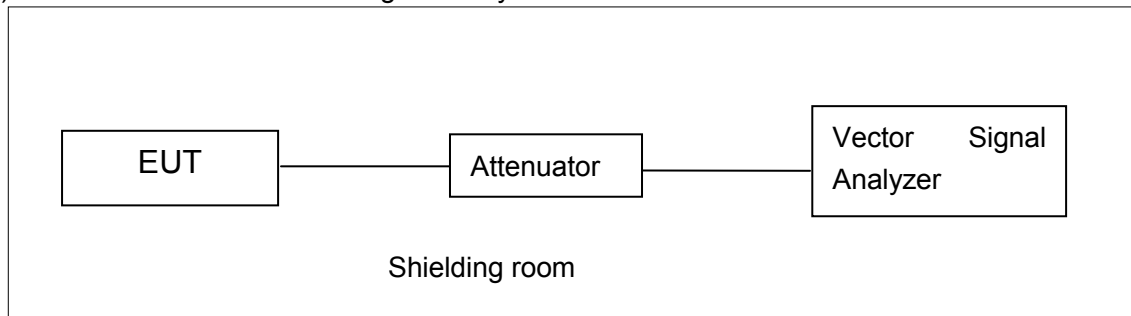
Anechoic chamber by Frankonia German.

## 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

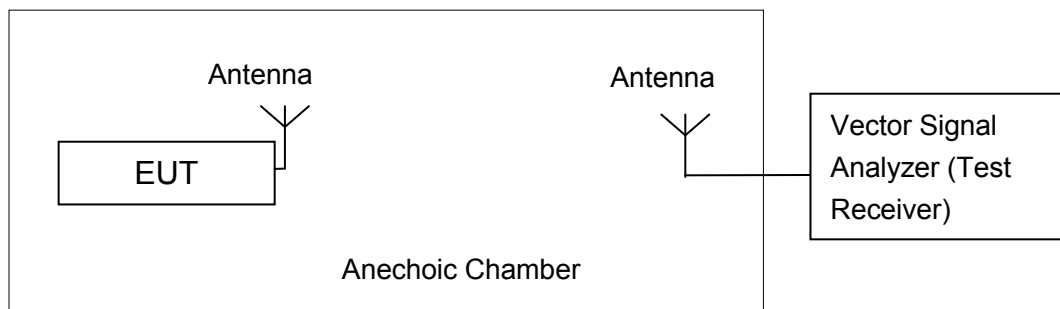


#### A.1.2. Radiated Emission Measurements

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

## 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 EUT is operating in continuous transmitting mode.

### Measurement Uncertainty:

Measurement Uncertainty	0.75dB
-------------------------	--------

### 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	17.98	/	/
	2	18.21	/	/
	5.5	19.59	/	/
	11	20.81	21.03	21.21
802.11g	6	19.76	/	/
	9	19.96	/	/
	12	20.06	/	/
	18	19.52	/	/
	24	20.06	/	/
	36	19.78	/	/
	48	19.87	/	/
	54	20.15	20.43	20.21

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	20.01	20.08	19.83
	MCS1	19.88	/	/
	MCS2	19.94	/	/
	MCS3	19.51	/	/
	MCS4	19.53	/	/
	MCS5	19.67	/	/
	MCS6	17.07	/	/

	MCS7	16.94	/	/
--	------	-------	---	---

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

#### 802.11n-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	MCS0	/	/	/
	MCS1	/	/	/
	MCS2	/	/	/
	MCS3	/	/	/
	MCS4	/	/	/
	MCS5	/	/	/
	MCS6	/	/	/
	MCS7	/	/	/

**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	14.57	14.76	14.94
802.11g	11.70	11.81	11.98

### 802.11n-HT20 mode

Mode	Test Result (dBm)		
	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	11.67	11.80	11.54

### 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

#### 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
802.11b	1	Fig.1	-8.97	P
	6	Fig.2	-8.63	P
	11	Fig.3	-8.34	P
802.11g	1	Fig.4	-14.27	P
	6	Fig.5	-14.13	P
	11	Fig.6	-14.29	P

##### 802.11n-HT20 mode

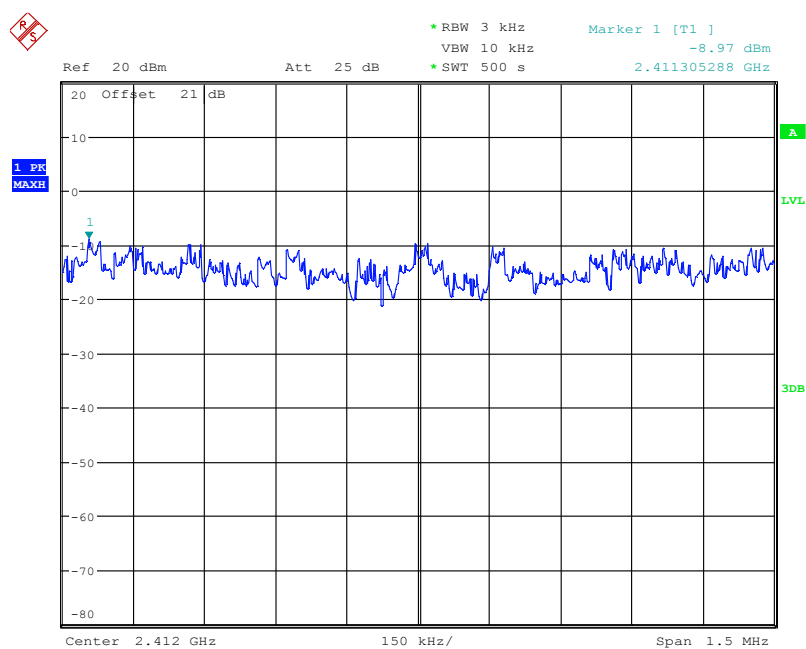
Mode	Channel	Power Spectral Density ( dBm/3 kHz )		Conclusion
802.11n (20MHz)	1	Fig.7	-14.03	P
	6	Fig.8	-13.74	P
	11	Fig.9	-13.77	P

##### 802.11n-HT40 mode

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

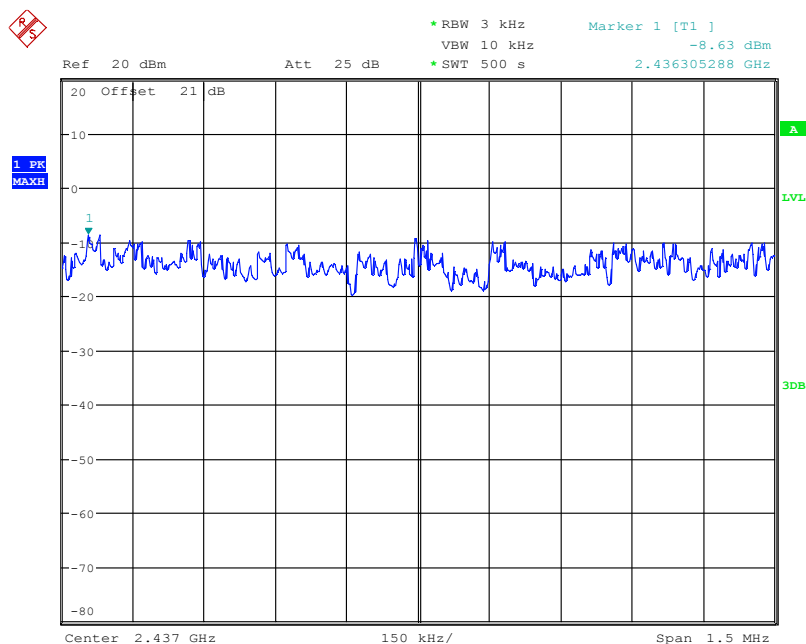
**Conclusion: PASS**

**Test graphs as below:**



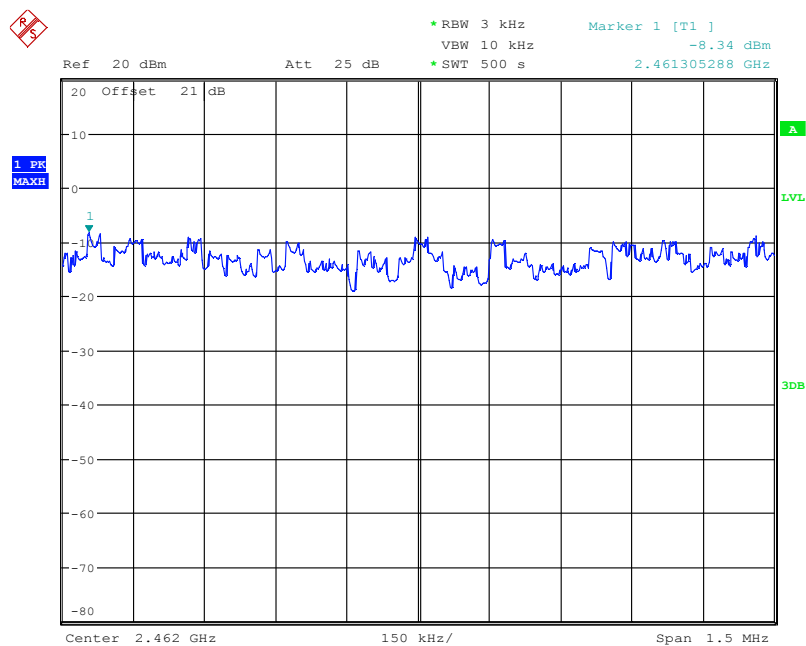
Date: 13.MAR.2013 21:02:13

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



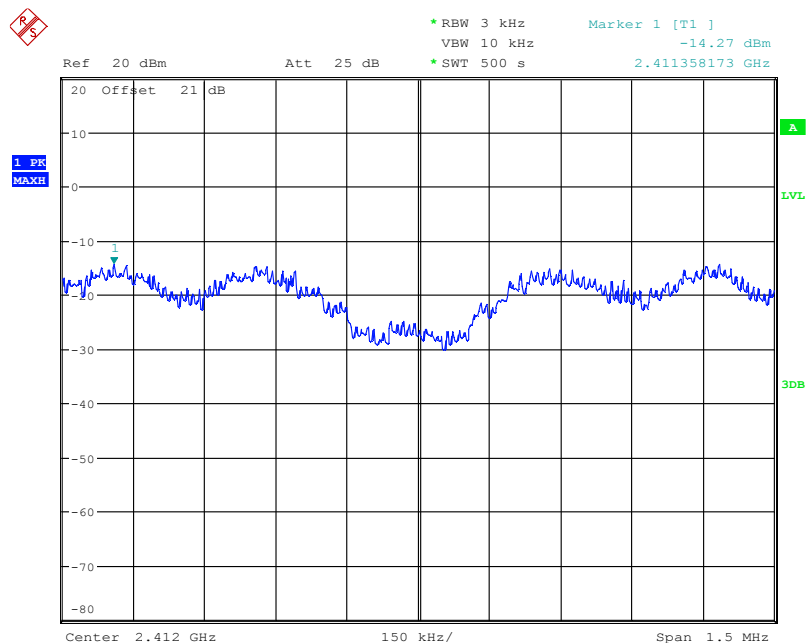
Date: 14.MAR.2013 08:59:49

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



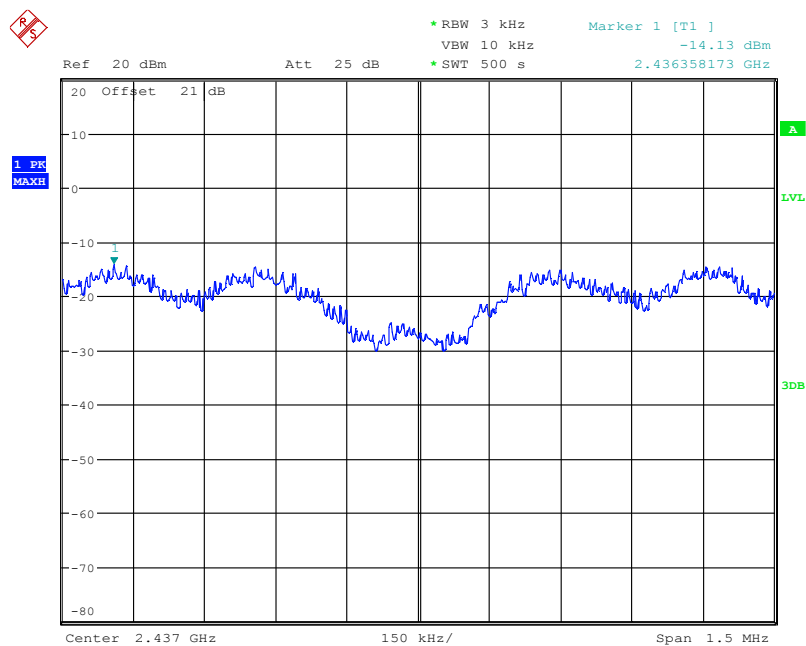
Date: 14.MAR.2013 09:42:22

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



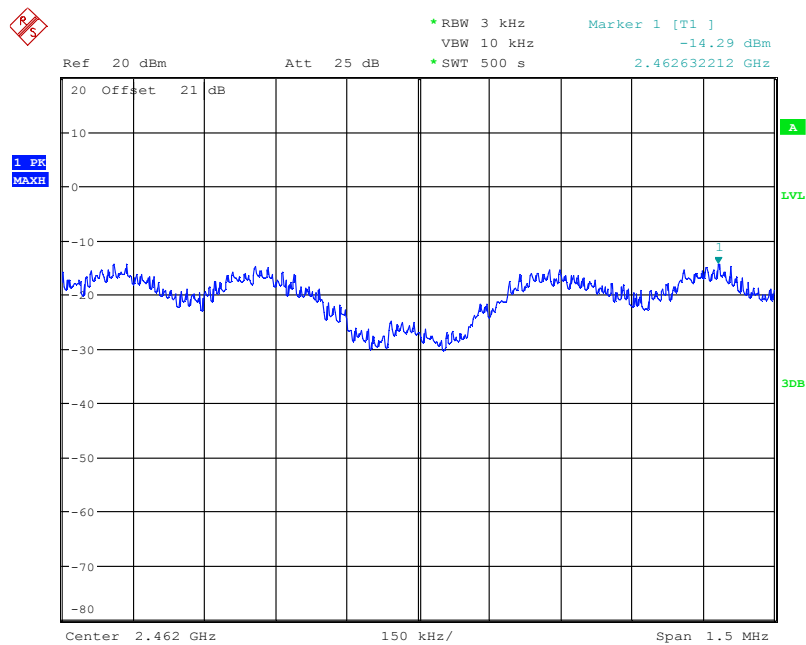
Date: 14.MAR.2013 10:11:17

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



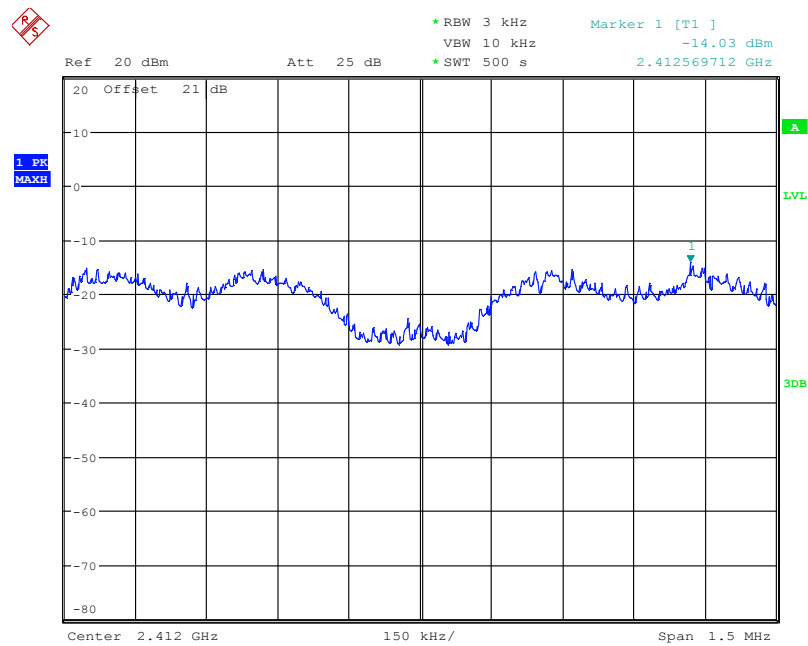
Date: 14.MAR.2013 10:28:47

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



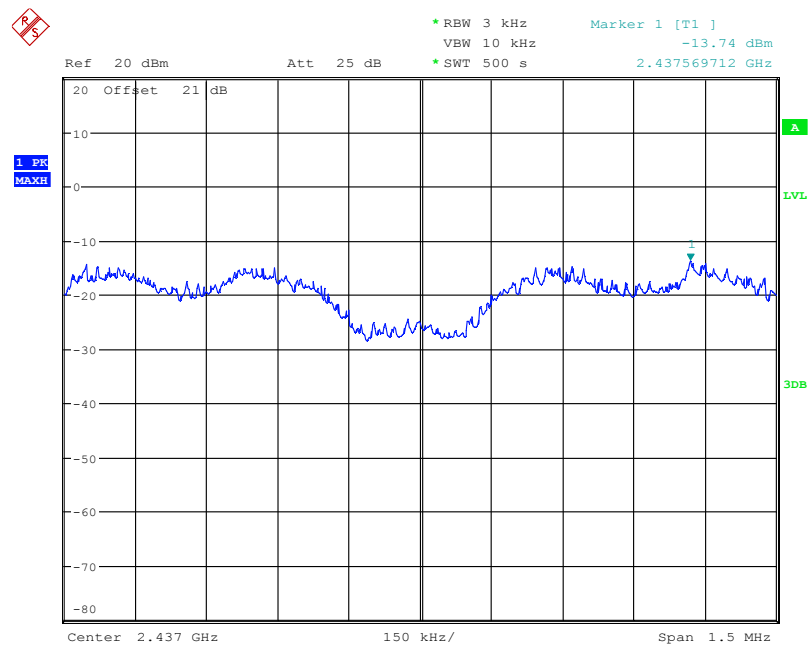
Date: 14.MAR.2013 10:43:28

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



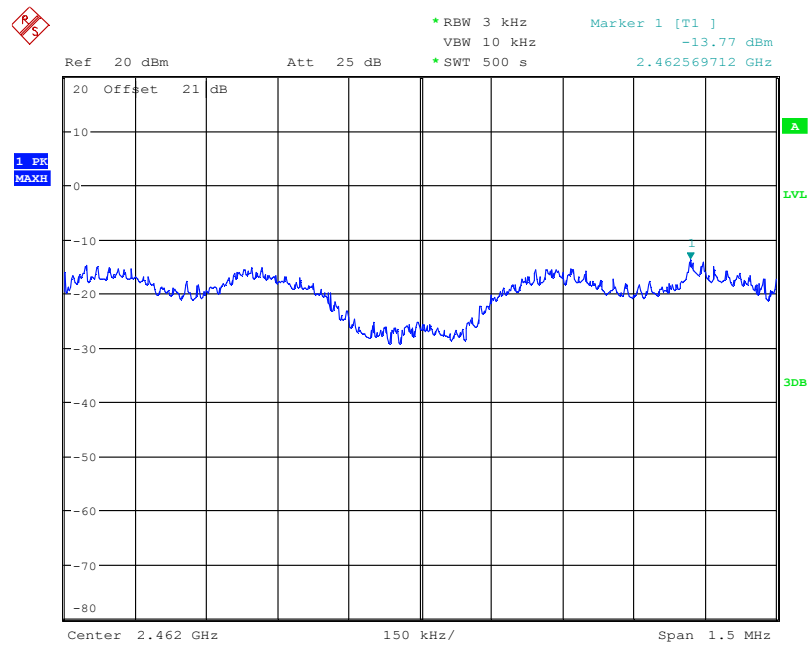
Date: 14.MAR.2013 10:57:37

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



Date: 14.MAR.2013 11:30:44

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



Date: 14.MAR.2013 12:00:02

**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)	$\geq 500$

The measurement is made according to ANSI C63.10

##### 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	10087.5	P
	6	Fig.11	10000.0	P
	11	Fig.12	10448.7	P
802.11g	1	Fig.13	16474.4	P
	6	Fig.14	16538.5	P
	11	Fig.15	16538.5	P

##### 802.11n-HT20 mode

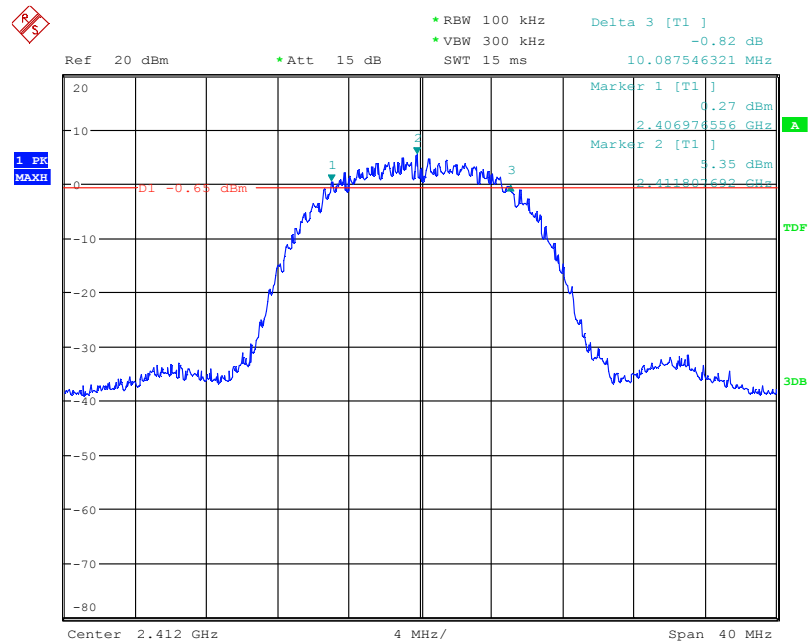
Mode	Channel	Occupied 6dB Bandwidth ( kHz)		conclusion
802.11n (20MHz)	1	Fig.16	17564.1	P
	6	Fig.17	17371.8	P
	11	Fig.18	17243.6	P

##### 802.11n-HT40 mode

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

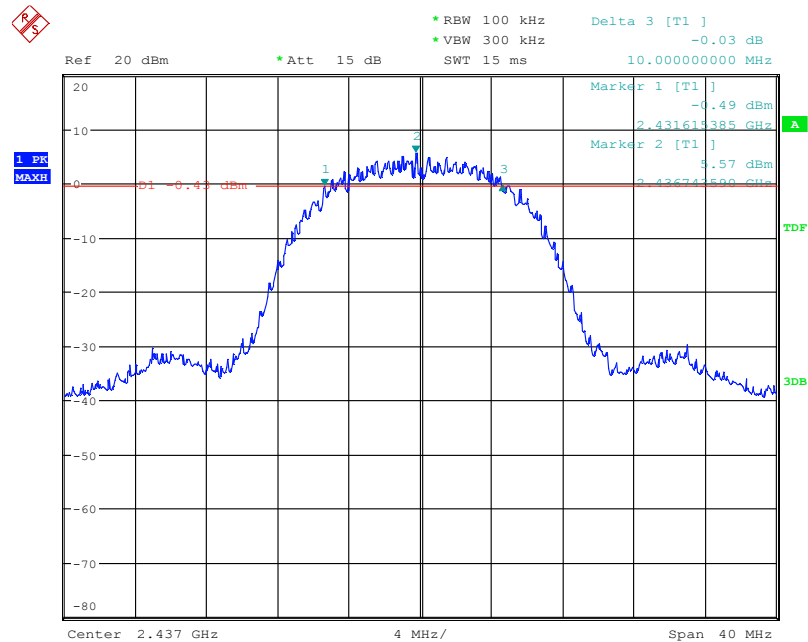
**Conclusion: PASS**

Test graphs as below:



Date: 16.MAR.2013 15:46:00

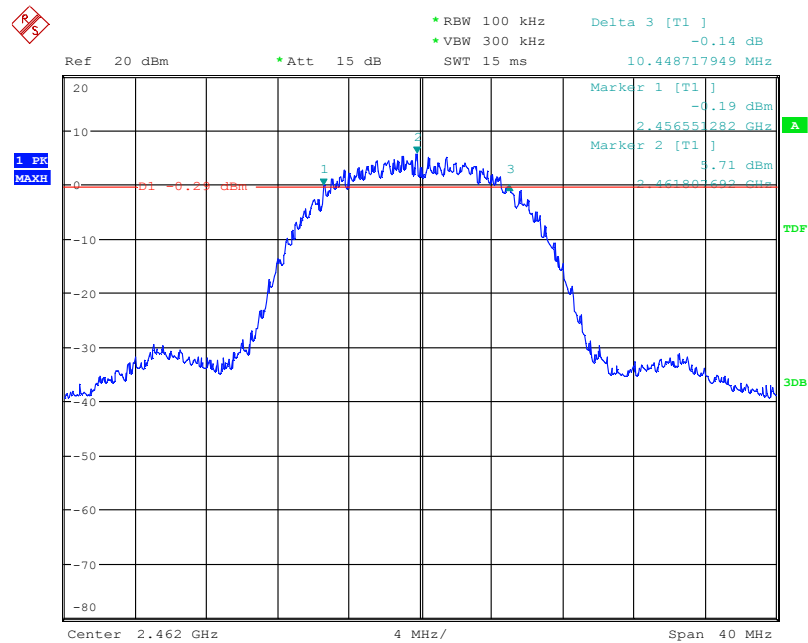
**Fig. 10 Occupied 6dB Bandwidth (802.11b, Ch 1)**



Date: 16.MAR.2013 15:47:15

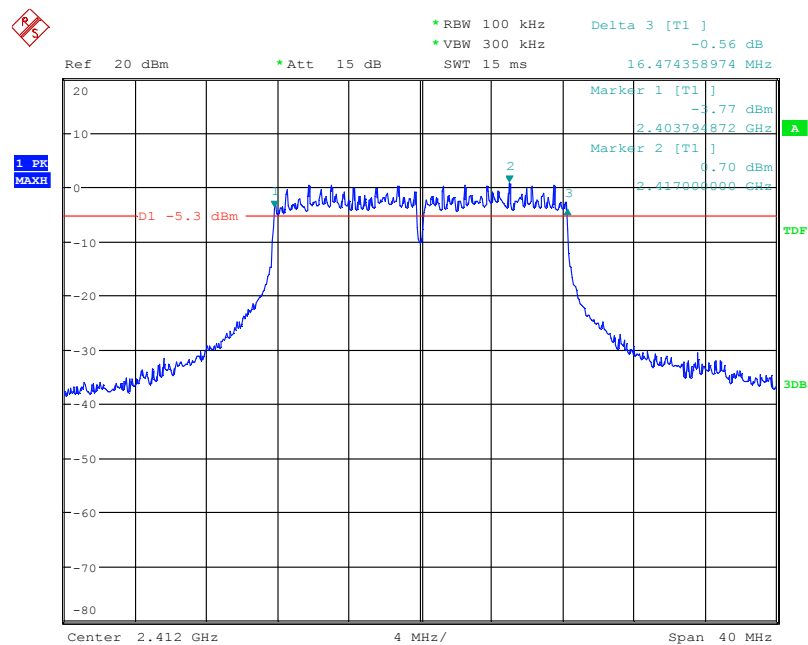
**Fig. 11 Occupied 6dB Bandwidth (802.11b, Ch 6)**





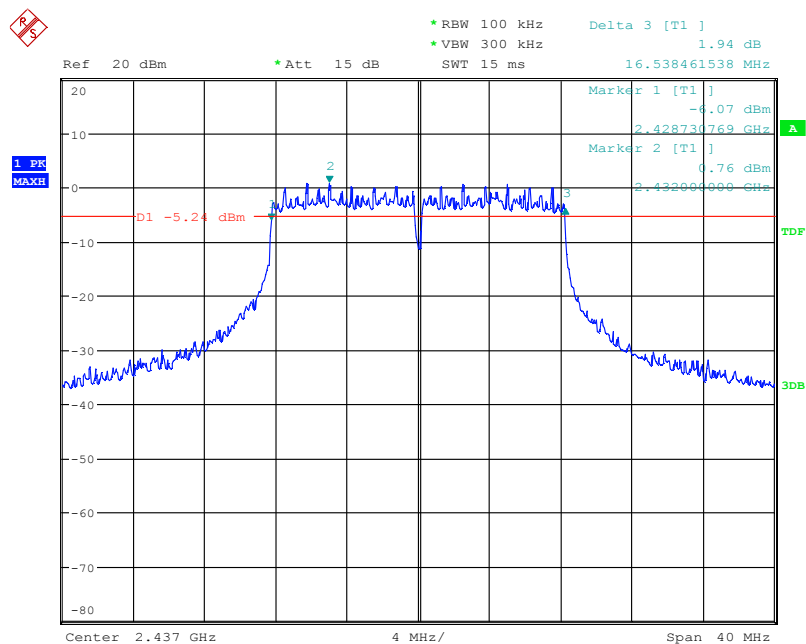
Date: 16.MAR.2013 15:48:58

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



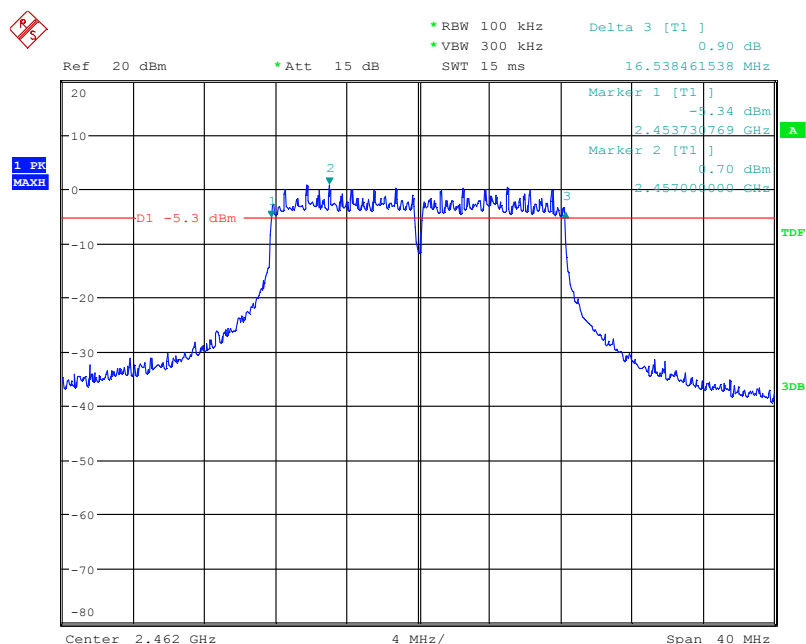
Date: 16.MAR.2013 15:50:25

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



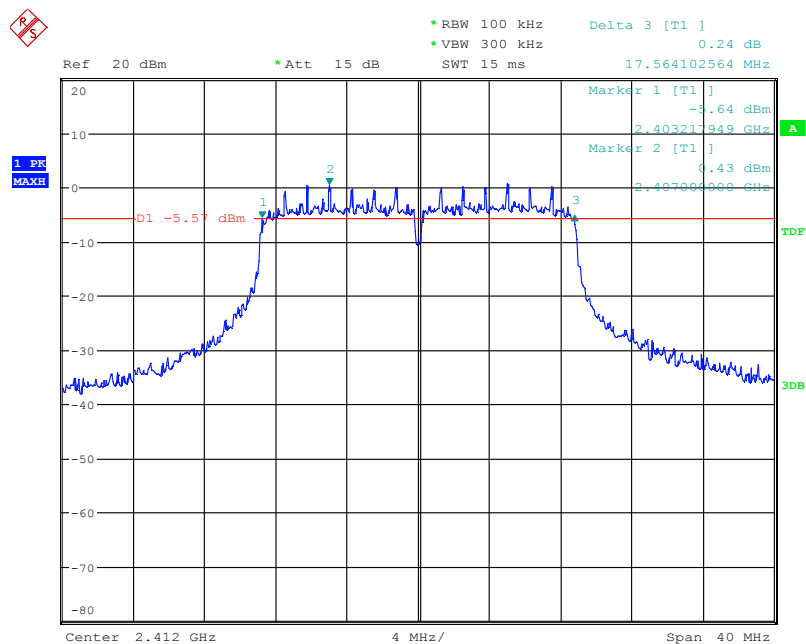
Date: 16.MAR.2013 15:51:42

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



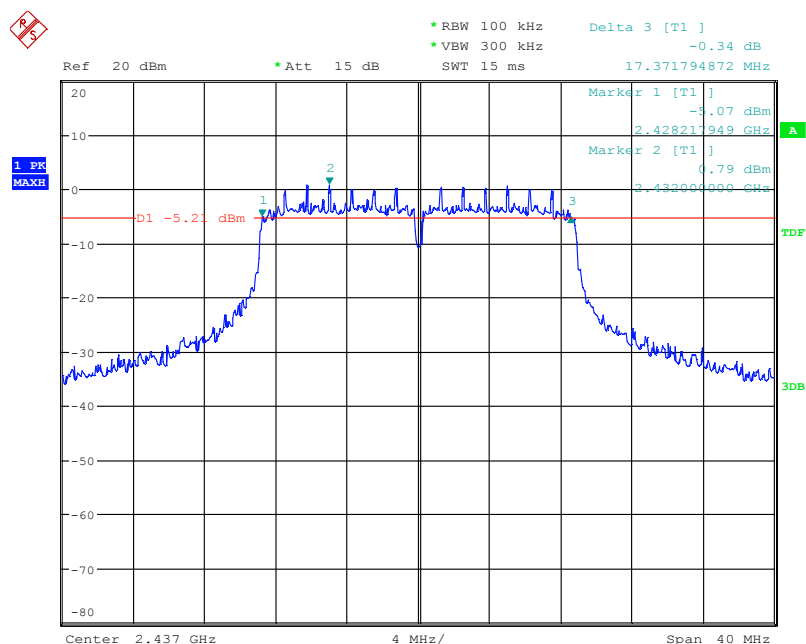
Date: 16.MAR.2013 15:52:55

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



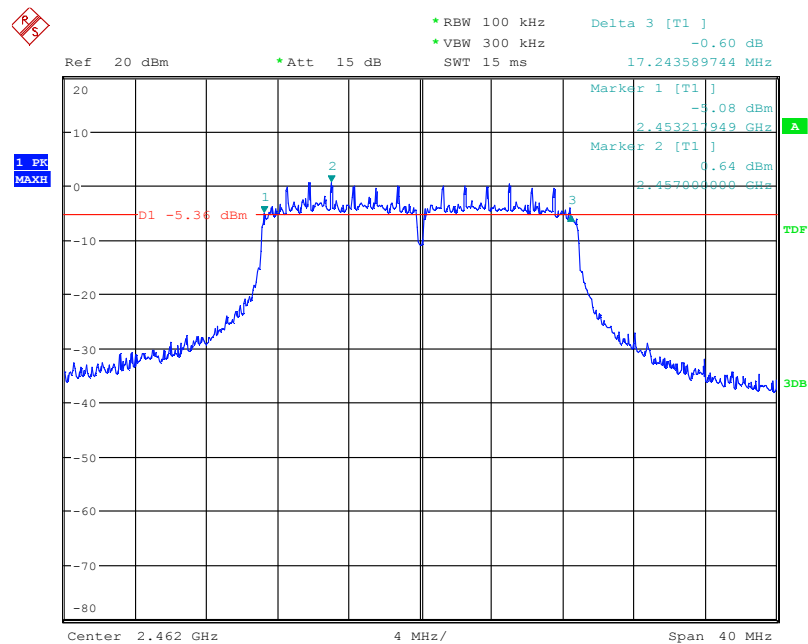
Date: 16.MAR.2013 15:57:34

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



Date: 16.MAR.2013 15:55:57

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



Date: 16.MAR.2013 15:54:18

**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

### 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

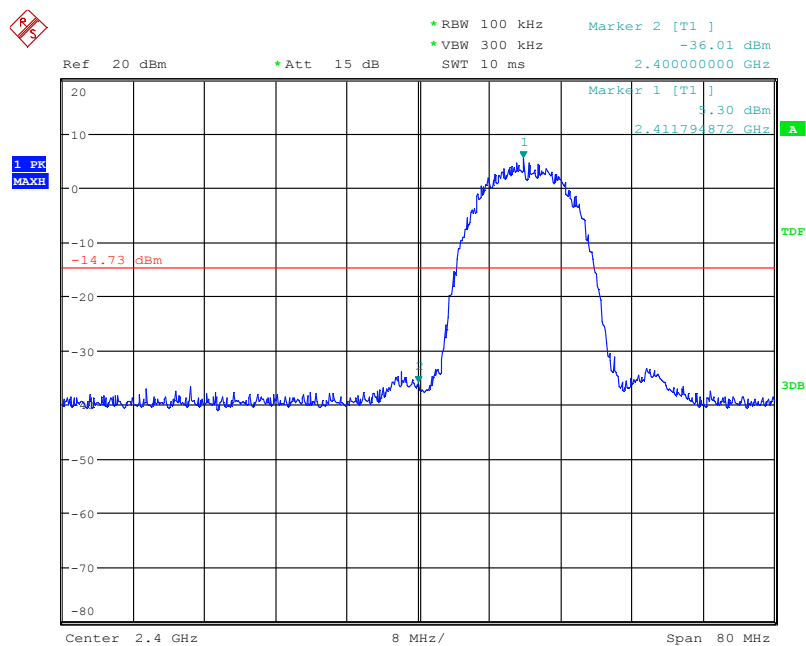
Mode	Channel	Test Results	Conclusion
802.11n (20MHz)	1	Fig.23	P
	11	Fig.24	P

#### 802.11n-HT40 mode

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

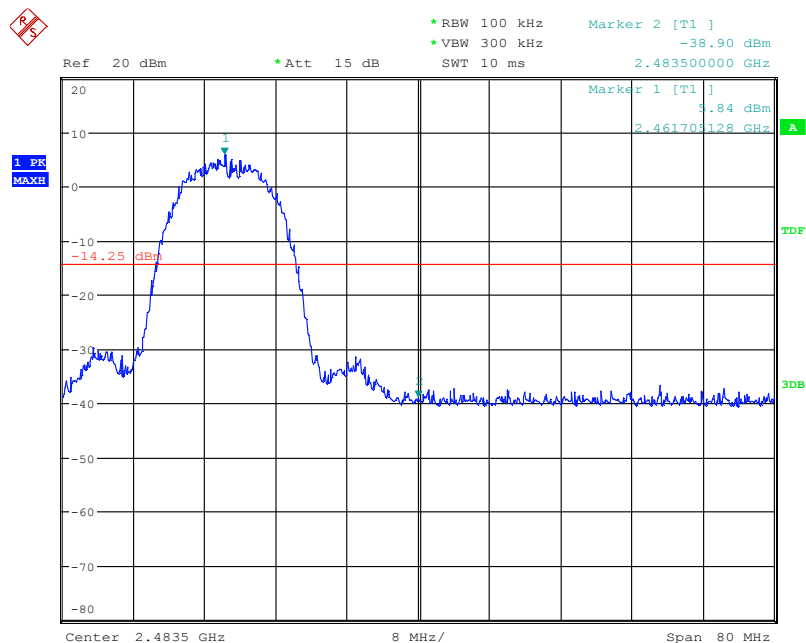
**Conclusion: PASS**

**Test graphs as below:**



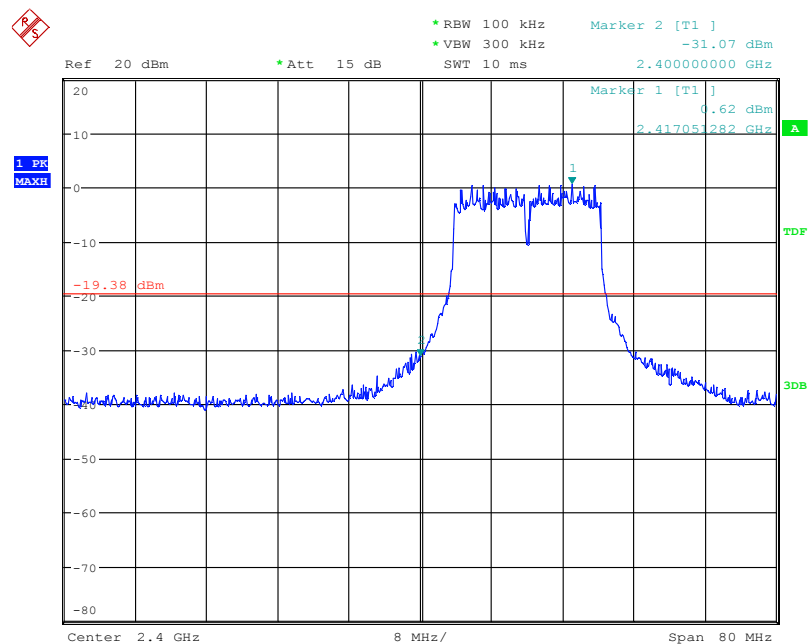
Date: 16.MAR.2013 16:03:53

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



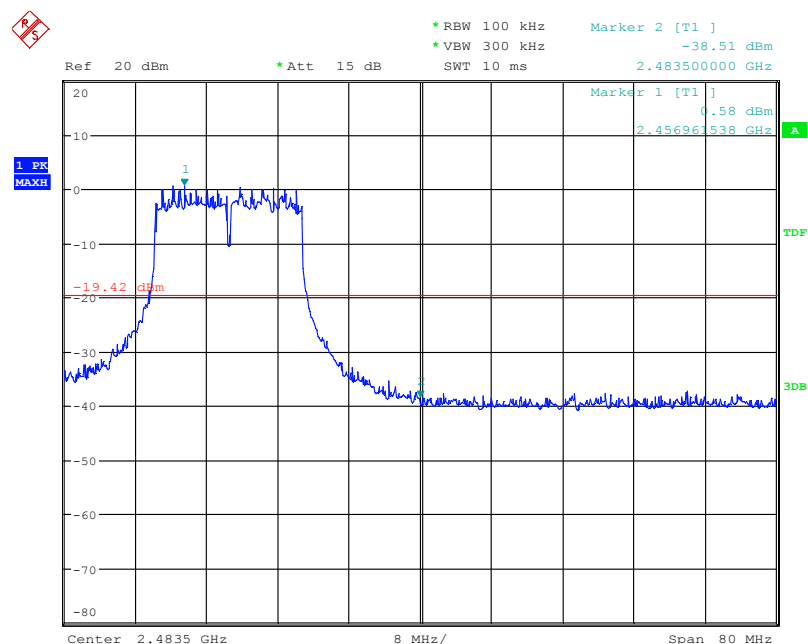
Date: 16.MAR.2013 16:04:25

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



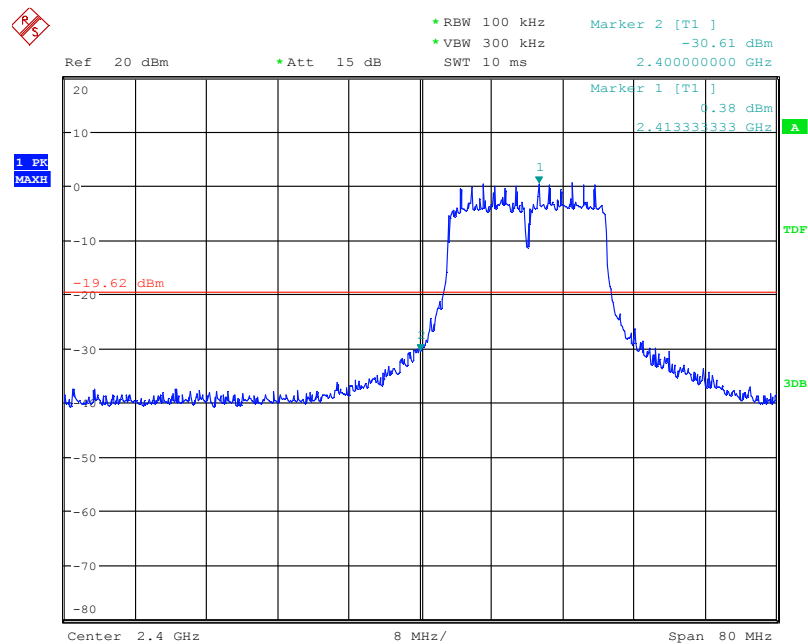
Date: 16.MAR.2013 16:00:46

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



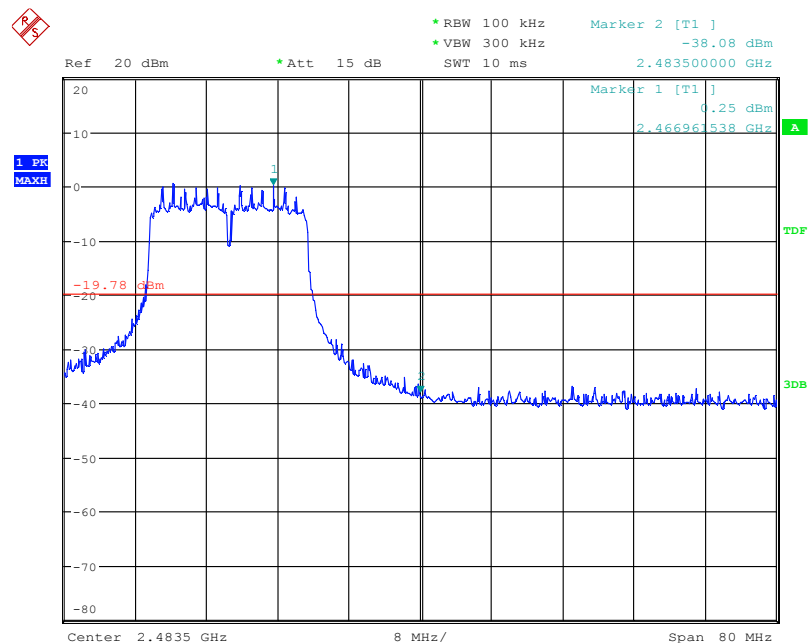
Date: 16.MAR.2013 16:01:16

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



Date: 16.MAR.2013 16:01:49

**Fig. 23 Band Edges (802.11n-20MHz, Ch 1)**



Date: 16.MAR.2013 16:02:18

**Fig. 24 Band Edges (802.11n-20MHz, 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

#### 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

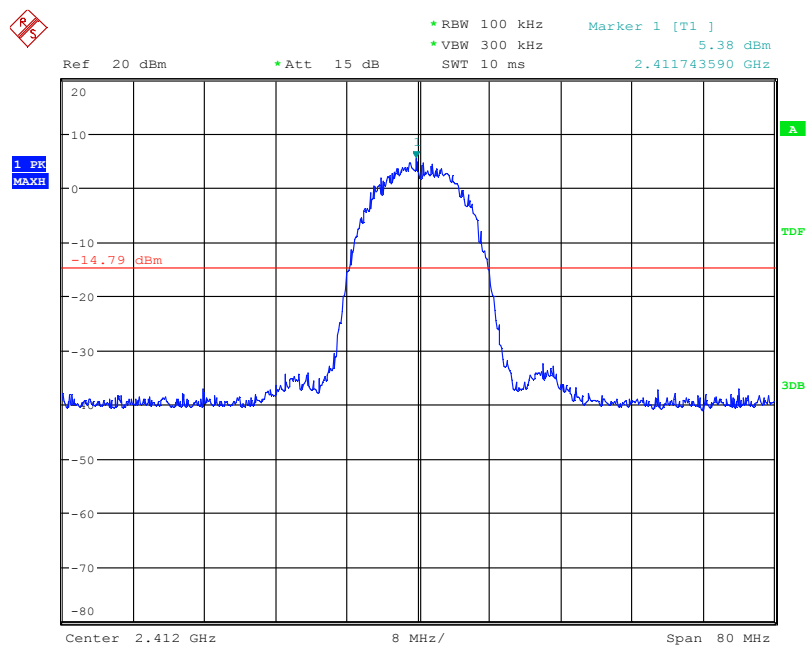
**802.11n-HT40 mode**

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	/	/
		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	/	/

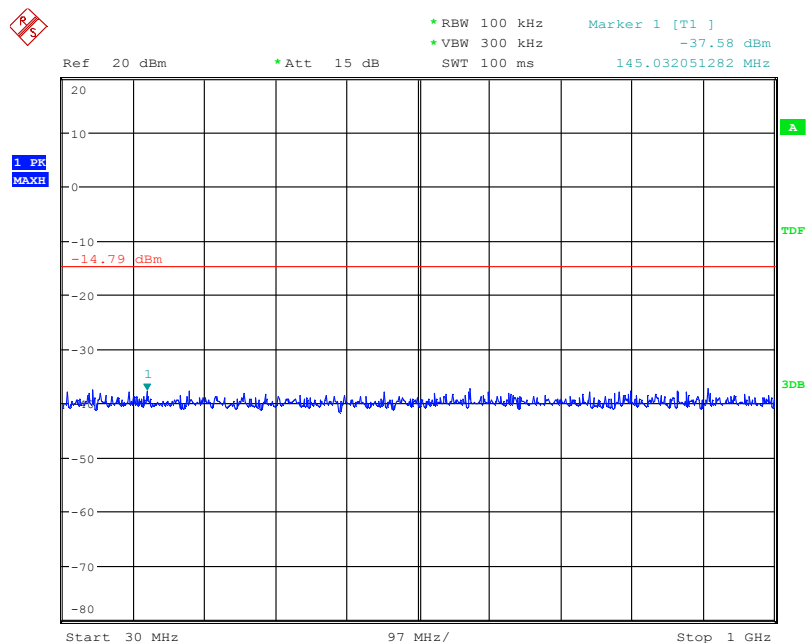
**Conclusion: PASS**

**Test graphs as below:**



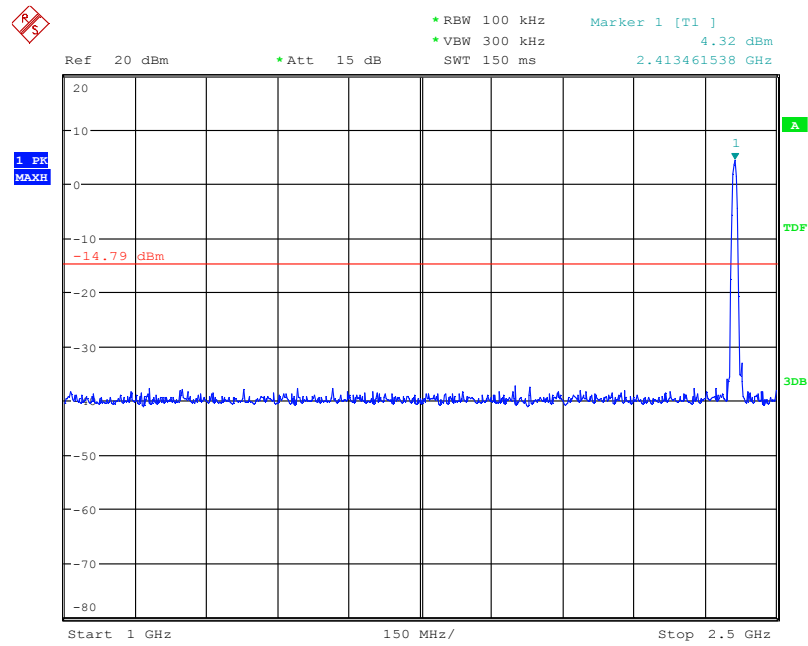
Date: 16.MAR.2013 16:06:01

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



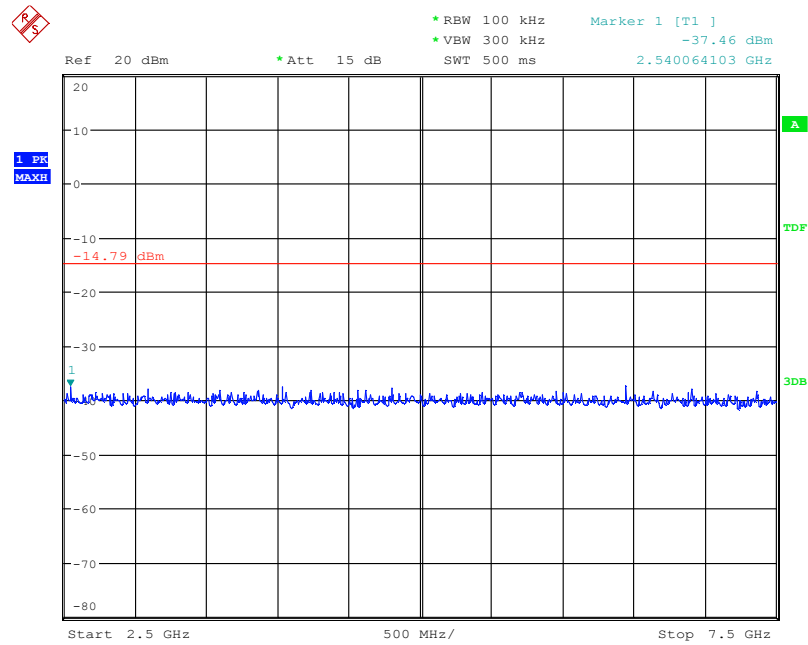
Date: 16.MAR.2013 16:06:08

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



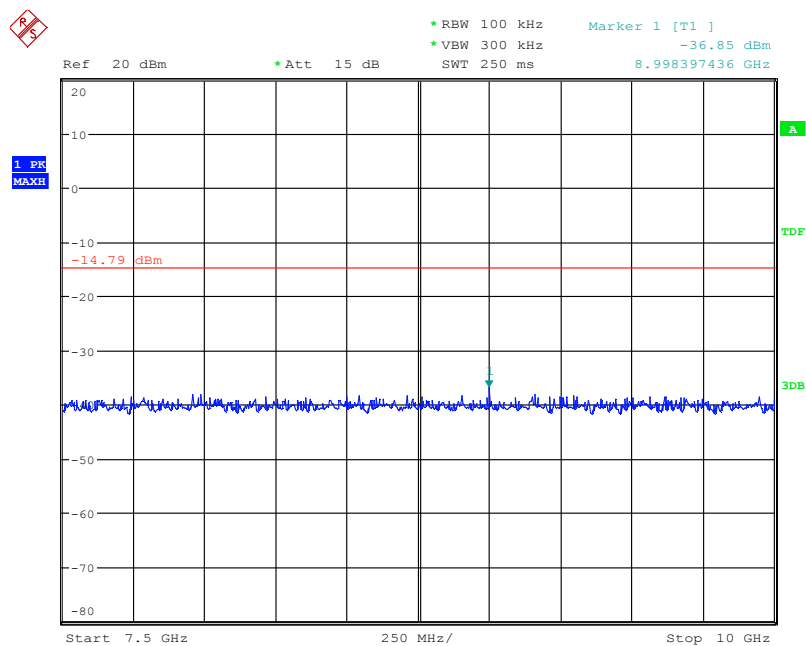
Date: 16.MAR.2013 16:06:15

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



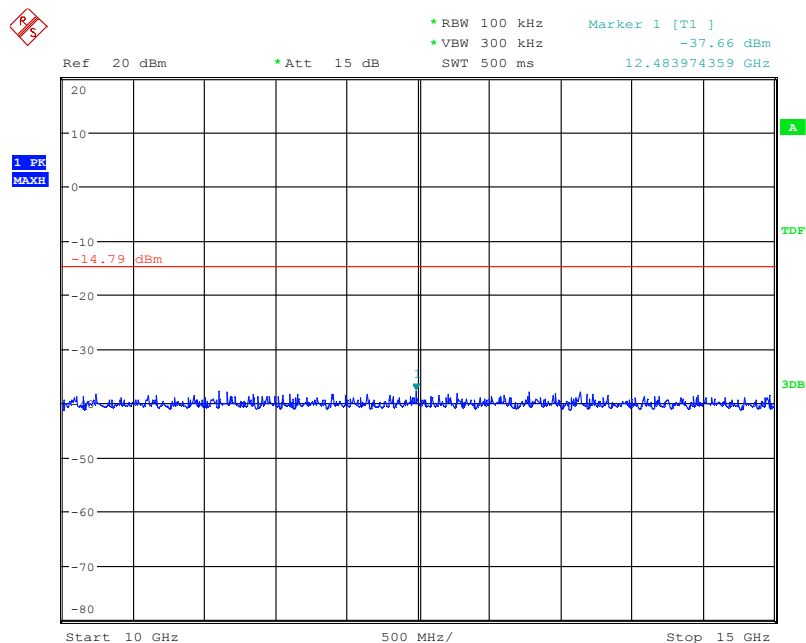
Date: 16.MAR.2013 16:06:22

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



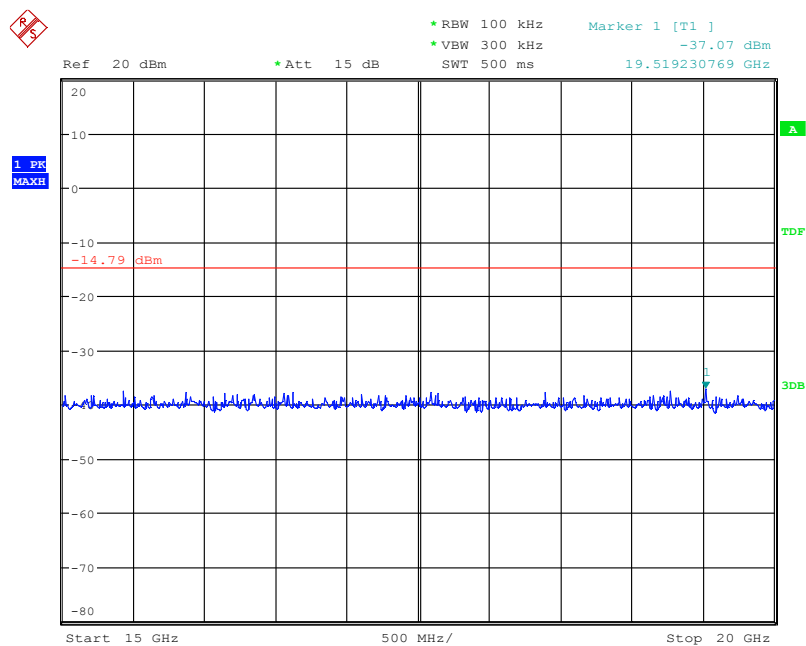
Date: 16.MAR.2013 16:06:28

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



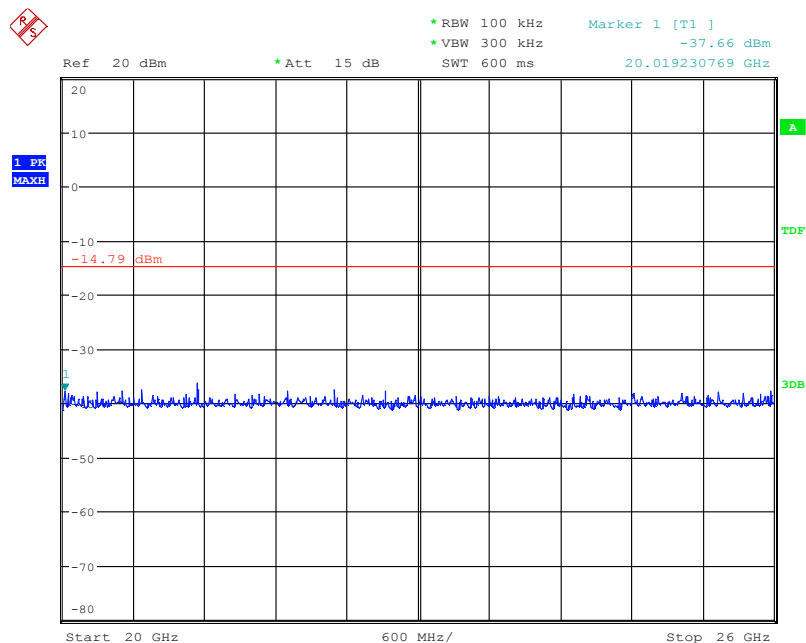
Date: 16.MAR.2013 16:06:35

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



Date: 16.MAR.2013 16:06:42

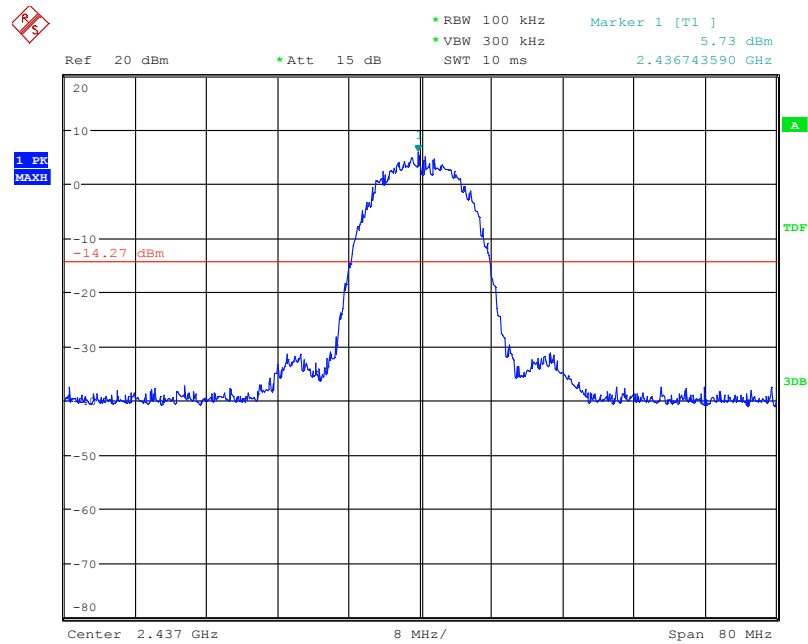
**Fig. 31 Conducted Spurious Emission (802.11b, Ch1, 15 GHz-20 GHz)**



Date: 16.MAR.2013 16:06:49

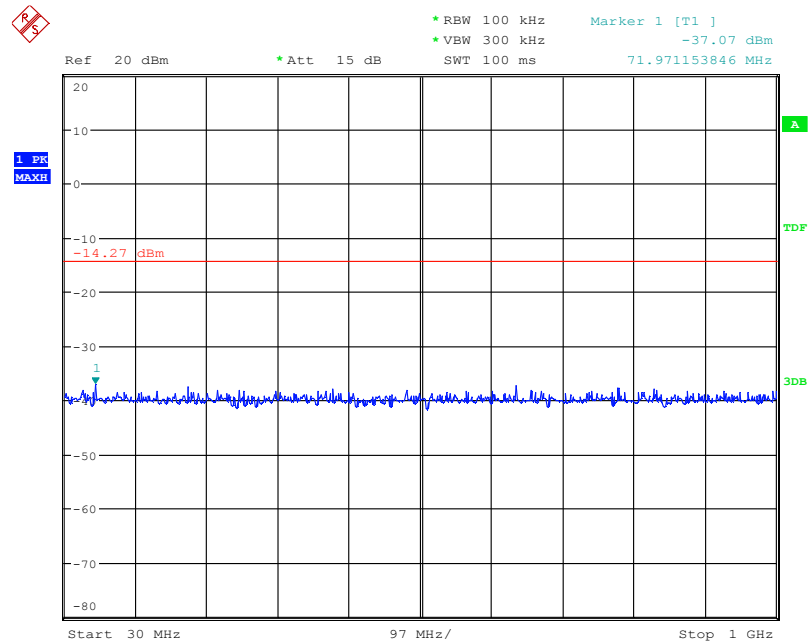
**Fig. 32 Conducted Spurious Emission (802.11b, Ch1, 20 GHz-26 GHz)**





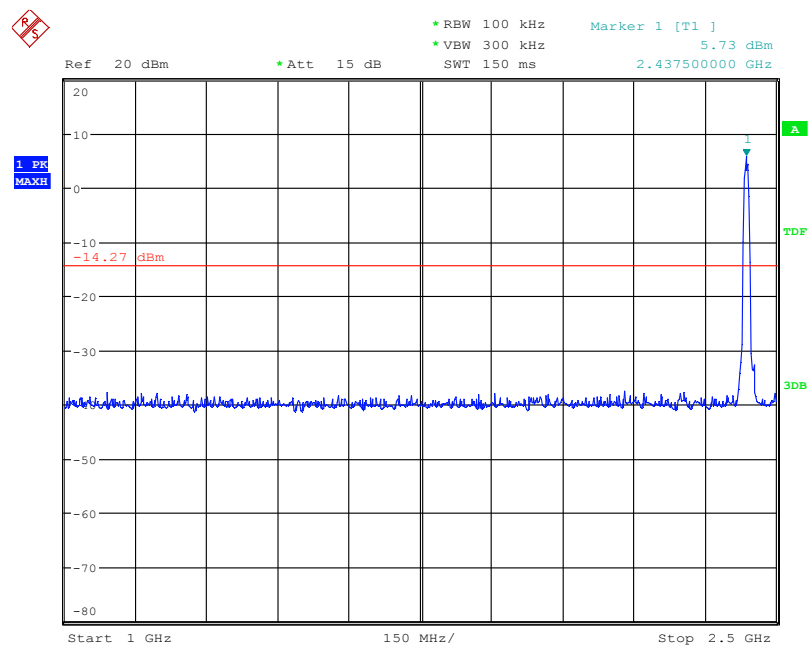
Date: 16.MAR.2013 16:07:16

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



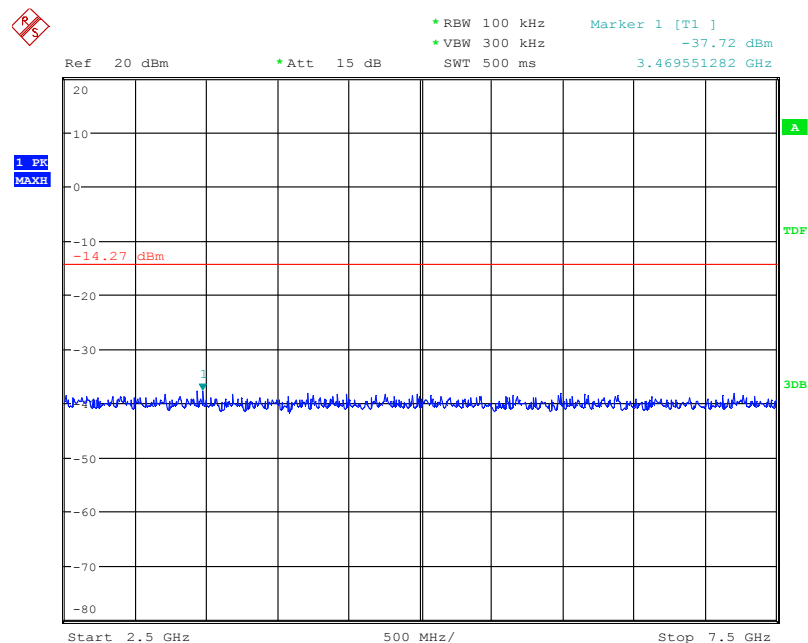
Date: 16.MAR.2013 16:07:23

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



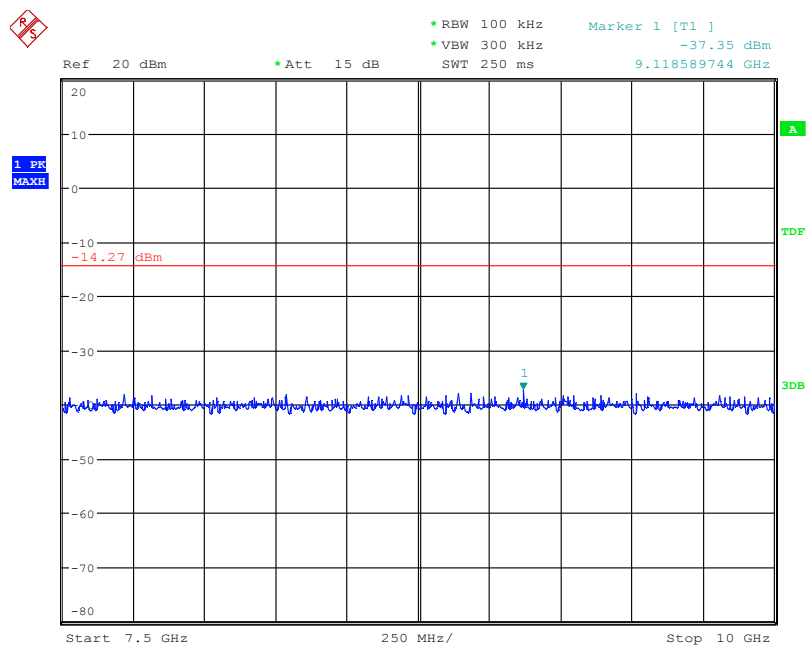
Date: 16.MAR.2013 16:07:30

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



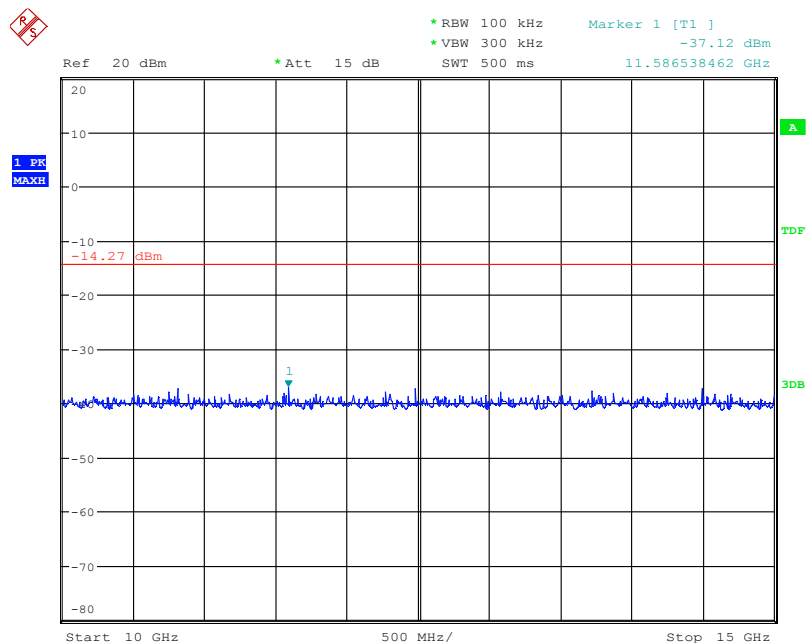
Date: 16.MAR.2013 16:07:36

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



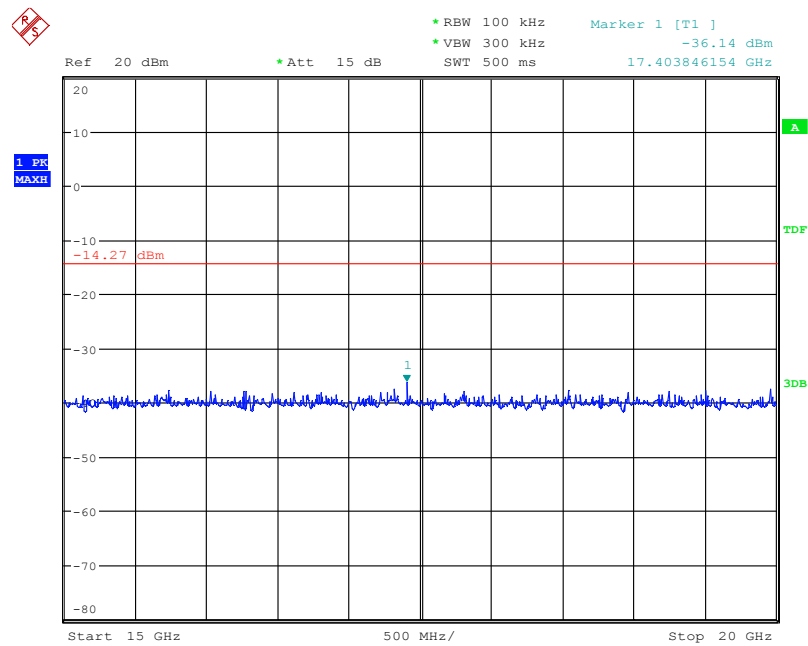
Date: 16.MAR.2013 16:07:43

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



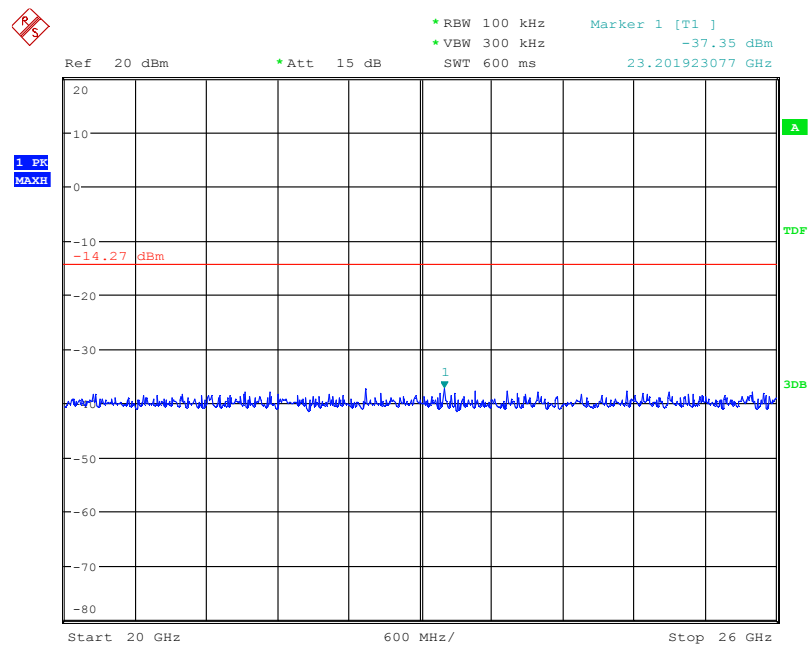
Date: 16.MAR.2013 16:07:50

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



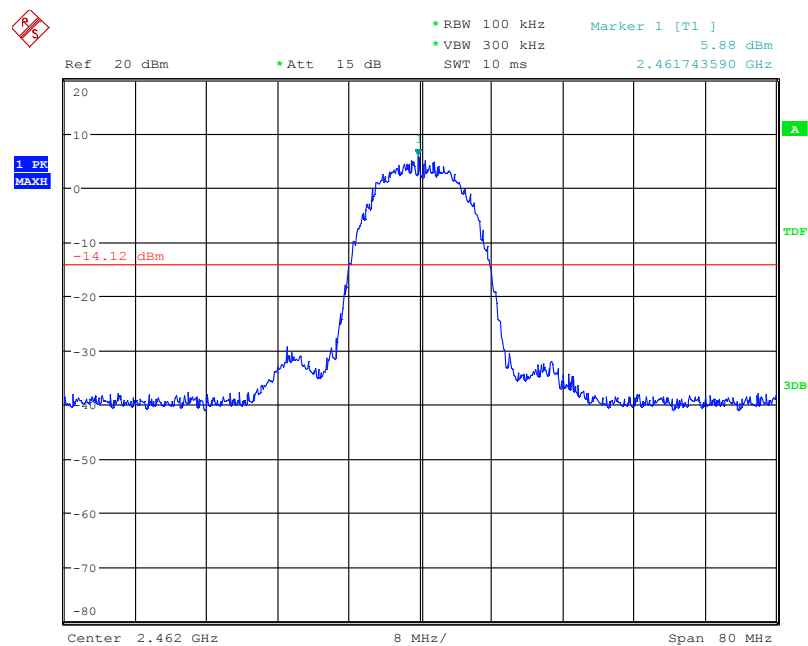
Date: 16.MAR.2013 16:07:57

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



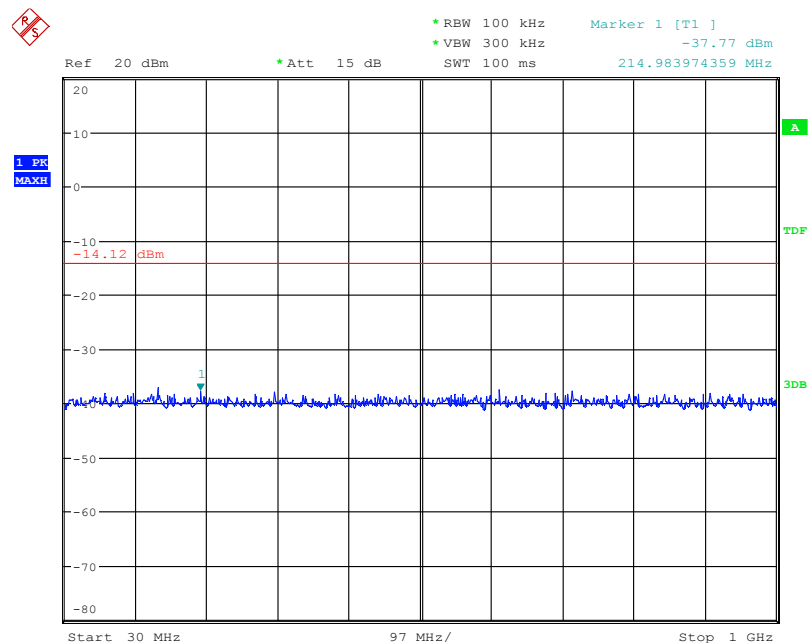
Date: 16.MAR.2013 16:08:03

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



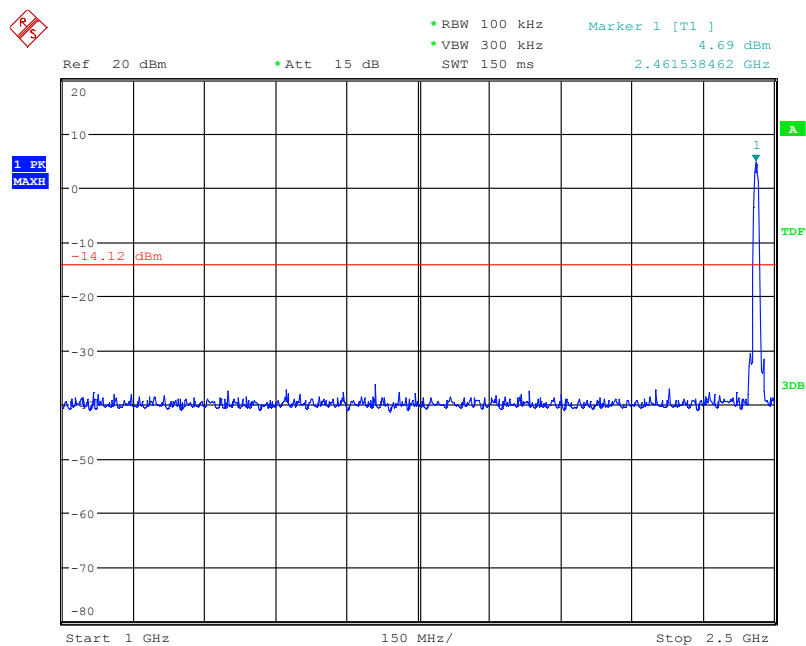
Date: 16.MAR.2013 16:08:28

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



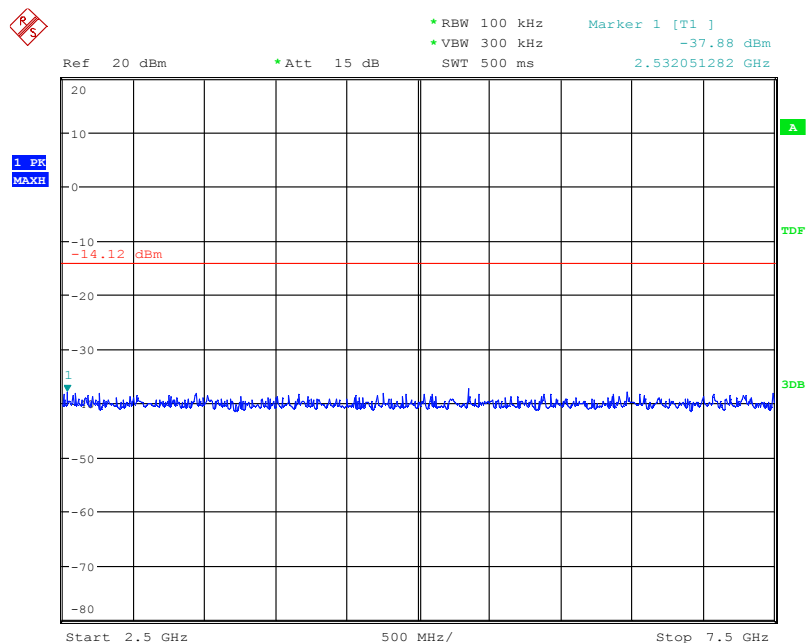
Date: 16.MAR.2013 16:08:35

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



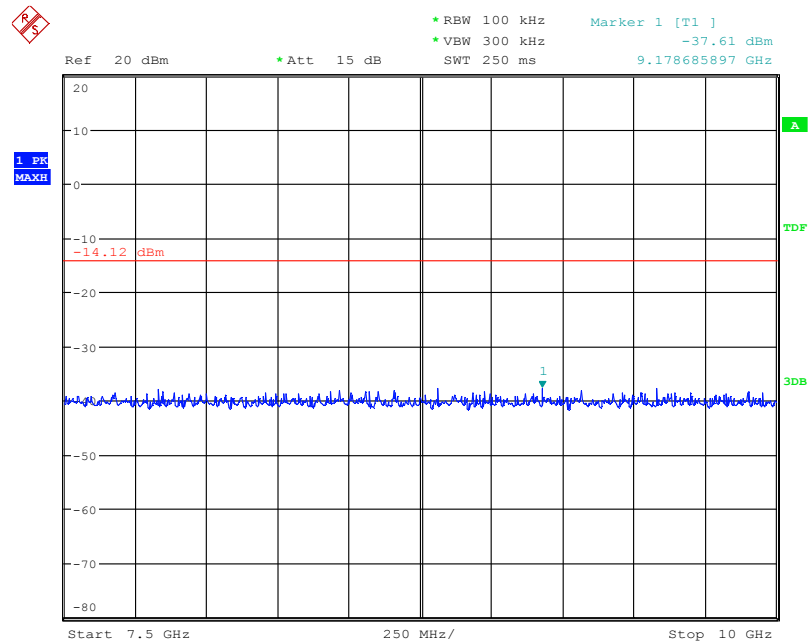
Date: 16.MAR.2013 16:08:42

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



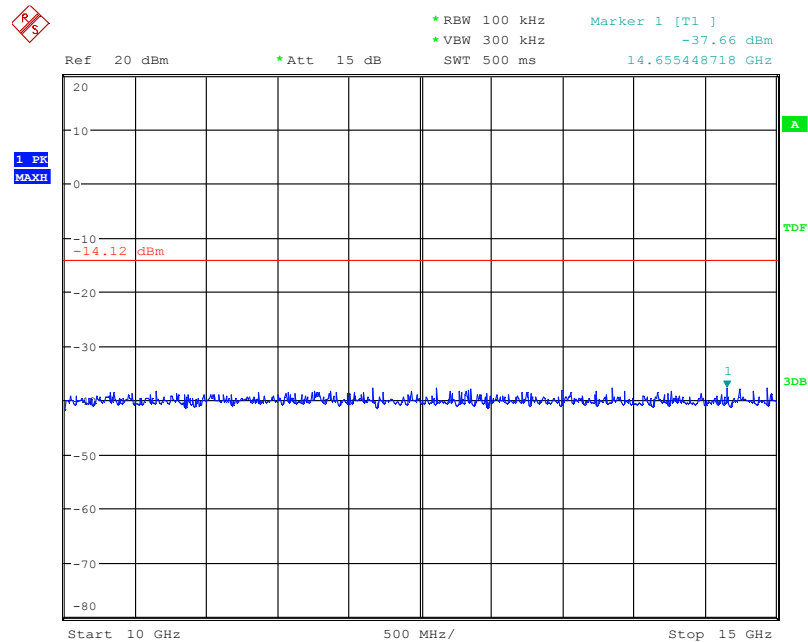
Date: 16.MAR.2013 16:08:48

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



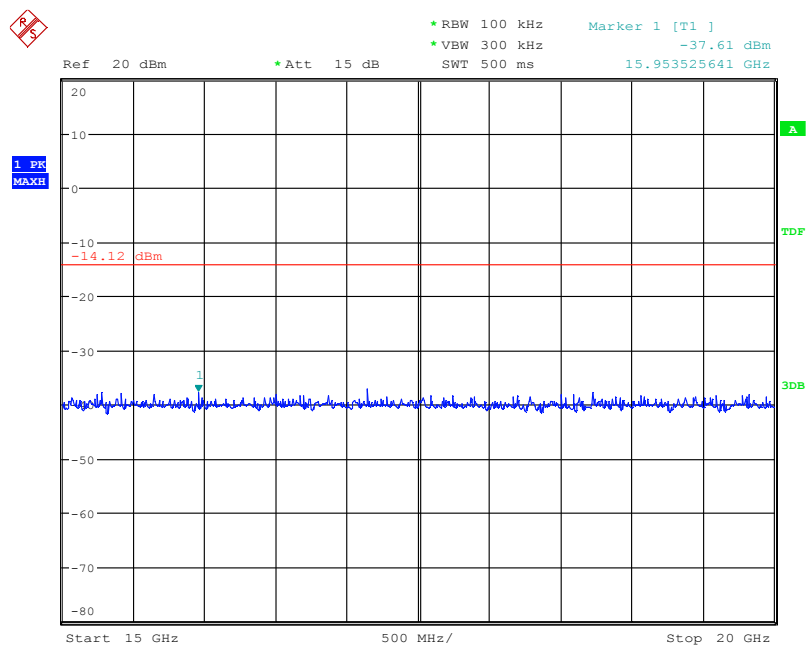
Date: 16.MAR.2013 16:08:55

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



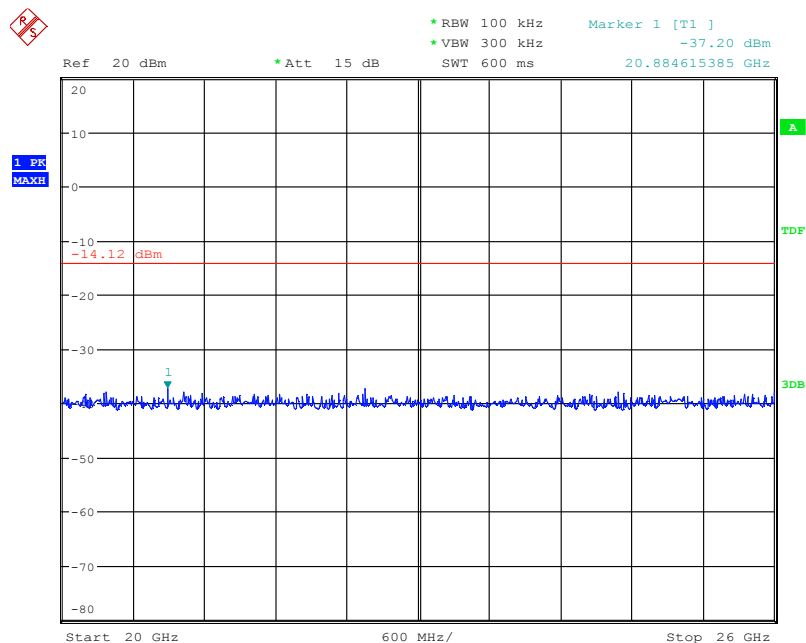
Date: 16.MAR.2013 16:09:02

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



Date: 16.MAR.2013 16:09:09

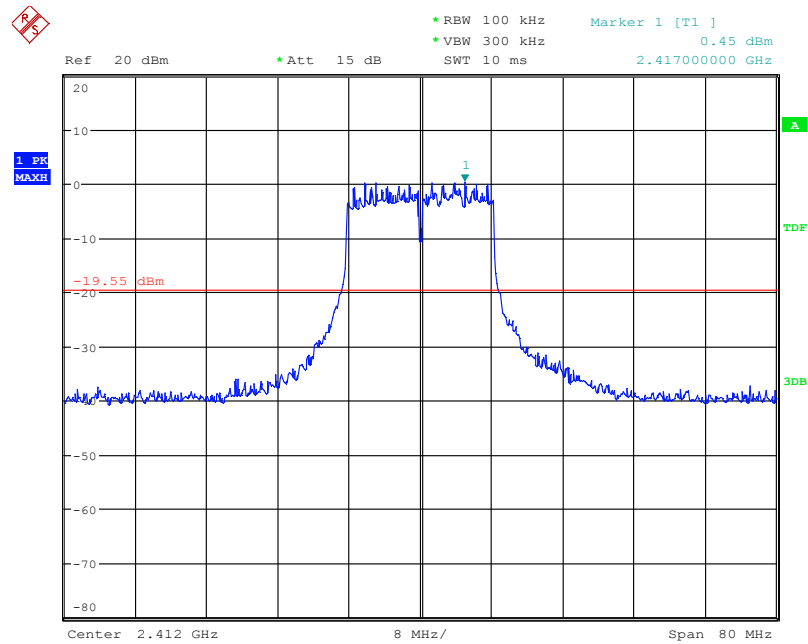
**Fig. 47 Conducted Spurious Emission (802.11b, Ch11, 15 GHz-20 GHz)**



Date: 16.MAR.2013 16:09:15

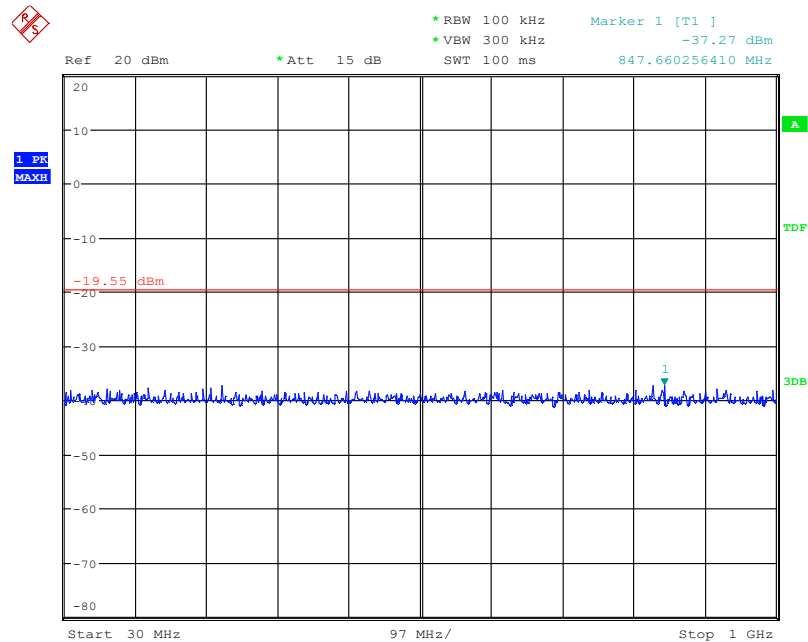
**Fig. 48 Conducted Spurious Emission (802.11b, Ch11, 20 GHz-26 GHz)**





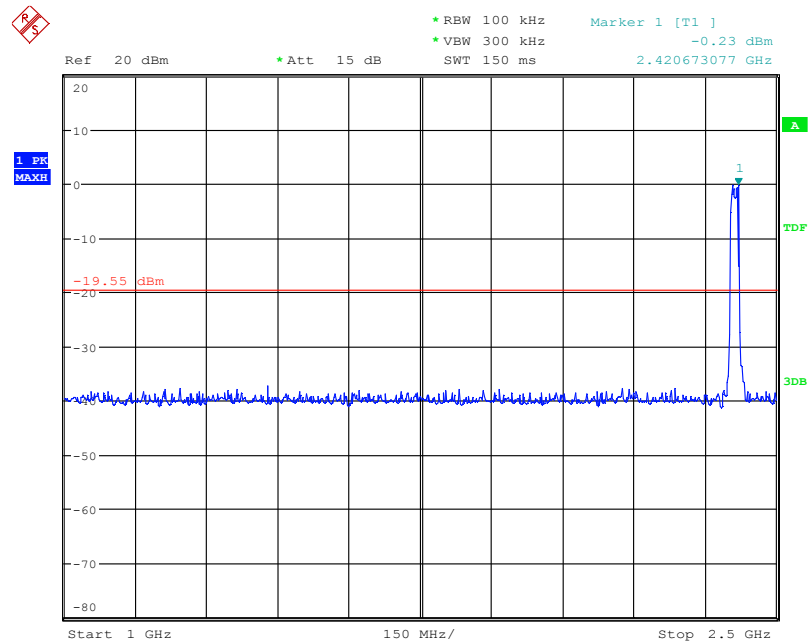
Date: 16.MAR.2013 16:09:57

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



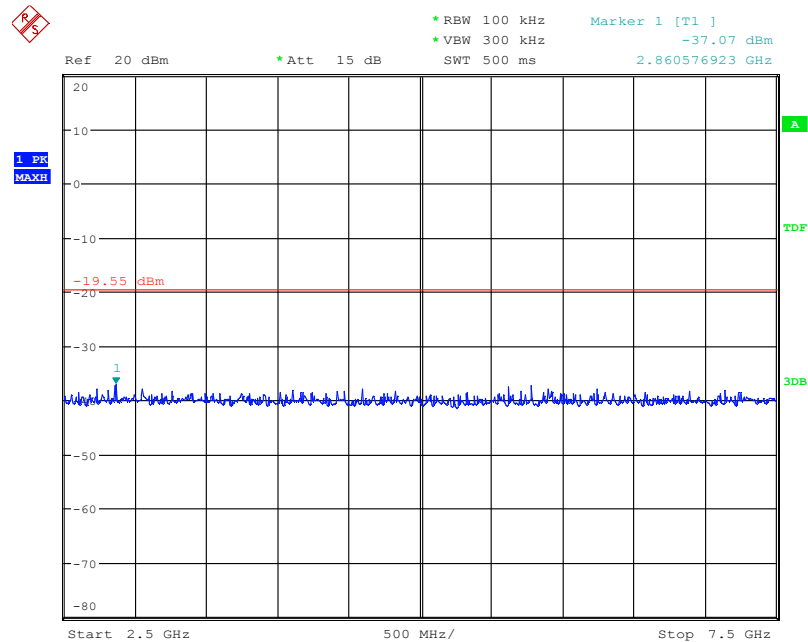
Date: 16.MAR.2013 16:10:04

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



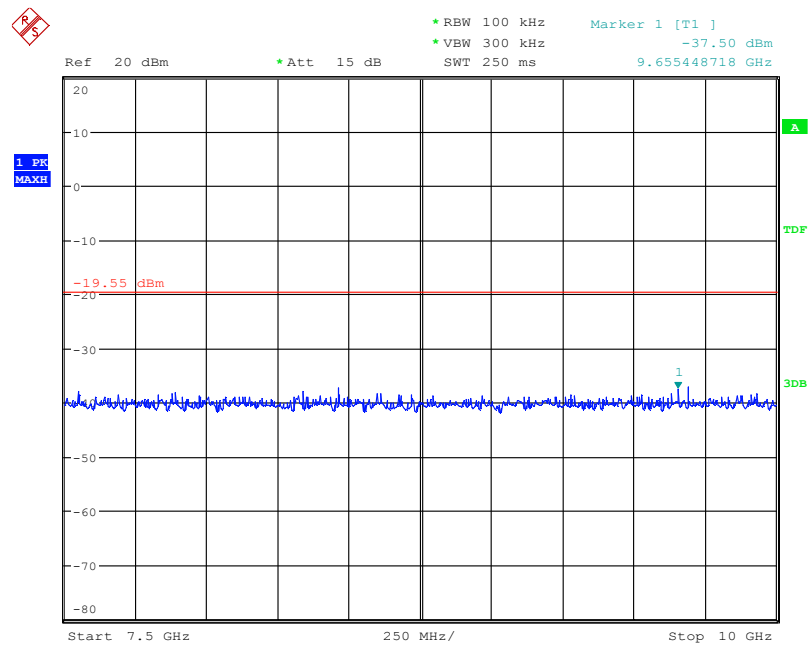
Date: 16.MAR.2013 16:10:11

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



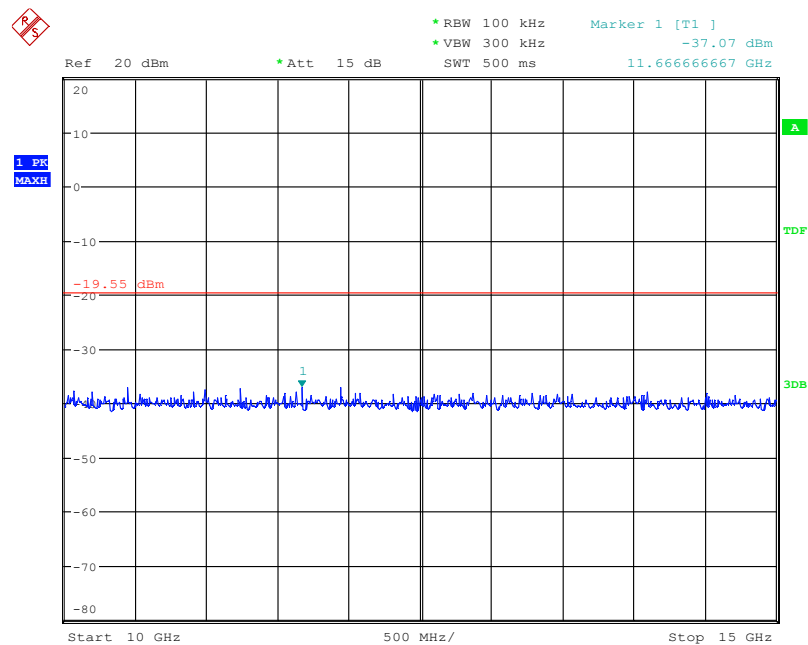
Date: 16.MAR.2013 16:10:18

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



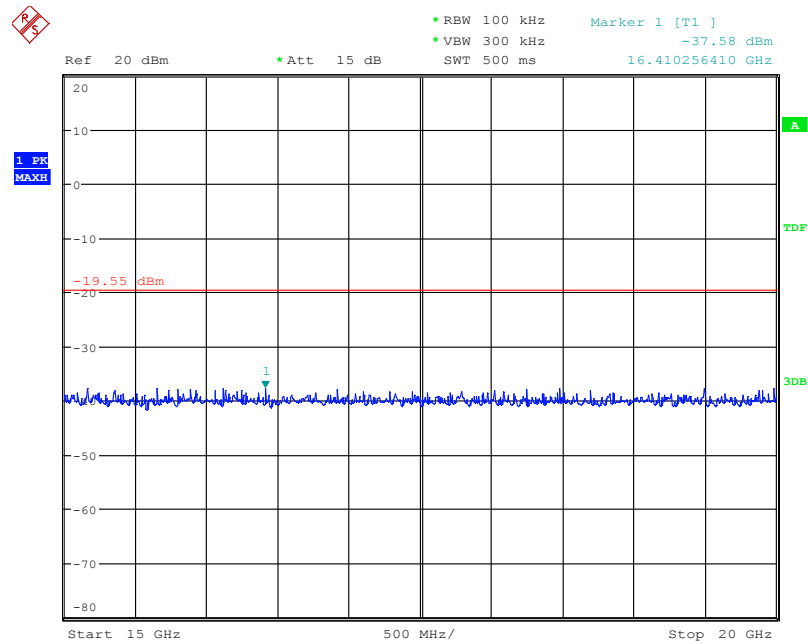
Date: 16.MAR.2013 16:10:24

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



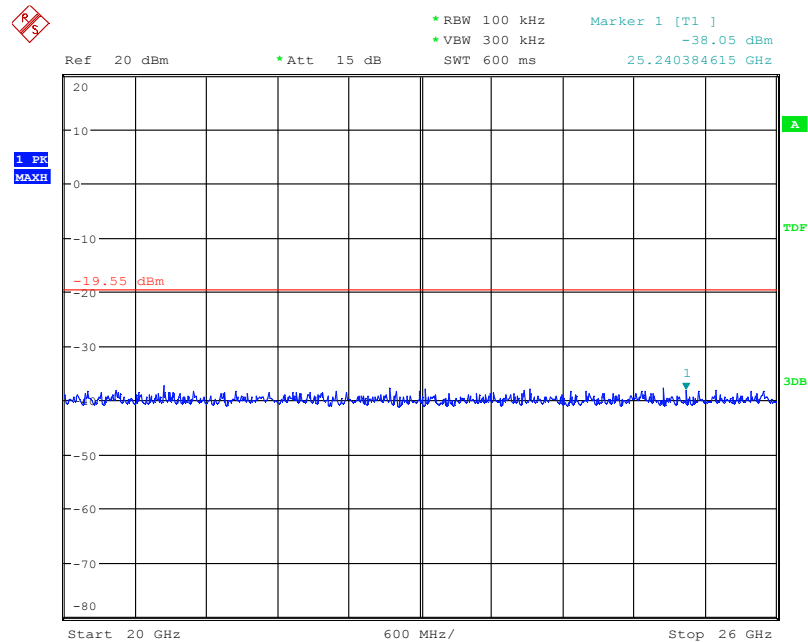
Date: 16.MAR.2013 16:10:31

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



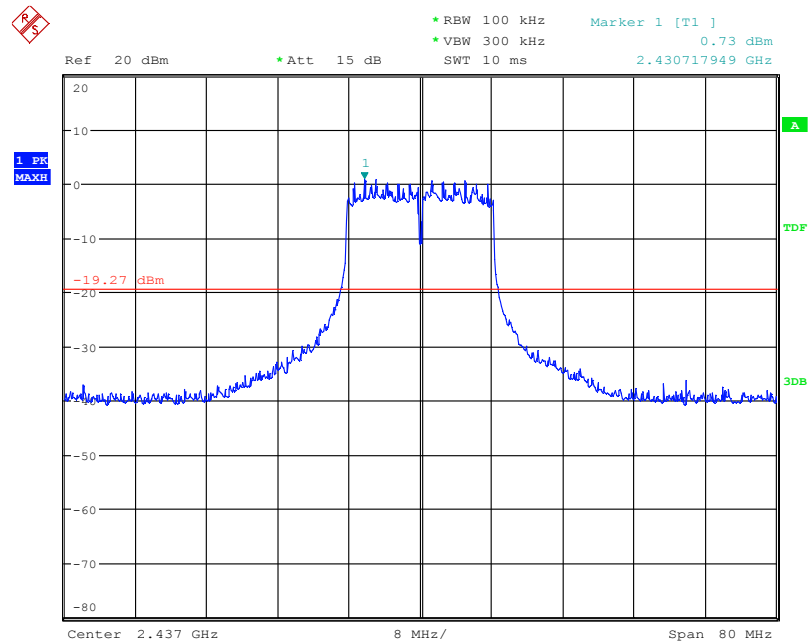
Date: 16.MAR.2013 16:10:38

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



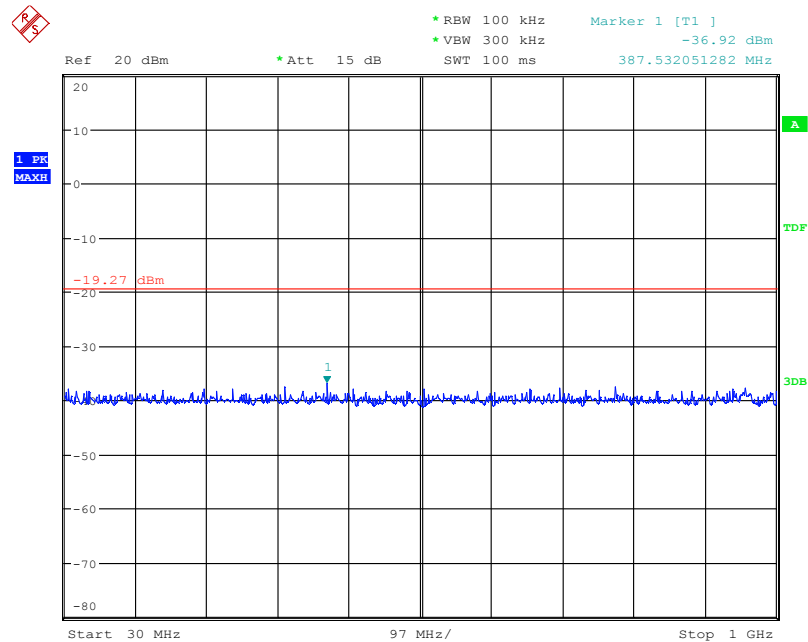
Date: 16.MAR.2013 16:10:45

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



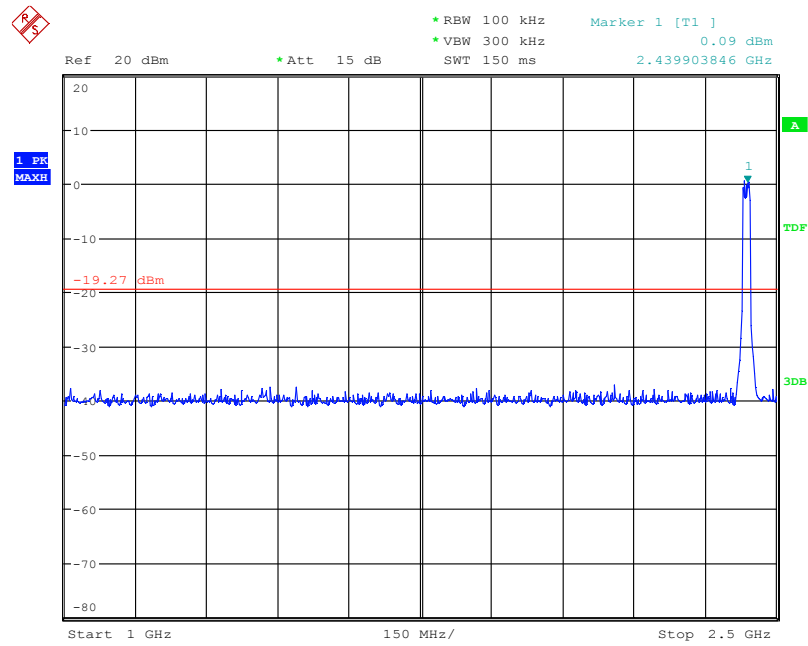
Date: 16.MAR.2013 16:11:12

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



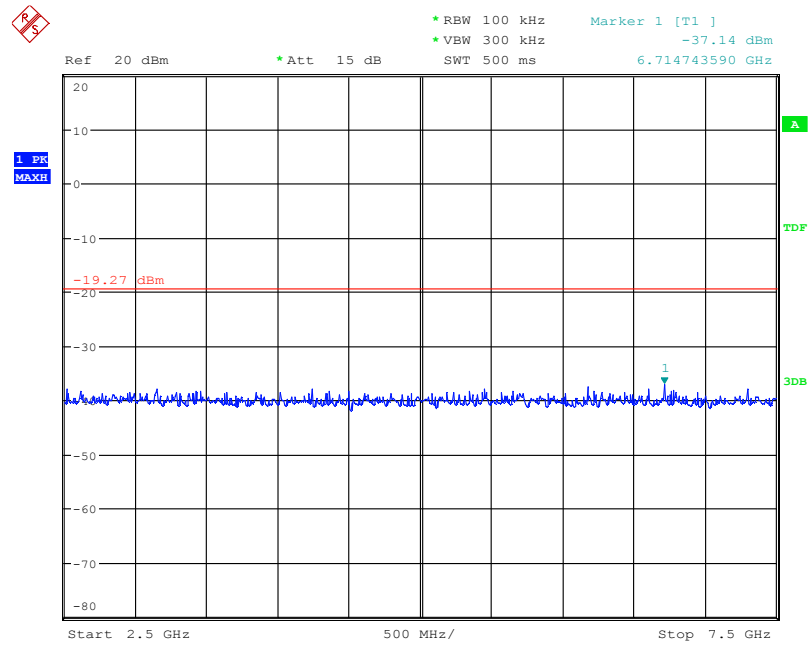
Date: 16.MAR.2013 16:11:19

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



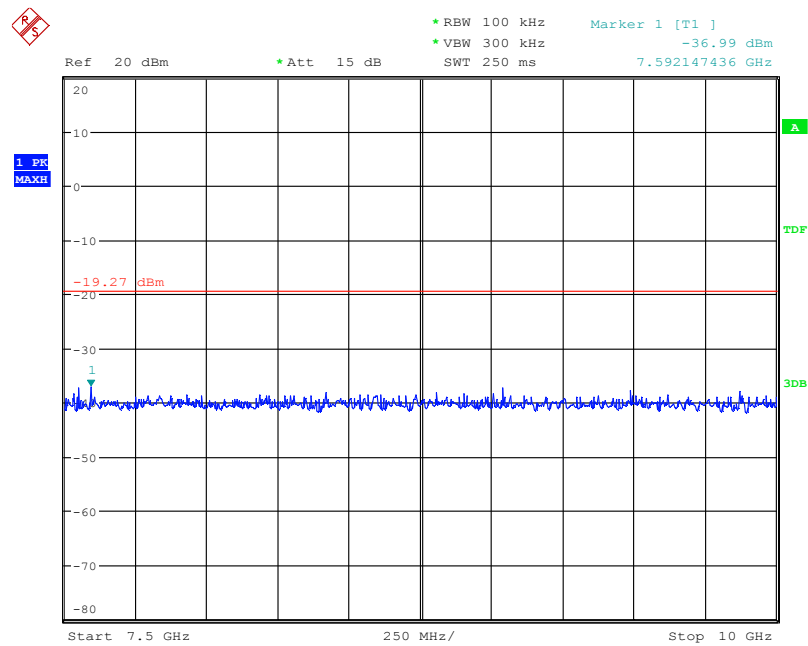
Date: 16.MAR.2013 16:11:26

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



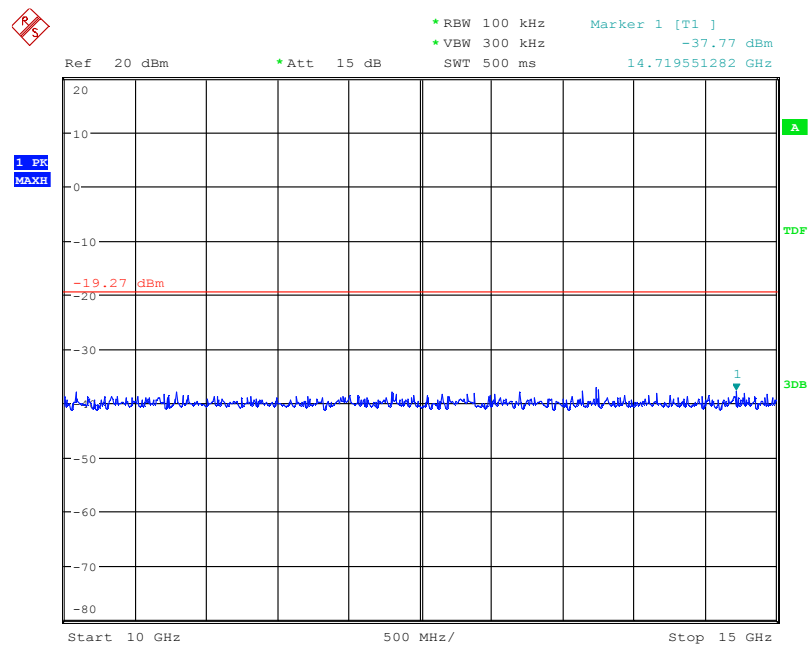
Date: 16.MAR.2013 16:11:33

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



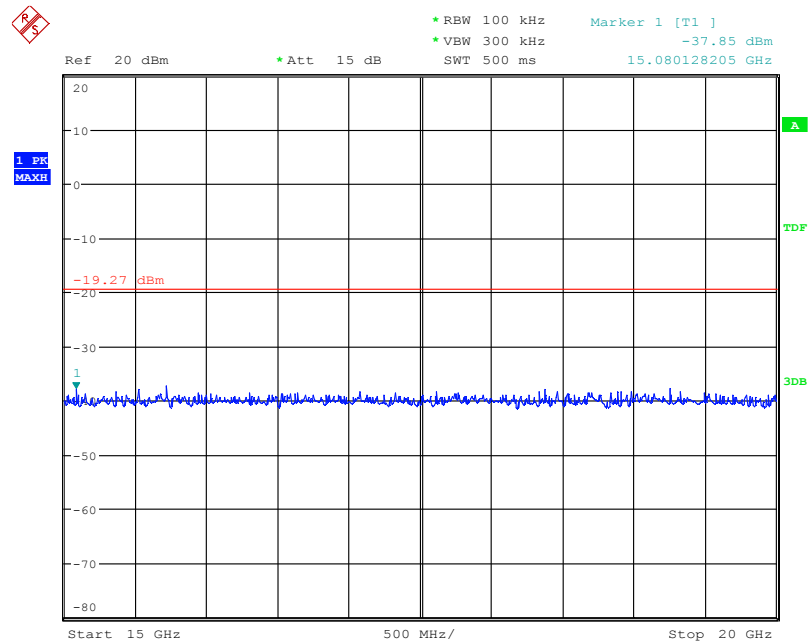
Date: 16.MAR.2013 16:11:39

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



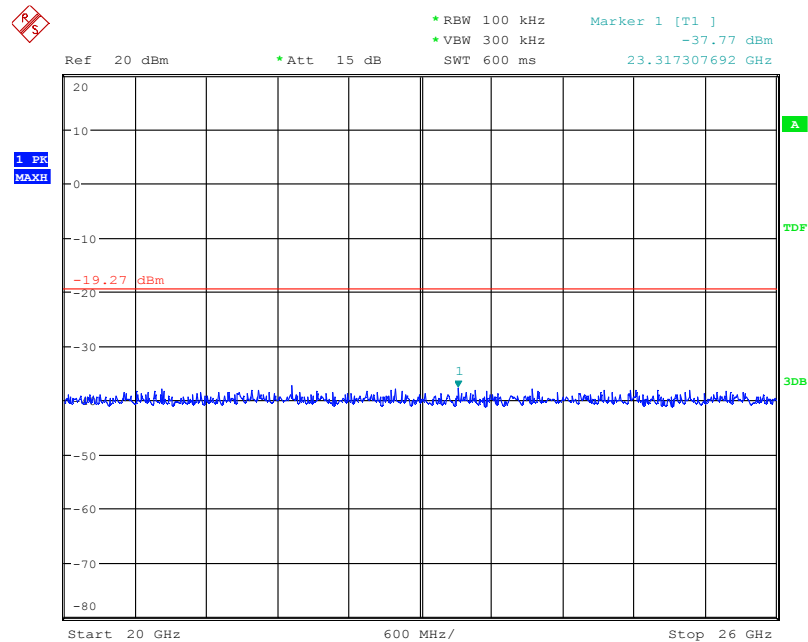
Date: 16.MAR.2013 16:11:47

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



Date: 16.MAR.2013 16:11:54

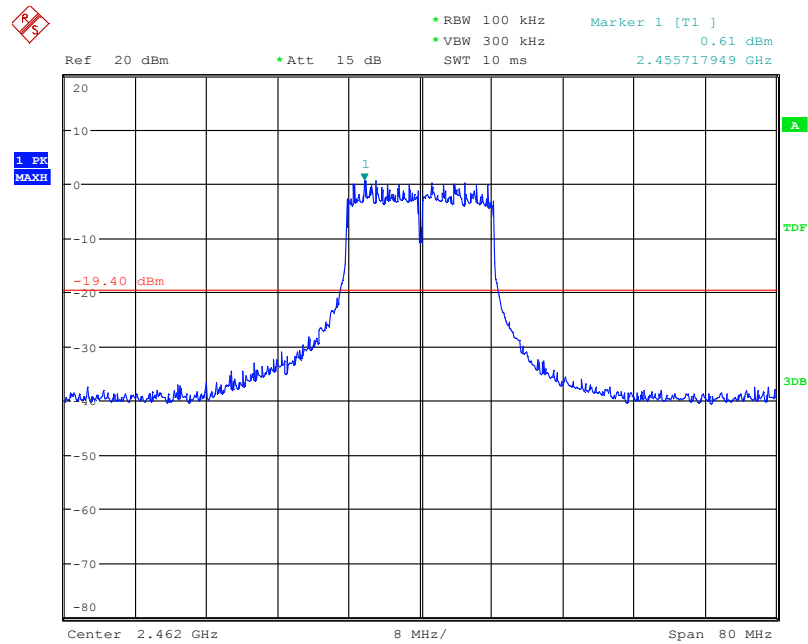
**Fig. 63 Conducted Spurious Emission (802.11g, Ch6, 15 GHz-20 GHz)**



Date: 16.MAR.2013 16:12:00

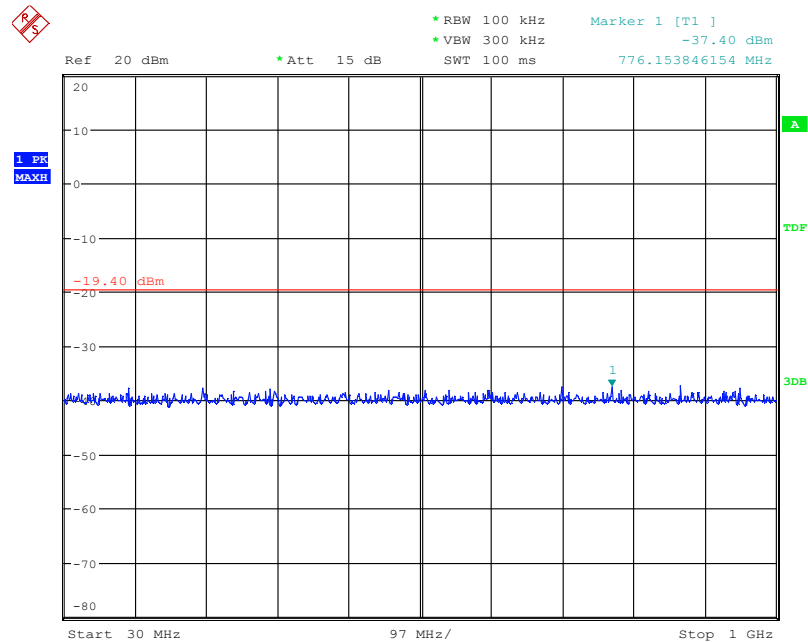
**Fig. 64 Conducted Spurious Emission (802.11g, Ch6, 20 GHz-26 GHz)**





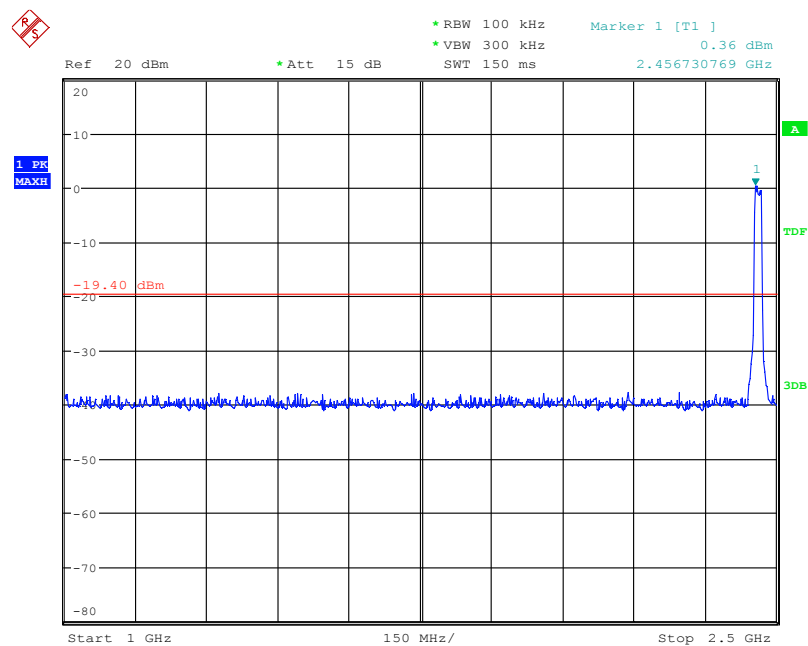
Date: 16.MAR.2013 16:12:33

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



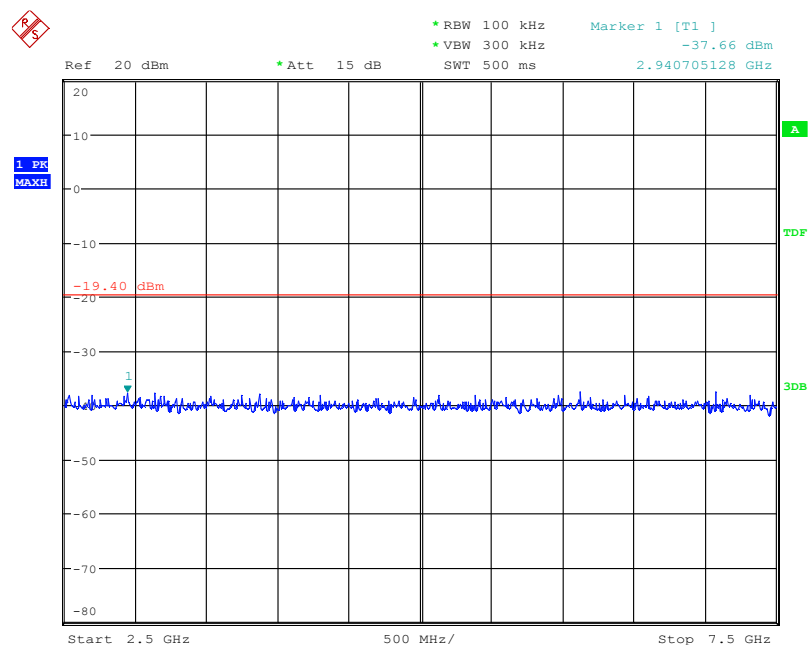
Date: 16.MAR.2013 16:12:40

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



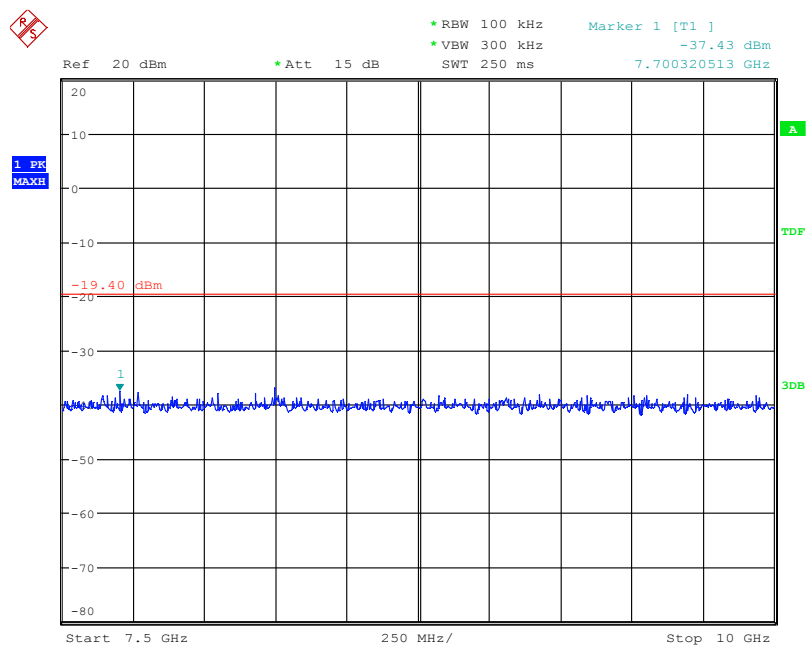
Date: 16.MAR.2013 16:12:47

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



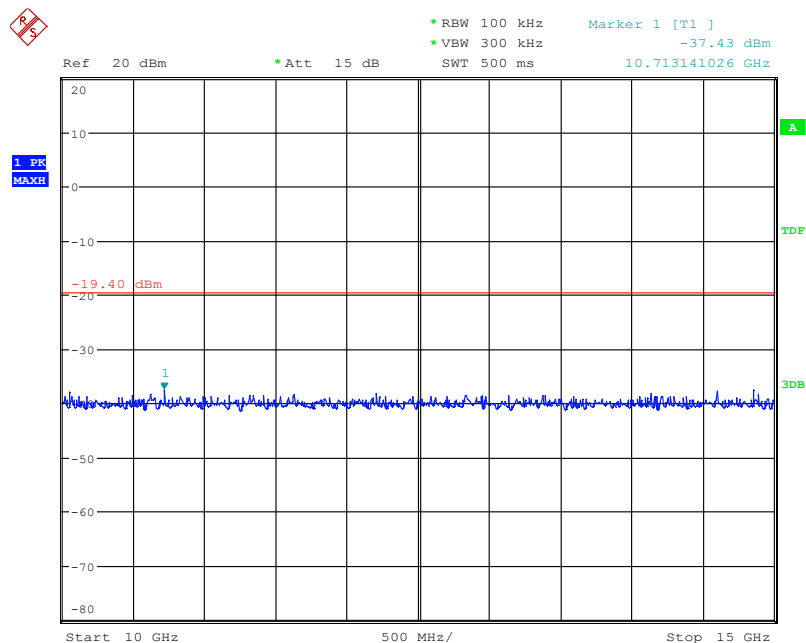
Date: 16.MAR.2013 16:12:53

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



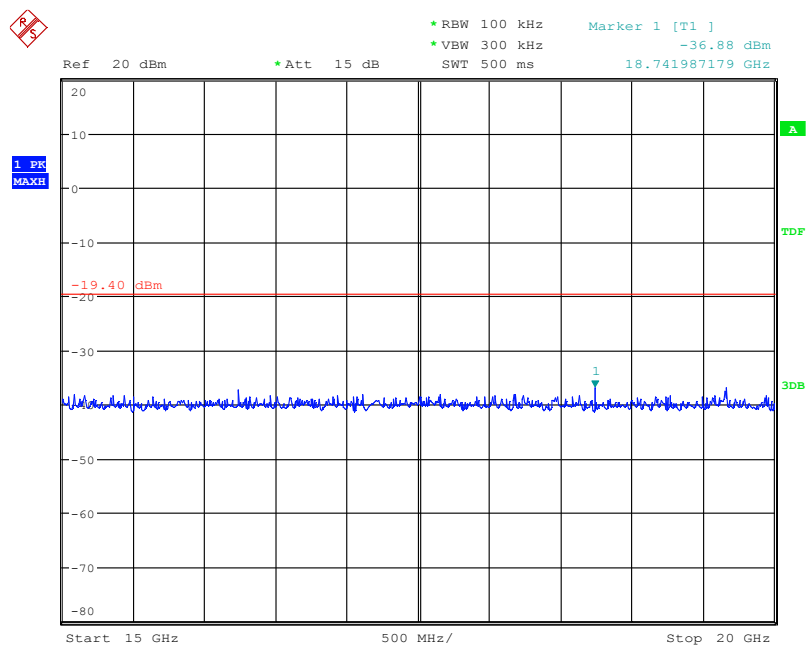
Date: 16.MAR.2013 16:13:00

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



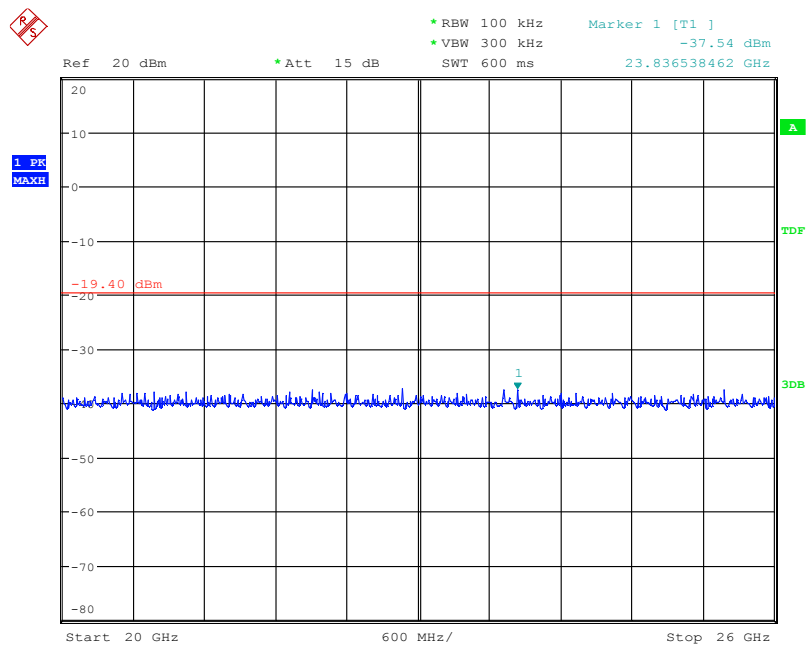
Date: 16.MAR.2013 16:13:07

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



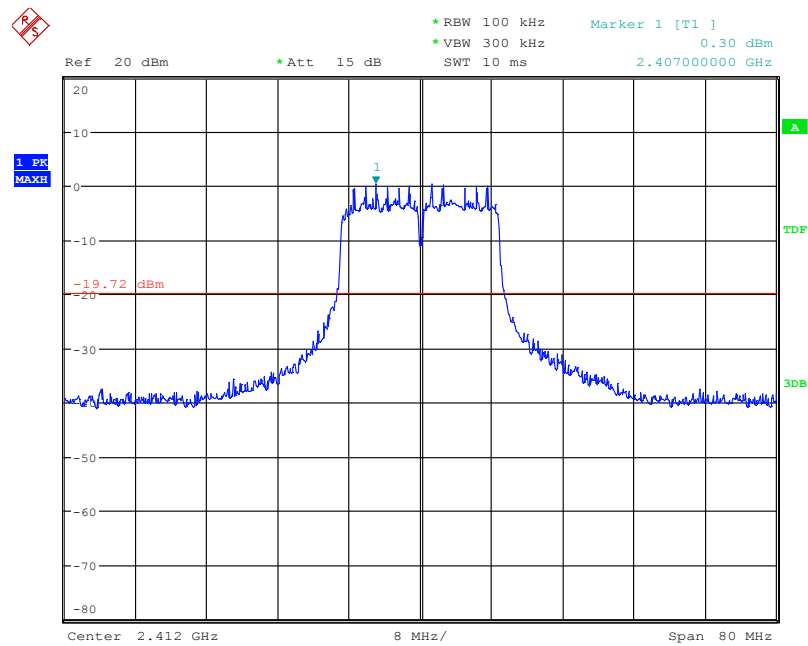
Date: 16.MAR.2013 16:13:14

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



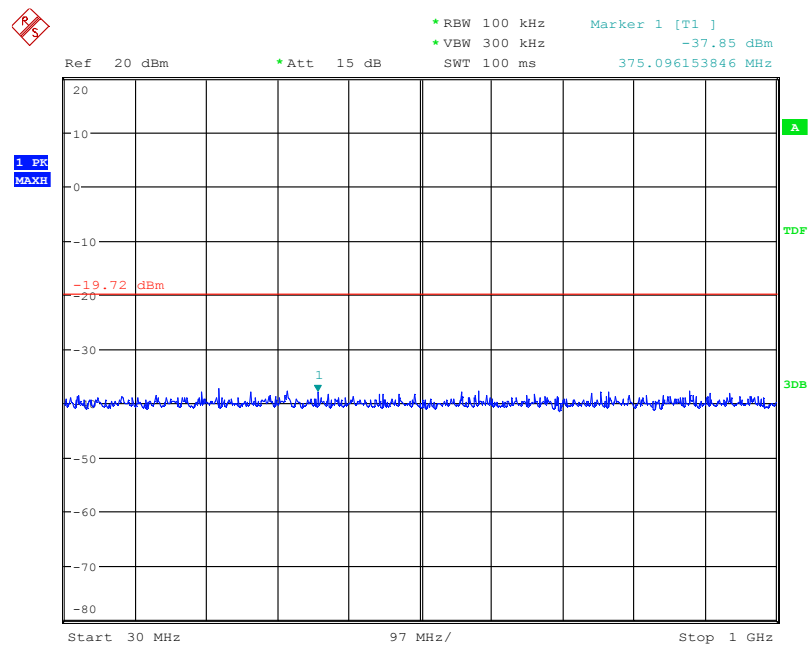
Date: 16.MAR.2013 16:13:20

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



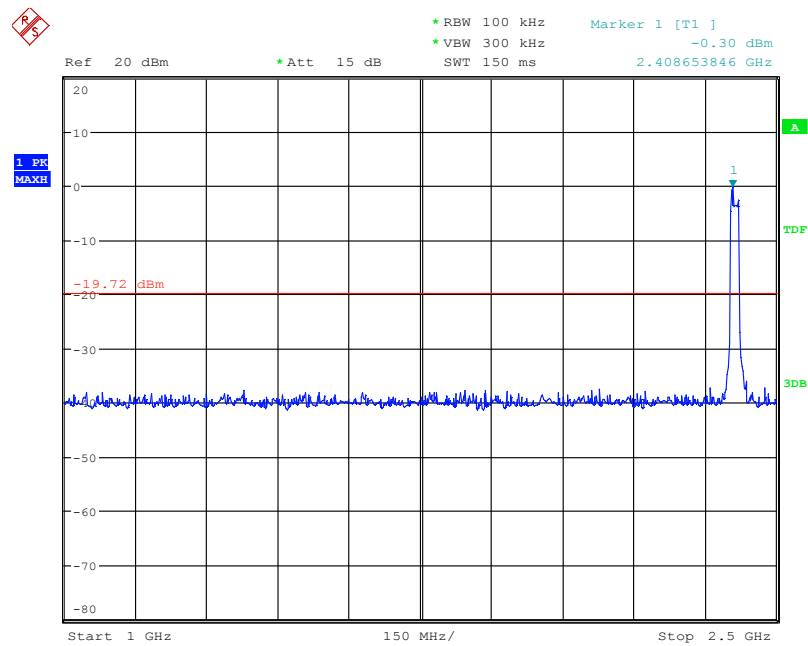
Date: 16.MAR.2013 16:13:57

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



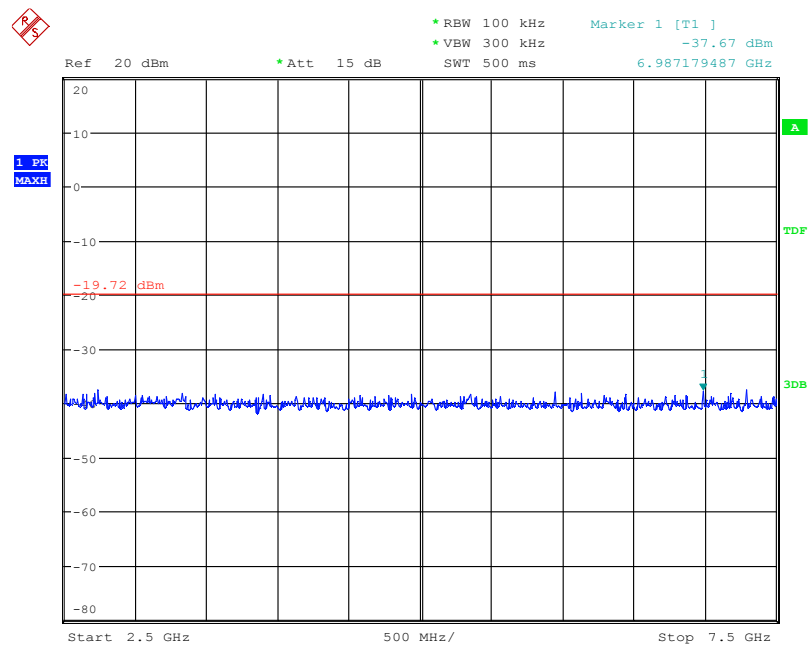
Date: 16.MAR.2013 16:14:03

**Fig. 74 Conducted Spurious Emission (802.11n-HT20, Ch1, 30 MHz-1 GHz)**



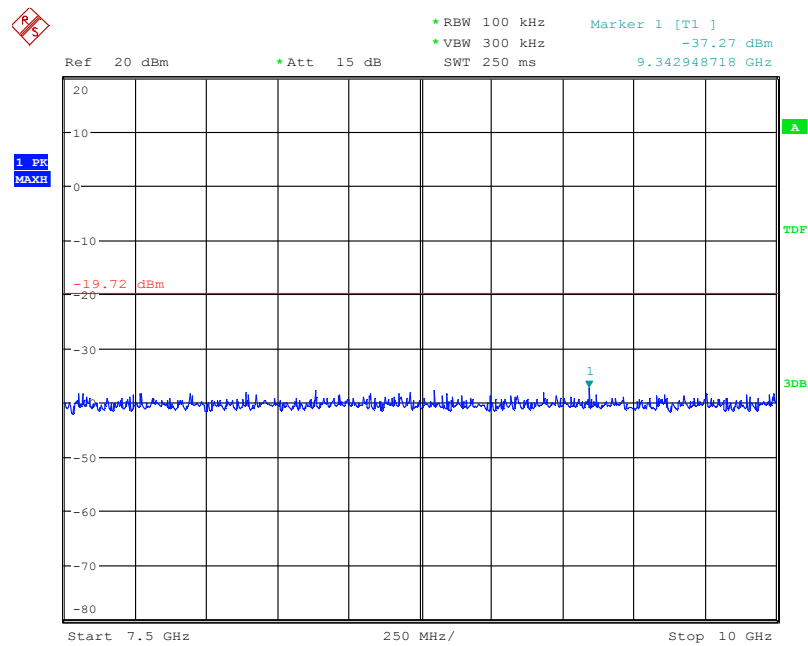
Date: 16.MAR.2013 16:14:09

**Fig. 75 Conducted Spurious Emission (802.11n-HT20, Ch1, 1 GHz-2.5 GHz)**



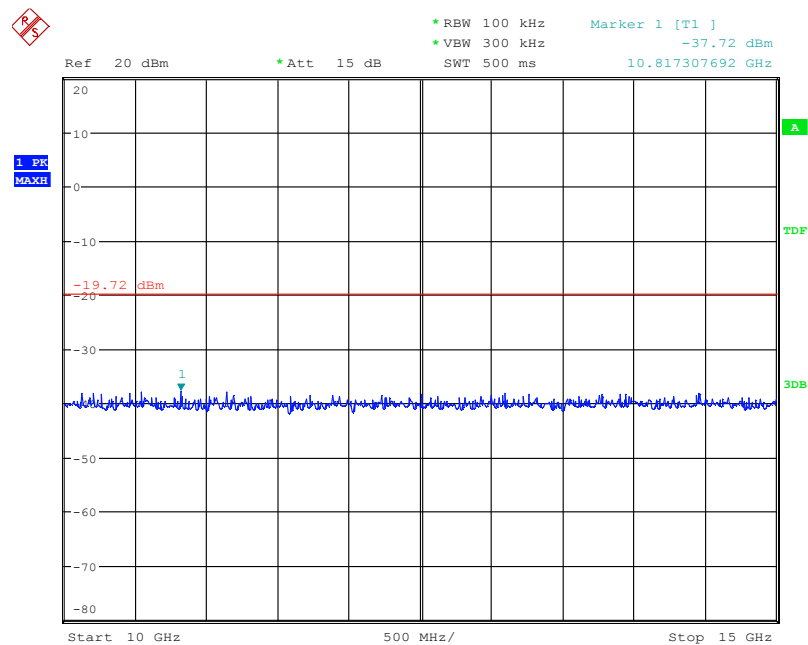
Date: 16.MAR.2013 16:14:15

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



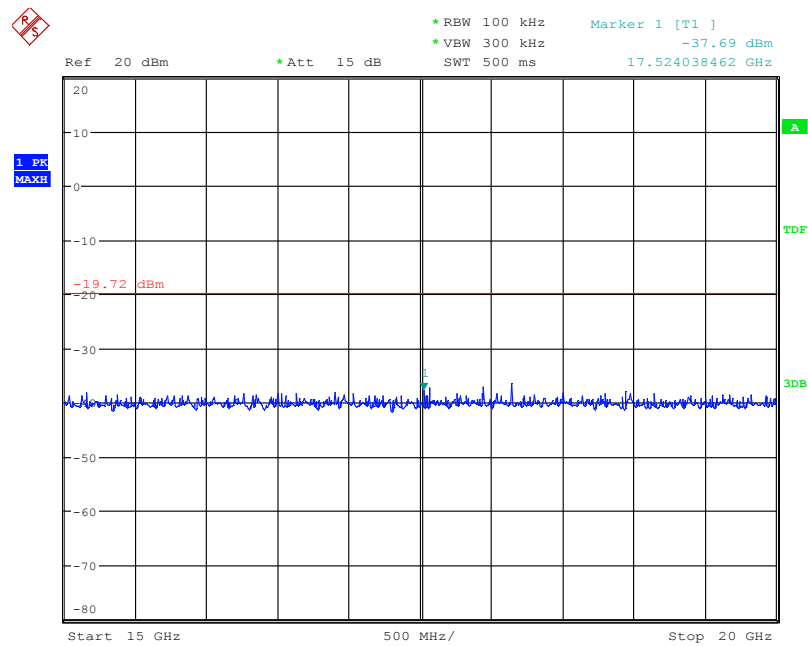
Date: 16.MAR.2013 16:14:20

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



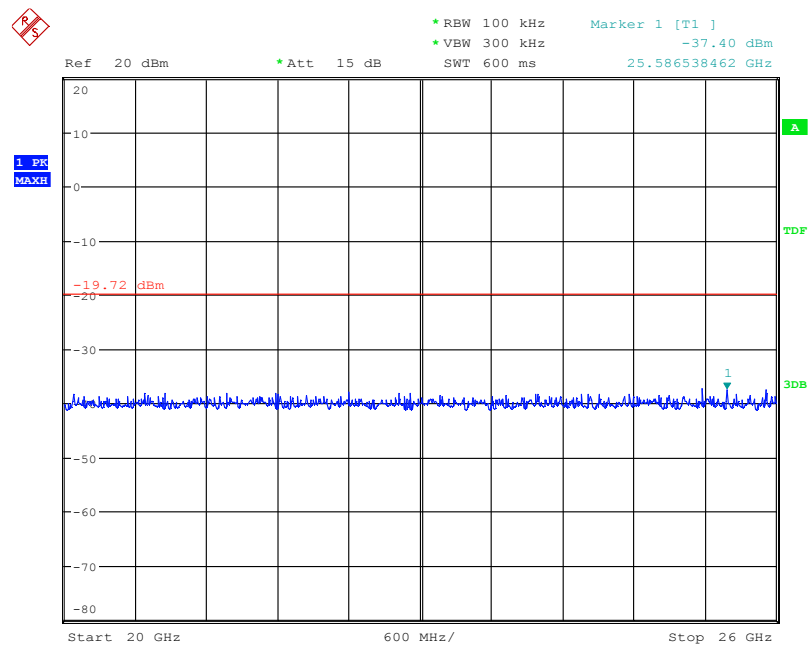
Date: 16.MAR.2013 16:14:26

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



Date: 16.MAR.2013 16:14:32

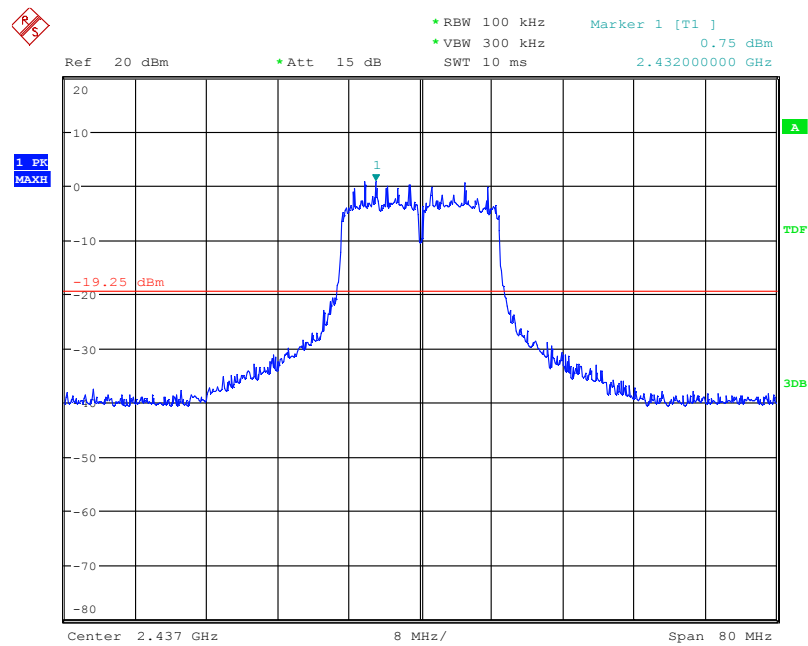
**Fig. 79 Conducted Spurious Emission (802.11n-HT20, Ch1, 15 GHz-20 GHz)**



Date: 16.MAR.2013 16:14:38

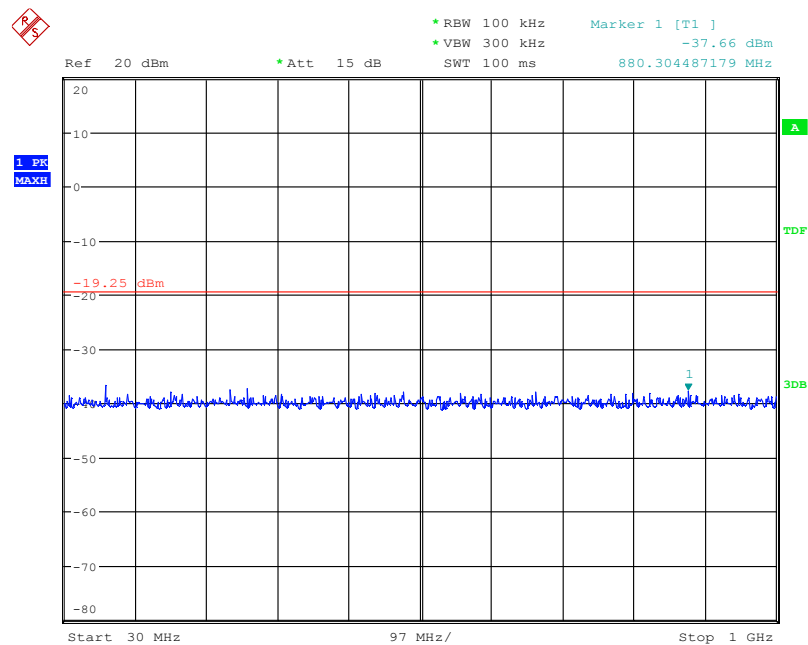
**Fig. 80 Conducted Spurious Emission (802.11n-HT20, Ch1, 20 GHz-26 GHz)**





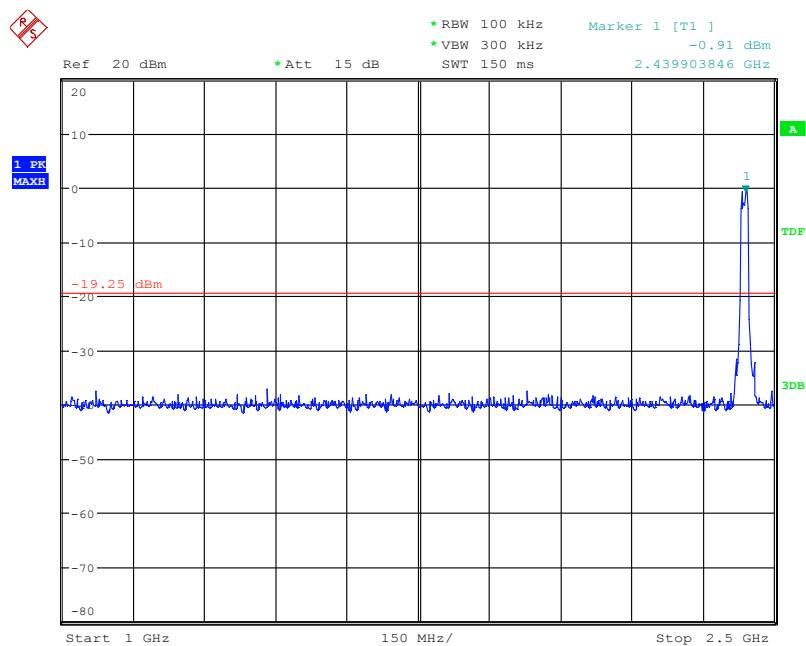
Date: 16.MAR.2013 16:15:10

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



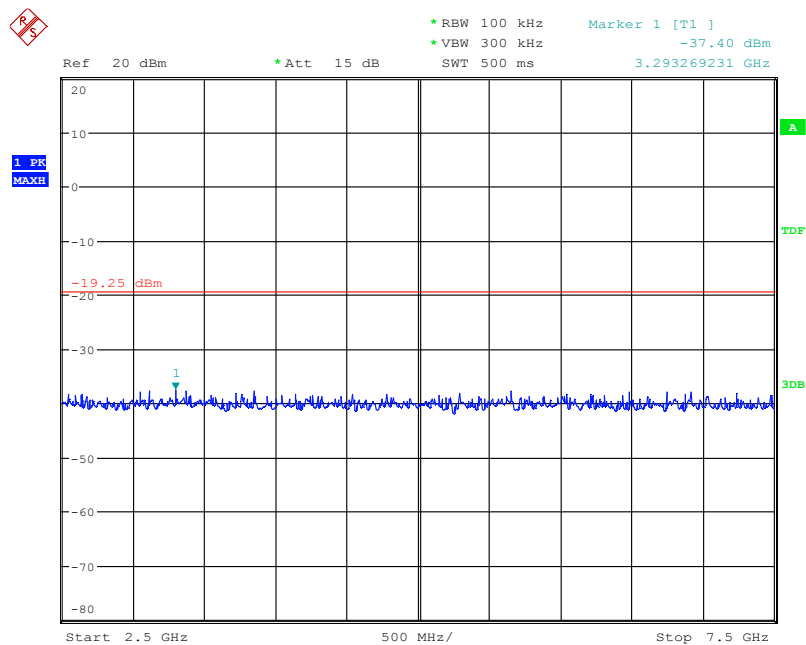
Date: 16.MAR.2013 16:15:16

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



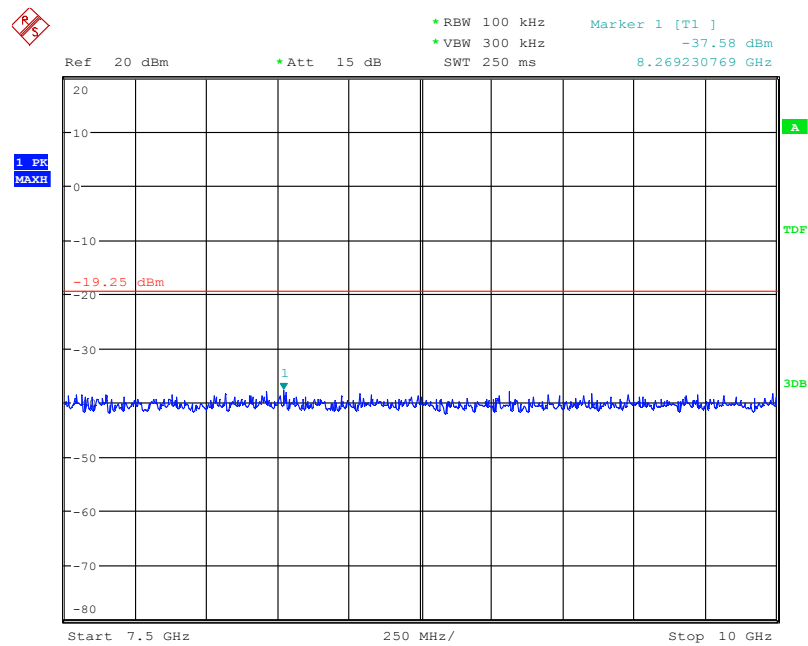
Date: 16.MAR.2013 16:15:21

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



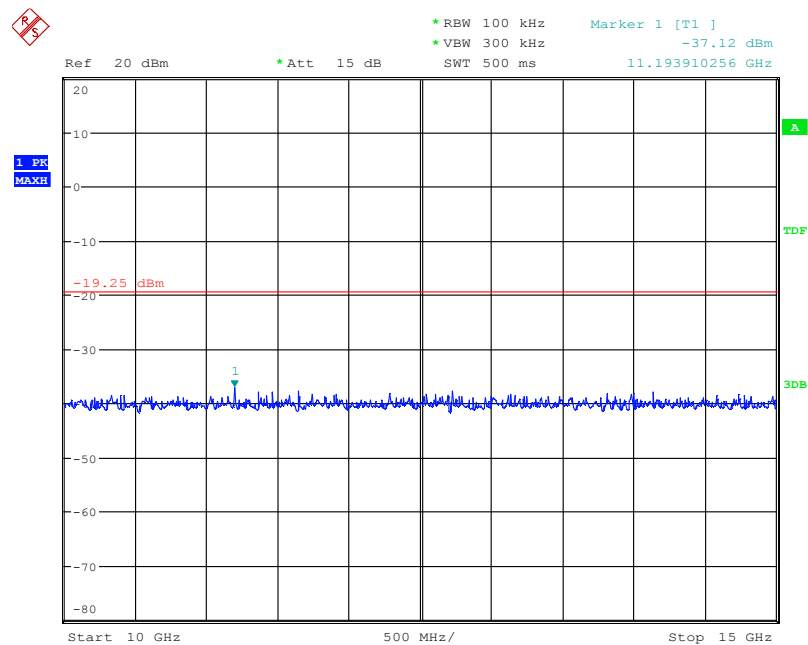
Date: 16.MAR.2013 16:15:27

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



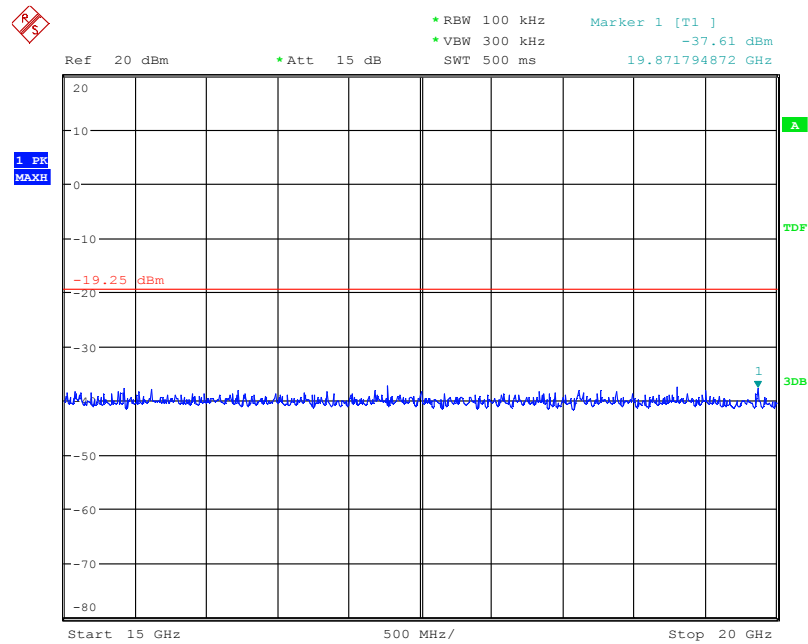
Date: 16.MAR.2013 16:15:33

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



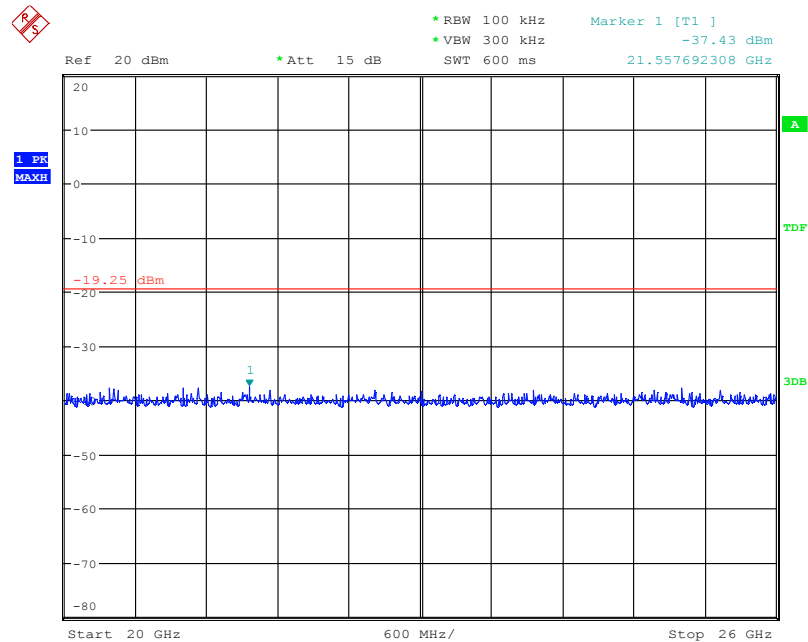
Date: 16.MAR.2013 16:15:39

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



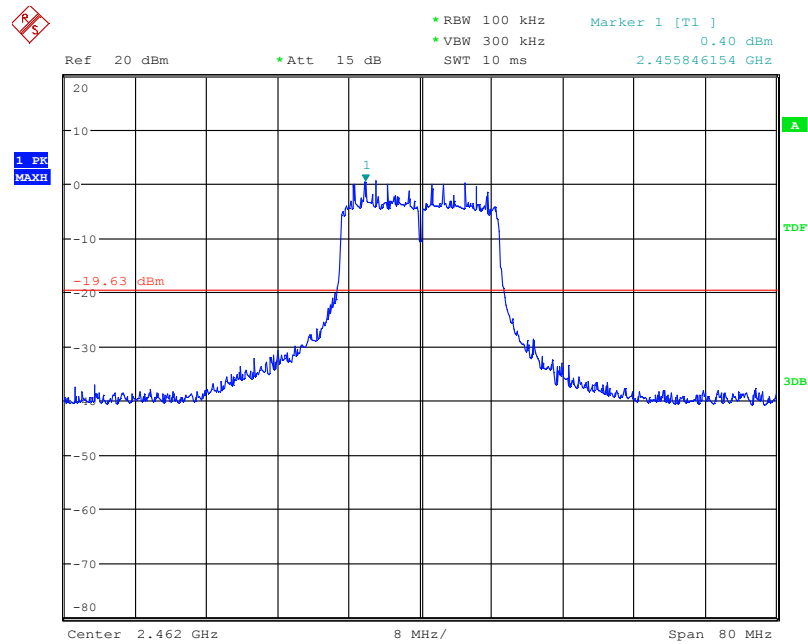
Date: 16.MAR.2013 16:15:45

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



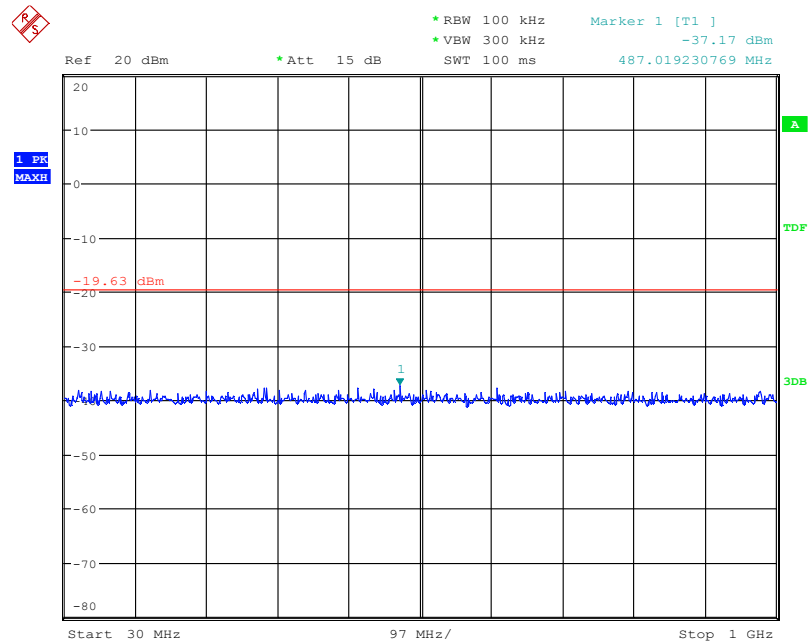
Date: 16.MAR.2013 16:15:50

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



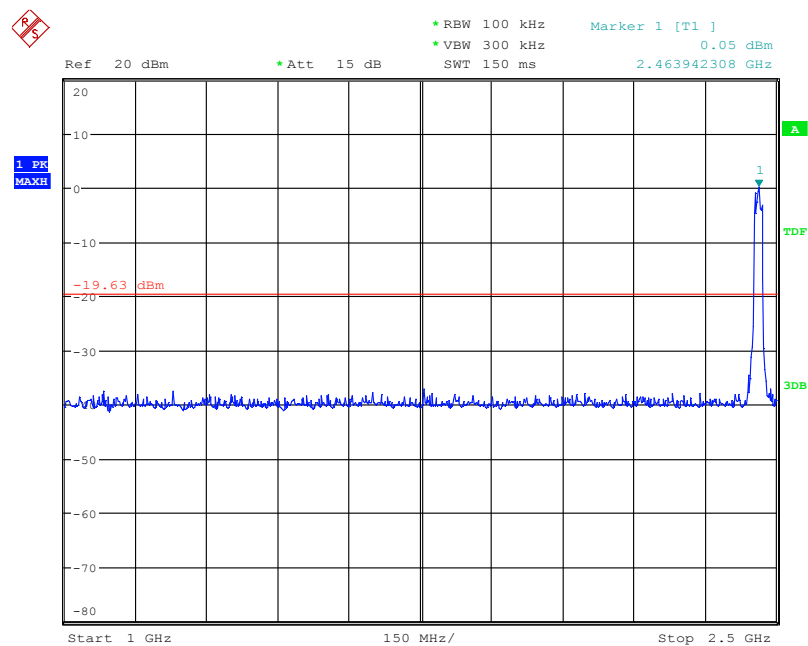
Date: 16.MAR.2013 16:16:14

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



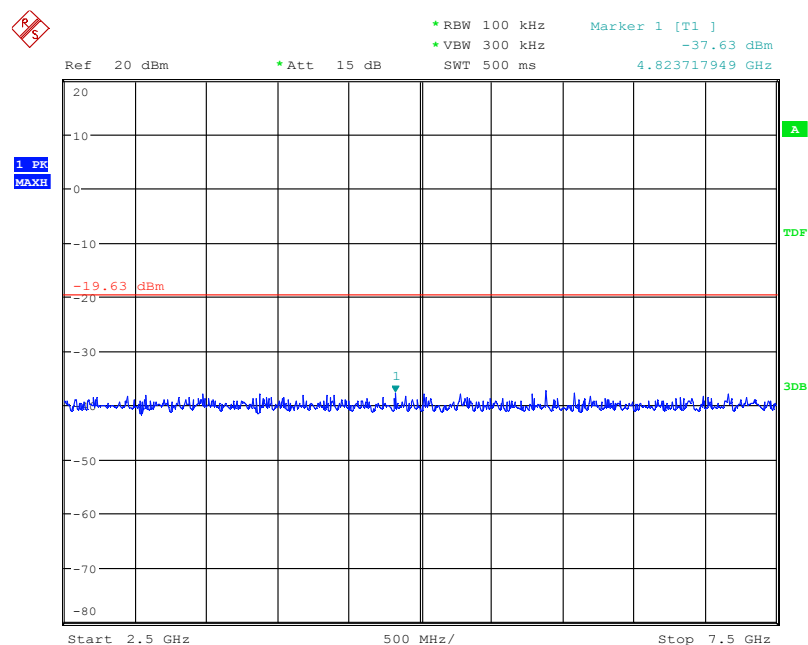
Date: 16.MAR.2013 16:16:20

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



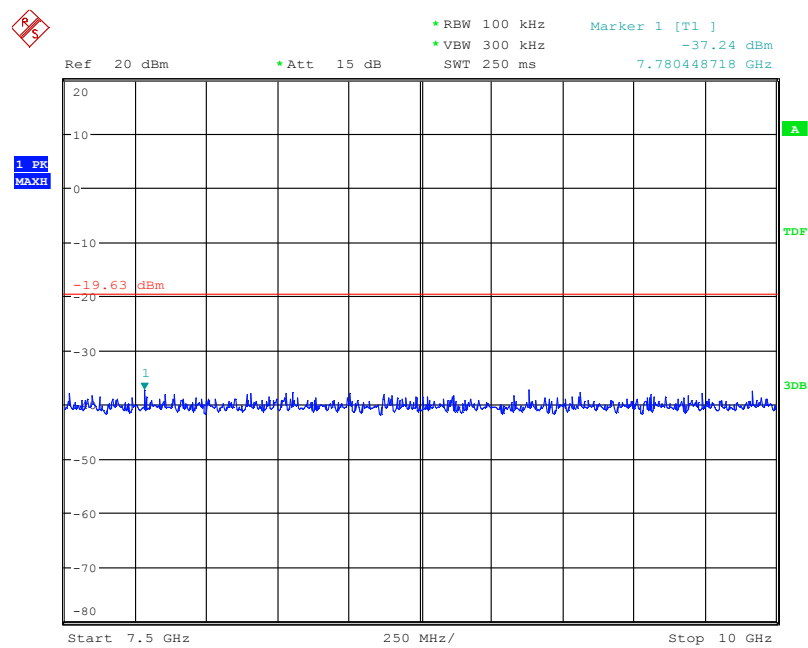
Date: 16.MAR.2013 16:16:27

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



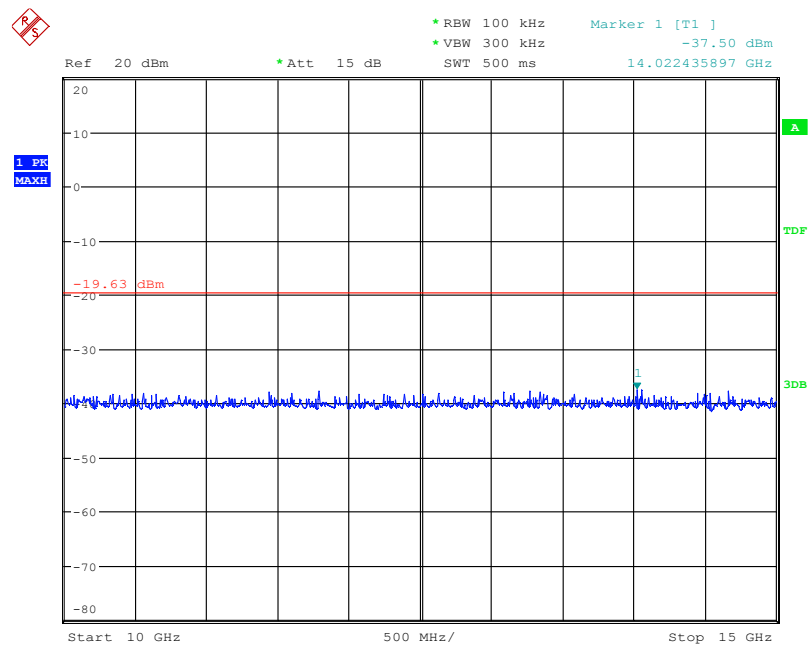
Date: 16.MAR.2013 16:16:34

**Fig. 92 Conducted Spurious Emission (802.11n-HT20, Ch11, 2.5 GHz-7.5 GHz)**



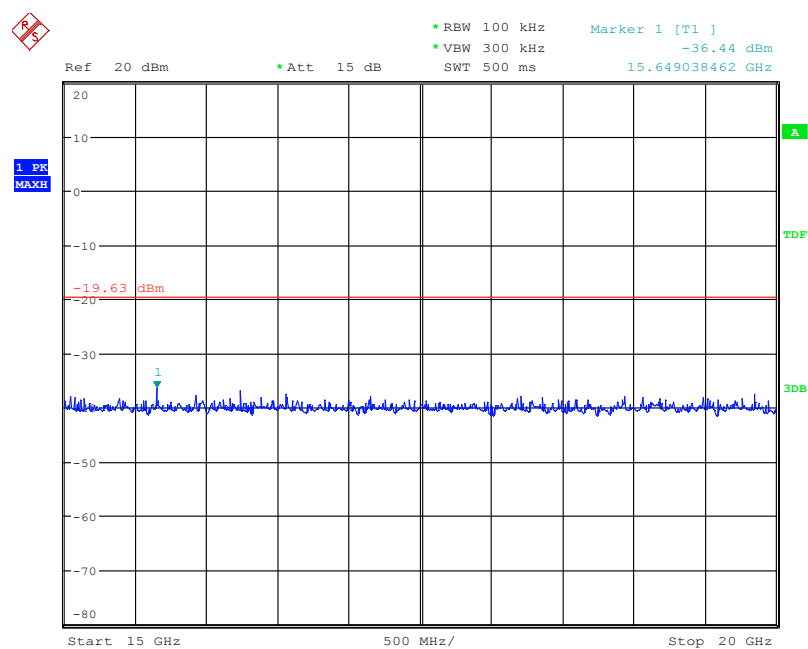
Date: 16.MAR.2013 16:16:41

**Fig. 93 Conducted Spurious Emission (802.11n-HT20, Ch11, 7.5 GHz-10 GHz)**



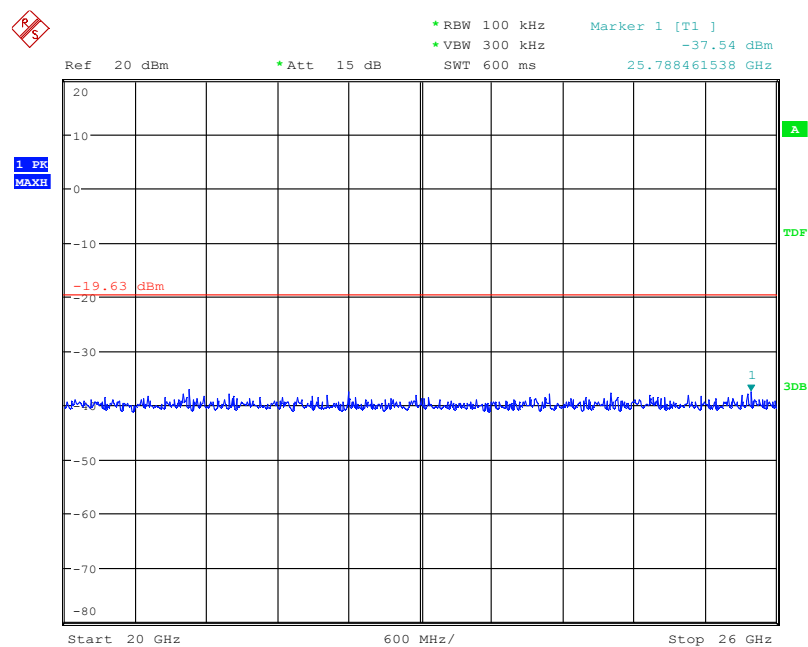
Date: 16.MAR.2013 16:16:47

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



Date: 16.MAR.2013 16:16:54

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



Date: 16.MAR.2013 16:17:01

**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.

#### 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	P
	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 ~ 3 GHz	Fig.121	P
		3 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)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17502.750	43.7	-25.3	42.8	26.227	VERTICAL
17535.000	43.7	-25.3	42.9	26.067	VERTICAL
17473.500	43.7	-25.3	42.6	26.397	HORIZONTAL
17509.500	43.6	-25.3	42.8	26.127	VERTICAL
17997.750	43.6	-24.7	42.3	26.054	VERTICAL
17517.750	43.6	-25.3	42.8	26.127	VERTICAL

**Ch6**

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17538.000	43.7	-25.3	42.9	26.067	VERTICAL
17514.750	43.6	-25.3	42.8	26.127	HORIZONTAL
17483.250	43.6	-25.3	43.0	25.857	VERTICAL
17999.250	43.6	-24.7	42.3	26.054	VERTICAL
17515.500	43.5	-25.3	42.8	26.027	HORIZONTAL
17540.250	43.5	-25.3	42.9	25.867	HORIZONTAL

**Ch11**

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17527.500	43.7	-25.3	42.9	26.067	VERTICAL
17463.750	43.7	-25.3	42.6	26.397	HORIZONTAL
17517.750	43.6	-25.3	42.8	26.127	VERTICAL
17520.750	43.6	-25.3	42.8	26.127	HORIZONTAL
17495.250	43.6	-25.3	43.0	25.857	VERTICAL
17516.250	43.6	-25.3	42.8	26.127	HORIZONTAL

### 802.11g

#### Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17999.250	43.7	-24.7	42.3	26.154	VERTICAL
17495.250	43.7	-25.3	43.0	25.957	VERTICAL
17463.750	43.6	-25.3	42.6	26.297	HORIZONTAL
17501.250	43.6	-25.3	42.8	26.127	HORIZONTAL
17498.250	43.6	-25.3	43.0	25.857	VERTICAL
17487.000	43.6	-25.3	43.0	25.857	HORIZONTAL

#### Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17503.500	43.7	-25.3	42.8	26.227	VERTICAL
17500.500	43.6	-25.3	42.8	26.127	VERTICAL
17529.750	43.6	-25.3	42.9	25.967	HORIZONTAL
17511.750	43.6	-25.3	42.8	26.127	VERTICAL
17997.000	43.6	-24.7	42.3	26.054	HORIZONTAL
17997.750	43.6	-24.7	42.3	26.054	HORIZONTAL

#### Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17520.750	43.7	-25.3	42.8	26.227	VERTICAL
17509.500	43.7	-25.3	42.8	26.227	VERTICAL
17994.000	43.7	-24.7	42.3	26.154	VERTICAL
17503.500	43.7	-25.3	42.8	26.227	HORIZONTAL
17497.500	43.6	-25.3	43.0	25.857	HORIZONTAL
17520.000	43.6	-25.3	42.8	26.127	VERTICAL

**802.11n-HT20**
**Ch1**

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17506.500	43.9	-25.3	42.8	26.427	VERTICAL
17997.000	43.9	-24.7	42.3	26.354	HORIZONTAL
17538.000	43.7	-25.3	42.9	26.067	HORIZONTAL
17501.250	43.7	-25.3	42.8	26.227	HORIZONTAL
17529.750	43.6	-25.3	42.9	25.967	VERTICAL
17499.000	43.6	-25.3	43.0	25.857	VERTICAL

**Ch6**

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17495.250	43.7	-25.3	43.0	25.957	HORIZONTAL
17463.000	43.7	-25.3	42.6	26.397	HORIZONTAL
17999.250	43.7	-24.7	42.3	26.154	VERTICAL
17501.250	43.6	-25.3	42.8	26.127	HORIZONTAL
17506.500	43.6	-25.3	42.8	26.127	VERTICAL
17541.000	43.6	-25.3	42.9	25.967	VERTICAL

**Ch11**

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17492.250	43.6	-25.3	43.0	25.857	VERTICAL
17476.500	43.6	-25.3	43.0	25.857	VERTICAL
17509.500	43.6	-25.3	42.8	26.127	HORIZONTAL
17478.000	43.6	-25.3	43.0	25.857	HORIZONTAL
18000.000	43.6	-24.6	42.7	25.504	VERTICAL
17502.000	43.6	-25.3	42.8	26.127	VERTICAL

### 802.11n-HT40

#### Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/

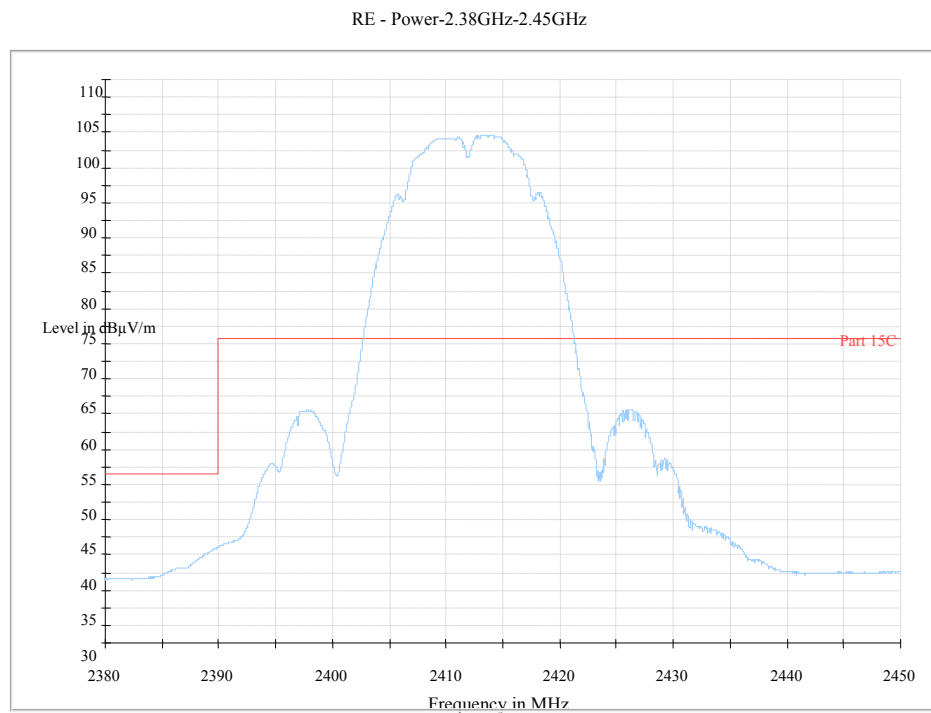
#### Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/

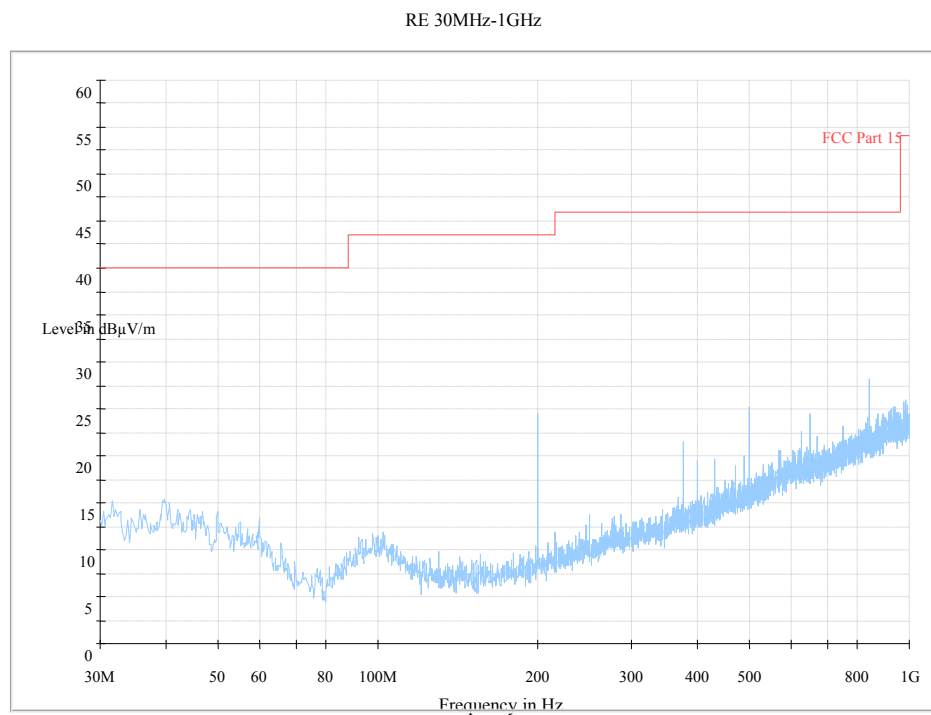
#### Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/

Test graphs as below:

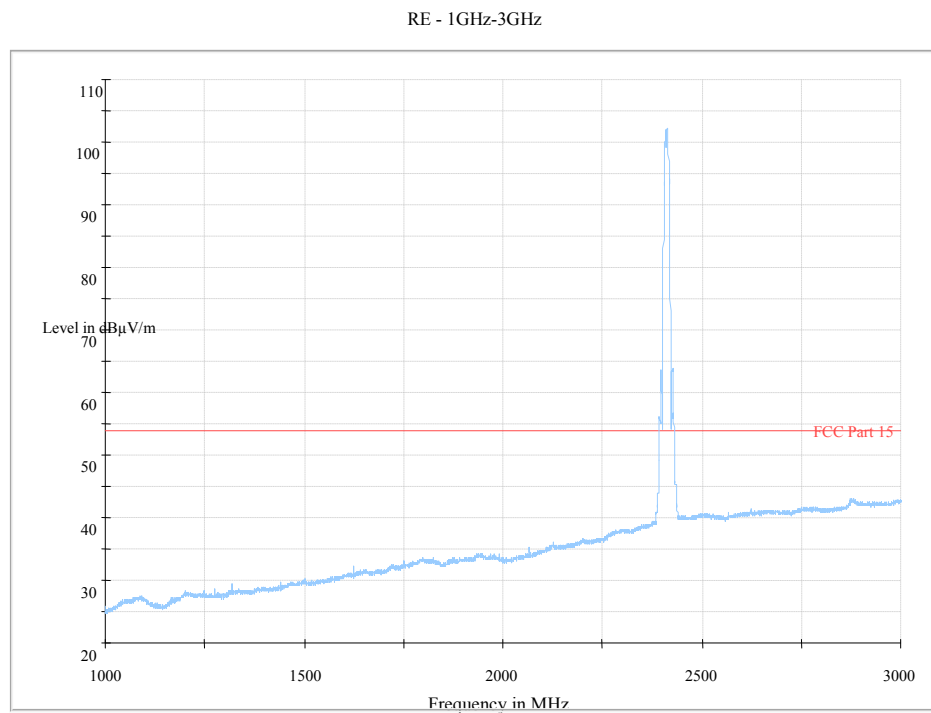


**Fig. 97 Radiated Spurious Emission (Power): 802.11b, ch1, 2.38 GHz - 2.45GHz**

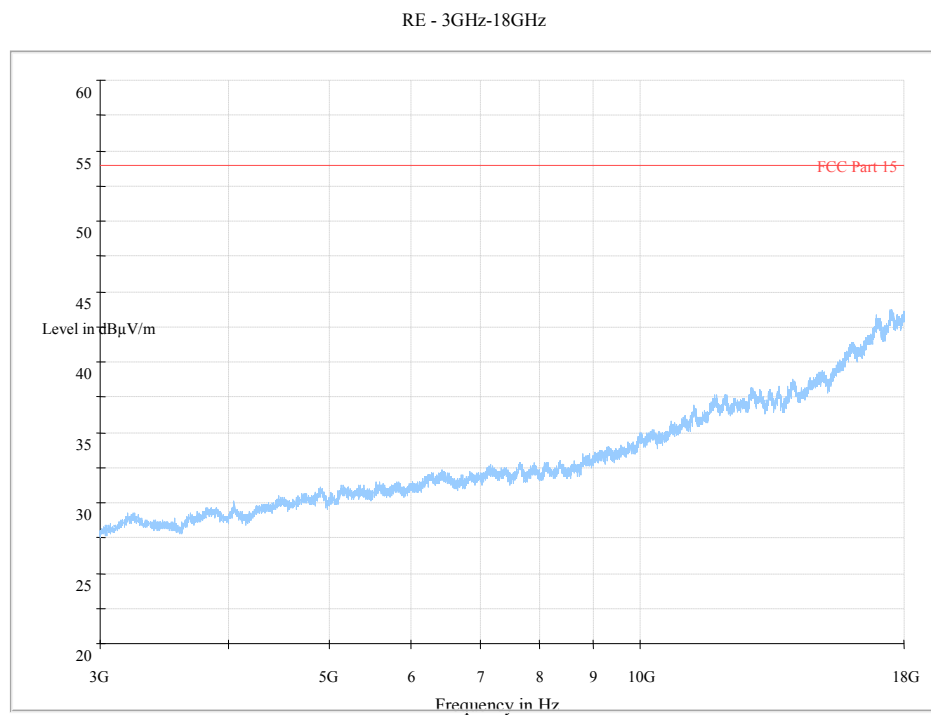


**Fig. 98 Radiated Spurious Emission (802.11b, Ch1, 30 MHz-1 GHz)**

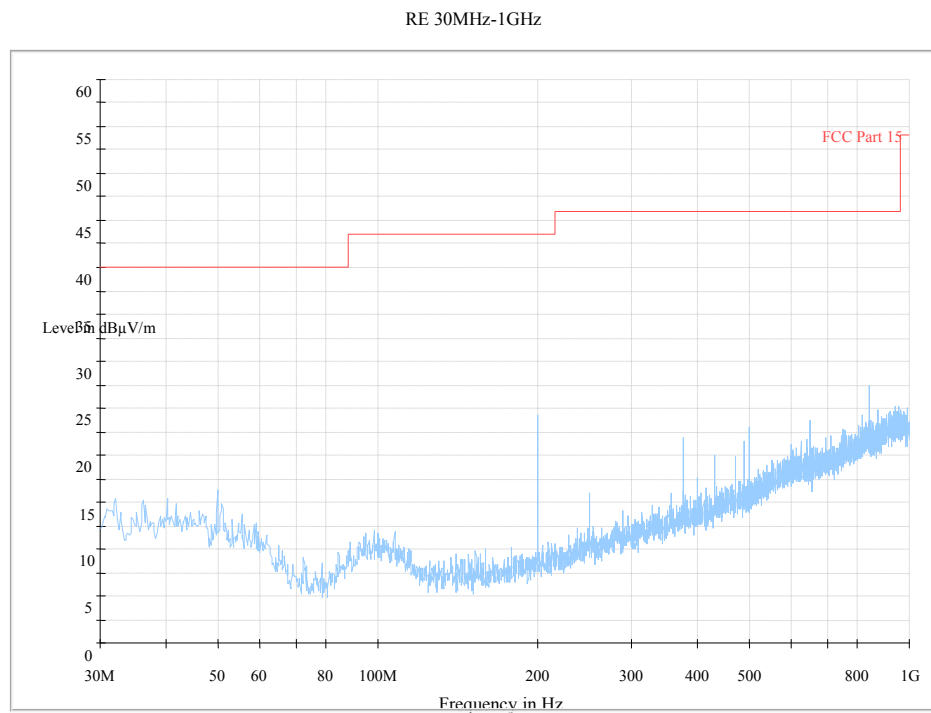




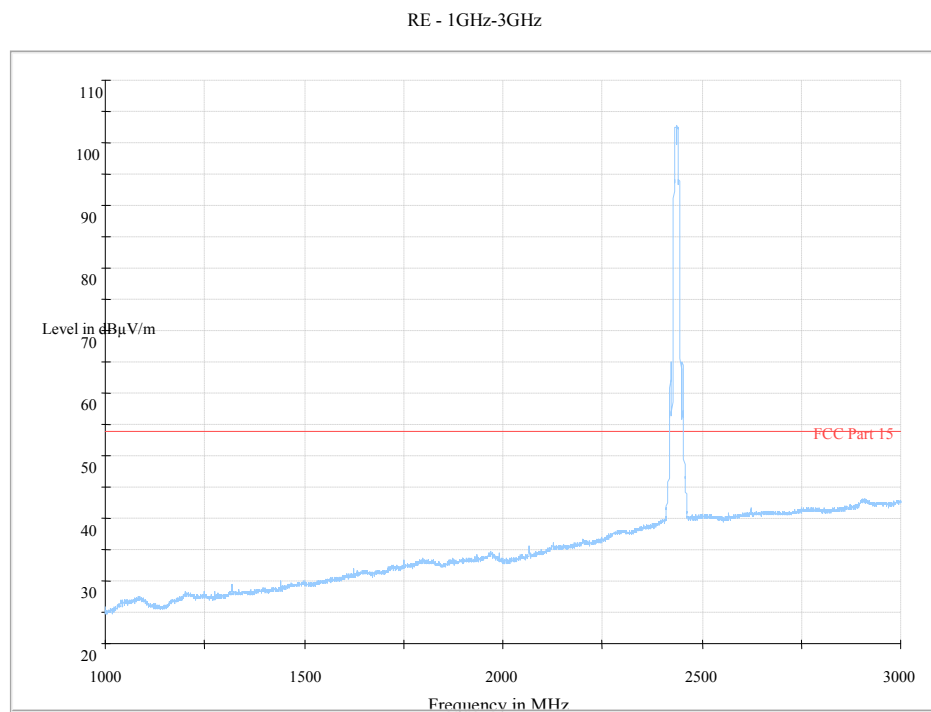
**Fig. 99 Radiated Spurious Emission (802.11b, Ch1, 1 GHz-3 GHz)**



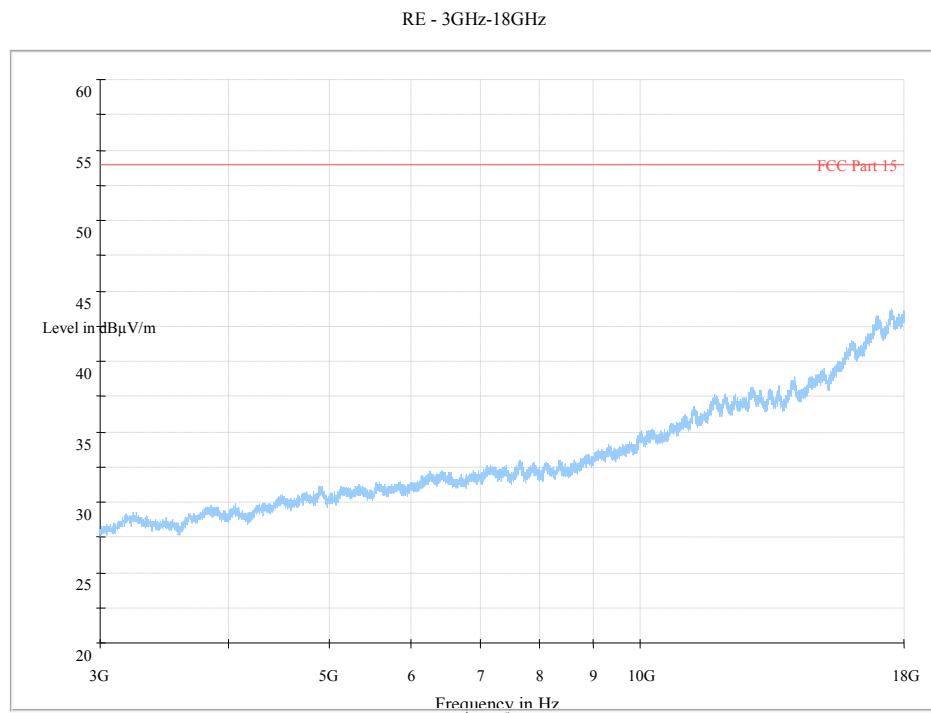
**Fig. 100 Radiated Spurious Emission (802.11b, Ch1, 3 GHz-18 GHz)**



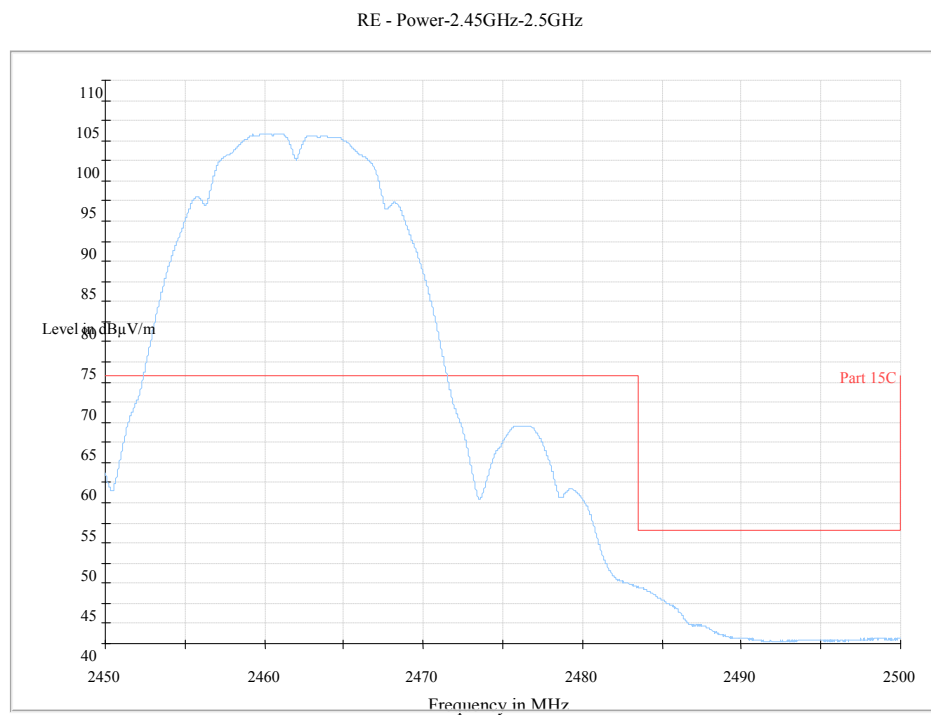
**Fig. 101 Radiated Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)**



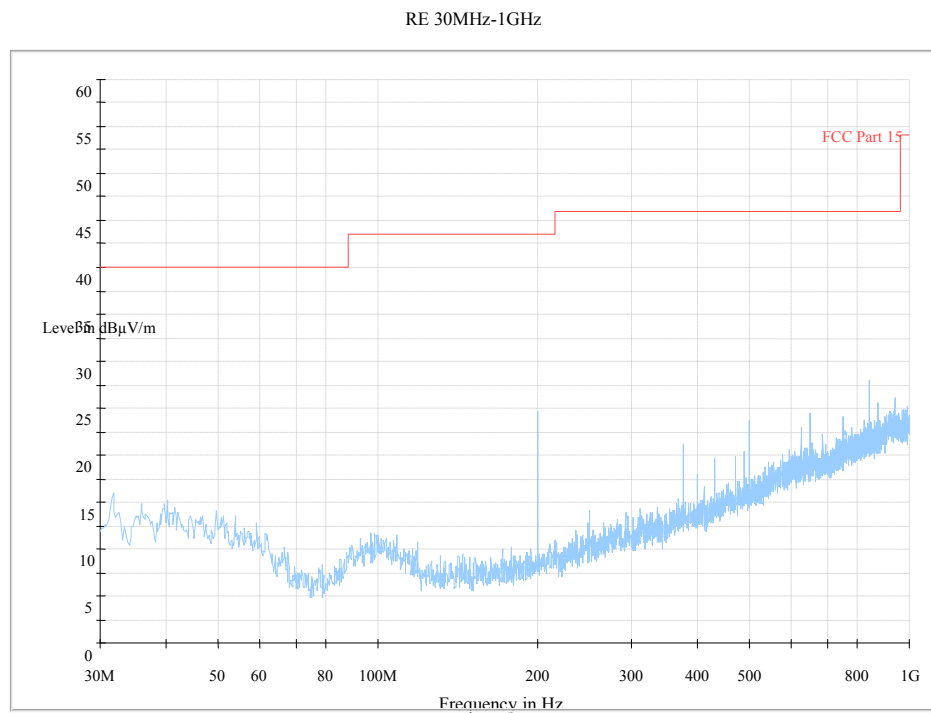
**Fig. 102 Radiated Spurious Emission (802.11b, Ch6, 1 GHz-3 GHz)**



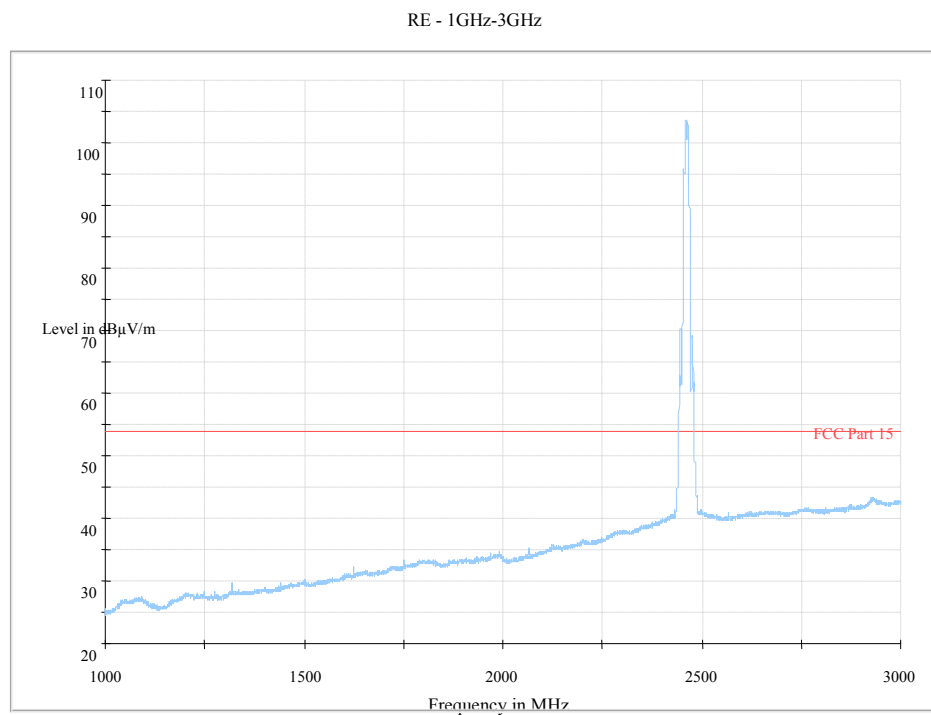
**Fig. 103 Radiated Spurious Emission (802.11b, Ch6, 3 GHz-18 GHz)**



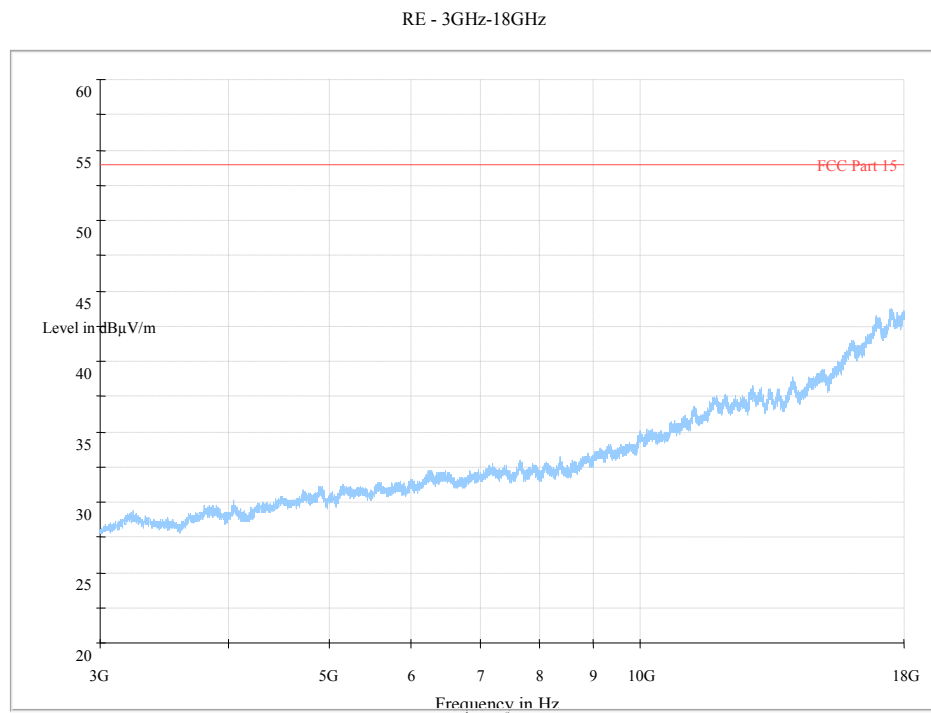
**Fig. 104 Radiated Spurious Emission (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**



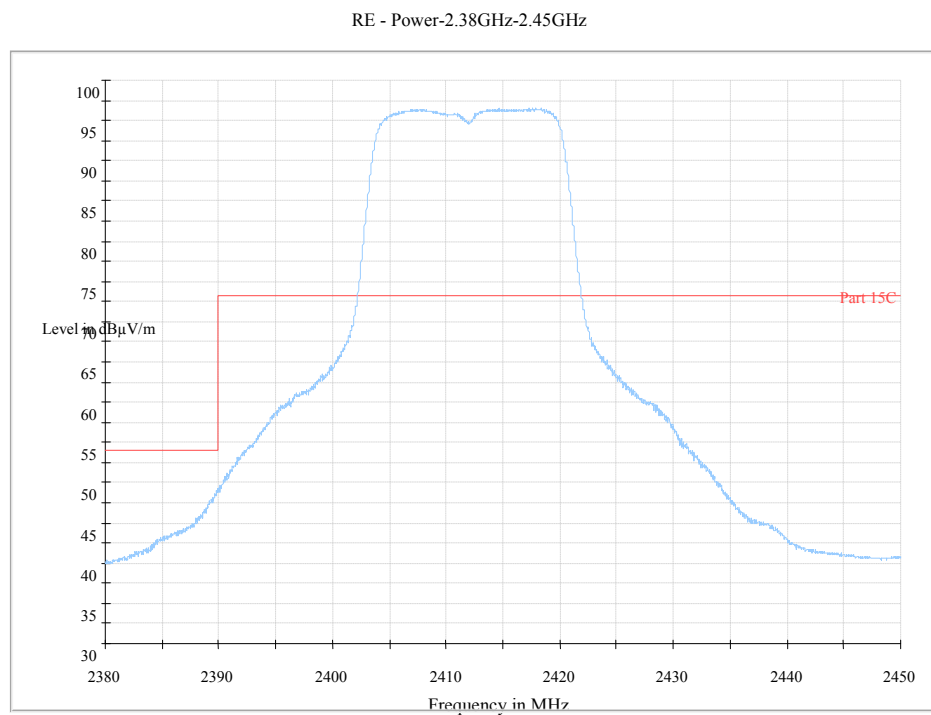
**Fig. 105 Radiated Spurious Emission (802.11b, Ch11, 30 MHz-1 GHz)**



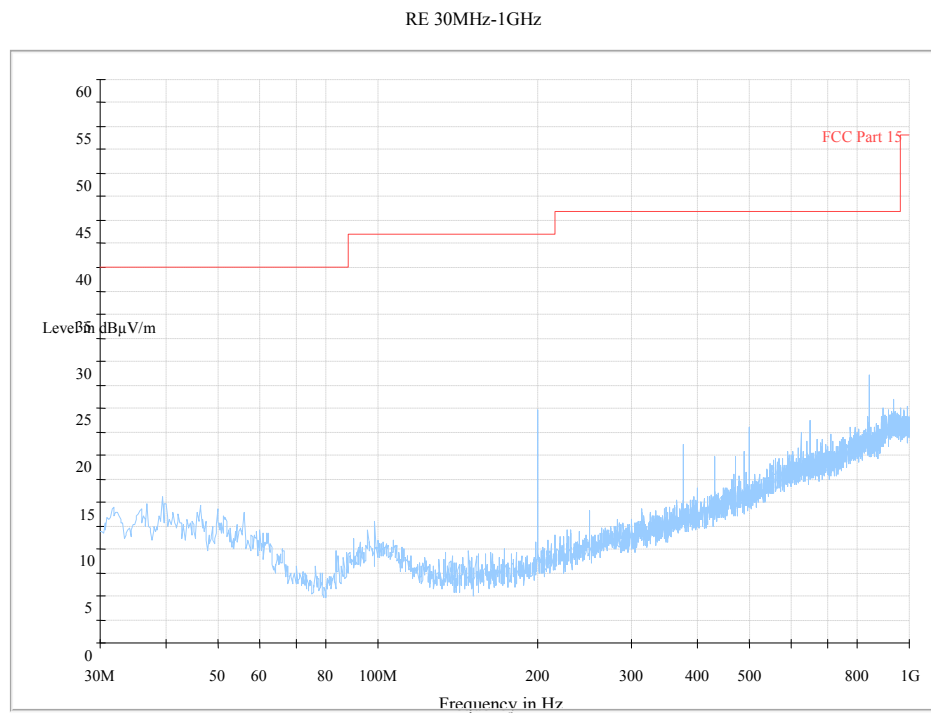
**Fig. 106 Radiated Spurious Emission (802.11b, Ch11, 1 GHz-3 GHz)**



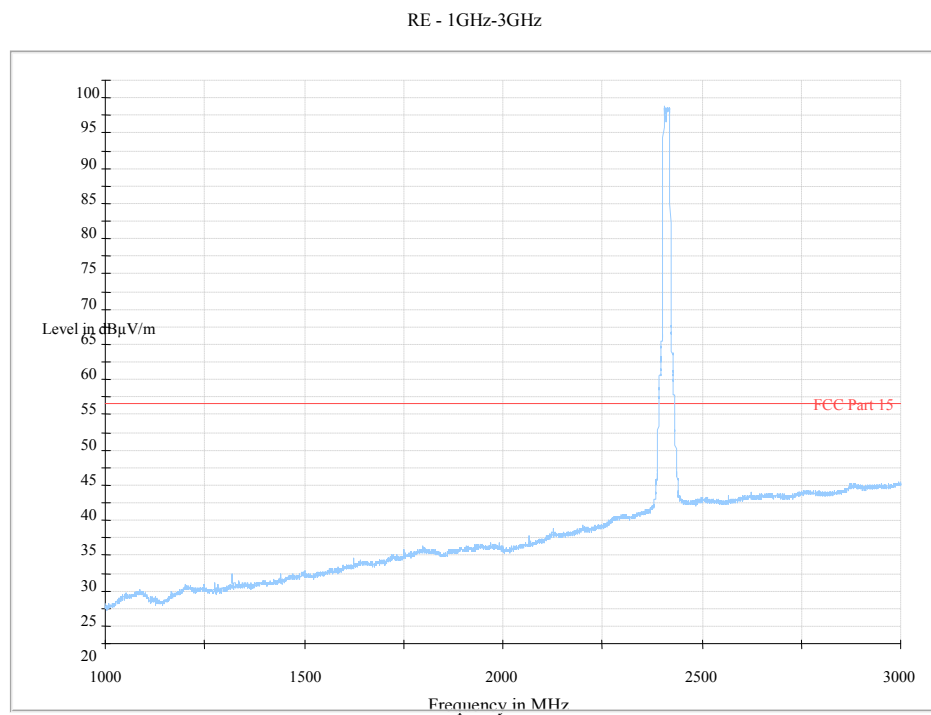
**Fig. 107 Radiated Spurious Emission (802.11b, Ch11, 3 GHz-18 GHz)**



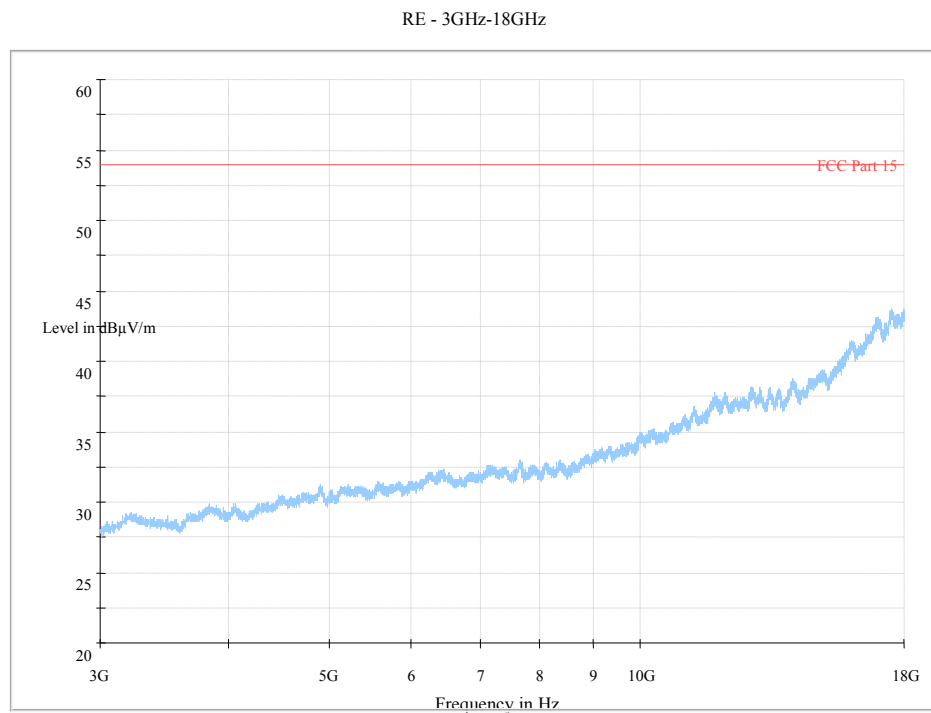
**Fig. 108 Radiated Spurious Emission (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz**



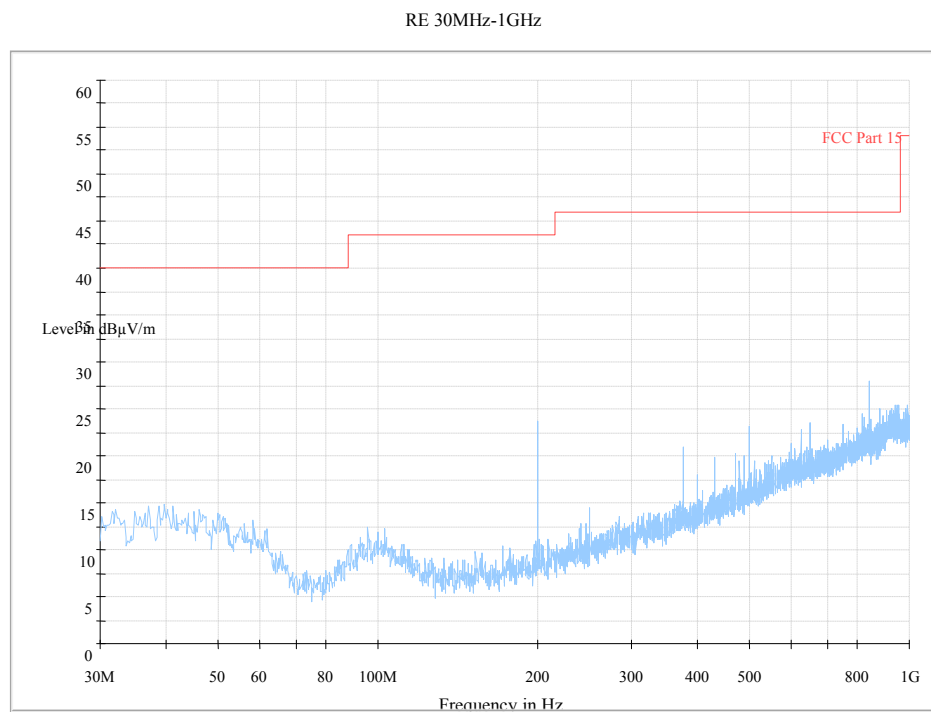
**Fig. 109 Radiated Spurious Emission (802.11g, Ch1, 30 MHz-1 GHz)**



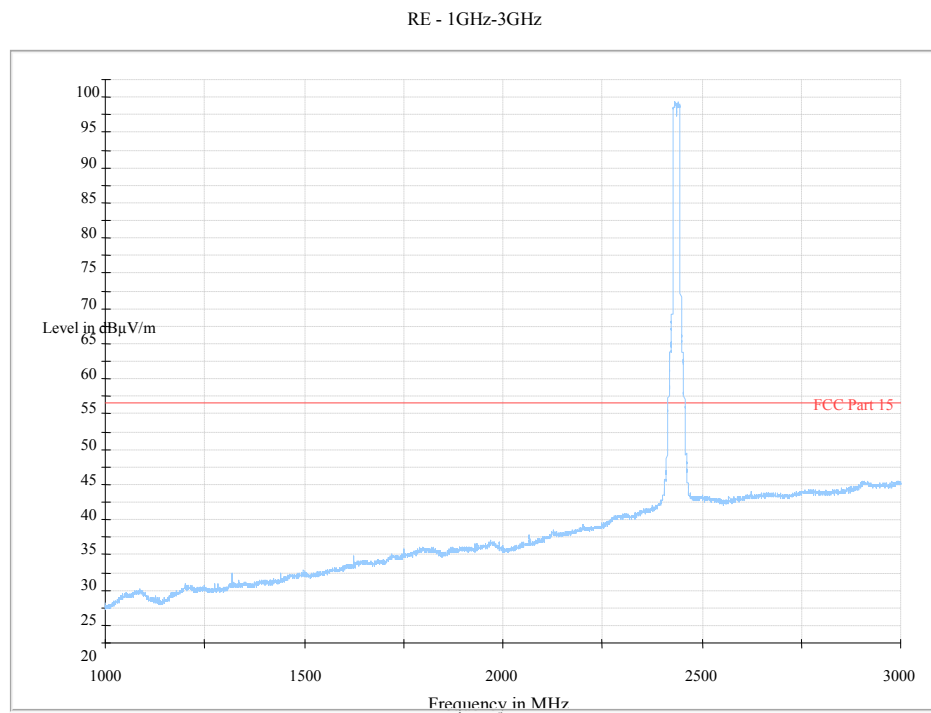
**Fig. 110 Radiated Spurious Emission (802.11g, Ch1, 1 GHz-3 GHz)**



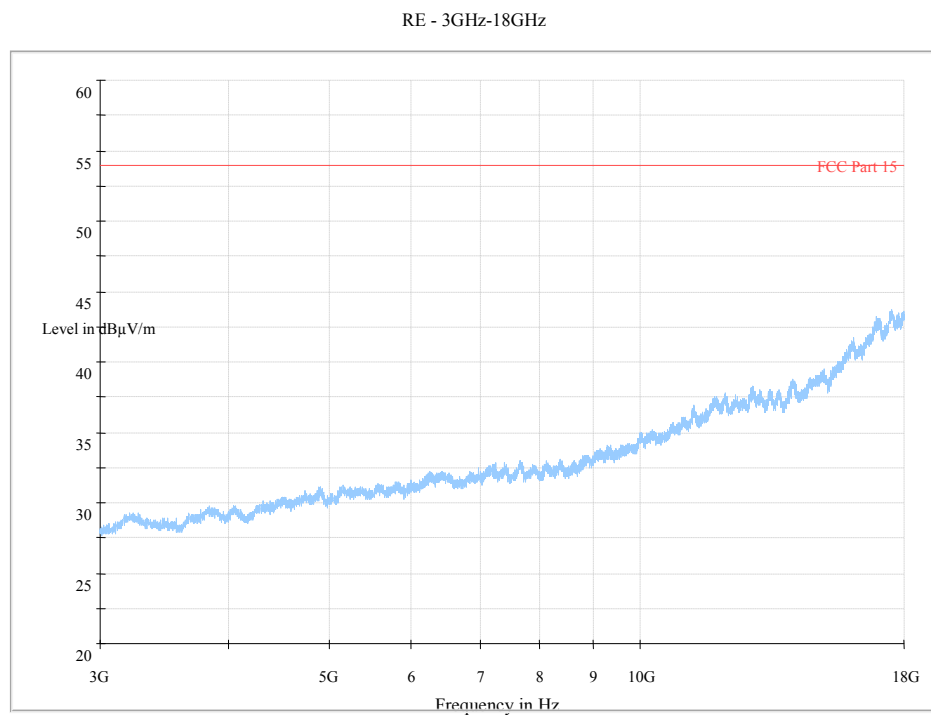
**Fig. 111 Radiated Spurious Emission (802.11g, Ch1, 3 GHz-18 GHz)**



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

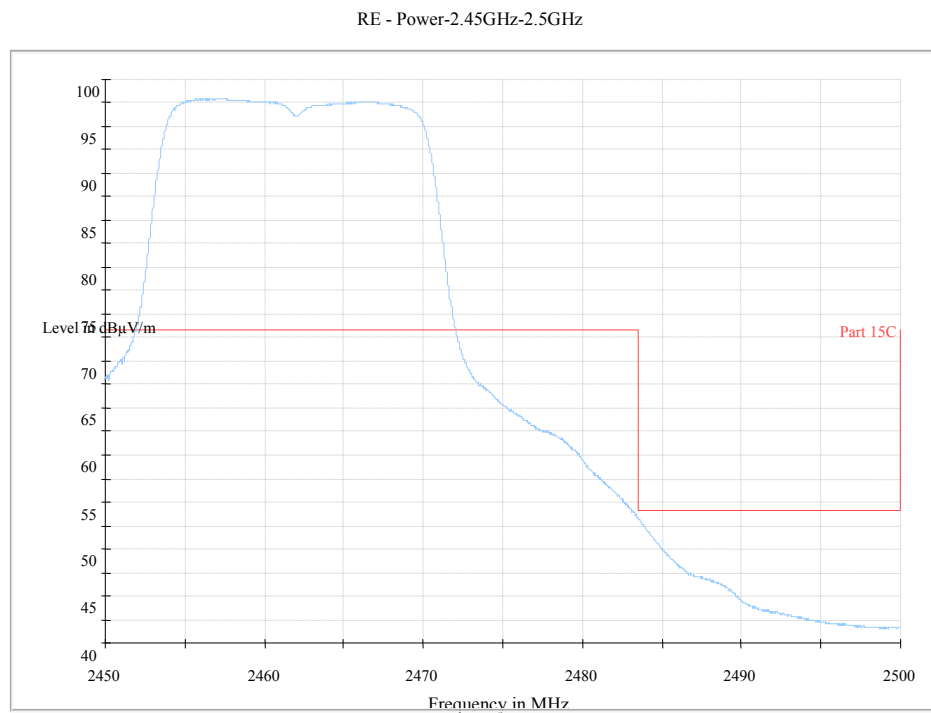


**Fig. 113 Radiated Spurious Emission (802.11g, Ch6, 1 GHz-3 GHz)**

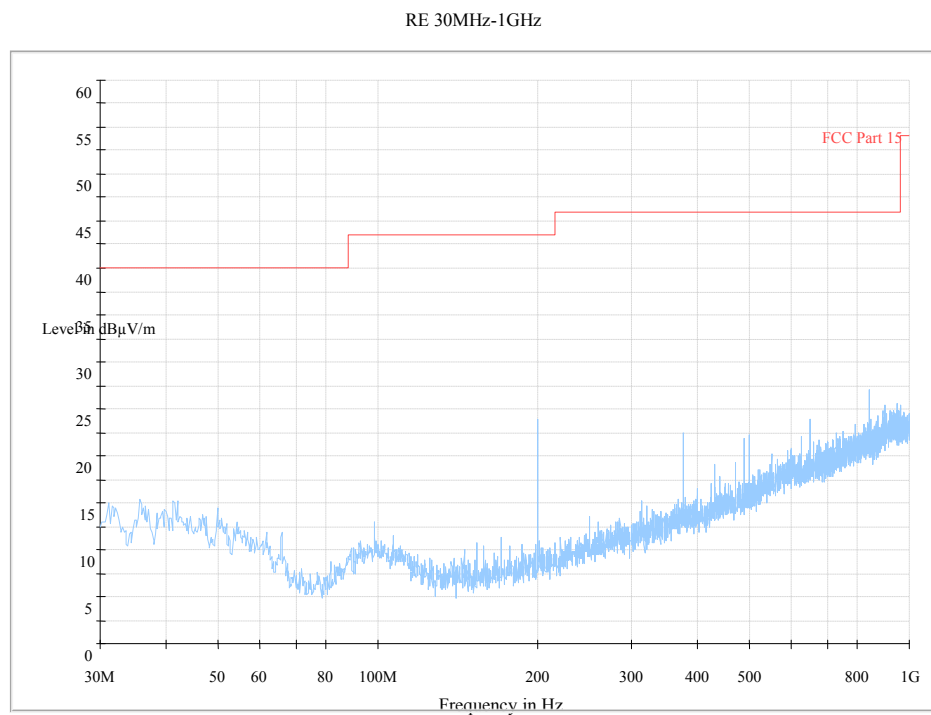


**Fig. 114 Radiated Spurious Emission (802.11g, Ch6, 3 GHz-18 GHz)**

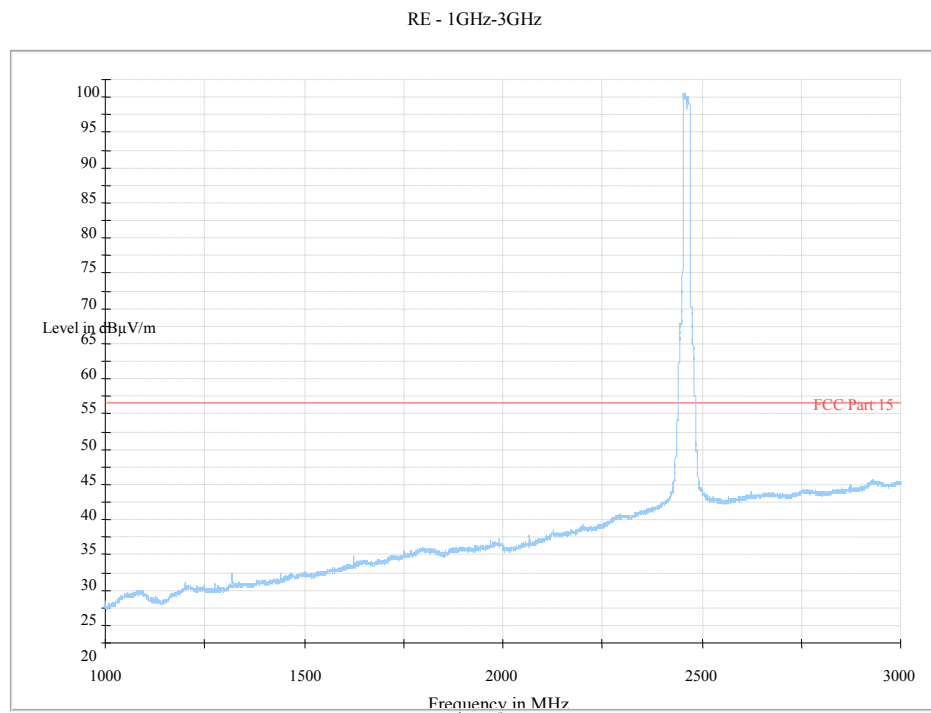




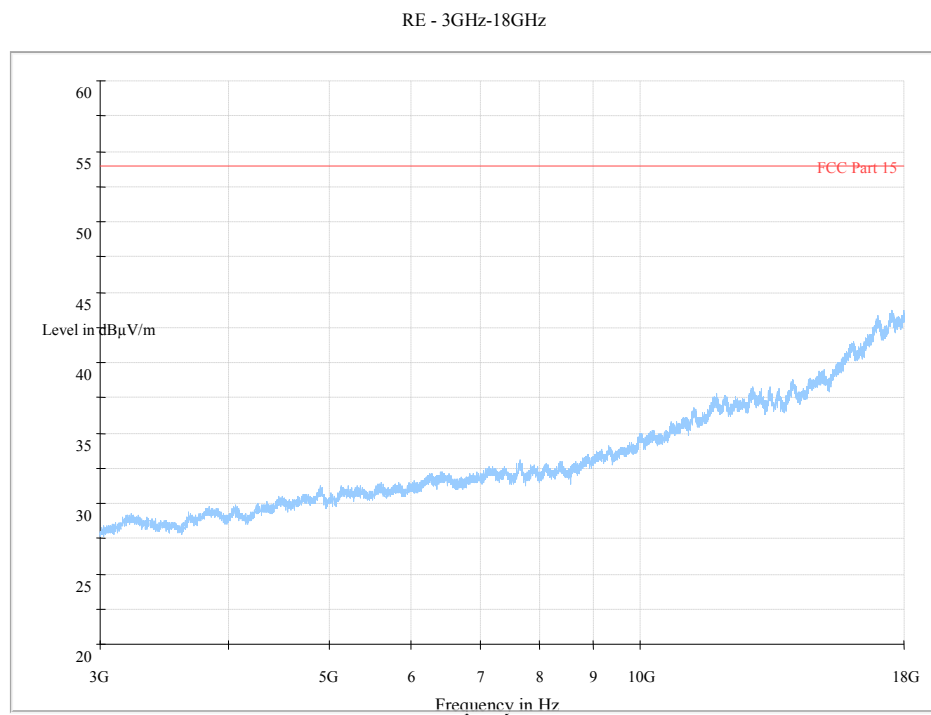
**Fig. 115 Radiated Spurious Emission (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**



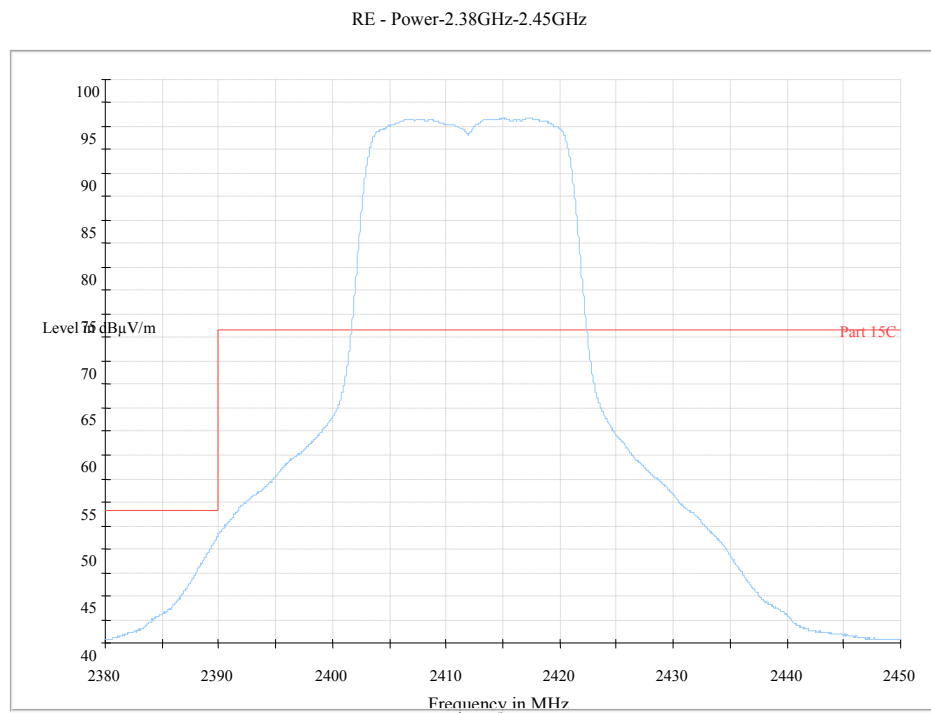
**Fig. 116 Radiated Spurious Emission (802.11g, Ch11, 30 MHz-1 GHz)**



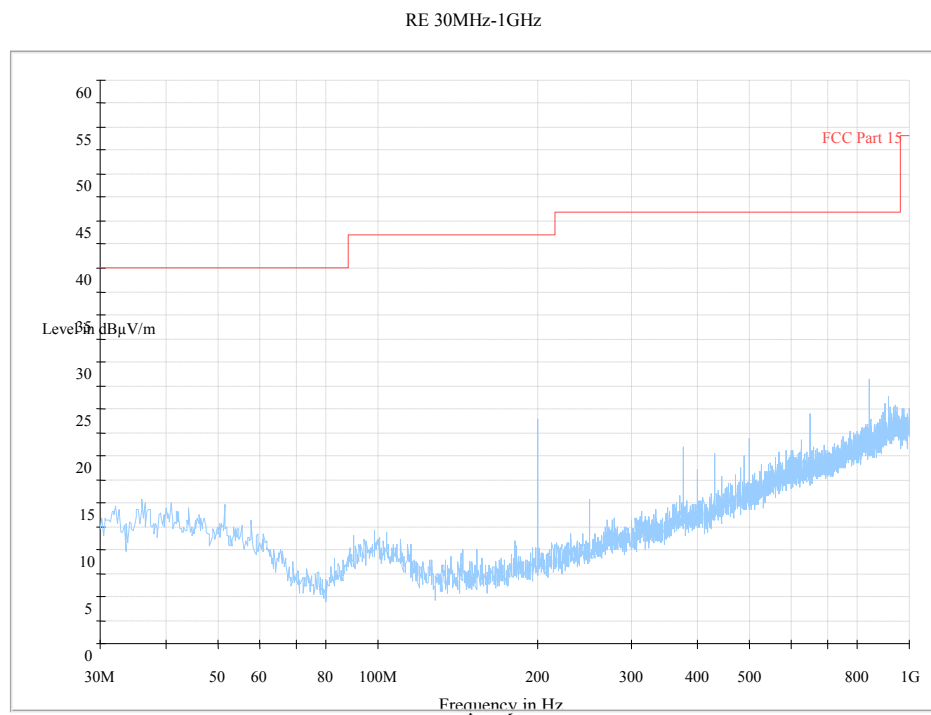
**Fig. 117 Radiated Spurious Emission (802.11g, Ch11, 1 GHz-3 GHz)**



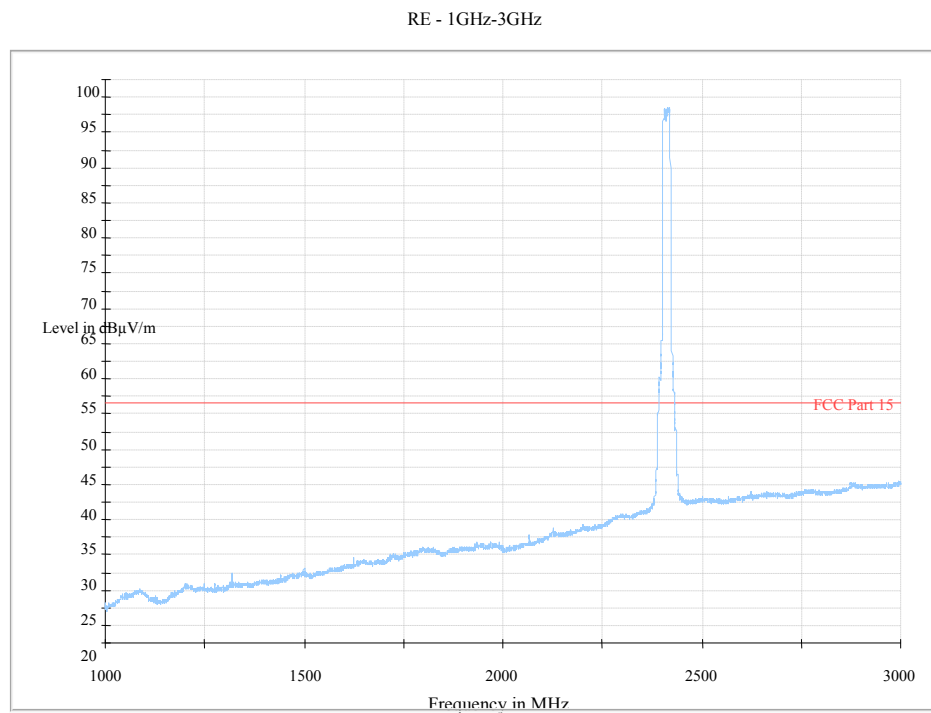
**Fig. 118 Radiated Spurious Emission (802.11g, Ch11, 3 GHz-18 GHz)**



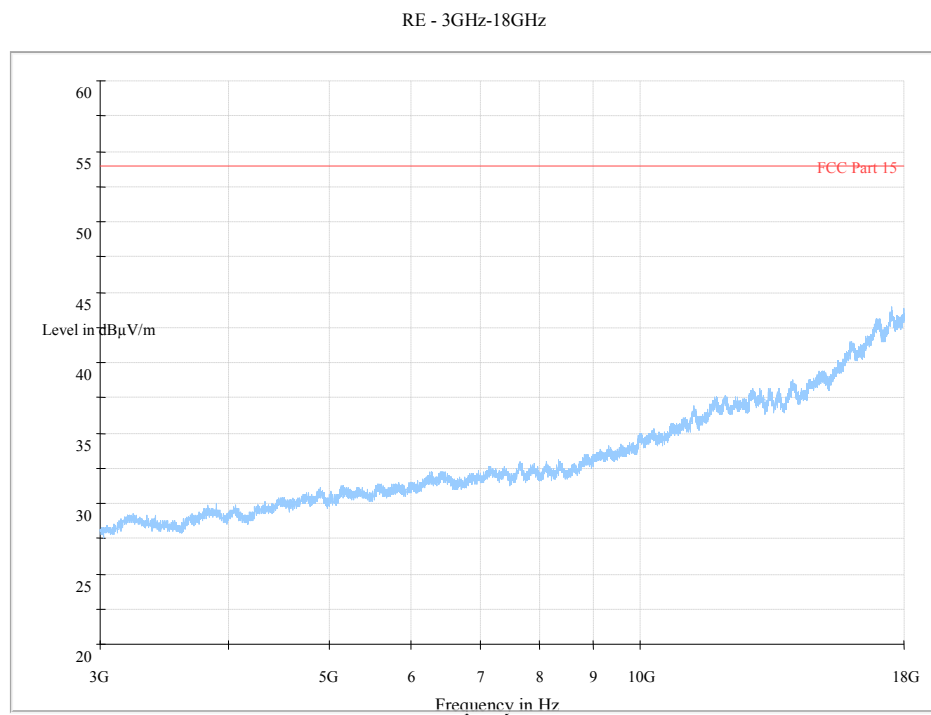
**Fig. 119 Radiated Spurious Emission (Power): 802.11n-20MHz, ch1, 2.38 GHz - 2.45GHz**



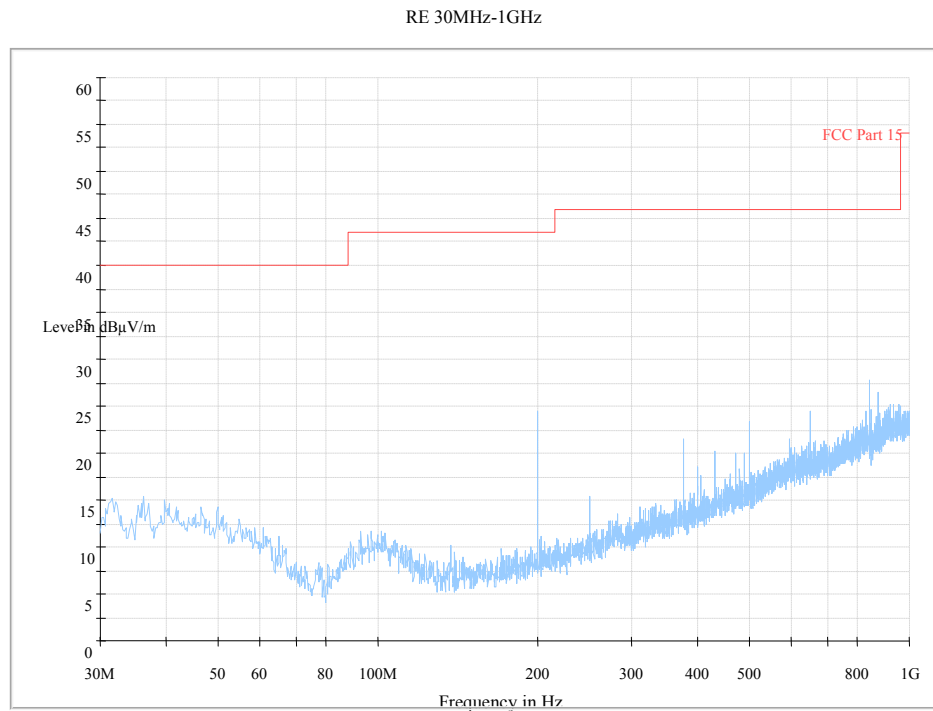
**Fig. 120 Radiated Spurious Emission (802.11n-20MHz, Ch1, 30 MHz-1 GHz)**



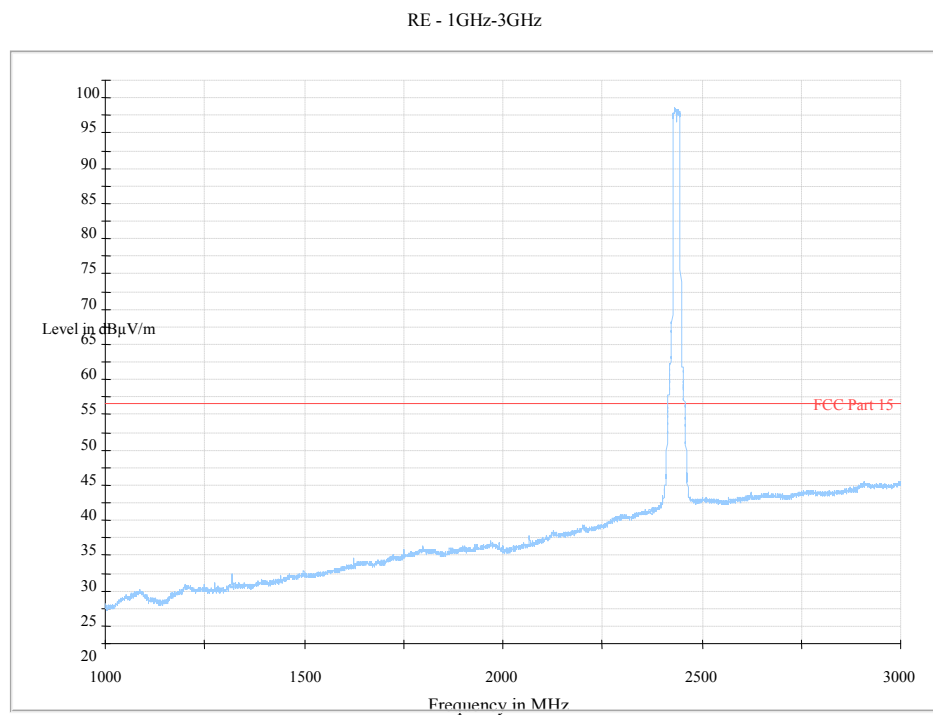
**Fig. 121 Radiated Spurious Emission (802.11n-20MHz, Ch1, 1 GHz-3 GHz)**



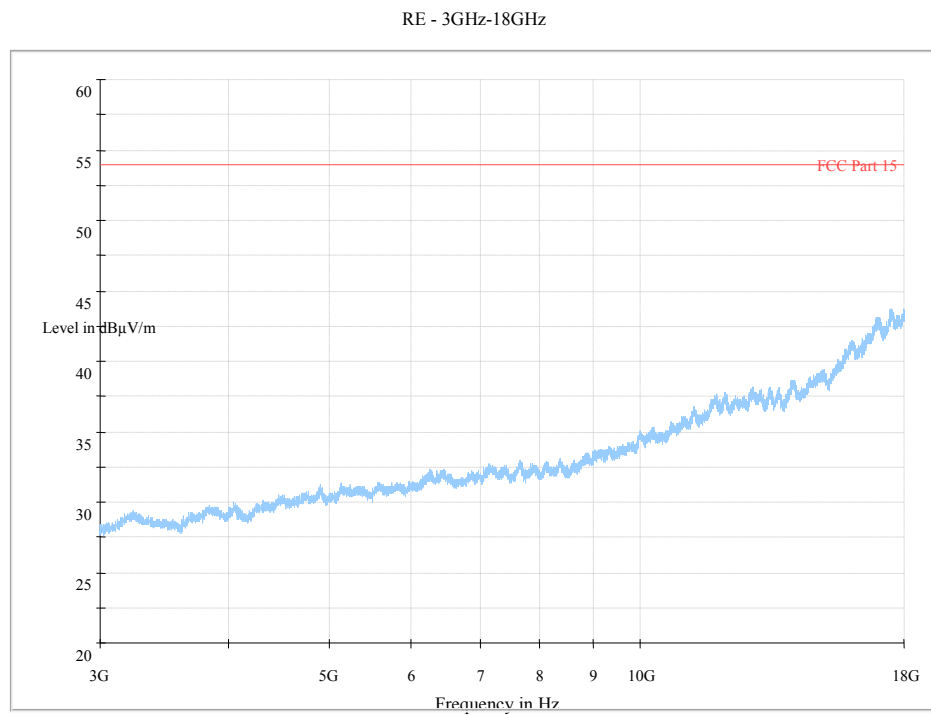
**Fig. 122 Radiated Spurious Emission (802.11n-20MHz, Ch1, 3 GHz-18 GHz)**



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



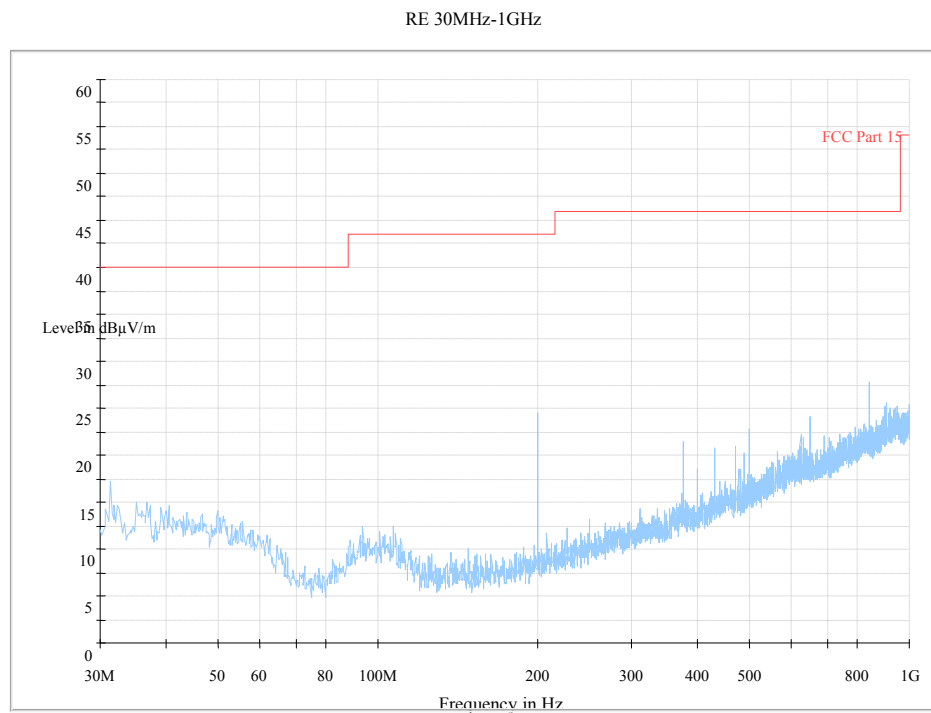
**Fig. 124 Radiated Spurious Emission (802.11n-20MHz, Ch6, 1 GHz-3 GHz)**



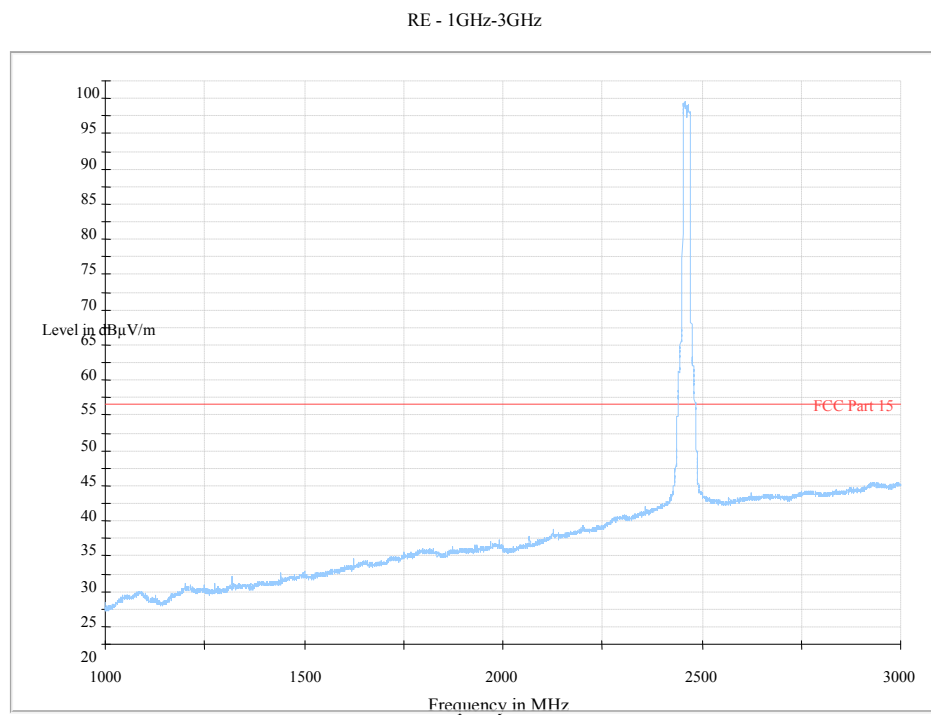
**Fig. 125 Radiated Spurious Emission (802.11n-20MHz, Ch6, 3 GHz-18 GHz)**



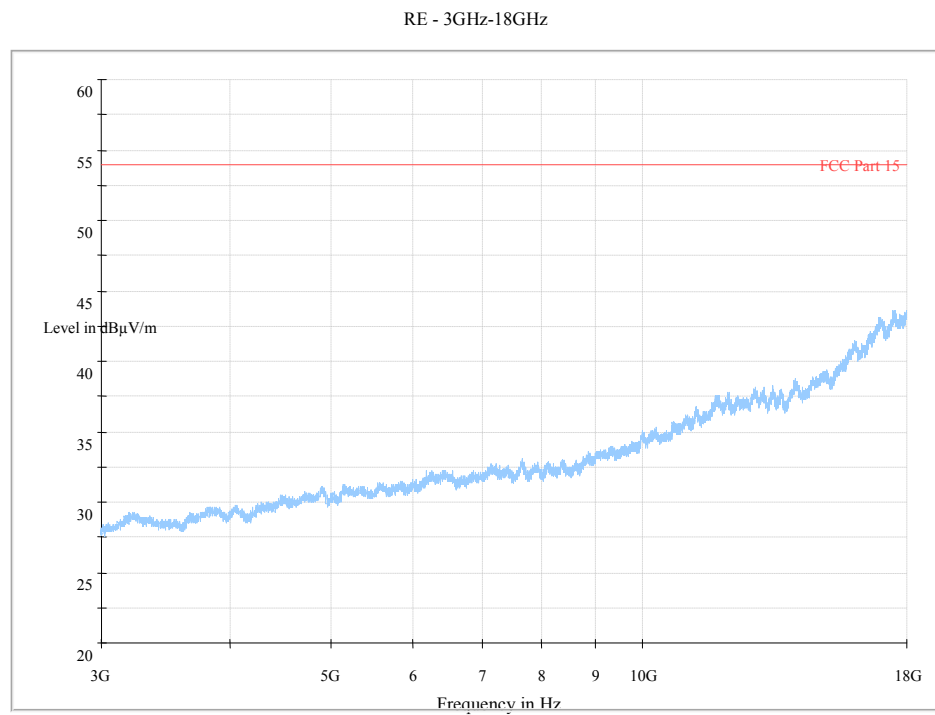
**Fig. 126 Radiated Spurious Emission (Power): 802.11n-20MHz, ch11, 2.45 GHz - 2.50GHz**



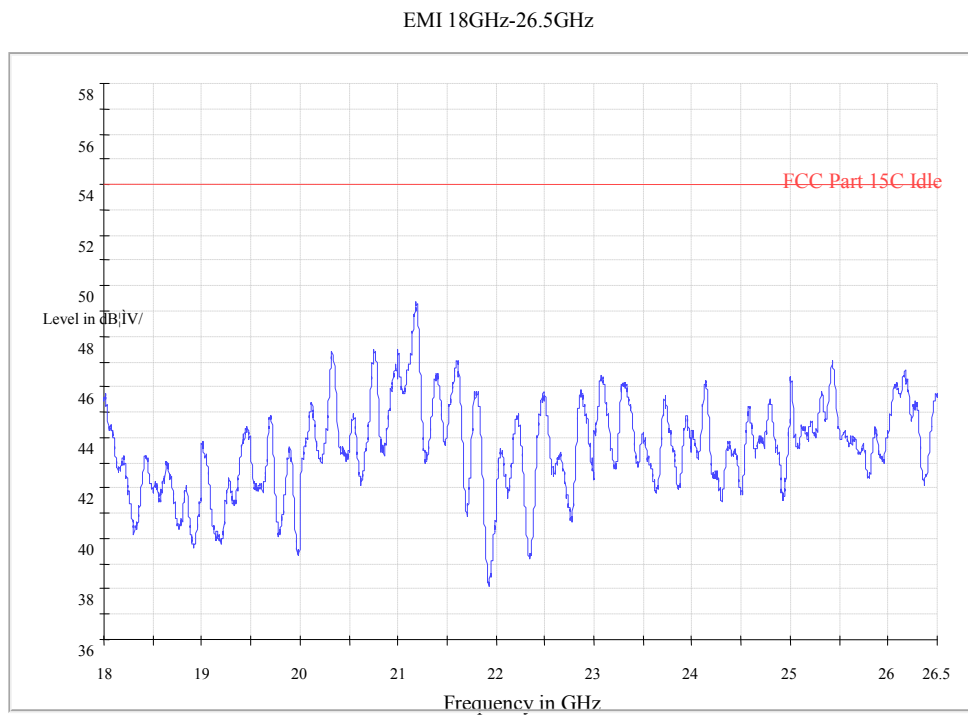
**Fig. 127 Radiated Spurious Emission (802.11n-20MHz, Ch11, 30 MHz-1 GHz)**



**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 Spurious Emission (All channels): 18GHz – 26.5GHz**



## 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 (dBμV)	Result (dBμV)			Conclusion
		With charger			
		802.11b	802.11g	802.11n	
0.15 to 0.5	66 to 56	Fig. 131	Fig.132	Fig.133	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)

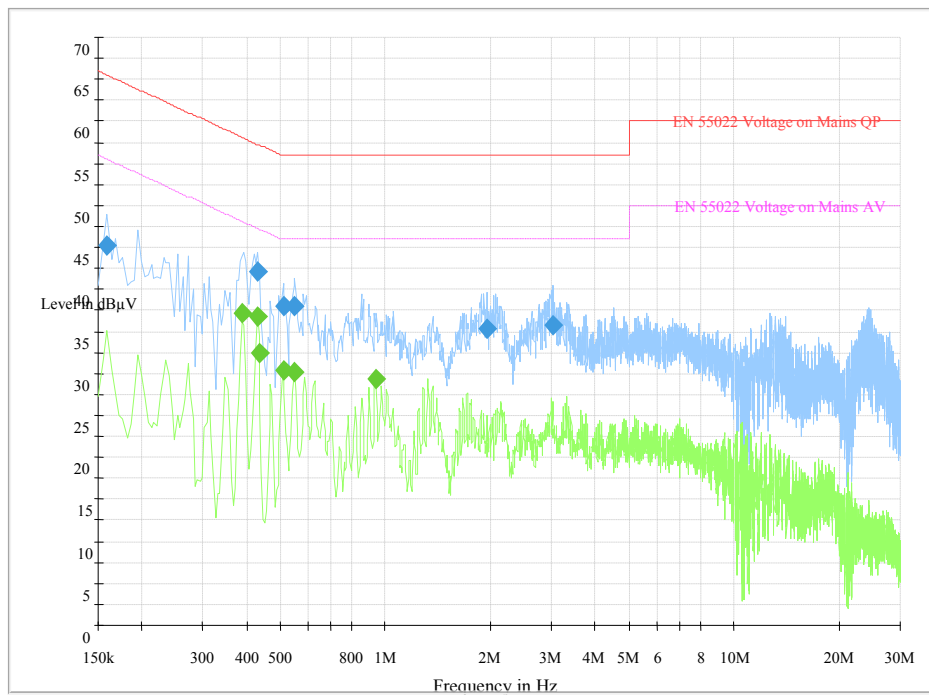
Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)			Conclusion
		With charger			
		802.11b	802.11g	802.11n	
0.15 to 0.5	56 to 46	Fig.131	Fig.132	Fig.133	P
0.5 to 5	46				
5 to 30	50				

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

**Conclusion: PASS**

**Test graphs as below:**



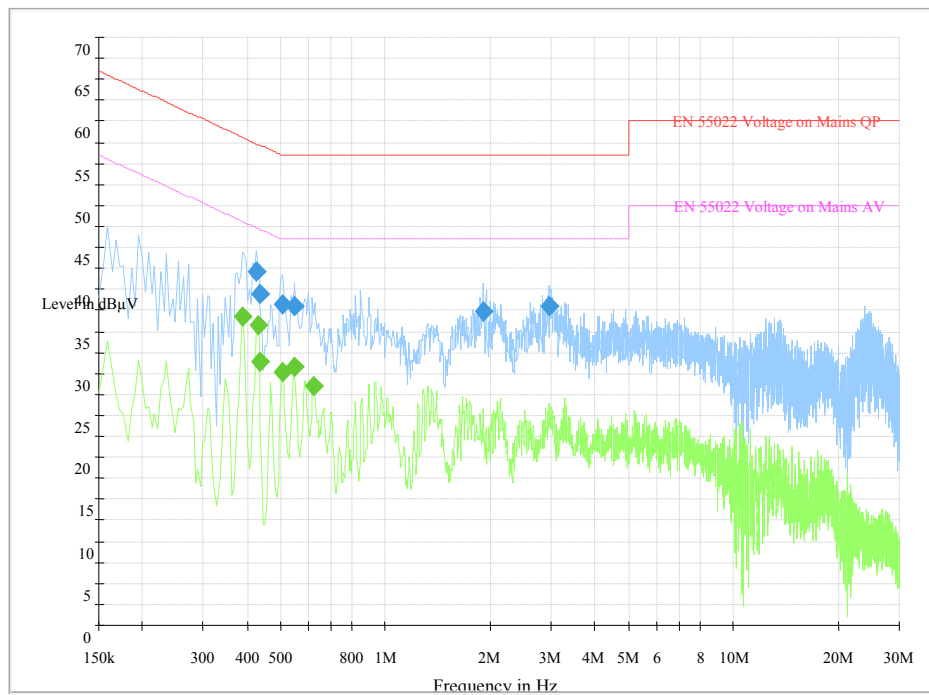
**Fig. 131 AC Powerline Conducted Emission-802.11b**

**Final Result 1**

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.159000	45.3	GND	L1	10.0	20.2	65.5
0.429000	42.1	GND	L1	10.0	15.2	57.3
0.510000	38.1	GND	L1	10.0	17.9	56.0
0.550500	38.1	GND	L1	10.0	18.0	56.0
1.959000	35.3	GND	L1	10.0	20.7	56.0
3.021000	35.8	GND	L1	10.0	20.2	56.0

**Final Result 2**

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.388500	37.1	GND	L1	10.0	11.0	48.1
0.429000	36.8	GND	L1	10.0	10.5	47.3
0.433500	32.4	GND	L1	10.0	14.8	47.2
0.510000	30.4	GND	L1	10.0	15.6	46.0
0.550500	30.2	GND	L1	10.0	15.8	46.0
0.937500	29.3	GND	N	10.0	16.7	46.0



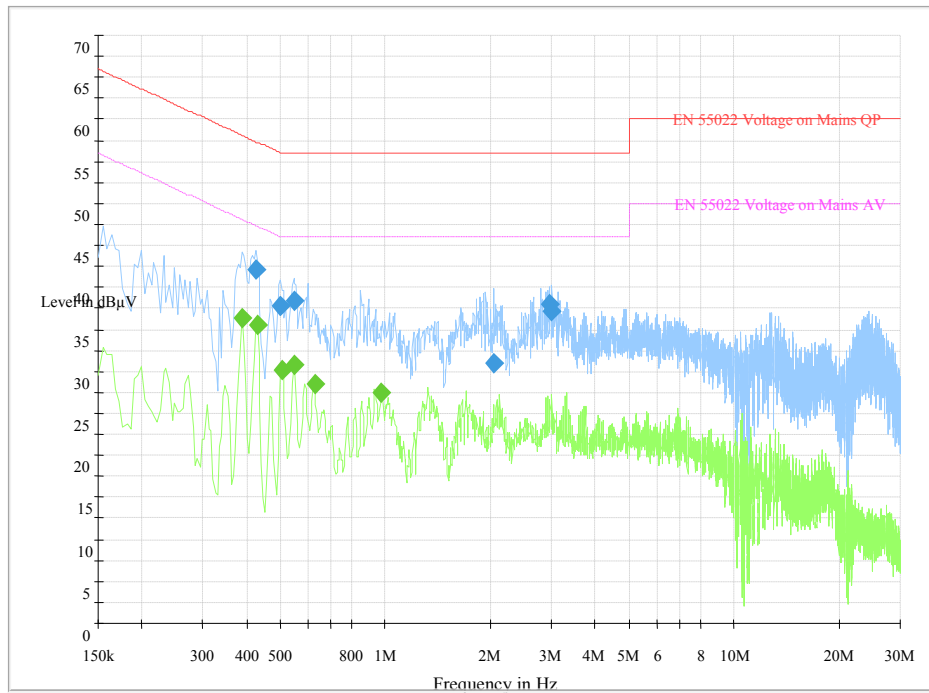
**Fig. 132 AC Powerline Conducted Emission-802.11g**

**Final Result 1**

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.424500	42.2	GND	L1	10.0	15.2	57.4
0.433500	39.4	GND	L1	10.0	17.8	57.2
0.505500	38.2	GND	L1	10.0	17.8	56.0
0.550500	37.9	GND	L1	10.0	18.1	56.0
1.914000	37.3	GND	L1	10.0	18.7	56.0
2.967000	38.1	GND	L1	10.0	17.9	56.0

**Final Result 2**

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.388500	36.7	GND	L1	10.0	11.4	48.1
0.429000	35.6	GND	N	10.0	11.6	47.3
0.433500	31.3	GND	L1	10.0	15.9	47.2
0.505500	30.2	GND	L1	10.0	15.8	46.0
0.546000	30.8	GND	L1	10.0	15.2	46.0
0.622500	28.6	GND	N	10.0	17.4	46.0



**Fig. 133 AC Powerline Conducted Emission-802.11n**

**Final Result 1**

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.424500	42.0	GND	L1	10.0	15.3	57.4
0.501000	37.7	GND	L1	10.0	18.3	56.0
0.546000	38.4	GND	L1	10.0	17.6	56.0
2.049000	31.0	GND	L1	10.0	25.0	56.0
2.967000	37.9	GND	L1	10.0	18.1	56.0
3.007500	37.3	GND	L1	10.0	18.8	56.0

**Final Result 2**

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.388500	36.3	GND	L1	10.0	11.8	48.1
0.429000	35.5	GND	L1	10.0	11.7	47.3
0.505500	30.2	GND	L1	10.0	15.8	46.0
0.546000	30.8	GND	L1	10.0	15.2	46.0
0.627000	28.4	GND	N	10.0	17.6	46.0
0.978000	27.5	GND	N	10.0	18.5	46.0

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