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# TEST REPORT

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Report No.: SRTC2011-H024-E0028

Product Name: GSM/GPRS/EDGE/WCDMA

Digital Mobile Phone with Bluetooth and WiFi

Marketing Name: one touch 901A

Product Model: yippee 3G\_A

Applicant: TCT Mobile Limited

Manufacture: TCT Mobile Limited

Specification: 47CFR Part 15 July 10, 2008, Subpart C

FCC ID: RAD161

The State Radio\_monitoring\_center Testing Center (SRTC)

No.80 Beilishi Road Xicheng District Beijing, China

Tel: 86-10-68009202 Fax: 86-10-68009205

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## 1. General information

### 1.1 Notes of the test report

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The test results relate only to individual items of the samples which have been tested.

### 1.2 Information about the testing laboratory

Company: The State Radio\_monitoring\_center Testing Center (SRTC)  
Address: No.80 Beilishi Road, Xicheng District, Beijing China  
City: Beijing  
Country or Region: China  
Contacted person: Wang Junfeng  
Tel: +86 10 68009181 +86 10 68009202  
Fax: +86 10 68009195 +86 10 68009205  
Email: wangjf@srrc.org.cn / wangjunfeng@srtc.org.cn

### 1.3 Applicant's details

Company: TCT Mobile Limited  
Address: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China  
City: Shanghai  
Country or Region: P.R. China  
Grantee Code: RAD  
Contacted person: Gong Zhizhou  
Tel: +86-21-61460890  
Fax: +86-21-61460602  
Email: zhizhou.gong@jrdcom.com

### 1.4 Manufacturer's details

Company: TCT Mobile Limited  
Address: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China.  
City: Shanghai  
Country or Region: P.R.China  
Contacted person: Gong Zhizhou  
Tel: +86-21-61460890  
Fax: +86-21-61460602  
Email: zhizhou.gong@jrdcom.com

## 1.5 Application details

Date of receipt of test sample: 11<sup>th</sup> March 2011

Date of test: 24<sup>th</sup> April 2011 to 17<sup>th</sup> May 2011

## 1.6 Reference specification

47CFR Part 15, July 10, 2008, Subpart C

## 1.7 Information of EUT

### 1.7.1 General information

Name of EUT	GSM/GPRS/EDGE/WCDMA Digital Mobile Phone with Bluetooth and WiFi
FCC ID	RAD161
Frequency range	2.4~2.4835GHz
Number of channel	11
Modulation type	DBPSK/DQPSK/CCK/BPSK/QPSK/16QAM/64QAM
Duplex mode	TDD
Channel spacing	5MHz
Data rate	1Mbps/2Mbps/5.5Mbps/11Mbps/6Mbps/9Mbps/12Mbps/ 18Mbps/24Mbps/36Mbps/48Mbps/54Mbps
Antenna type	Integral
Power Supply	Battery or charger
Rated Power Supply Voltage	3.8V
HW Version	PIO1
SW Version	sw524

### 1.7.2 EUT details

Product Name	Marketing Name	Product Model	IMEI
GSM/GPRS/EDGE/WCDMA Digital Mobile Phone with Bluetooth and WiFi	one touch 901A	yippee 3G_A	EUT 1: 01259600000078 EUT 2: 012596000000110

### 1.7.3 Auxiliary equipment details

Equipment	Charger
Manufacturer	Ten Pao International Ltd.
Model Number	CBA3120AG0C2
Input Voltage	100V-240V a.c.
Output Voltage	5.0V d.c.
Frequency	50/60Hz

Equipment	Charger
Manufacturer	HUIZHOU BYD ELECTRONIC CO., LTD.
Model Number	CBA3001AG0C1
Input Voltage	100V-240V a.c.
Output Voltage	5.0V d.c.
Frequency	50/60Hz

Equipment	Battery
Manufacturer	BYD LITHIUM BATTERY CO., LTD
Model Number	CAB31L0000C1
Capacity	1000mAh
Rated Voltage	3.7V d.c.

Equipment	Battery
Manufacturer	SHENZHEN BAK BATTERY CO., LTD
Model Number	CAB31L0000C2
Capacity	1000mAh
Rated Voltage	3.7V d.c.

Equipment	Data Cable
Manufacturer	Shen Zhen Ju Wei Electronic Co.,LTD
Model Number	CDA3122001C1

Equipment	Data Cable
Manufacturer	Huizhou Shenghua Industry Co.,Ltd
Model Number	CDA3122001C2


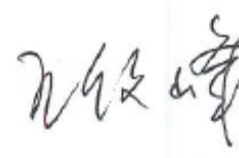

Note: As the information described above, there are two different models of charger manufactured by two different companies, and two different models of battery manufactured by two different companies.

The relevant tests have been performed in order to verify in which combination case (EUT exercised by only one model of battery and one model of charger) the EUT would have the worst features. So all the tests shown in this test report are performed when the EUT exercised by the charger CBA3120AG0C2 and the battery CAB31L0000C1.

## 2. Test information

### 2.1 Summary of the test results

No.	Test case	FCC reference	Verdict
1	Peak Power Output	15.247(b) (3)	Pass
2	Occupied Bandwidth	15.247(a) (2)	Pass
3	Transmitter Power Spectral Density	15.247 (e)	Pass
4	Spurious RF Conducted Emissions	15.247(d)	Pass
5	Spurious Radiated Emissions	15.247(d),15.209(a)	Pass
6	Band Edge Compliance	15.247(d)	Pass
7	AC Powerline Conducted Emission	15.107, 15.207	Pass

This Test Report Is Issued by: Mr. Song Qizhu Director of the test lab 	Checked by: Mr. Wang Junfeng Deputy director of the test lab 
Tested by: Mr. Li Bin Test engineer 	Issued date:  <p style="text-align: center;"><b>2011.05.17</b></p>

## 2.2 Test result

### 2.2.1 Peak power output-§15.247(b) (3)

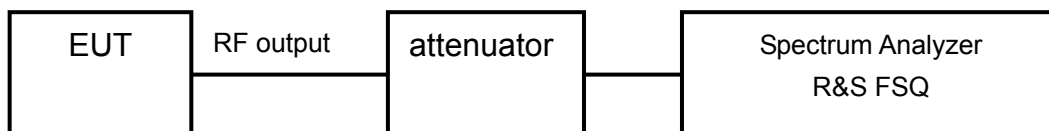
#### 2.2.1.1 Ambient condition:

Temperature	Relative humidity	Pressure
22°C	40%	101.1kPa

#### 2.2.1.2 Test Description

The measurement is made according to ANSI C63.10-2009 and KDB558074. WIFI is operating in 100% Duty Factor mode.

The resolution bandwidth for measuring the output power was 20 MHz.



#### 2.2.1.3 Test limit

FCC Part 15, Subpart C, §15.247 (b) (3)

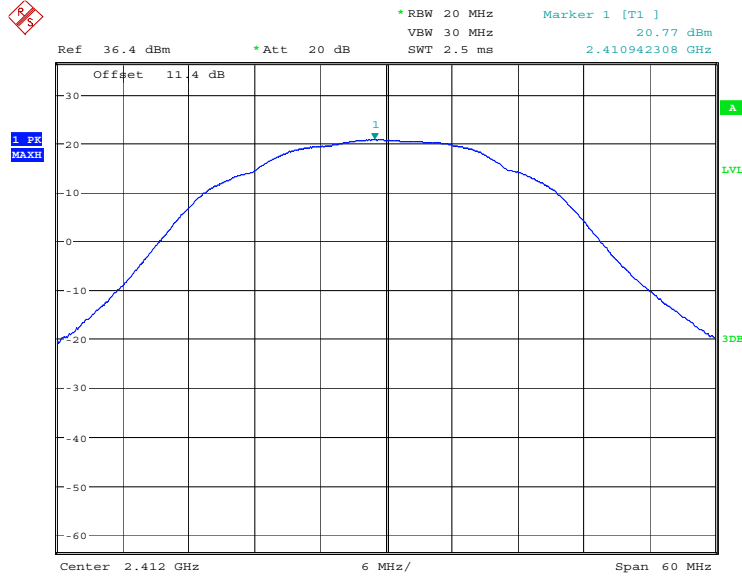
Used conversion factor: Limit (dBm) = 10 log (Limit (W)/1mW)

==> Maximum Output Power: 30 dBm

#### 2.2.1.4 Test result:

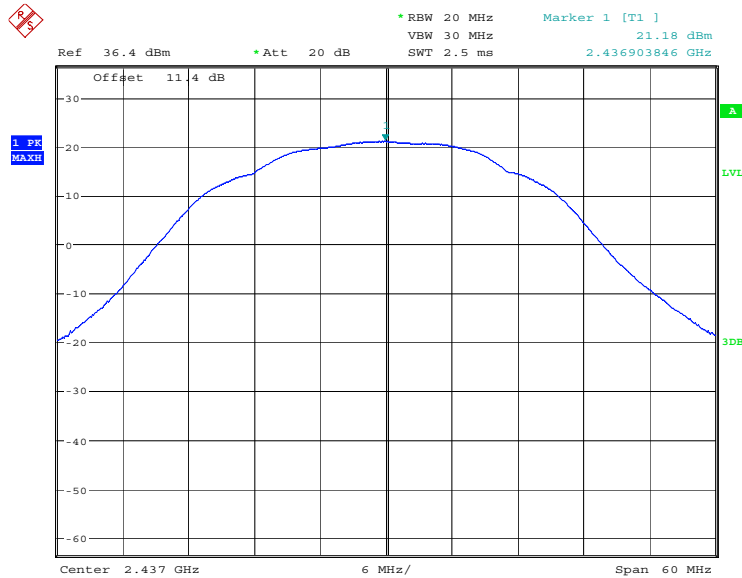
Test Mode	Data Rate (Mbps)	Test Result(dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	20.77	21.18	20.94
	2	----	21.06	----
	5.5	----	20.64	----
	11	----	20.96	----
802.11g	6	----	23.06	----
	9	----	23.12	----
	12	----	22.93	----
	18	----	23.31	----
	24	----	23.17	----
	36	22.89	23.47	22.52
	48	----	23.13	----
	54	----	23.00	----

The data rate 11 and 54 are selected as worse condition, and the following cases are performed with this condition.



Date: 12.MAY.2011 18:44:17

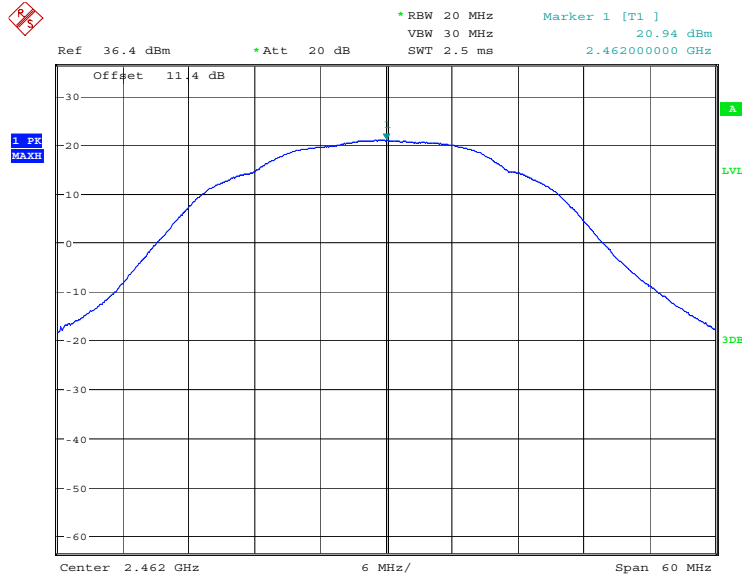
Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11b



Date: 12.MAY.2011 18:33:00

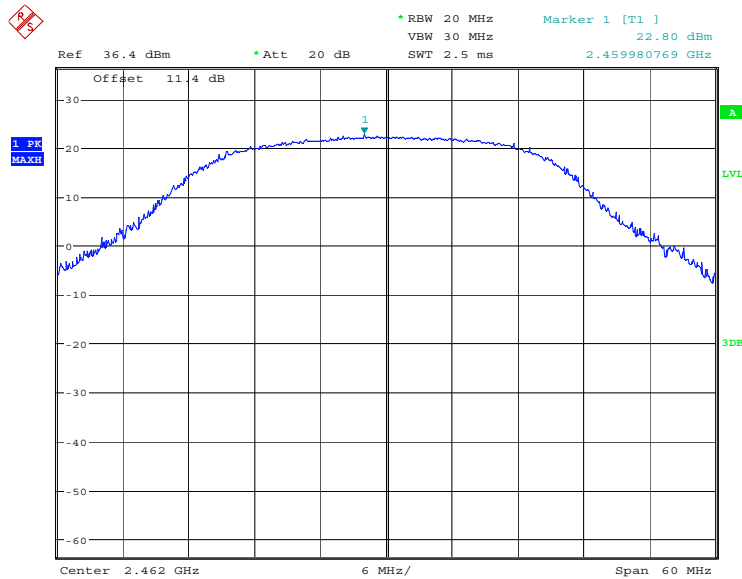
Carrier frequency (MHz): 2437  
 Channel No.:6  
 Test Mode: 802.11b





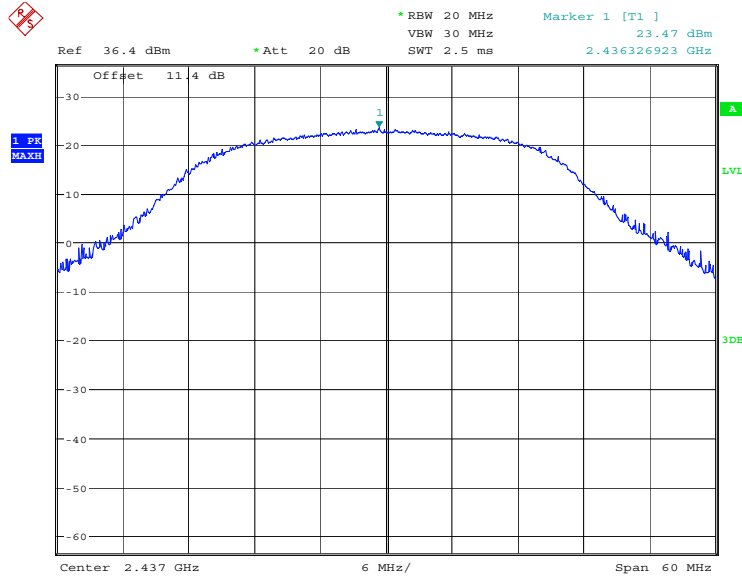
Date: 12.MAY.2011 18:38:16

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11b



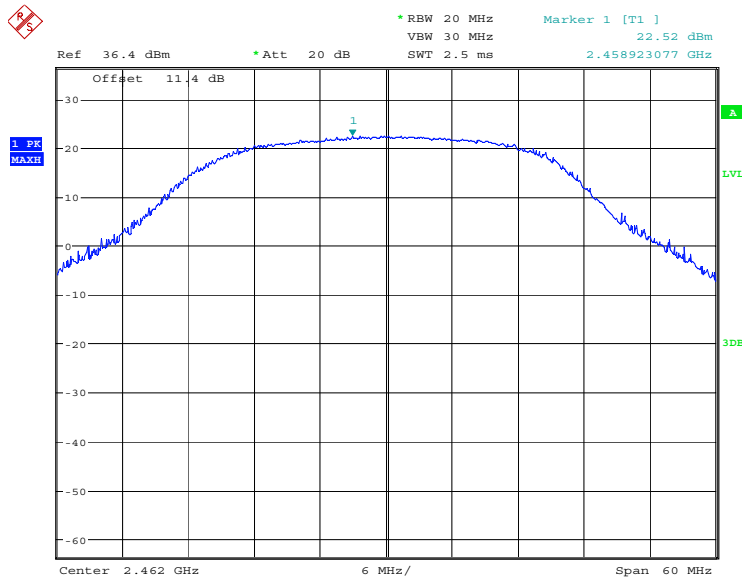
Date: 12.MAY.2011 18:43:12

Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11g



Date: 12.MAY.2011 18:36:56

Carrier frequency (MHz): 2437  
 Channel No.:6  
 Test Mode: 802.11g



Date: 12.MAY.2011 18:42:53

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11g

## 2.2.2 Occupied Bandwidth-§15.247(a) (2)

### 2.2.2.1 Ambient condition

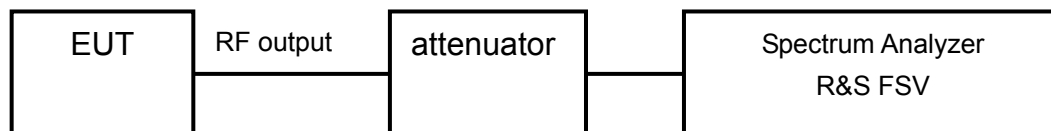
Temperature	Relative humidity	Pressure
22°C	40%	101.1kPa

### 2.2.2.2 Test Description

The measurement is made according to ANSI C63.4-2009 and KDB558074. The Equipment Under Test (EUT) was setup in a shielded room to perform the occupied bandwidth measurements.

The reference level is the level of the highest amplitude signal observed from the transmitter at either the fundamental frequency or first-order modulation products in all typical modes of operation, including the unmodulated carrier, even if atypical.

The results recorded were measured with the modulation which produces the worst-case (widest) occupied bandwidth.



### 2.2.2.3 Test limit

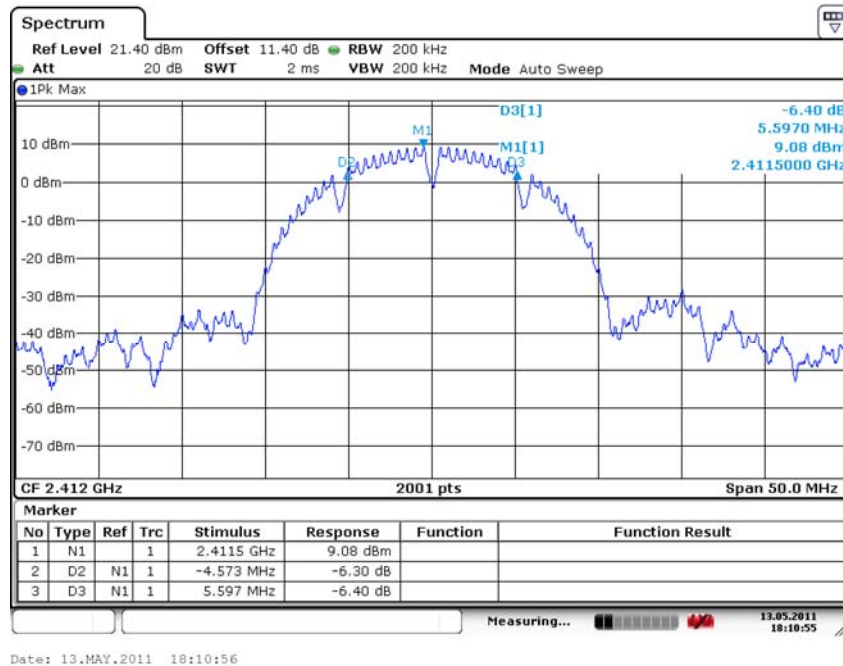
FCC Part 15, Subpart C, §15.247 (a) (2)

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500kHz.

### 2.2.2.4 Test result

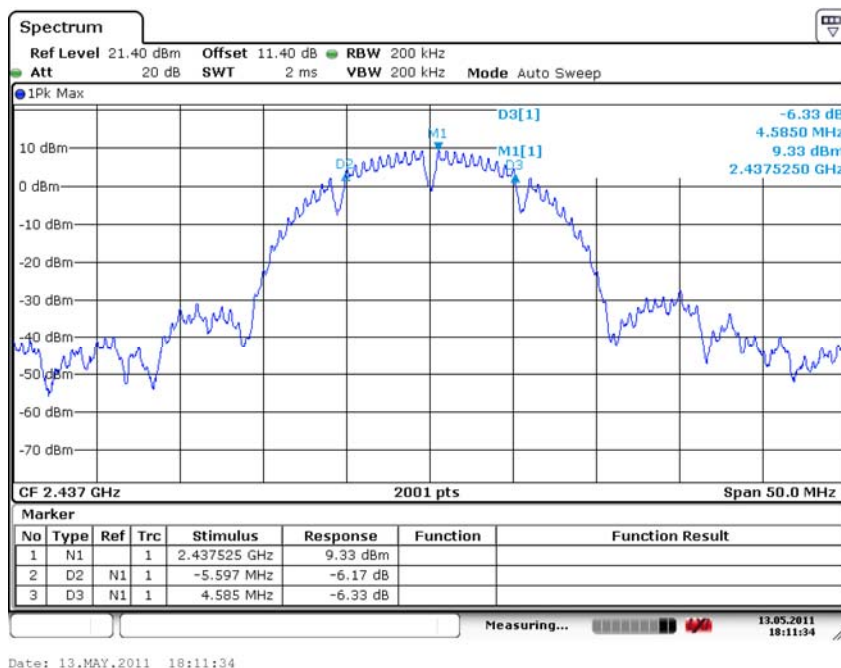
Test Mode: 802.11b

Carrier frequency (MHz)	Channel No.	6 dB bandwidth(MHz)
2412	1	10.17
2437	6	10.18
2462	11	10.17

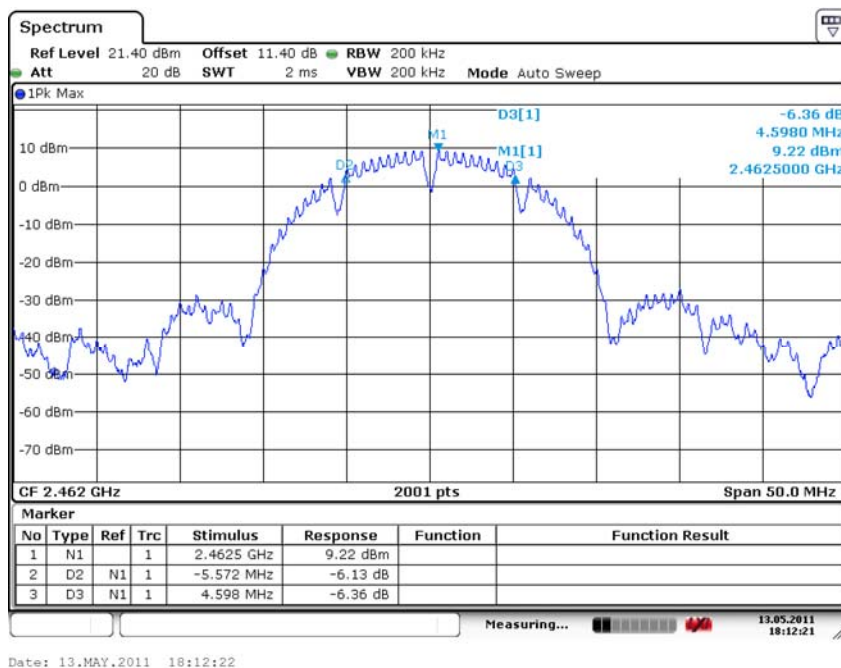


Date: 13.MAY.2011 18:10:56

Carrier frequency (MHz): 2412  
Channel No.: 1  
Test Mode: 802.11b



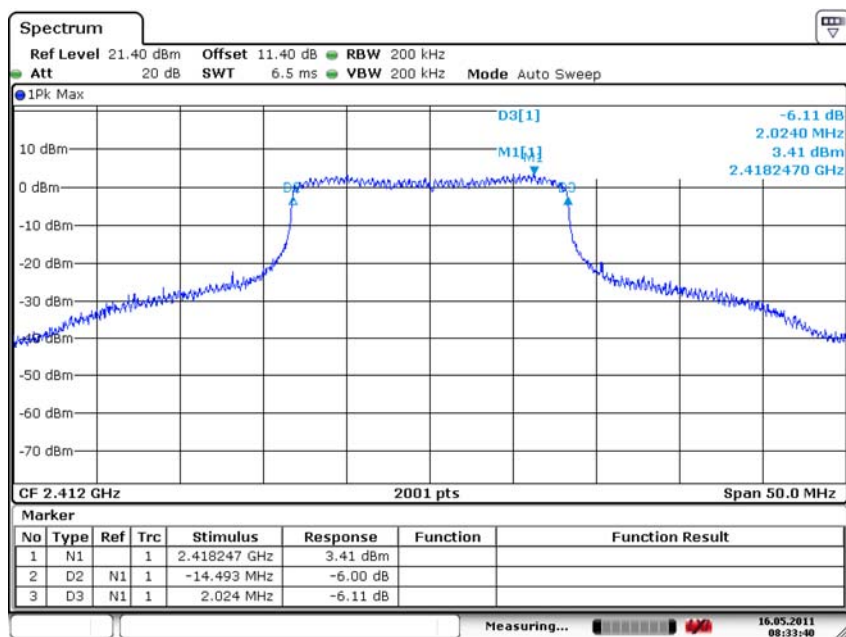
Carrier frequency (MHz): 2437  
Channel No.:6  
Test Mode: 802.11b



Carrier frequency (MHz): 2462  
Channel No.:11  
Test Mode: 802.11b

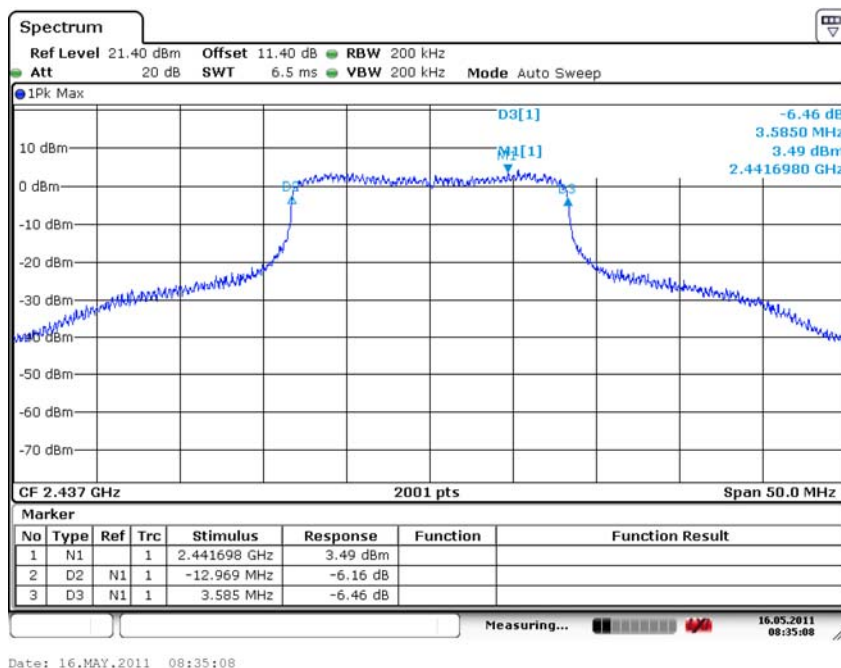
Test Mode: 802.11g

Carrier frequency (MHz)	Channel No.	6 dB bandwidth(MHz)
2412	1	16.52
2437	6	16.55
2462	11	16.59

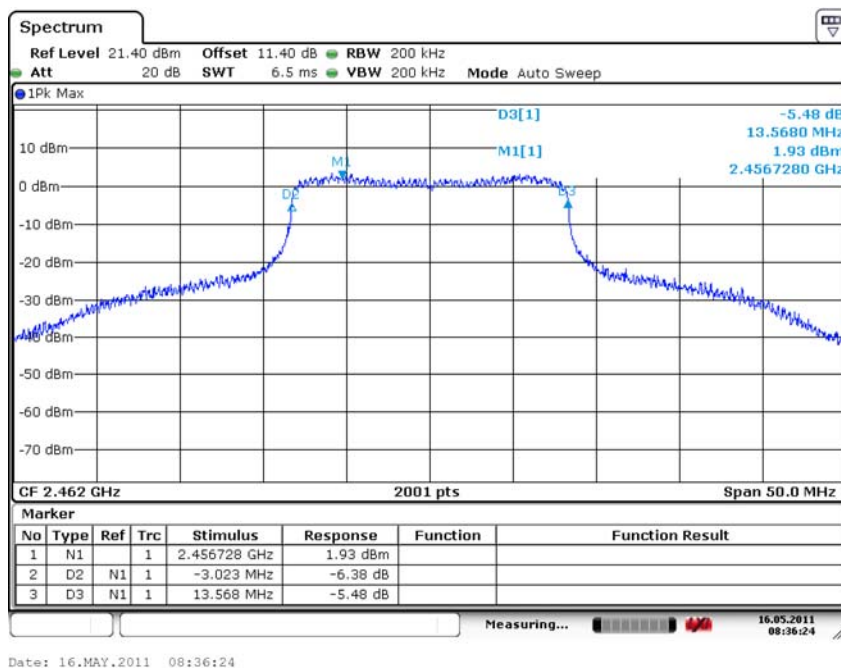


Date: 16.MAY.2011 08:33:40

Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11g



Carrier frequency (MHz): 2437  
Channel No.:6  
Test Mode: 802.11g



Carrier frequency (MHz): 2462  
Channel No.:11  
Test Mode: 802.11g

## 2.2.3 Transmitter Power Spectral Density- §15.247 (e)

### 2.2.3.1 Ambient condition:

Temperature	Relative humidity	Pressure
22°C	40%	101.1kPa

### 2.2.3.2 Test Description

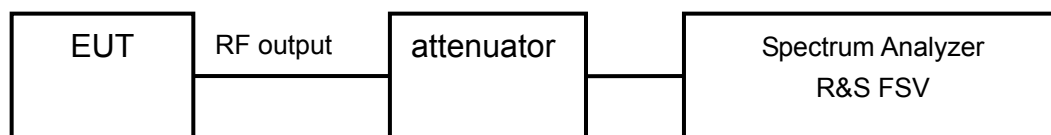
The measurement is made according to ANSI C63.4-2009 and KDB558074. The Equipment Under Test (EUT) was set up in a shielded room to perform the Power Spectral Density measurements.

The resolution bandwidth for measuring the output power was 3kHz.

The trace set to max hold.

The span set to 1.5MHz.

The sweep time set to 500s.



### 2.2.3.3 Test limit

FCC Part 15, Subpart C, §15.247 (e)

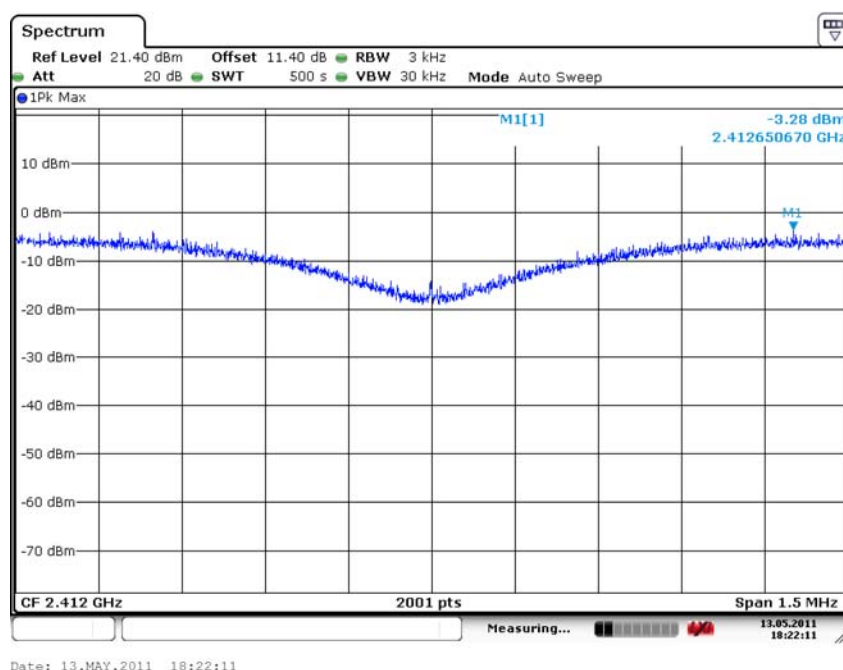
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.



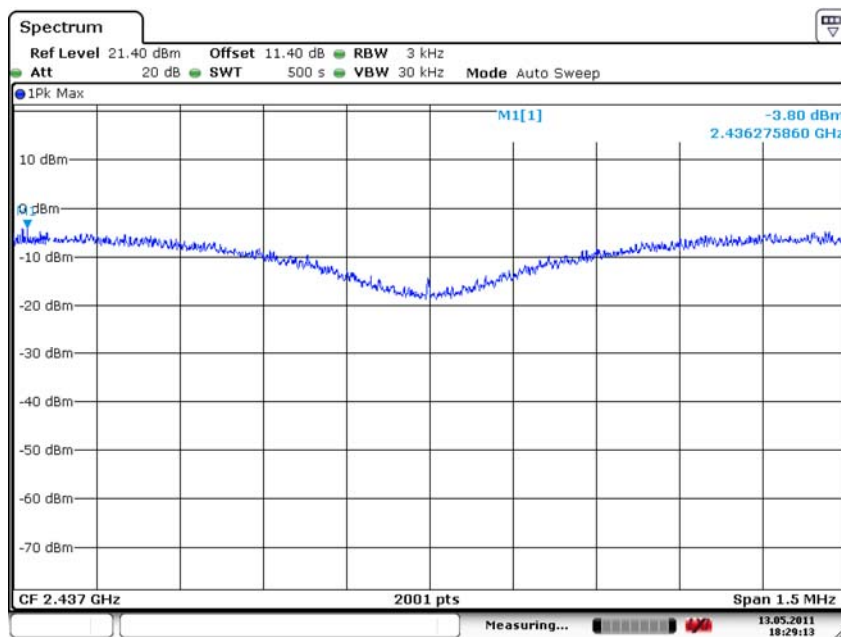
**2.2.3.4 Test result:**

Test Mode: 802.11b

Carrier frequency (MHz)	Channel No	Power Density
2412	1	-6.87
2437	6	-4.05
2462	11	-4.19

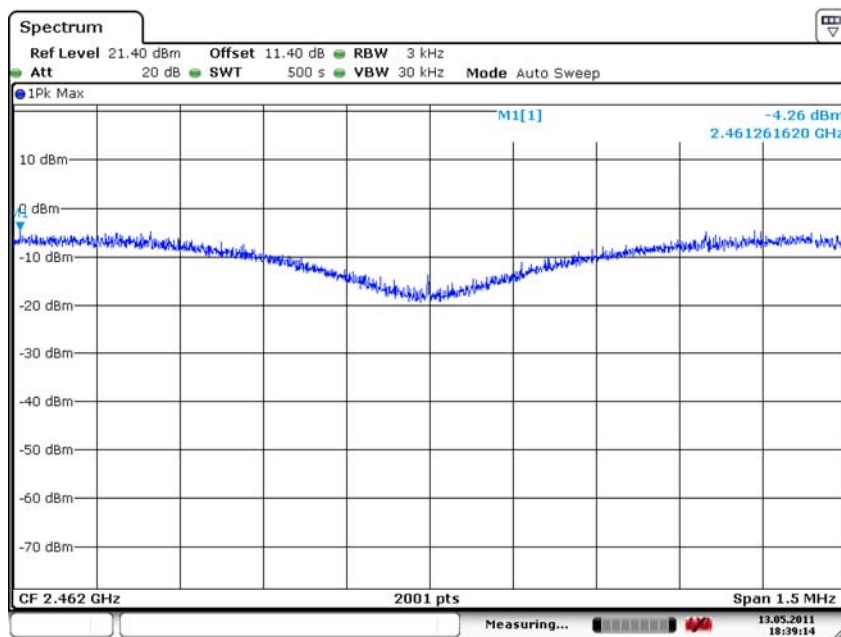


Carrier frequency (MHz): 2412  
 Channel No.1  
 Test Mode: 802.11b



Date: 13.MAY.2011 18:29:13

Carrier frequency (MHz): 2437  
 Channel No.6  
 Test Mode: 802.11b

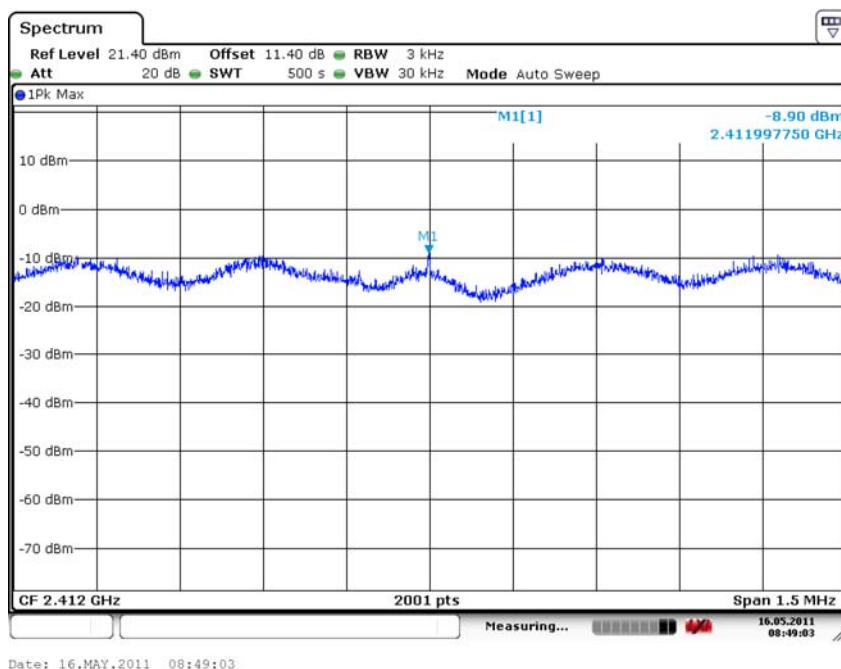


Date: 13.MAY.2011 18:39:14

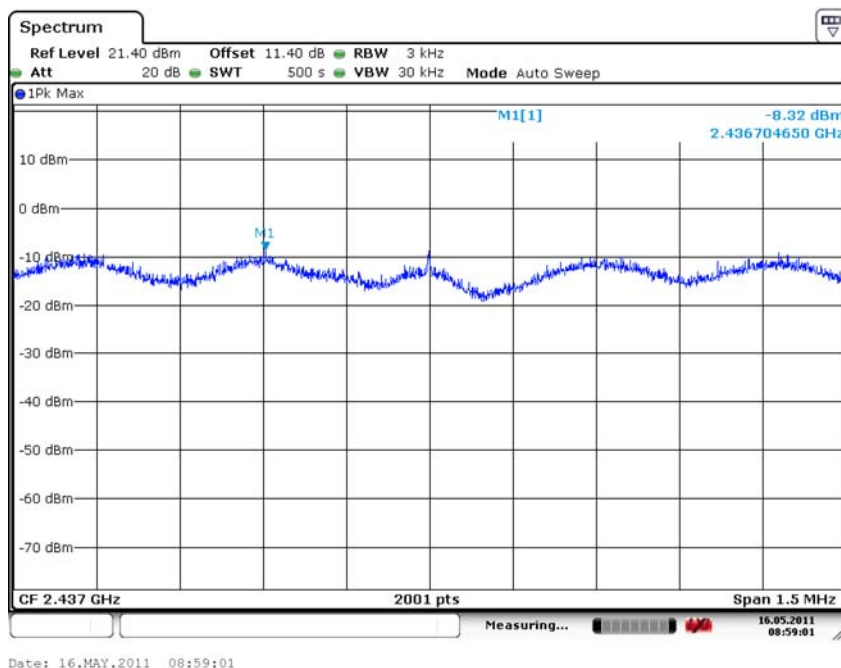
Carrier frequency (MHz): 2462  
 Channel No.11  
 Test Mode: 802.11b

Test Mode: 802.11g

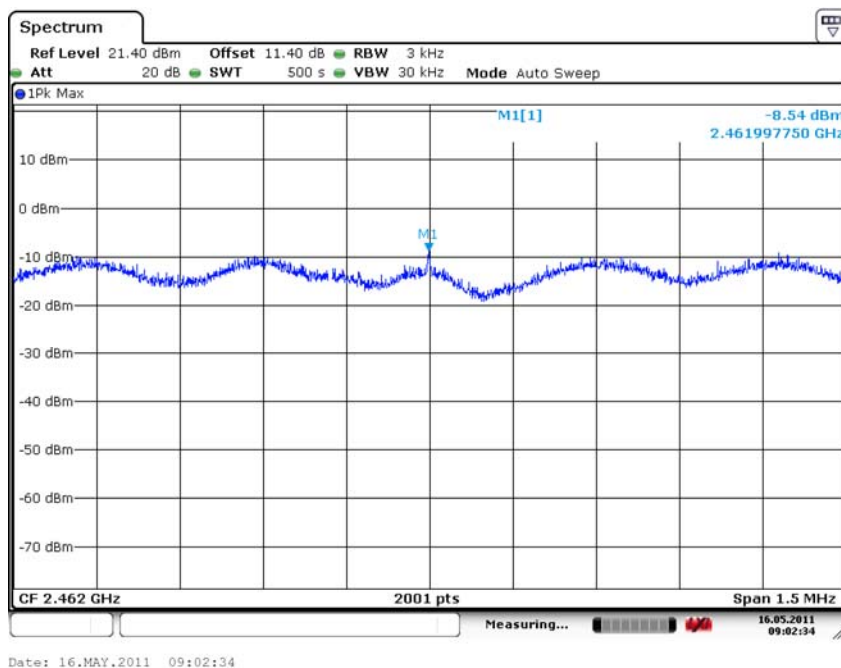
Carrier frequency (MHz)	Channel No	Power Density
2412	1	-8.90
2442	6	-8.32
2472	11	-8.54



Carrier frequency (MHz): 2412  
 Channel No.1  
 Test Mode: 802.11g



Carrier frequency (MHz): 2437  
 Channel No.6  
 Test Mode: 802.11g



Carrier frequency (MHz): 2462  
 Channel No.11  
 Test Mode: 802.11g

## 2.2.4 Spurious RF conducted emissions-§15.247(d)

### 2.2.4.1 Ambient condition:

Temperature	Relative humidity	Pressure
22°C	40%	101.1kPa

### 2.2.4.2 Test Description

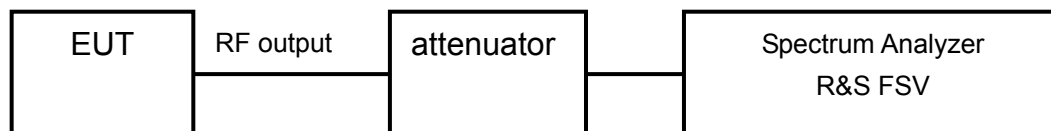
The measurement is made according to ANSI C63.4-2009 and KDB558074. The Equipment Under Test (EUT) was set up in a shielded room to perform the spurious emissions measurements.

The EUT was connected to the spectrum analyzer and WiFi set via a power splitter with a known loss.

Analyzer settings:

- Detector: Peak-Maxhold
- Frequency range: 30 ~25000 MHz
- Resolution Bandwidth (RBW): 100 kHz
- Video Bandwidth (VBW): 300 kHz

The reference value for the measurement of the spurious RF conducted emissions is determined during the test “band edge compliance” (cf. chapter 4.5). This value is used to calculate the 20 dBc limit.



### 2.2.4.3 Test limit

FCC Part 15, Subpart C, §15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

#### 2.2.4.4 Test result

Carrier frequency (MHz): 2412

Channel No.:1

Test Mode: 802.11b

Frequency MHz	Corrected measurement value dBm	Reference value dBm	Limit dBm	Delta to limit dB
---	---	---	---	---
---	---	---	---	---

Carrier frequency (MHz): 2437

Channel No.:6

Test Mode: 802.11b

Frequency MHz	Corrected measurement value dBm	Reference value dBm	Limit dBm	Delta to limit dB
---	---	---	---	---
---	---	---	---	---

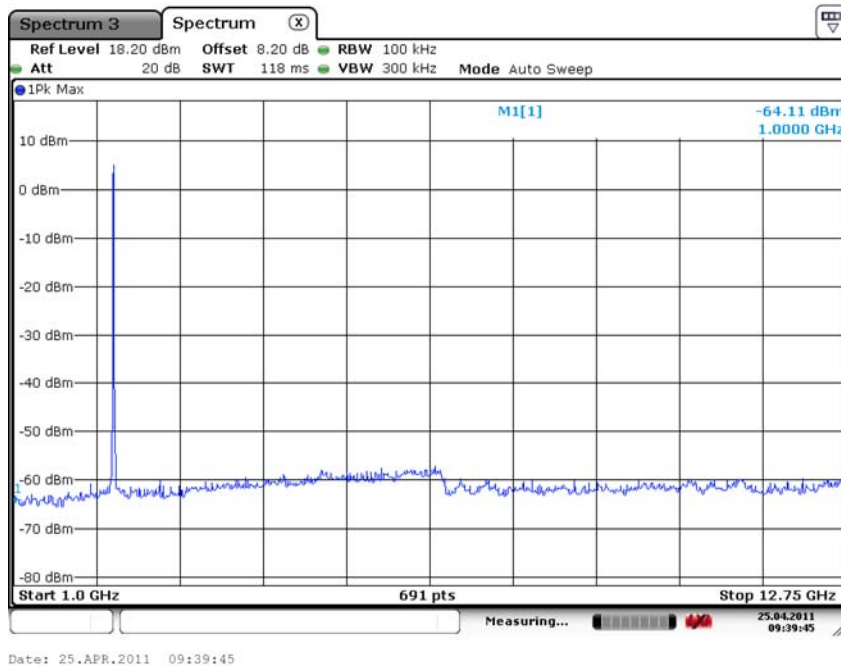
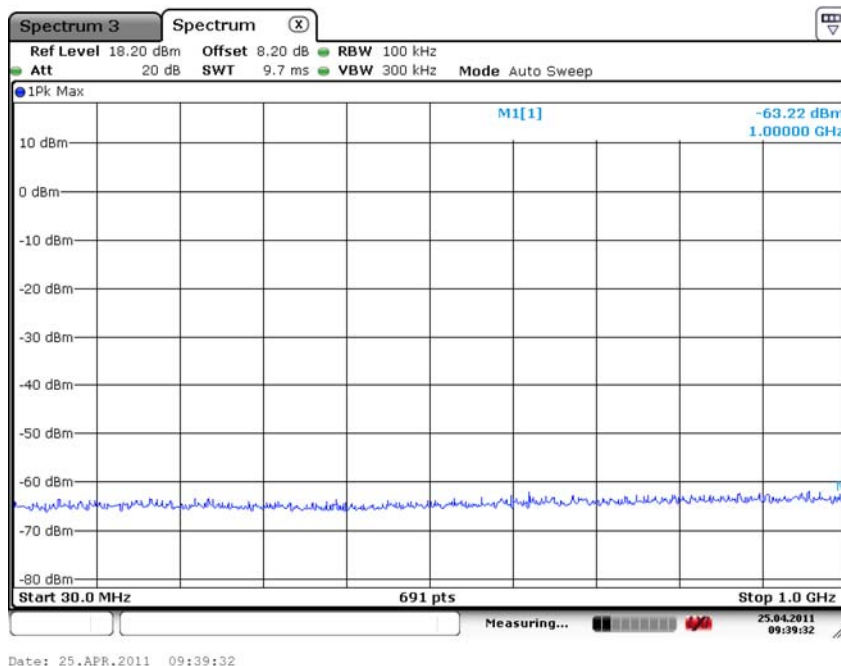
Carrier frequency (MHz): 2462

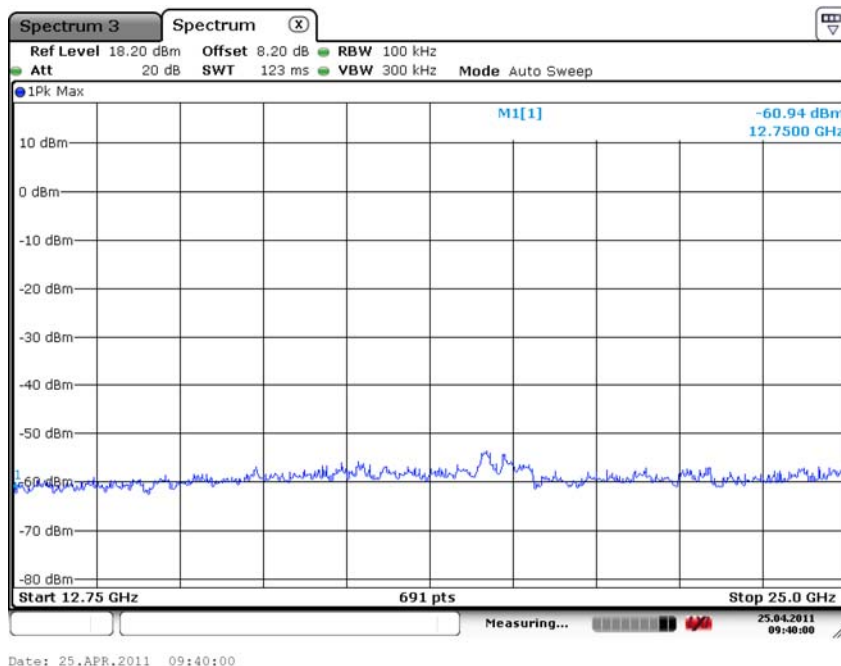
Channel No.:11

Test Mode: 802.11b

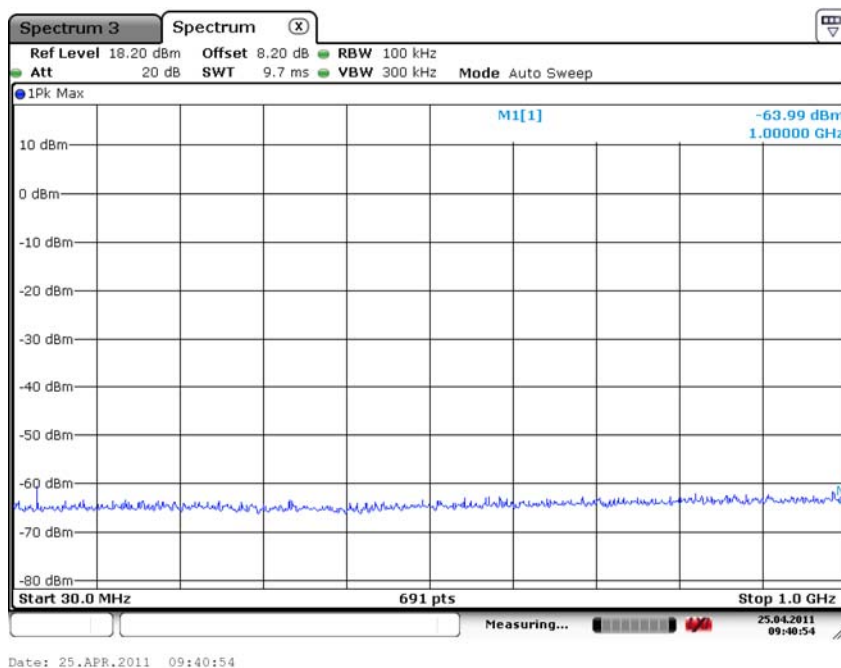
Frequency MHz	Corrected measurement value dBm	Reference value dBm	Limit dBm	Delta to limit dB
---	---	---	---	---
---	---	---	---	---

Note: The Reference value see 2.2.6 Band edge compliance

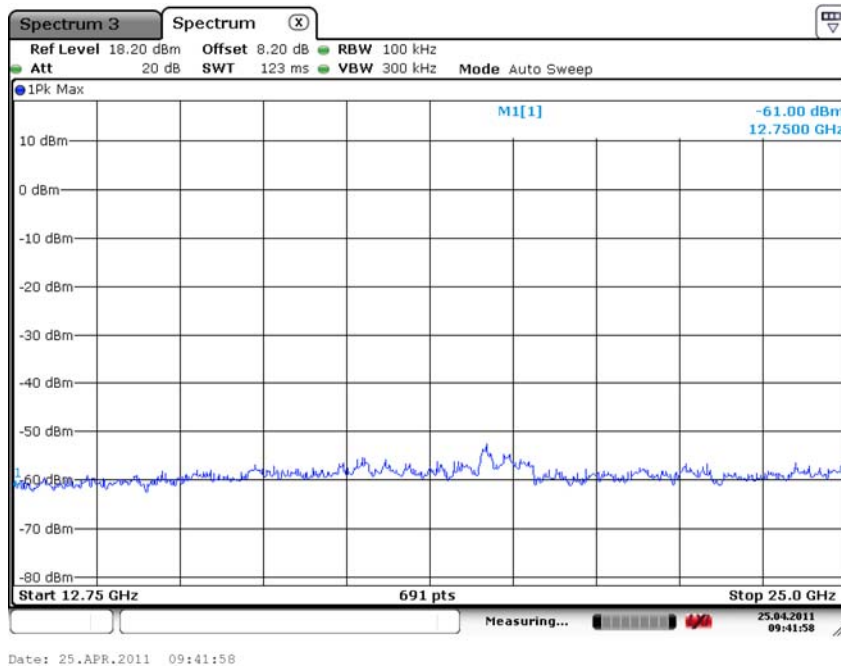
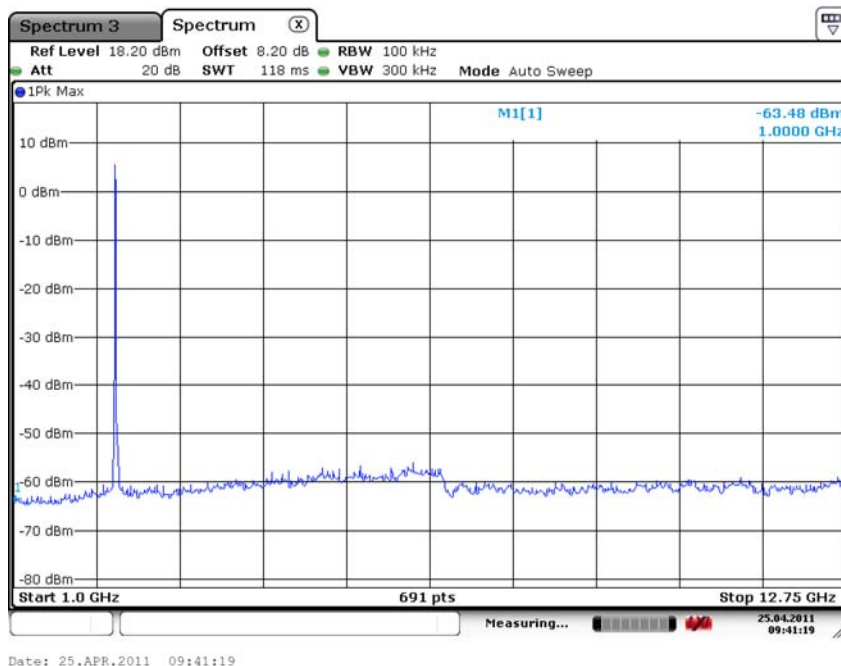




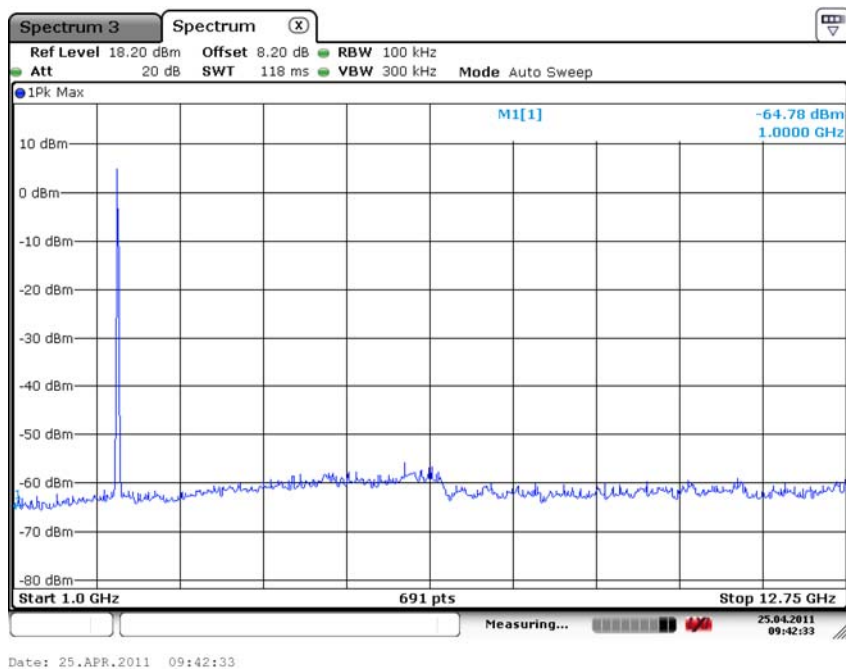
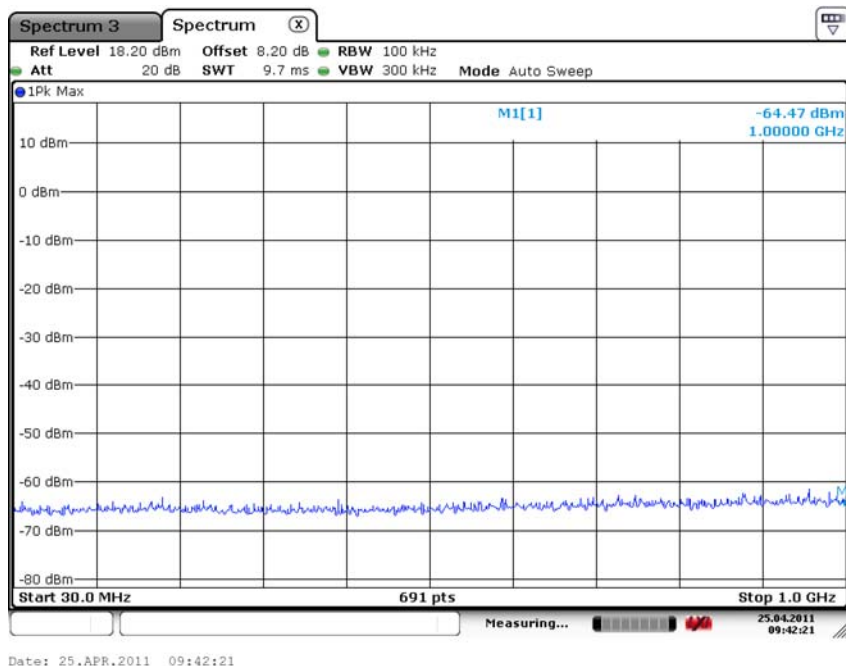
Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11b

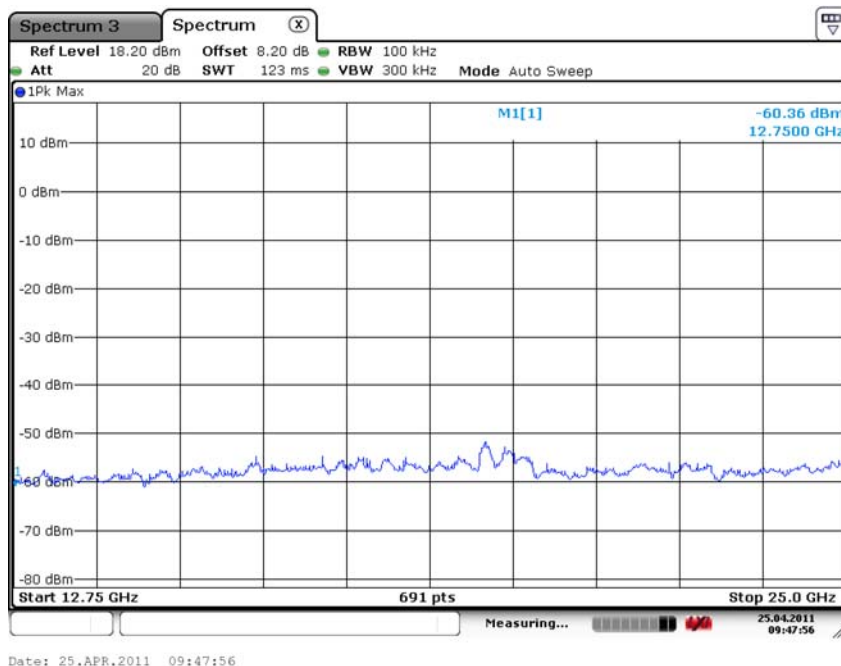






Carrier frequency (MHz): 2437  
 Channel No.:6  
 Test Mode: 802.11b





Carrier frequency (MHz): 2462  
Channel No.:11  
Test Mode: 802.11b

Carrier frequency (MHz): 2412

Channel No.:1

Test Mode: 802.11g

Frequency MHz	Corrected measurement value dBm	Reference value dBm	Limit dBm	Delta to limit dB
---	---	---	---	---
---	---	---	---	---

Carrier frequency (MHz): 2437

Channel No.:6

Test Mode: 802.11g

Frequency MHz	Corrected measurement value dBm	Reference value dBm	Limit dBm	Delta to limit dB
---	---	---	---	---
---	---	---	---	---

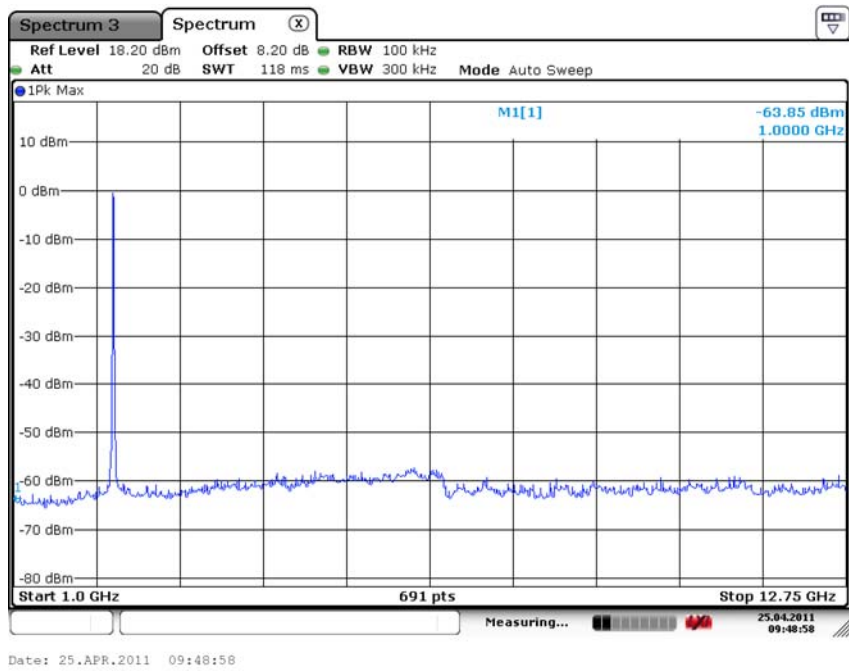
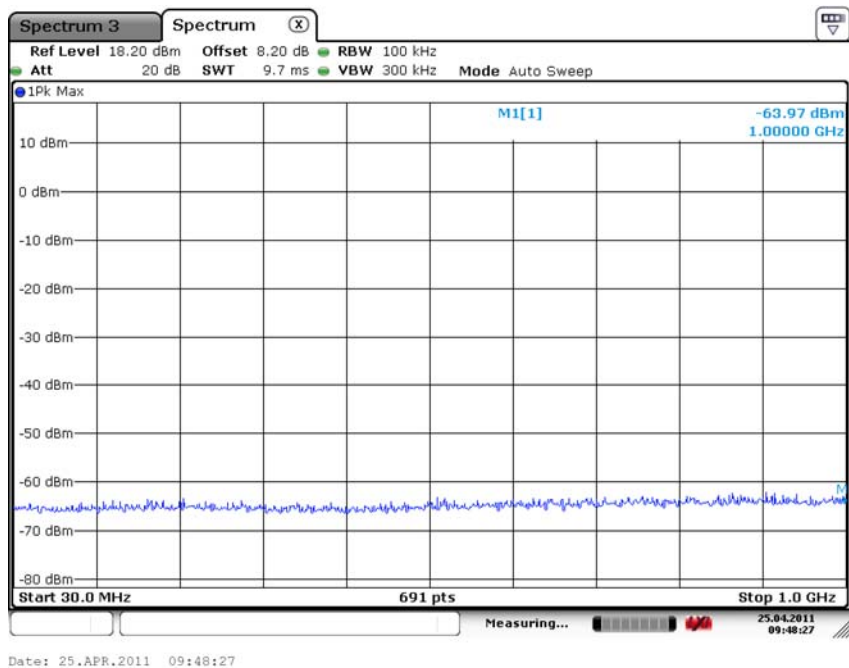
Carrier frequency (MHz): 2462

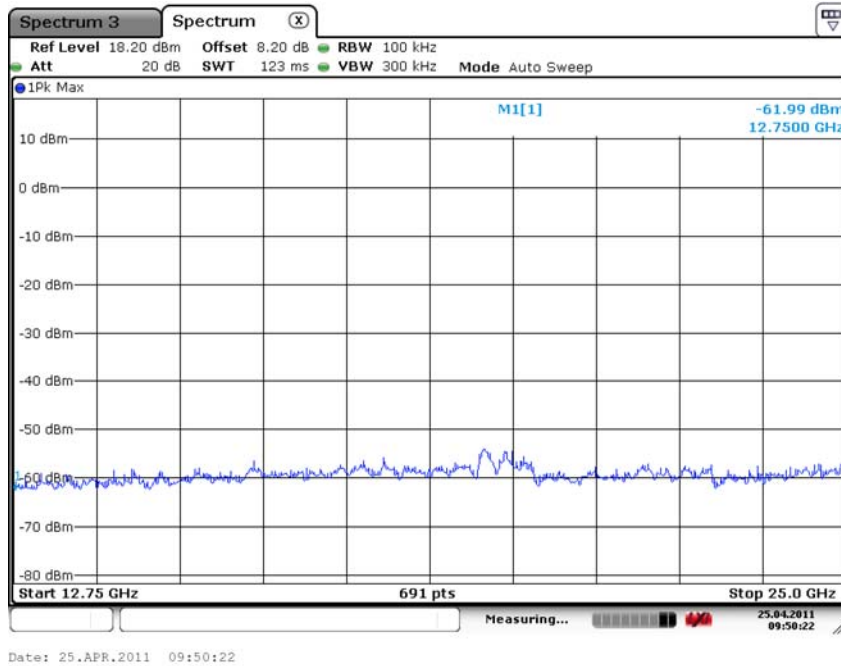
Channel No.:11

Test Mode: 802.11g

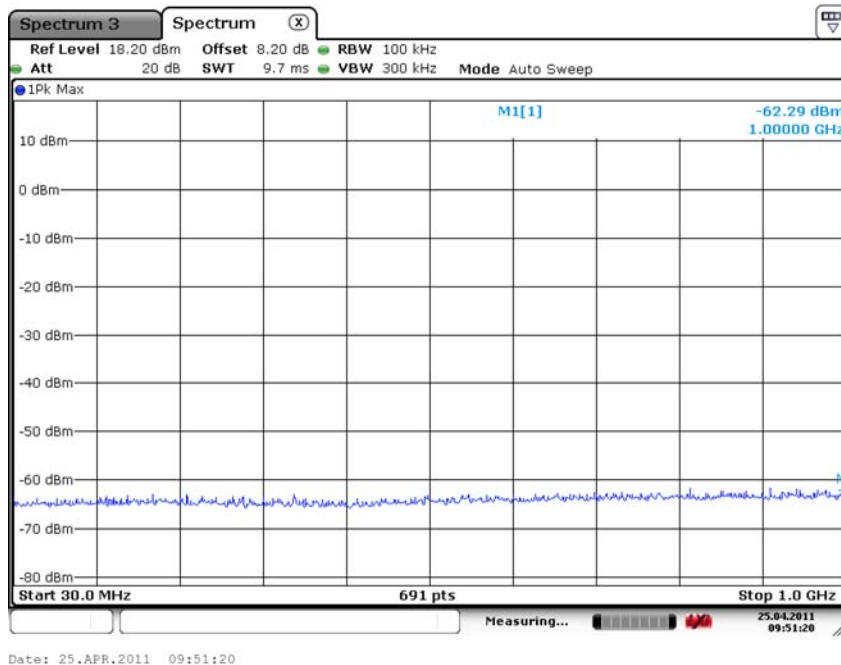
Frequency MHz	Corrected measurement value dBm	Reference value dBm	Limit dBm	Delta to limit dB
---	---	---	---	---
---	---	---	---	---

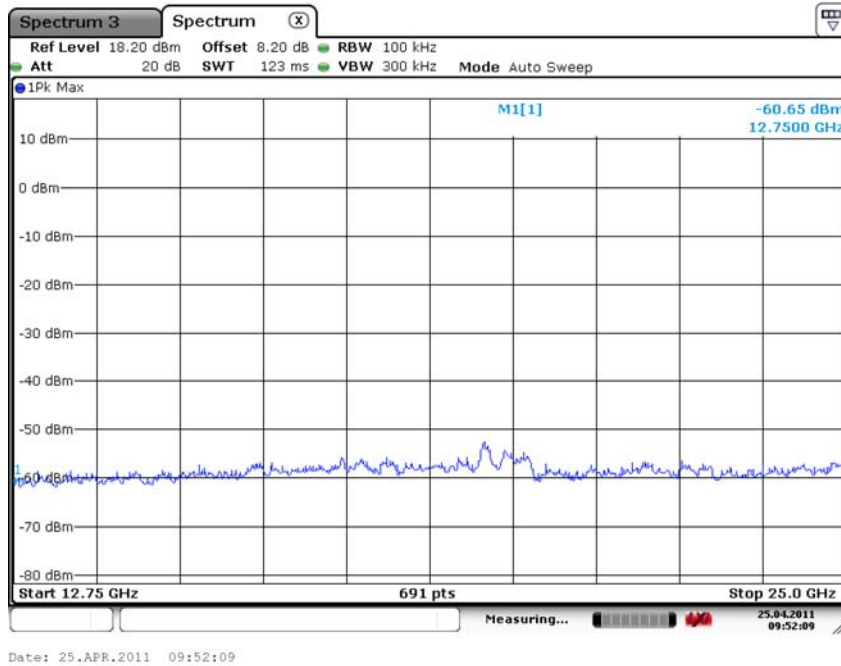
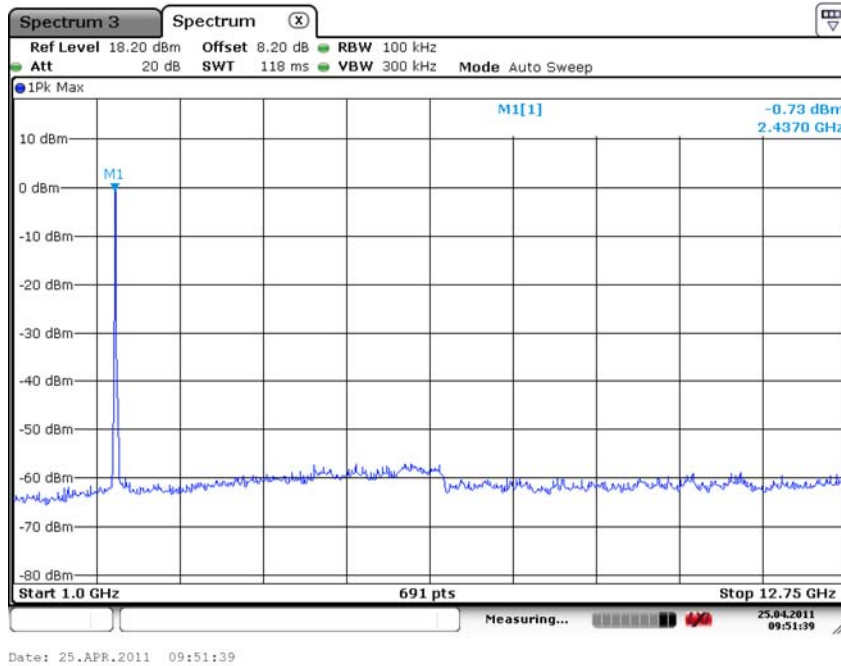
Note: The Reference value see 2.2.6 Band edge compliance



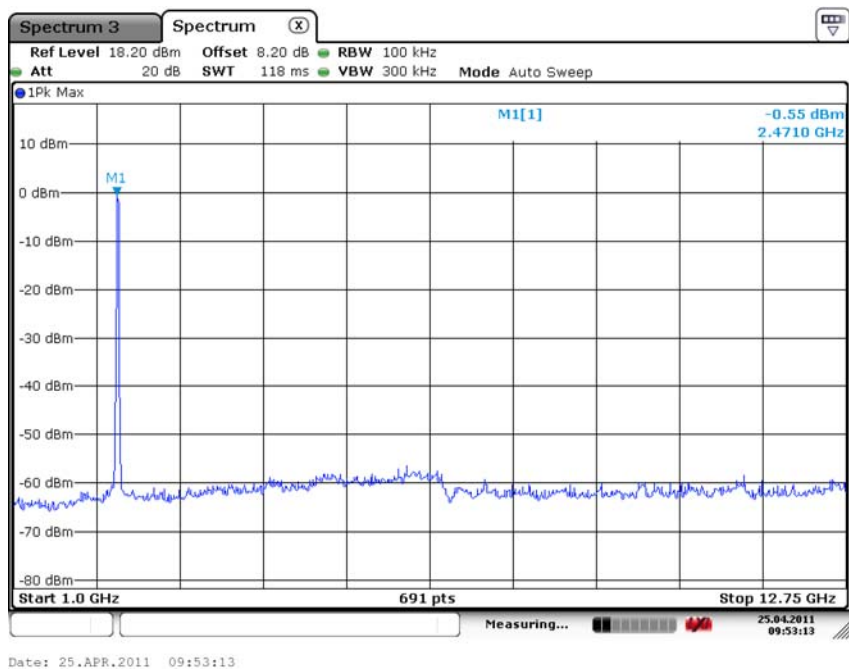
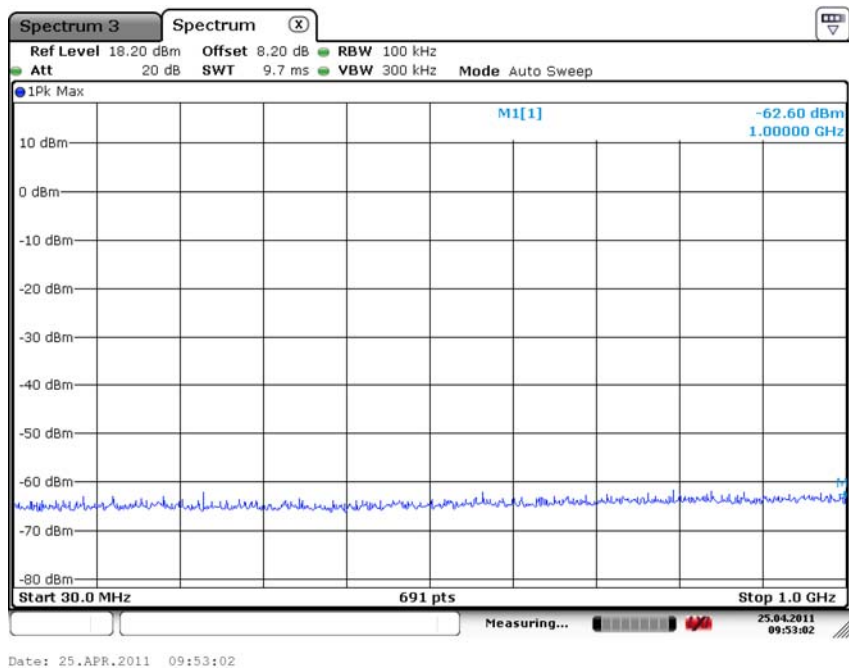


Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11g

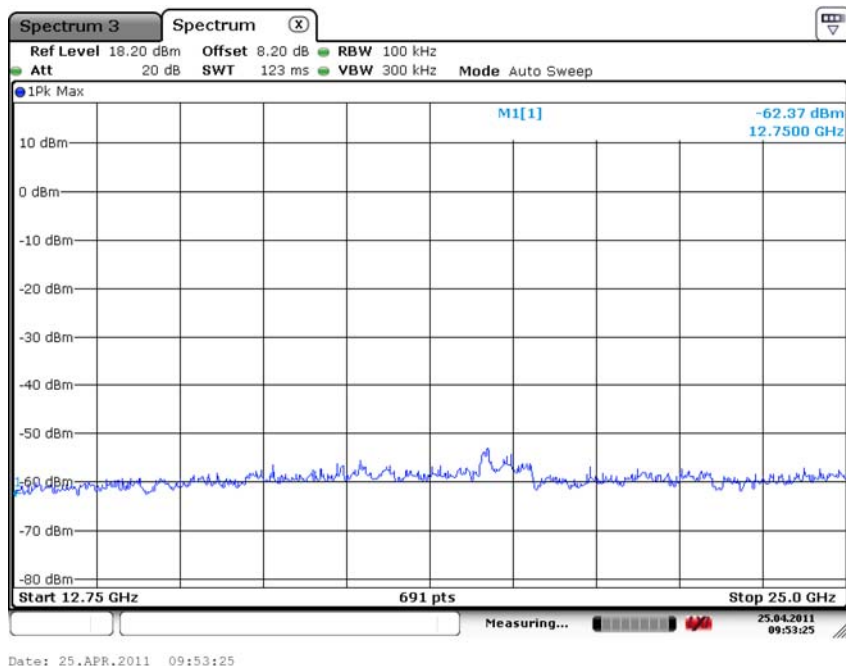




Carrier frequency (MHz): 2437  
Channel No.:6  
Test Mode: 802.11g







Carrier frequency (MHz): 2462  
Channel No.:11  
Test Mode: 802.11g

## 2.2.5 Spurious radiated emissions-§15.247(d), §15.209(a)

### 2.2.5.1 Ambient condition

Temperature	Relative humidity	Pressure
20°C	35%	101.4kPa

### 2.2.5.2 Test Description

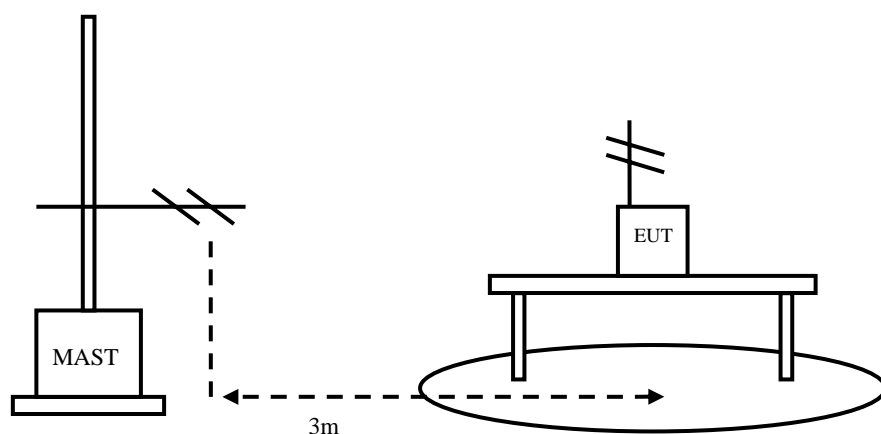
The measurement is made according to ANSI C63.4-2009 and KDB558074. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna.

The radiated emissions measurements were made in a typical installation configuration.

Then start the test software ES-K1. Sweep the whole frequency band through the range from 30MHz to 1GHz or above, using receive log period antenna HL562 or Ridge horn antenna HF906.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The results (reference to 2.2.5.4) shall be showed the worst case of the three orthogonal axes.

The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.



### 2.2.5.3 Test limit

FCC Part 15, Subpart C, §15.247 (d)

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

FCC Part 15, Subpart C, §15.209, Radiated Emission Limits

Frequency Range (MHz)	Class B Limit (dB $\mu$ V/m)
30 – 88	40.0
88 – 216	43.5
216 – 960	46.0
above 960	54.0

### §15.35(b)

..., there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit....

Used conversion factor: Limit (dB $\mu$ V/m) = 20 log (Limit ( $\mu$ V/m)/1 $\mu$ V/m)

### 2.2.5.4 Test result

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.

The measurement results are obtained as described below:

$$\text{Result} = P_{\text{mea}} + A_{Rpl}$$

The worst case attitude: The mobile lay down.

For 802.11b

Frequency(MHz)	Result(dBuV/m)	$A_{Rpl}$ (dB)	$P_{\text{mea}}$ (dBuV/m)	Polarity
10022.04409	24.28	-5.2	29.48	Vertical
14254.50902	27.73	1.0	26.73	Vertical
17464.92986	33.06	7.4	25.66	Horizontal
17921.84369	35.87	10.5	25.37	Vertical
20052.10421	46.43	19.9	26.53	Vertical
22438.87776	50.15	21.9	28.25	Vertical

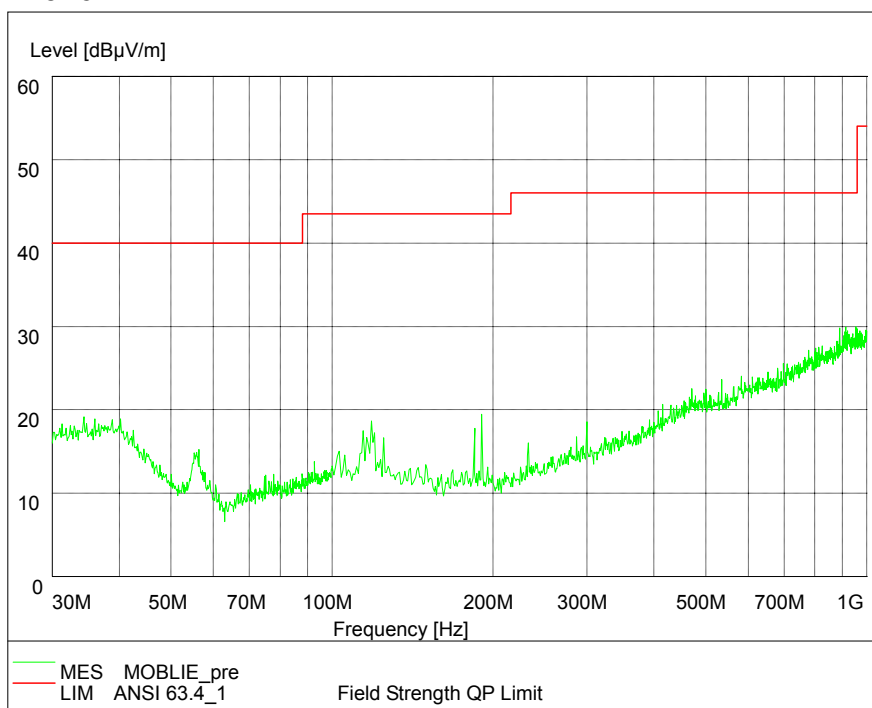
For 802.11g

Frequency(MHz)	Result(dBuV/m)	A <sub>Rpl</sub> (dB)	P <sub>mea</sub> (dBuV/m)	Polarity
10006.01202	33.89	-5.1	38.99	Vertical
14302.60521	36.31	0.9	35.41	Vertical
17476.95391	38.14	7.4	30.74	Vertical
17993.98798	40.63	10.6	30.03	Vertical
20052.10421	46.60	19.9	26.70	Horizontal
22432.86573	50.24	21.8	28.44	Vertical

Refer to figures

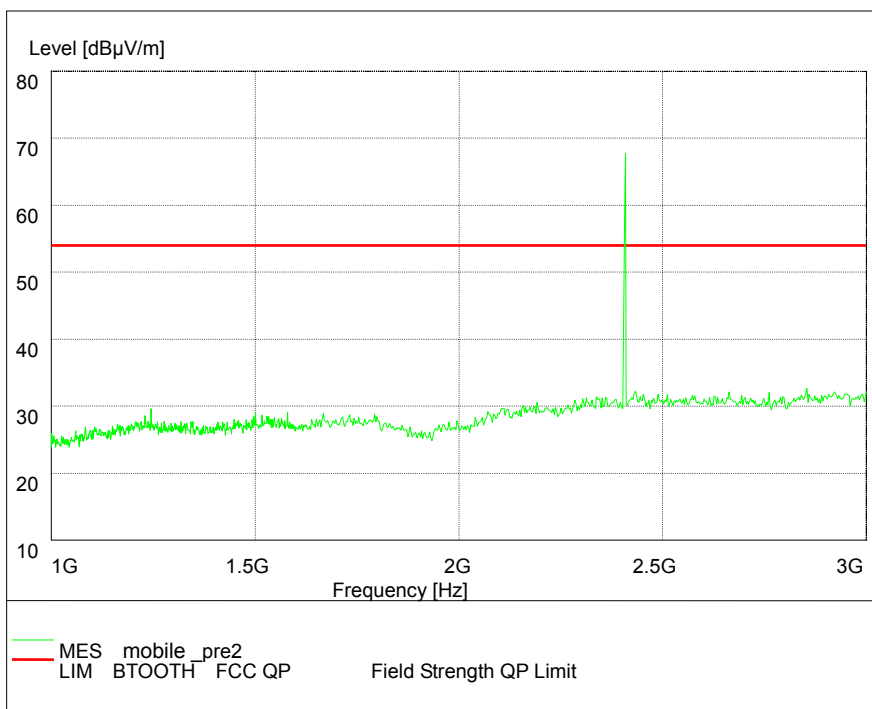
Carrier frequency (MHz): 2437

Channel No.:6



Frequency Range: 30MHz -1GHz

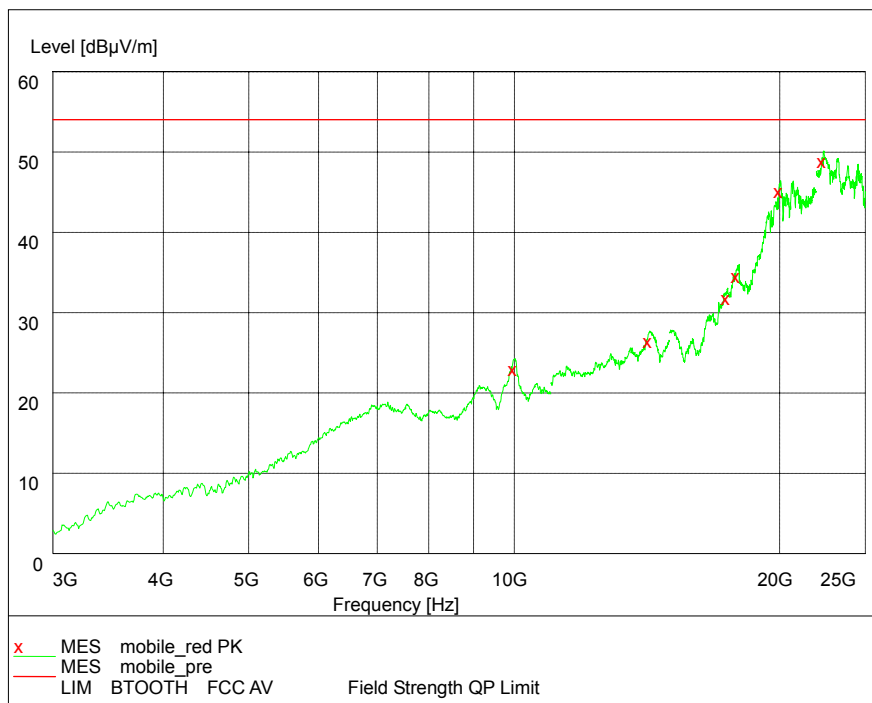
Test Mode: 802.11b



Frequency Range: 1GHz -3GHz

Detector: PK mode

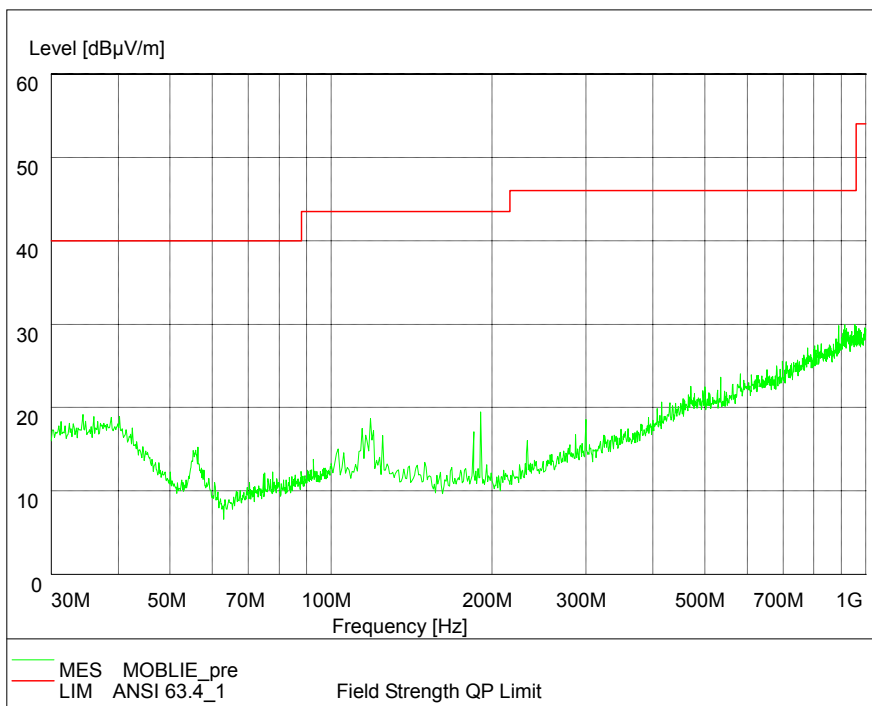
Test Mode: 802.11b



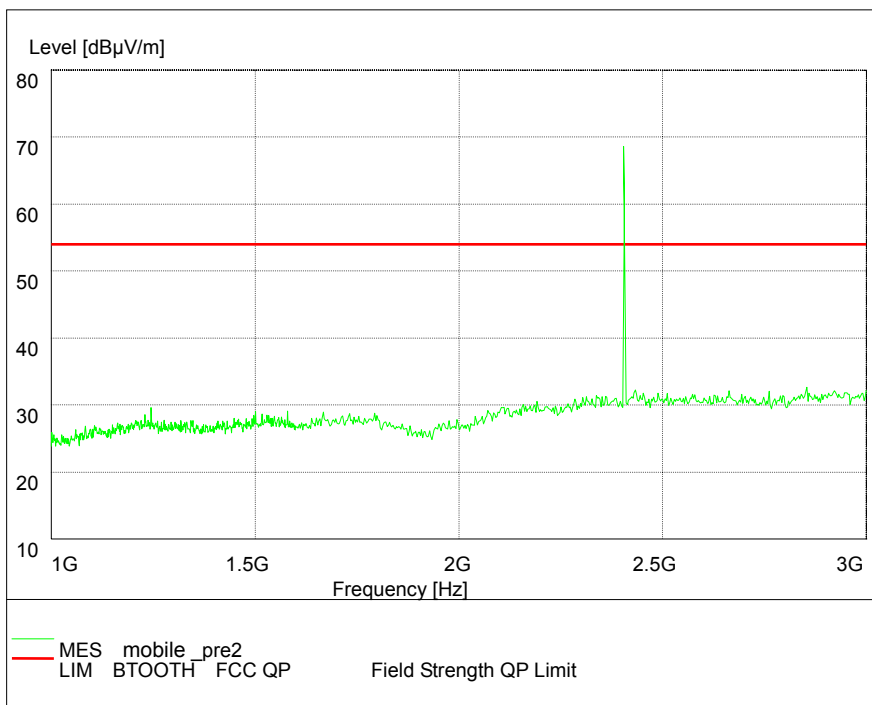
Frequency Range: 3GHz -25GHz

Detector: PK mode

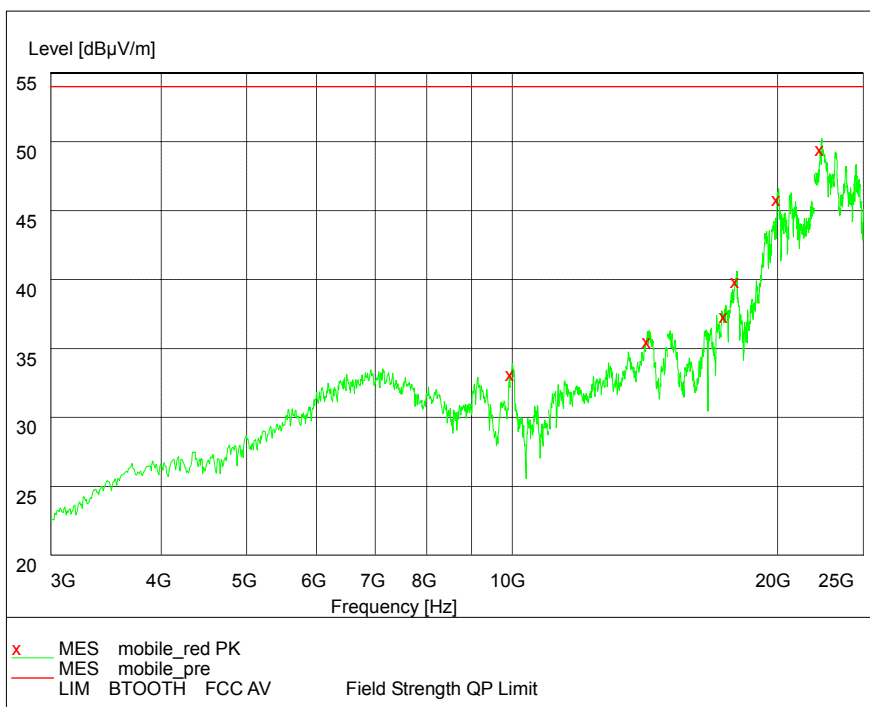
Test Mode: 802.11b



Frequency Range: 30MHz -1GHz  
 Test Mode: 802.11g



Frequency Range: 1GHz -3GHz  
 Detector: PK mode  
 Test Mode: 802.11g



Frequency Range: 3GHz -25GHz

Detector: PK mode

Test Mode: 802.11g

## 2.2.6 Band edge compliance-§15.247(d)

### 2.2.6.1 Ambient condition

Temperature	Relative humidity	Pressure
22°C	40%	101.1kPa

### 2.2.6.2 Test Description

The measurement is made according to ANSI C63.4-2009 and KDB558074.

#### 2.2.6.2.1 RF Conducted Measurement:

The Equipment Under Test (EUT) was set up in a shielded room to perform the spurious emissions measurements.

The EUT was connected to the spectrum analyzer and WiFi test set via a power splitter with a known loss.

For the first measurement the EUT is set to transmit on the lowest channel (2412 MHz). The lower band edge is 2390 MHz.

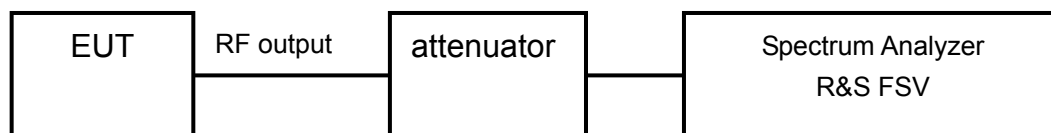
Analyzer settings:

- Detector: Peak
- RBW= 100 kHz
- VBW= 300 kHz

For the second measurement the EUT is set to transmit on the highest channel (2472MHz). The higher band edge is 2483.5 MHz.

Analyzer settings:

- Detector: Peak
- RBW= 100 kHz
- VBW= 300 kHz





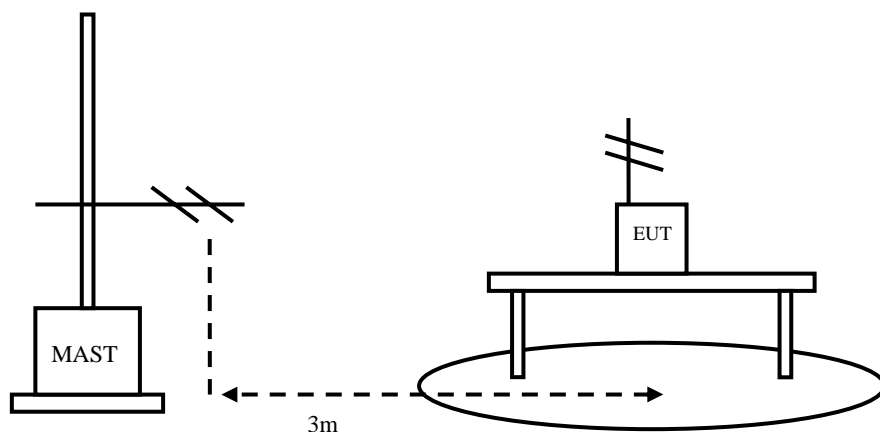
### 2.2.6.2.2 Radiated Measurement

The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna.

The radiated emissions measurements were made in a typical installation configuration.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The results (reference to 2.2.6.5) shall be showed the worst case of the three orthogonal axes.

The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.



### 2.2.6.3 Test limit

FCC Part 15.247 (d)

“In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

## 2.2.6.4 Test result

### 2.2.6.4.1 RF Conducted Measurement

Carrier frequency (MHz): 2412

Channel No.:1

Test Mode: 802.11b

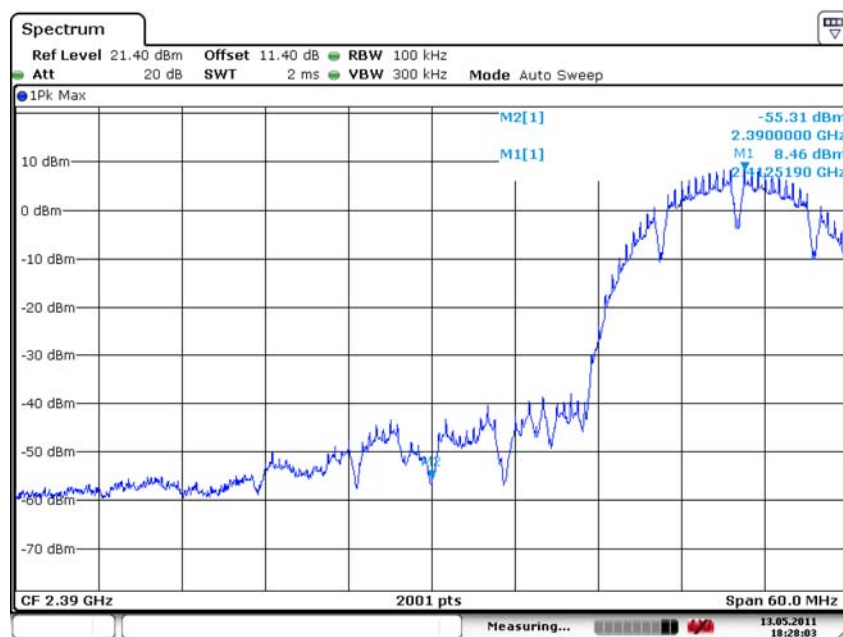
Frequency MHz	Measured value dBm	Reference value dBm	Limit dBm	Delta to limit dB
2390	-55.31	8.46	-11.54	43.77

Carrier frequency (MHz): 2462

Channel No.:11

Test Mode: 802.11b

Frequency MHz	Measured value dBm	Reference value dBm	Limit dBm	Delta to limit dB
2483.5	-44.74	8.51	-11.49	33.25

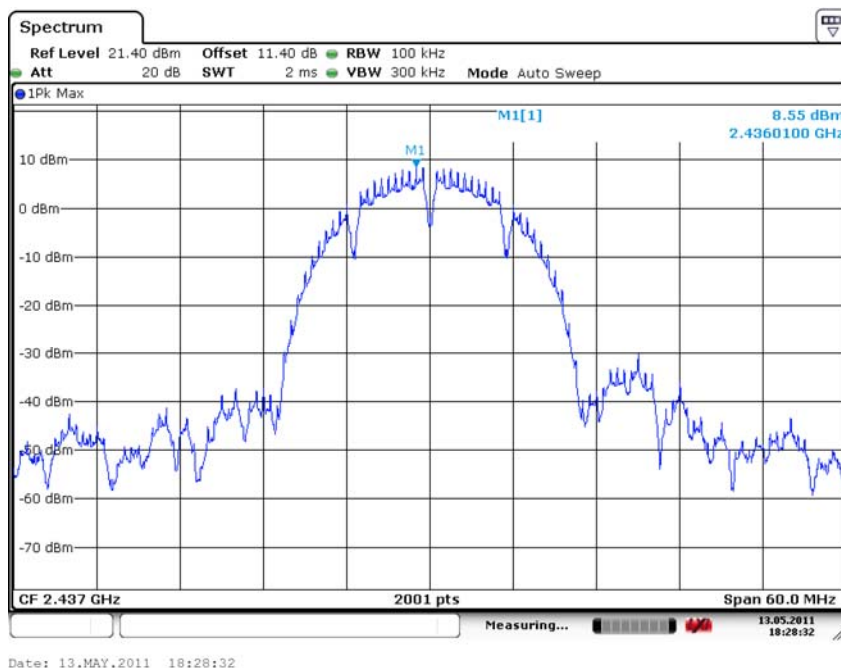


Date: 13.MAY.2011 18:28:03

Carrier frequency (MHz): 2412

Channel No.:1

Test Mode: 802.11b



Carrier frequency (MHz): 2437  
 Channel No.:6  
 Test Mode: 802.11b



Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11b

Carrier frequency (MHz): 2412

Channel No.:1

Test Mode: 802.11g

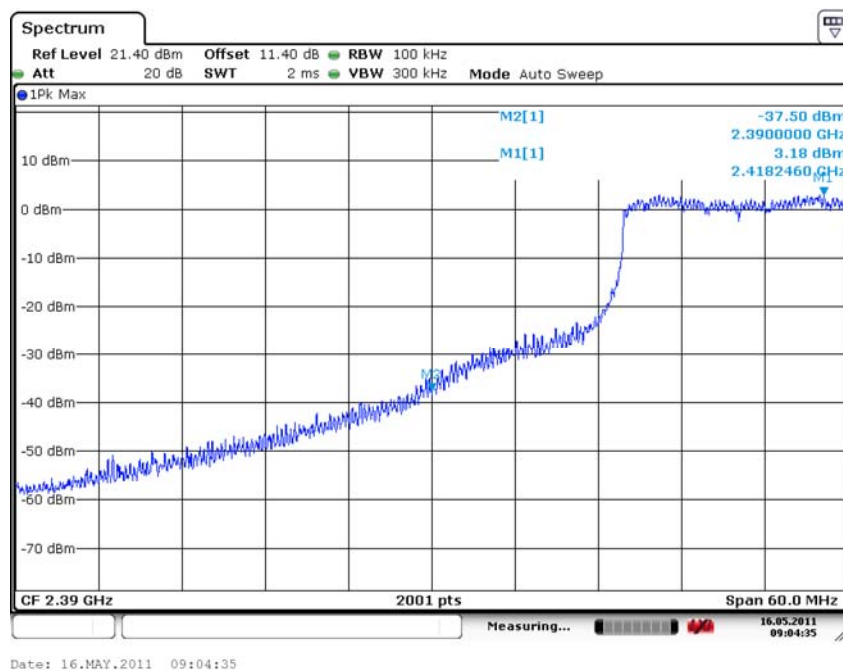
Frequency MHz	Measured value dBm	Reference value dBm	Limit dBm	Delta to limit dB
2390	-37.50	3.18	-16.82	20.68

Carrier frequency (MHz): 2462

Channel No.:13

Test Mode: 802.11g

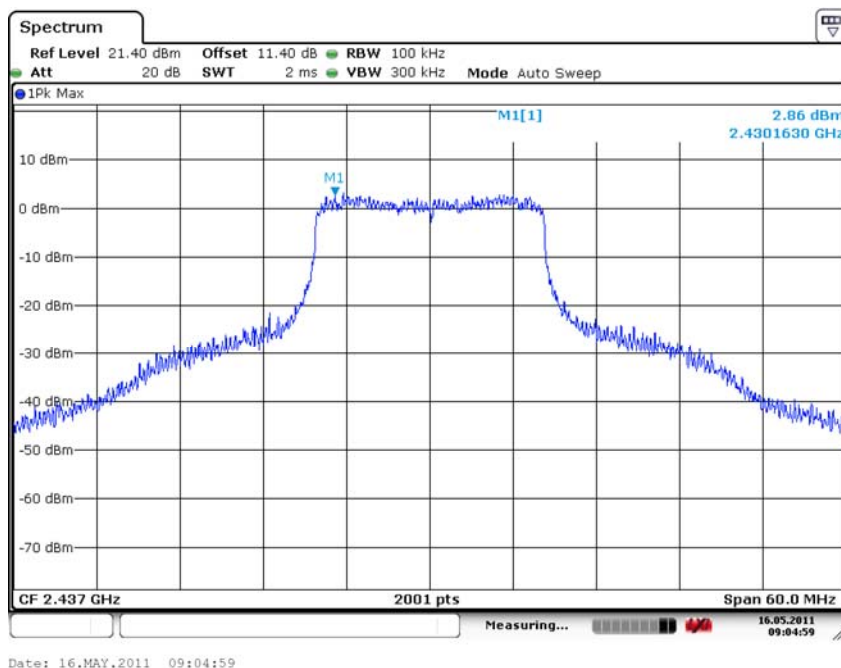
Frequency MHz	Measured value dBm	Reference value dBm	Limit dBm	Delta to limit dB
2483.5	-32.63	3.49	-16.51	16.12



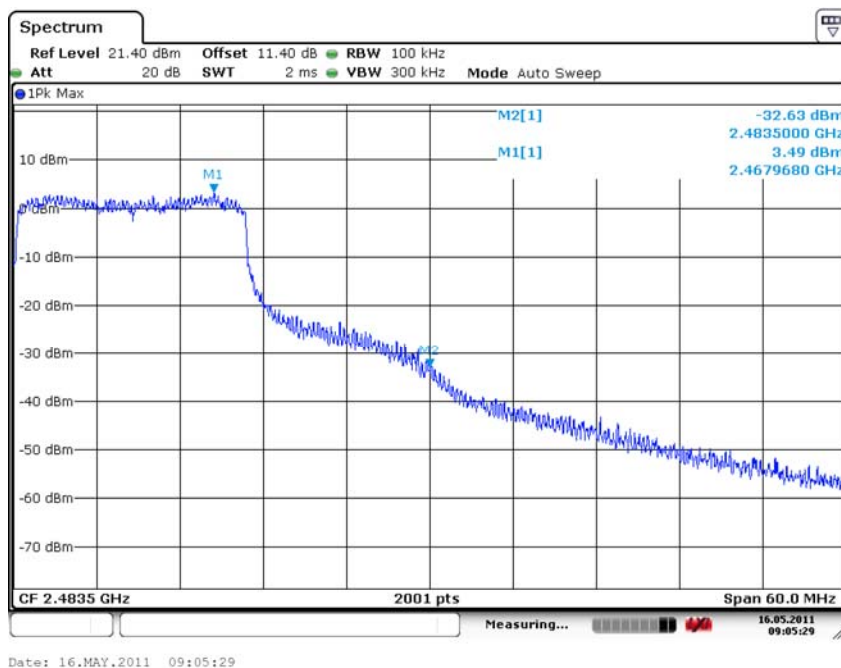
Carrier frequency (MHz): 2412

Channel No.:1

Test Mode: 802.11g



Carrier frequency (MHz): 2437  
 Channel No.:6  
 Test Mode: 802.11g



Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11g

### 2.2.6.4.2 Radiated Emission Band Edge

The worst case attitude: The mobile lay down.

Peak detector: RBW=1MHz,VBW=3MHz,sweep time=200ms;

Average detector: RBW=1MHz,VBW=10Hz,sweep time=auto;

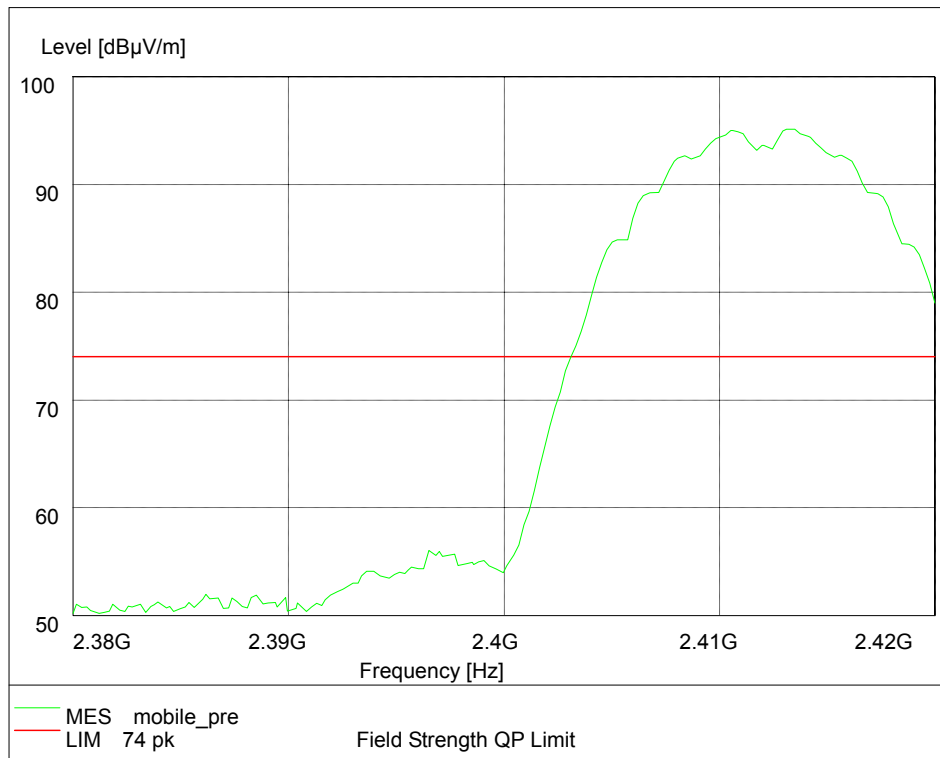
Carrier frequency (MHz): 2412

Channel No.:1

Test Mode: 802.11b

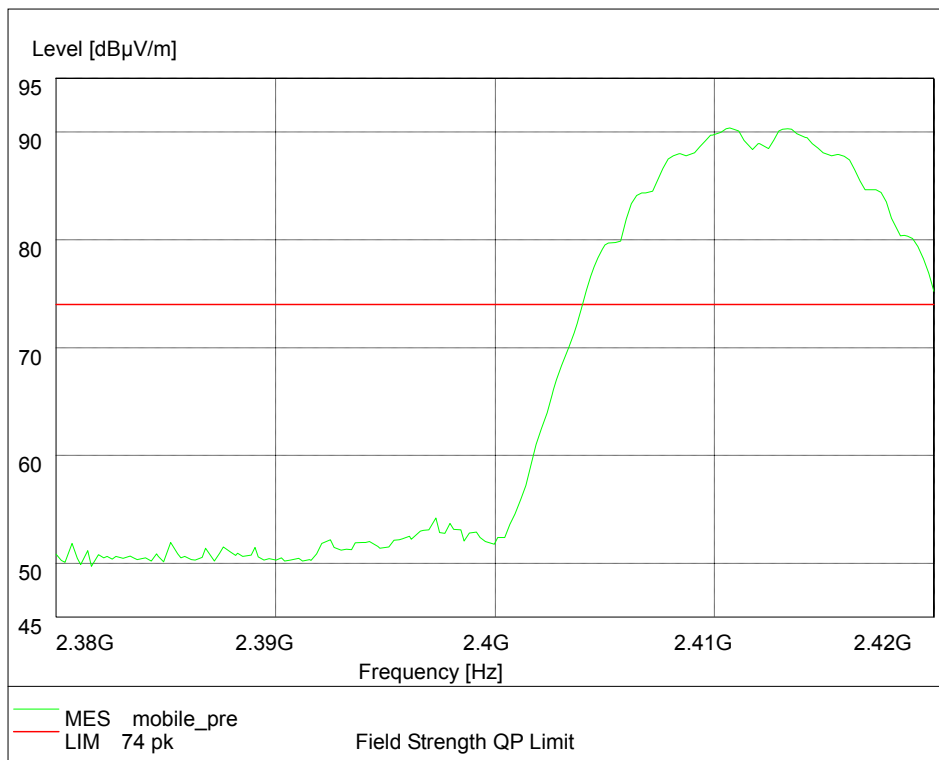
Polarity:Vertical

Detector: Peak



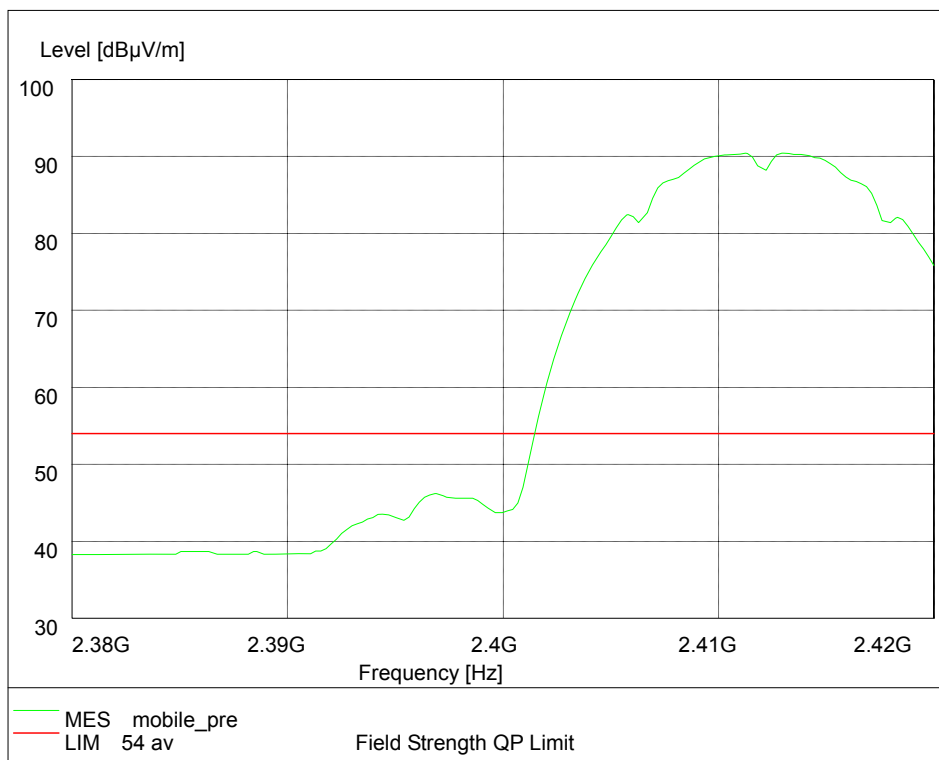
No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	cable loss (dB)	antenna factor (dB)
1	2413.43	95.14	61.14	N/A	N/A	8.90	25.10
2	2390.00	50.43	16.43	-23.57	74.00	8.90	25.10

Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11b  
 Polarity:Horizontal  
 Detector: Peak



No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2410.70	90.38	56.38	N/A	N/A	8.90	25.10
2	2390.00	50.28	16.28	-23.72	74.00	8.90	25.10

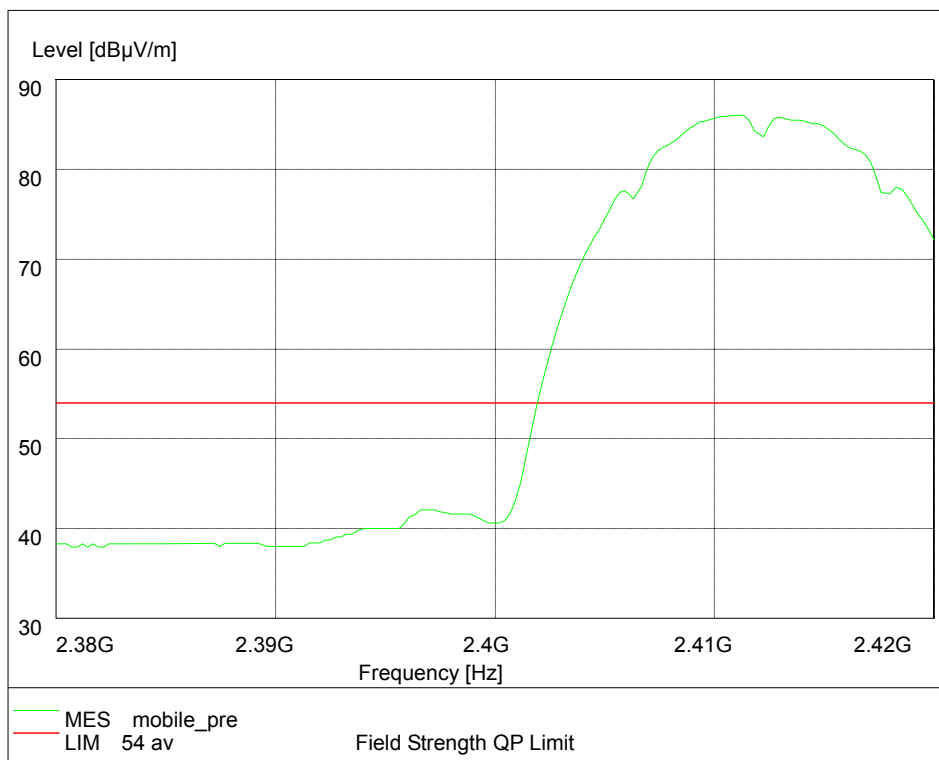
Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11b  
 Polarity:Vertical  
 Detector: Average



No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2411.26	90.41	56.41	N/A	N/A	8.90	25.10
2	2390.00	38.36	4.36	-15.64	54.00	8.90	25.10

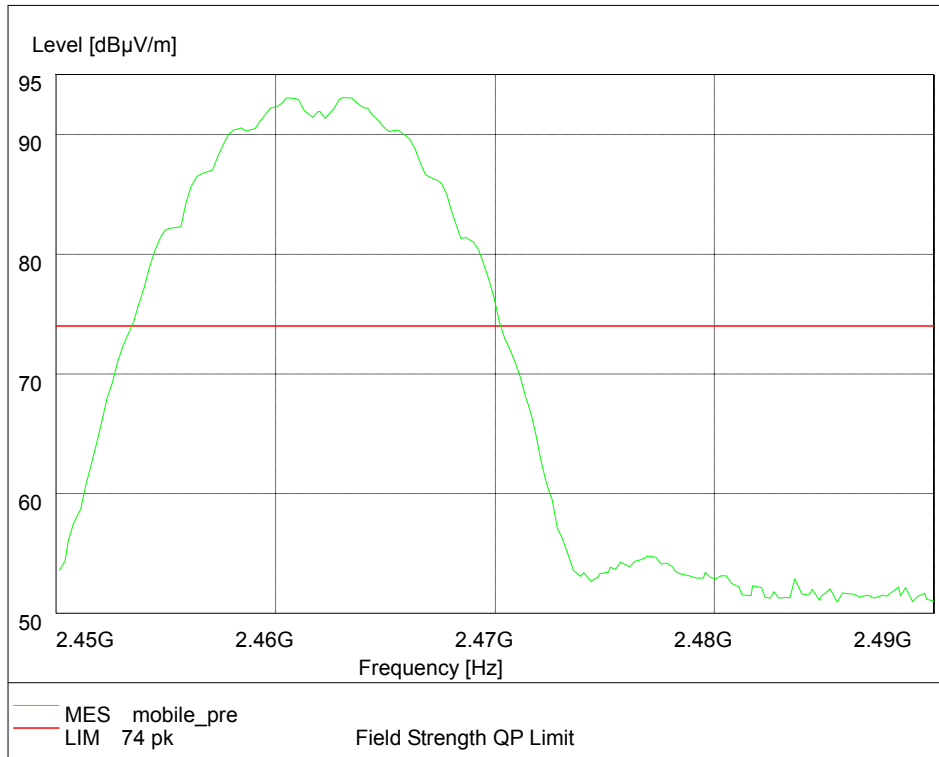


Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11b  
 Polarity:Horizontal  
 Detector: Average



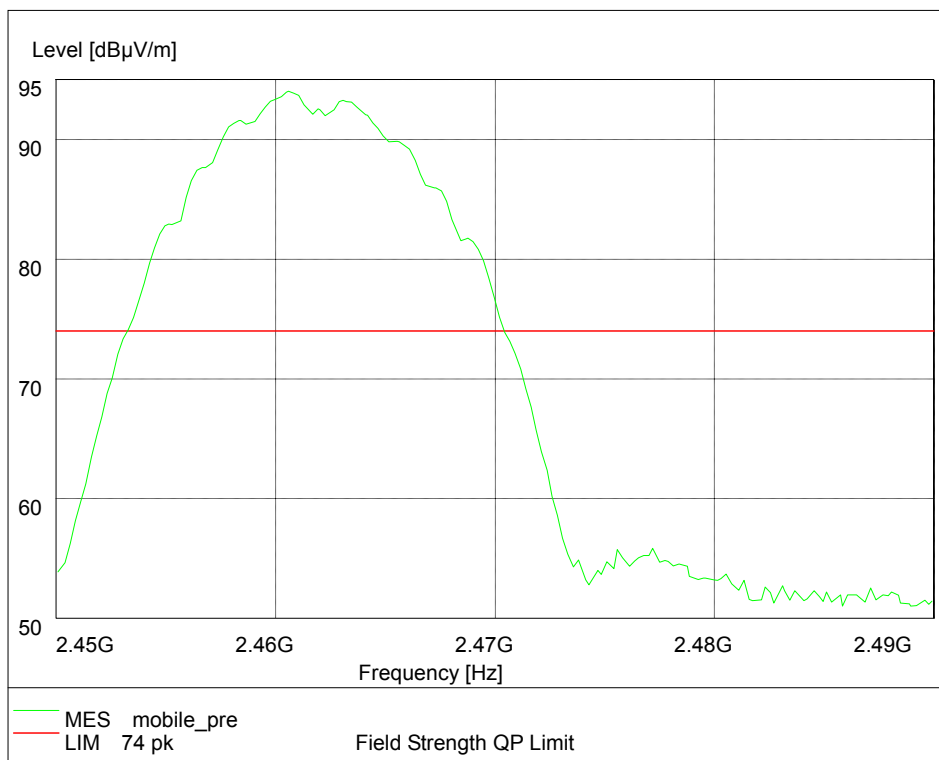
No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2411.18	86.05	52.05	N/A	N/A	8.90	25.10
2	2390.00	38.01	4.01	-15.99	54.00	8.90	25.10

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11b  
 Polarity:Vertical  
 Detector: Peak



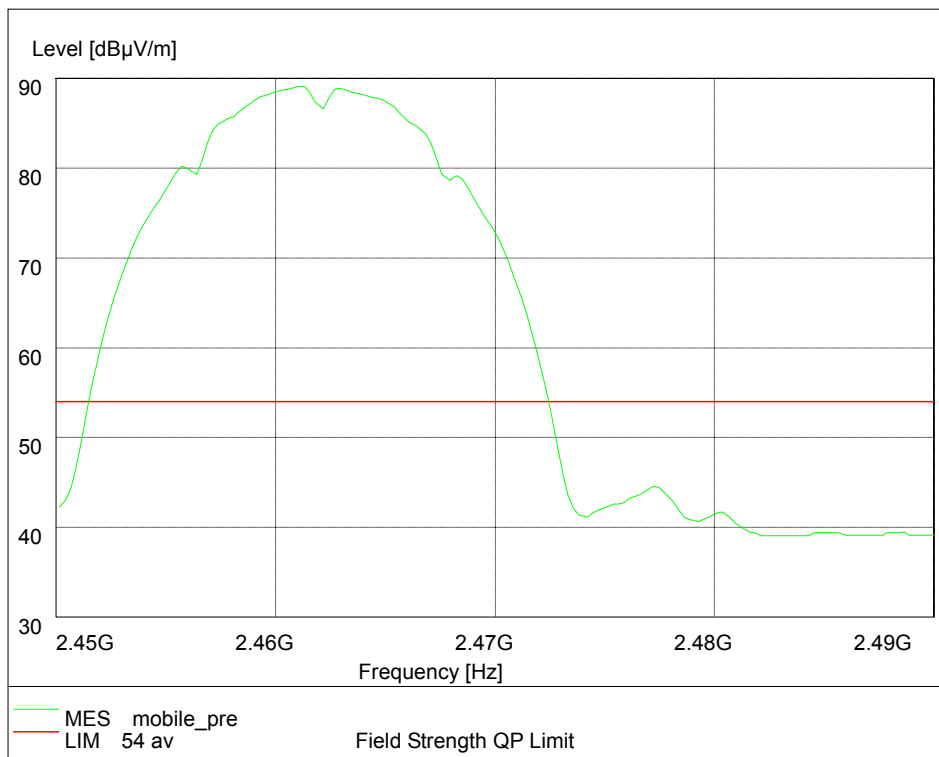
No	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Over Limit (dB)	Limit (dBµV/m)	cable loss (dB)	antenna factor (dB)
1	2463.07	93.09	59.09	N/A	N/A	8.90	25.10
2	2483.50	51.30	17.30	-22.70	74.00	8.90	25.10

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11b  
 Polarity:Horizontal  
 Detector: Peak



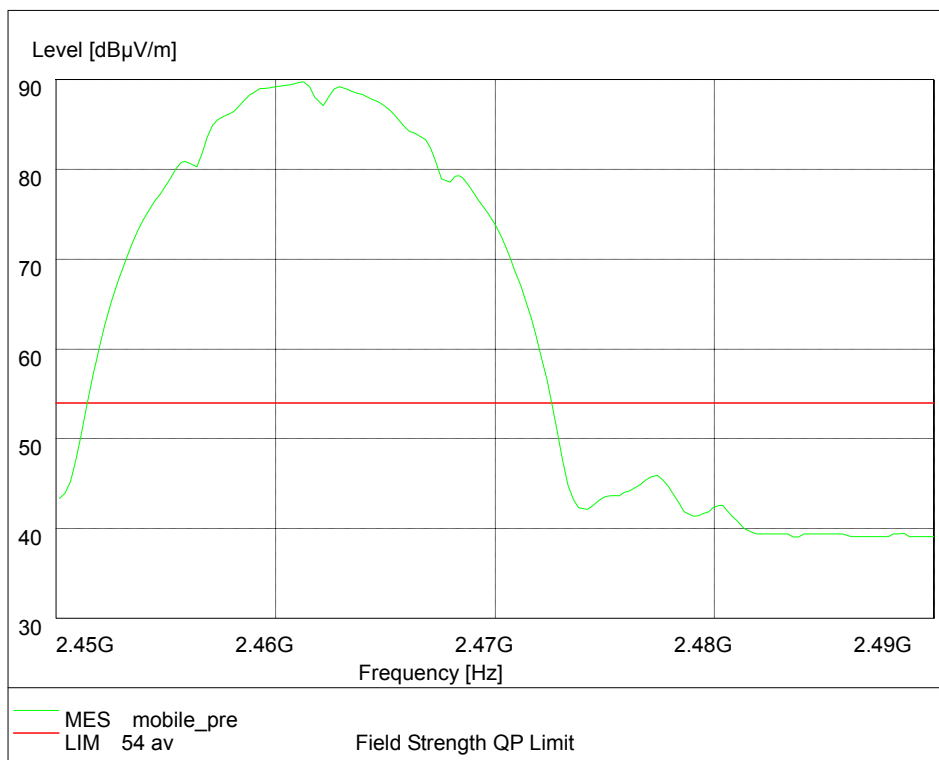
No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2460.58	94.00	60.00	N/A	N/A	8.90	25.10
2	2483.50	51.52	17.52	-22.48	74.00	8.90	25.10

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11b  
 Polarity:Vertical  
 Detector: Average



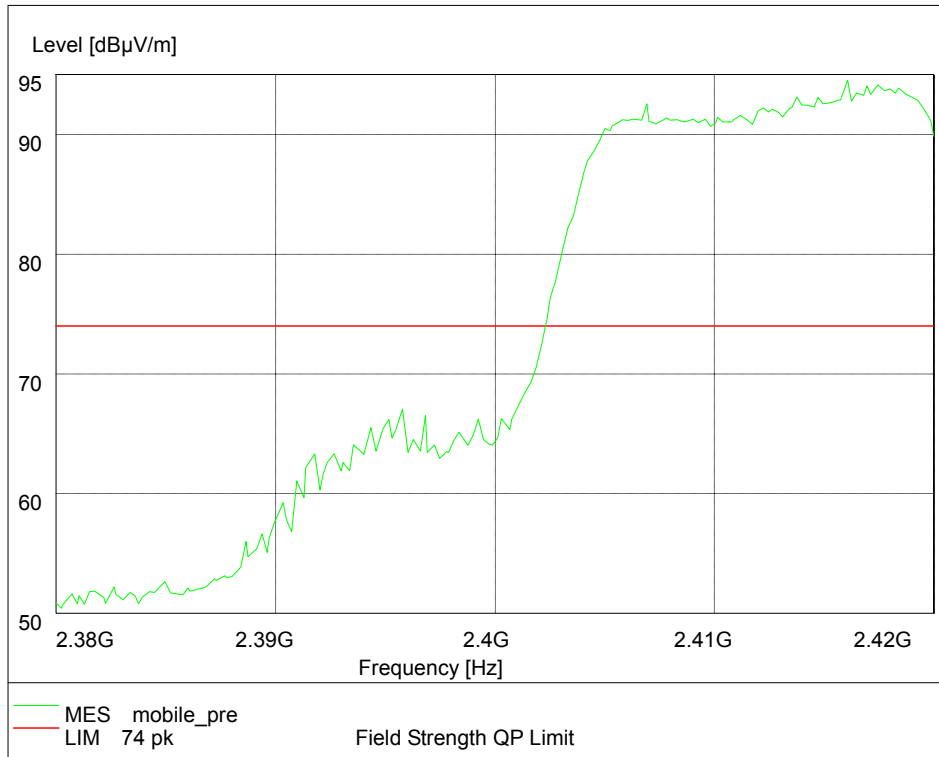
No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2461.22	89.12	55.12	N/A	N/A	8.90	25.10
2	2483.50	39.07	5.07	-14.93	54.00	8.90	25.10

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11b  
 Polarity:Horizontal  
 Detector: Average



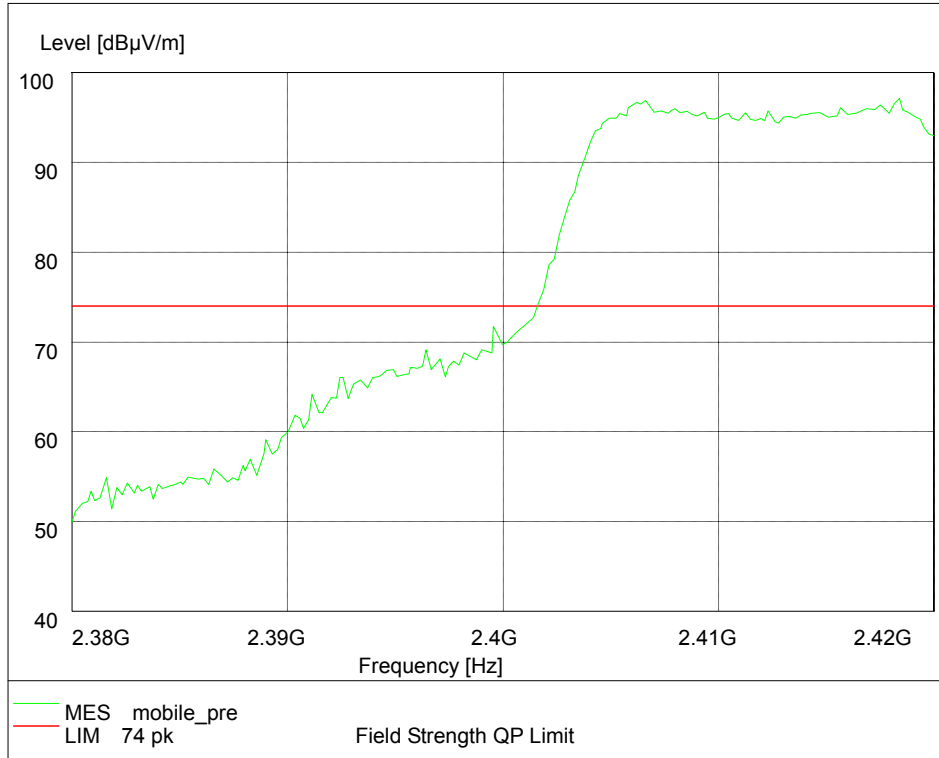
No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	cable loss (dB)	antenna factor (dB)
1	2461.22	89.72	55.72	N/A	N/A	8.90	25.10
2	2483.50	39.06	5.06	-14.94	54.00	8.90	25.10

Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11g  
 Polarity: Vertical  
 Detector: Peak



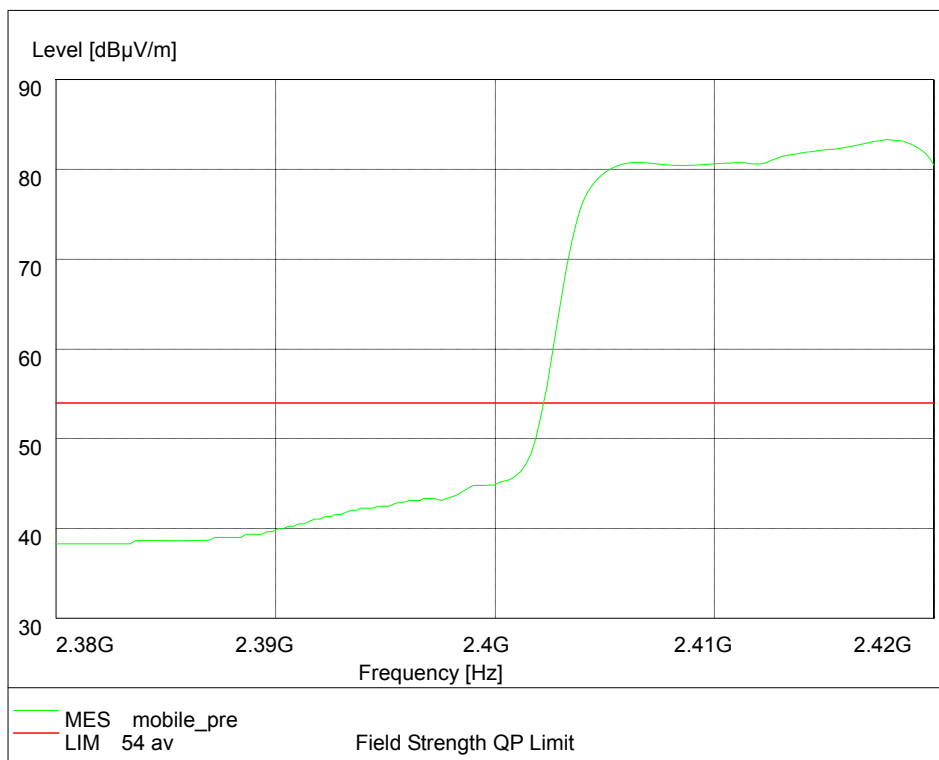
No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2416.07	94.50	60.50	N/A	N/A	8.90	25.10
2	2390.00	57.58	23.58	-16.42	74.00	8.90	25.10

Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11g  
 Polarity:Horizontal  
 Detector: Peak



No	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Over Limit (dB)	Limit (dBµV/m)	cable loss (dB)	antenna factor (dB)
1	2418.40	97.12	63.12	N/A	N/A	8.90	25.10
2	2390.00	59.96	25.96	-14.04	74.00	8.90	25.10

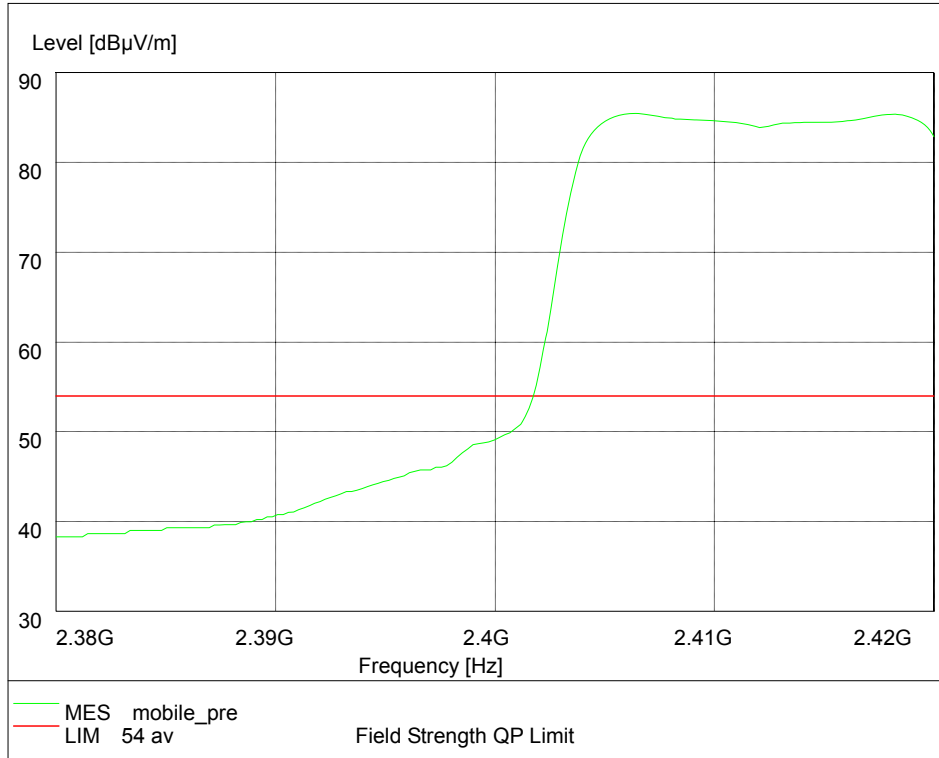
Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11g  
 Polarity: Vertical  
 Detector: Average



No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2417.84	83.29	49.29	N/A	N/A	8.90	25.10
2	2390.00	39.95	5.95	-14.05	54.00	8.90	25.10

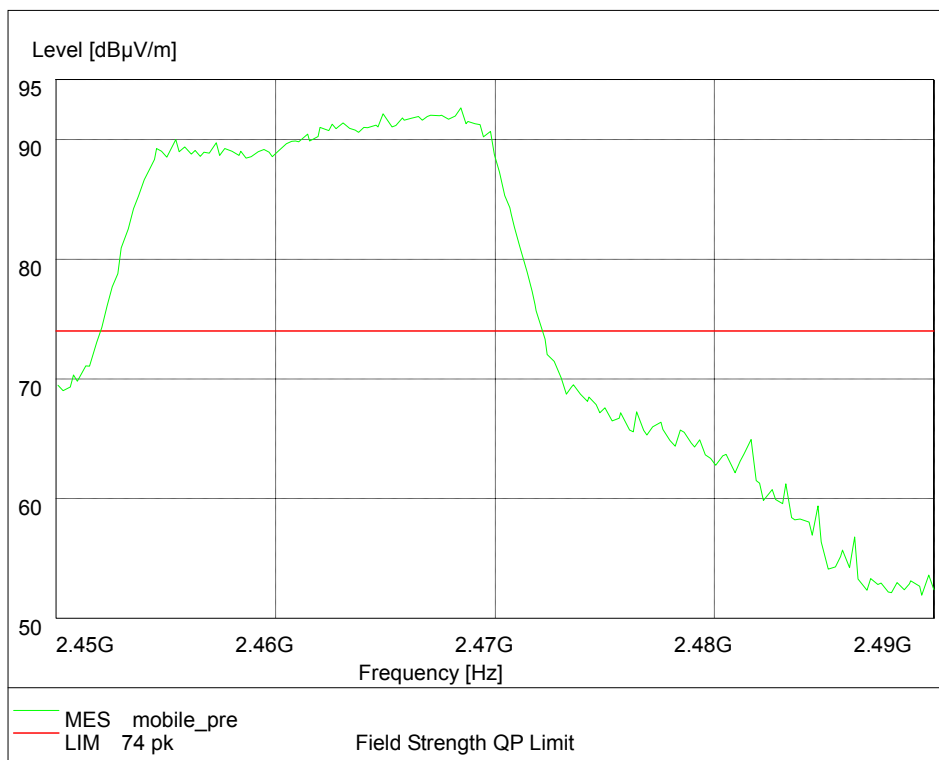


Carrier frequency (MHz): 2412  
 Channel No.:1  
 Test Mode: 802.11g  
 Polarity:Horizontal  
 Detector: Average



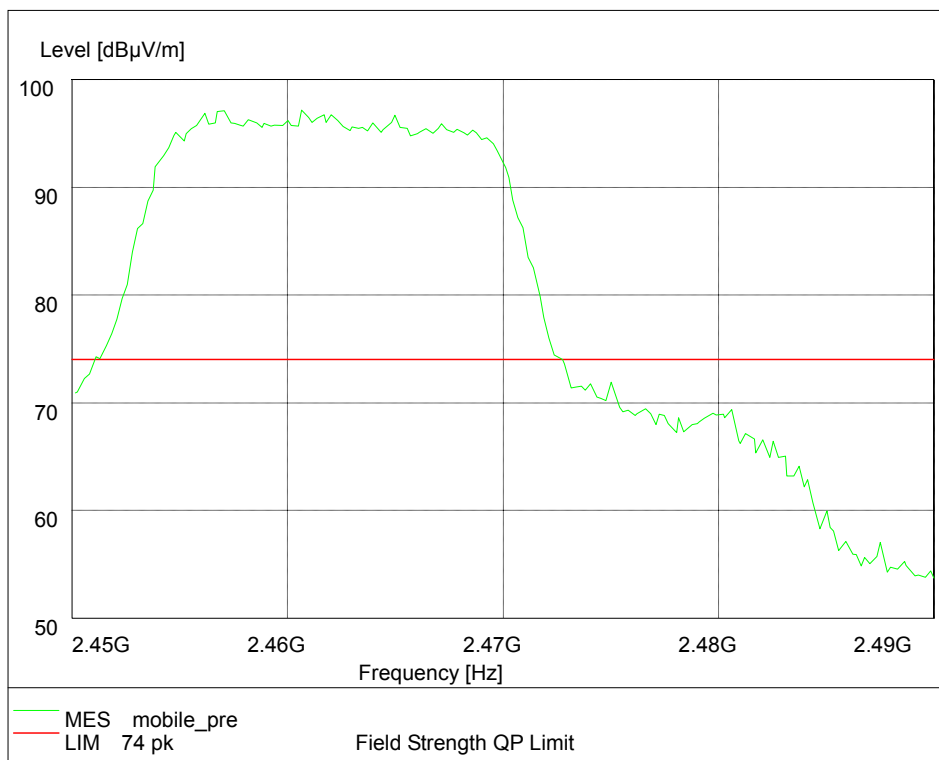
No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2406.37	85.41	51.41	N/A	N/A	8.90	25.10
2	2390.00	40.78	6.78	-13.22	54.00	8.90	25.10

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11g  
 Polarity: Vertical  
 Detector: Peak



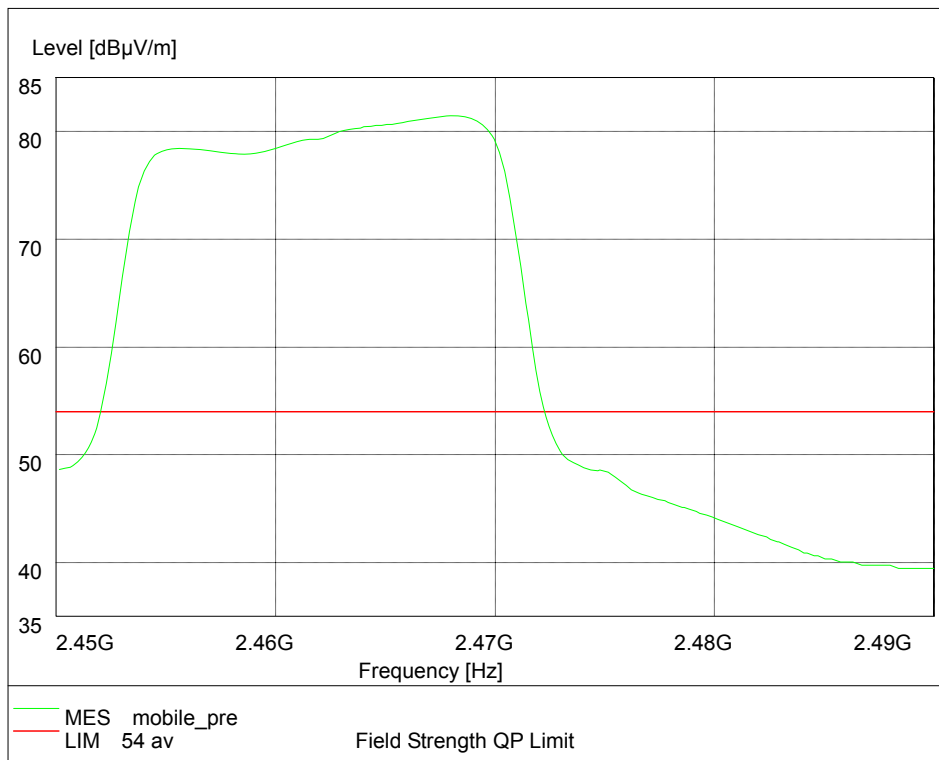
No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2468.44	92.62	58.62	N/A	N/A	8.90	25.10
2	2483.50	58.41	24.41	-15.59	74.00	8.90	25.10

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11g  
 Polarity:Horizontal  
 Detector: Peak



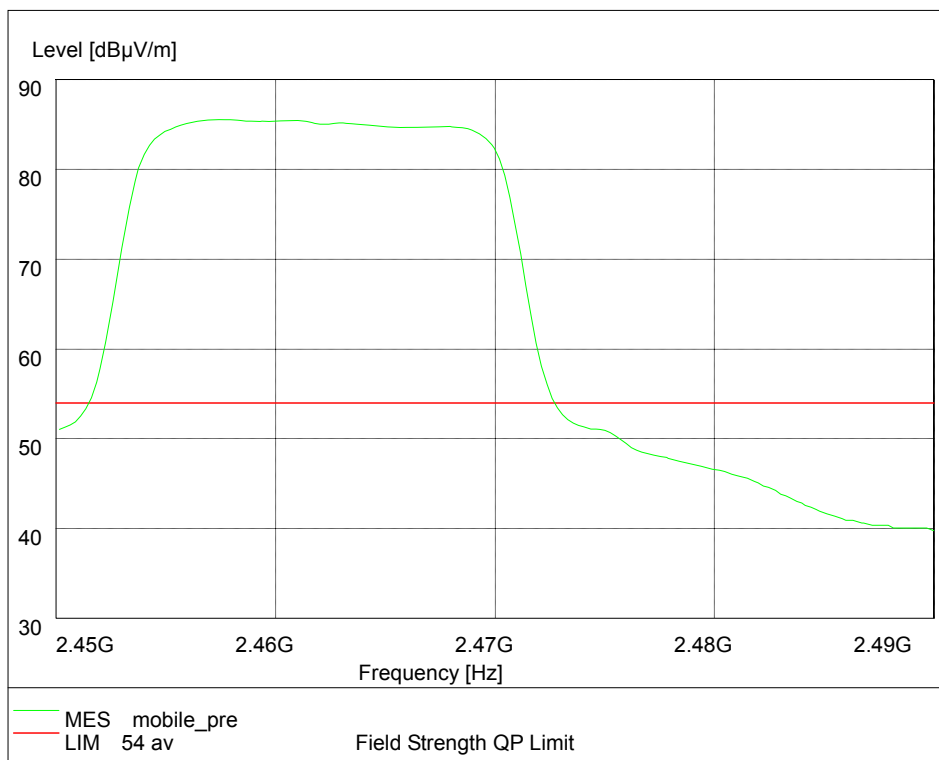
No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	cable loss (dB)	antenna factor (dB)
1	2457.05	97.12	63.12	N/A	N/A	8.90	25.10
2	2483.50	63.21	29.21	-10.79	74.00	8.90	25.10

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11g  
 Polarity: Vertical  
 Detector: Average



No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2468.28	81.44	47.44	N/A	N/A	8.90	25.10
2	2483.50	41.40	7.40	-12.6	54.00	8.90	25.10

Carrier frequency (MHz): 2462  
 Channel No.:11  
 Test Mode: 802.11g  
 Polarity:Horizontal  
 Detector: Average



No	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuv/m)	cable loss (dB)	antenna factor (dB)
1	2457.45	85.55	51.55	N/A	N/A	8.90	25.10
2	2483.50	43.44	9.44	-10.56	54.00	8.90	25.10

## 2.2.7 AC Powerline Conducted Emission-§15.107, §15.207

### 2.2.7.1 Ambient condition

Temperature	Relative humidity	Pressure
20°C	35%	101.4kPa

### 2.2.7.2 Test limit

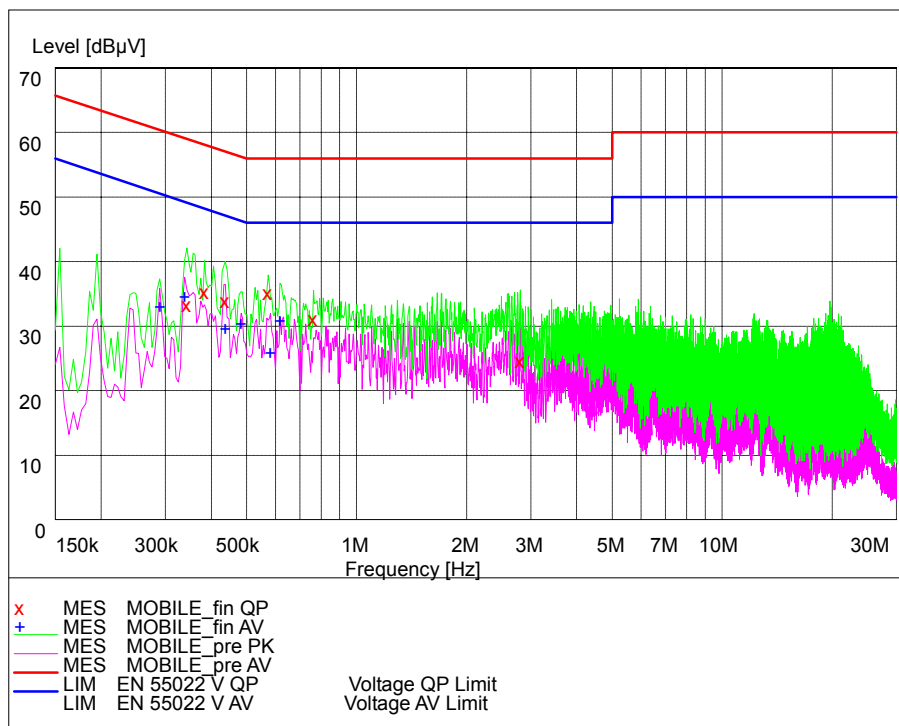
Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

\* Decreases with the logarithm of the frequency.

The measurement is made according to ANSI C63.4-2009 and KDB558074

### 2.2.7.3 Test result

Noise Level of the Measuring Instrument



L and N Line

**MEASUREMENT RESULT: "MOBILE\_fin QP"**

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line dB	PE
0.343500	35.10	20.2	59	24.0	L1	GND
0.384000	37.00	20.2	58	21.2	N	GND
0.438000	35.60	20.3	57	21.5	L1	GND
0.573000	36.80	20.3	56	19.2	L1	GND
0.762000	32.80	20.3	56	23.2	L1	GND
2.805000	26.30	20.3	56	29.7	L1	GND

**MEASUREMENT RESULT: "MOBILE\_fin AV"**

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line dB	PE
0.289500	34.70	20.2	51	15.8	L1	GND
0.339000	36.20	20.2	49	13.1	L1	GND
0.438000	31.30	20.3	47	15.8	L1	GND
0.483000	32.10	20.3	46	14.2	L1	GND
0.582000	27.60	20.3	46	18.4	N	GND
0.618000	32.50	20.3	46	13.5	L1	GND

## 2.3. List of test equipment

No.	Name/Model	Manufacturer	S/N	Calibration Date
1	Bluetooth Test Set Anritsu MT8852B	Anritsu	6K 00005827	Aug. 2010
2	R&S FSQ Spectrum Analyzer	R&S	200065	Mar. 2011
3	R&S FSP Spectrum Analyzer	R&S	100118	Aug. 2010
4	R&S FSV Spectrum Analyzer	R&S	100930	Mar. 2011
5	1506A Power Splitter	Weinschel	MN154	Aug. 2010
6	9.080m×5.255m×3.525m Shielding room	FRANKONIA	-----	Aug. 2010
7	ESI 40 EMI test receiver	R&S	100015	Aug. 2010
8	SMR 20 Signal generator	R&S	100086	Aug. 2010
9	CMU 200 Radio tester	R&S	100313	Aug. 2010
10	12.65m*8.03m*7.50m Fully-Anechoic Chamber	FRANKONIA	-----	Aug. 2010
11	HL562 Ultra log test antenna	R&S	100016	Aug. 2010
12	HF 906 Double-Ridged Waveguide Horn Antenna	R&S	100030	Aug. 2010
13	HF 906 Double-Ridged Waveguide Horn Antenna	R&S	100029	Aug. 2010
14	PS2000 Turn Table	FRANKONIA	-----	Aug. 2010
15	MA260 Antenna Master	FRANKONIA	-----	Aug. 2010
16	ES-K1EMI test software	R&S	-----	-----
17	HL562 Receive antenna	R&S	100167	Aug. 2010