TEST REPORT

No. WLAN2006006

Product	GSM/WiFi Dual Mode Phone
Model	paragon PW－1010
Client	Paragon Wireless Inc.

Telecommunication Metrology Center

of Ministry of Information Industry

Notice

1. The test report is invalid if not marked with “exclusive stamp for the test report” or the stamp of the test center.
2. Any copy of the test report is invalid if not re-marked with the “exclusive stamp for the test report” or the stamp of the test center.
3. The test report is invalid if not marked with the stamps or the signatures of the persons responsible for performing, revising and approving the test report.
4. The test report is invalid if there is any evidence of erasure and/or falsification.
5. If there is any dissidence for the test report, please file objection to the test center within 15 days from the date of receiving the test report.
6. Normally, entrust test is only responsible for the samples that have undergone the test.
7. Context of the test report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of the test center.

Address: No. 52, Huayuanbei Road, Beijing, P. R. China
Post code: 100083 Cable: 04282
Telephone: +86 10 62302041 Fax: +86 10 62304793

Product	GSM/WiFi Dual Mode Phone	**Model**	paragon PW－1010
		Trade mark	
Client	Paragon Wireless Inc.		
Manufacturer	Paragon Wireless Inc.	**Arrival Date of sample**	Apr,13, 2006
Place of sampling	(Blank)	**Carrier of the samples**	Wang Wuji
Quantity of the samples	2	**Date of product**	/
Base of the samples	(Blank)	**Items of test**	7
Series number	EUT1: 010PW1010N02; EUT2:010PW1010N03		
Standard(s)	FCC Part 15		
Conclusion	**Final Judgement: Pass** (Stamp) **Date of issue:** Jun,27, 2006		
Comment	The test result relates only to the tested sample.		

Approved by_____ **Reviewed by** _____ **Tested by**_____

(Lu Bingsong) (Xiao Li) (Guo Ling)

(Lu Bingsong - **Deputy Director of the laboratory**)

TABLE OF CONTENT

1 COMPETENCE AND WARRANTIES

Telecommunication Metrology Center of Ministry of Information Industry is a test laboratory accredited by CNAL – Accreditation Certificate of China National Accreditation Board for Laboratories, for the tests indicated in the Certificate No. **L0442**.

Telecommunication Metrology Center of Ministry of Information Industry has been accepted by the CETECOM Competent Body for the EMC test reports since April 2000.

Telecommunication Metrology Center of Ministry of Information Industry is a testing laboratory competent to carry out the tests described in this report.

Telecommunication Metrology Center of Ministry of Information Industry guarantees the reliability of the data presented in this report, which is the result of measurements and tests performed to the item under test on the date and under the conditions stated on the report and is based on the knowledge and technical facilities available at **Telecommunication Metrology Center of Ministry of Information Industry** at the time of execution of the test.

Telecommunication Metrology Center of Ministry of Information Industry is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the item under test and the results of the test.

2 GENERAL CONDITIONS

2.1 This report only refers to the item that has undergone the test.

2.2 This report standalone does not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities.

2.3 This document is only valid if complete; no partial reproduction can be made without written approval of Telecommunication Metrology Center of Ministry of Information Industry.

2.4 This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of Telecommunication Metrology Center of Ministry of Information Industry and the Accreditation Bodies, if it applies.

3 ABOUT EUT

3.1 Addressing Information Related to EUT

Table 1: Applicant's details (The Client)

Name or Company	Paragon Wireless Inc.
Address/Post	A-1801, E-wing Center, NO.113 Zhichun Road, Haidian District, Beijing, P.R. China
City	Beijing
Postal Code	100086
Country	China
Telephone	+86-10-6261-6660-270
Fax	+86-10-6261-6669

Table 2: Manufacturer's details

Name or Company	Paragon Wireless Inc.
Address/Post	A-1801, E-wing Center, NO.113 Zhichun Road, Haidian District, Beijing, P.R. China
City	Beijing
Postal Code	100086
Country	China
Telephone	+86-10-58270277
Fax	+86-10-84568718

3.2 Equipment under test (EUT)

Model	paragon PW－1010
Description	GSM/WiFi Dual Mode Phone
IMEI or SN	EUT1: 010PW1010N02; EUT2:010PW1010N03
Hardware status	1.0
Software status	1.02
Frequency	2400 MHz – 2483.5 MHz for WLAN
Type of modulation	DSSS and OFDM for WLAN
Number of channels	11 for WLAN
Antenna	Internal
Power supply	Battery or Charger (AC Adaptor)
Output power	19 dBm maximum
Extreme vol. Limits	3.7 VDC to 4.2 VDC (nominal: 3.9 VDC)
Extreme temp. Tolerance	-10°C to +55°C

3.3 Photographs of Equipment under test

External Photo

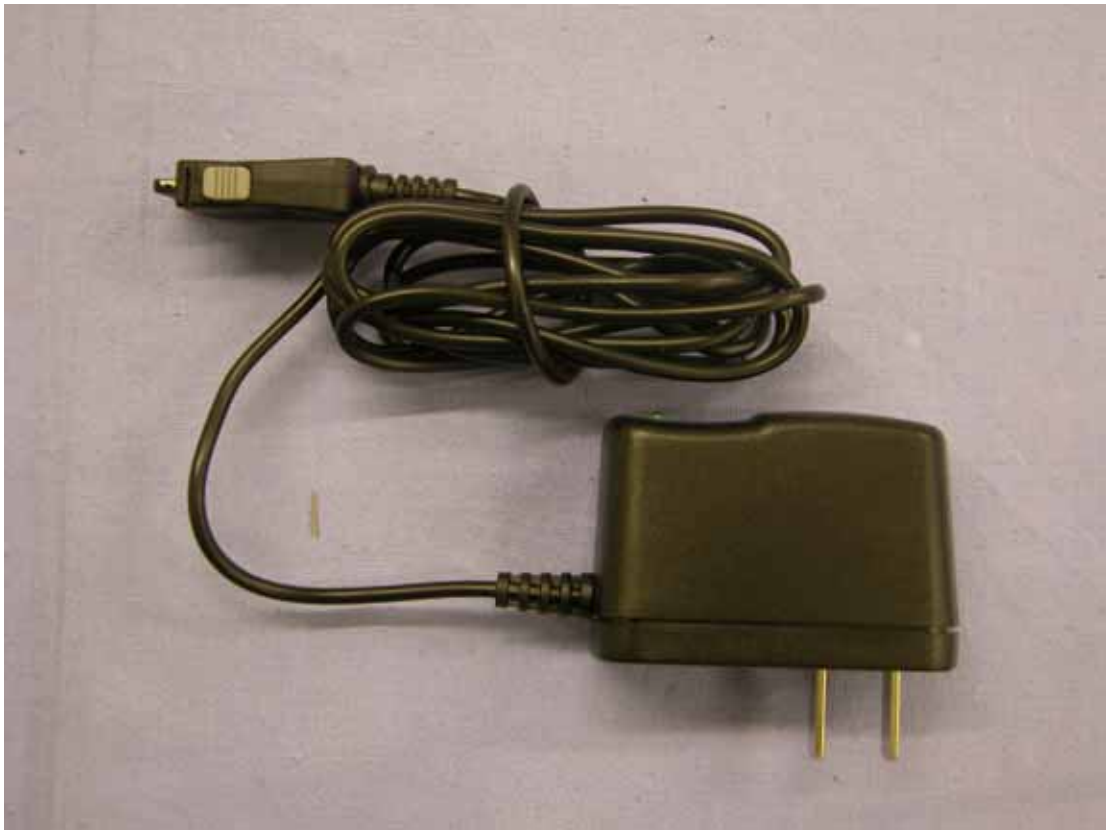
Mobile Phone

Mobile Phone

Mobile Phone

Mobile phone

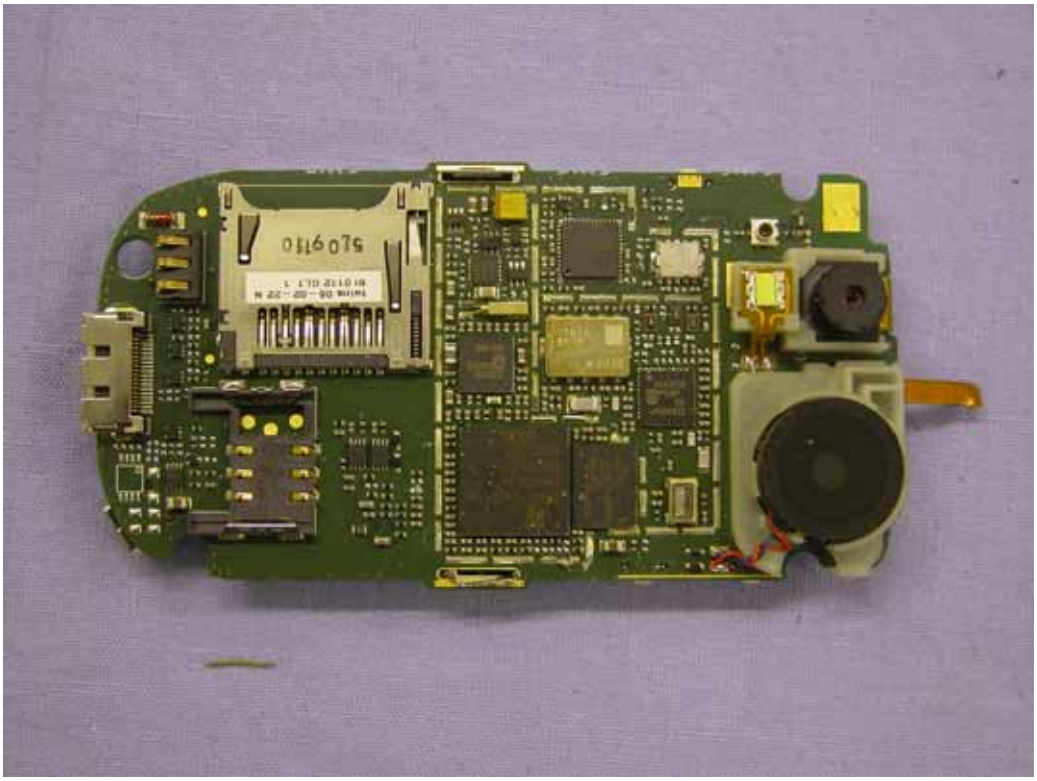
Charger (AC/DC Adapter)



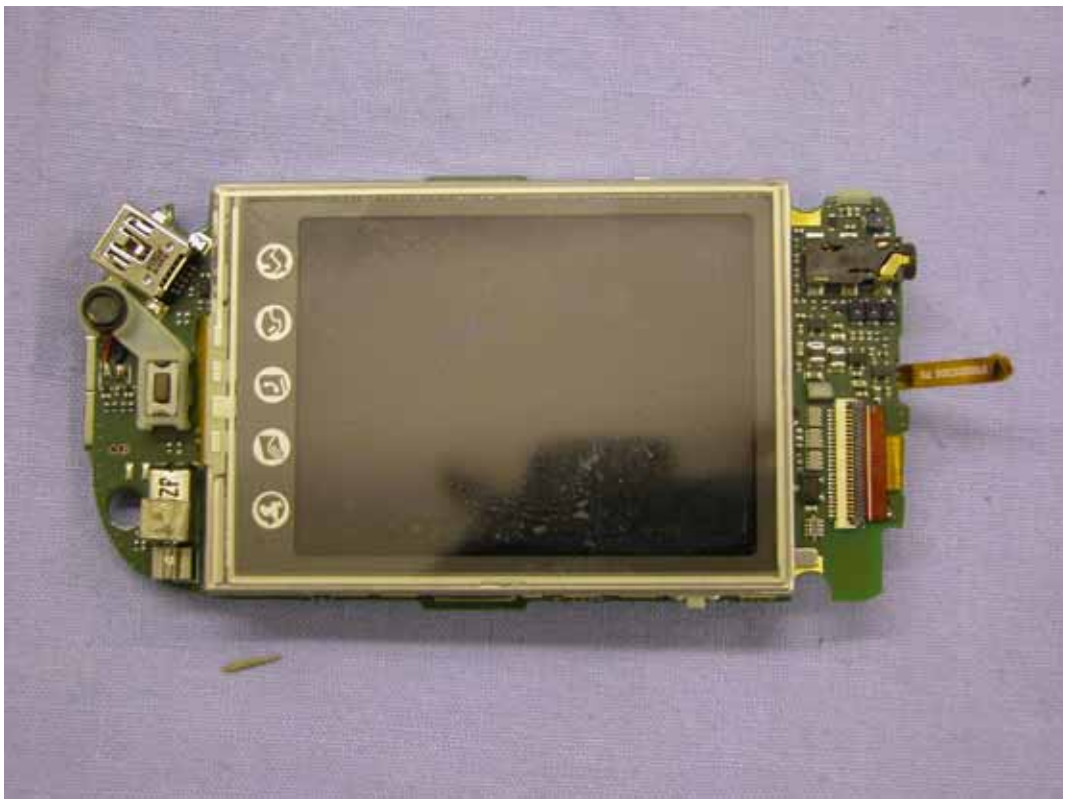
Charger (AC/DC Adapter)

Internal Photo

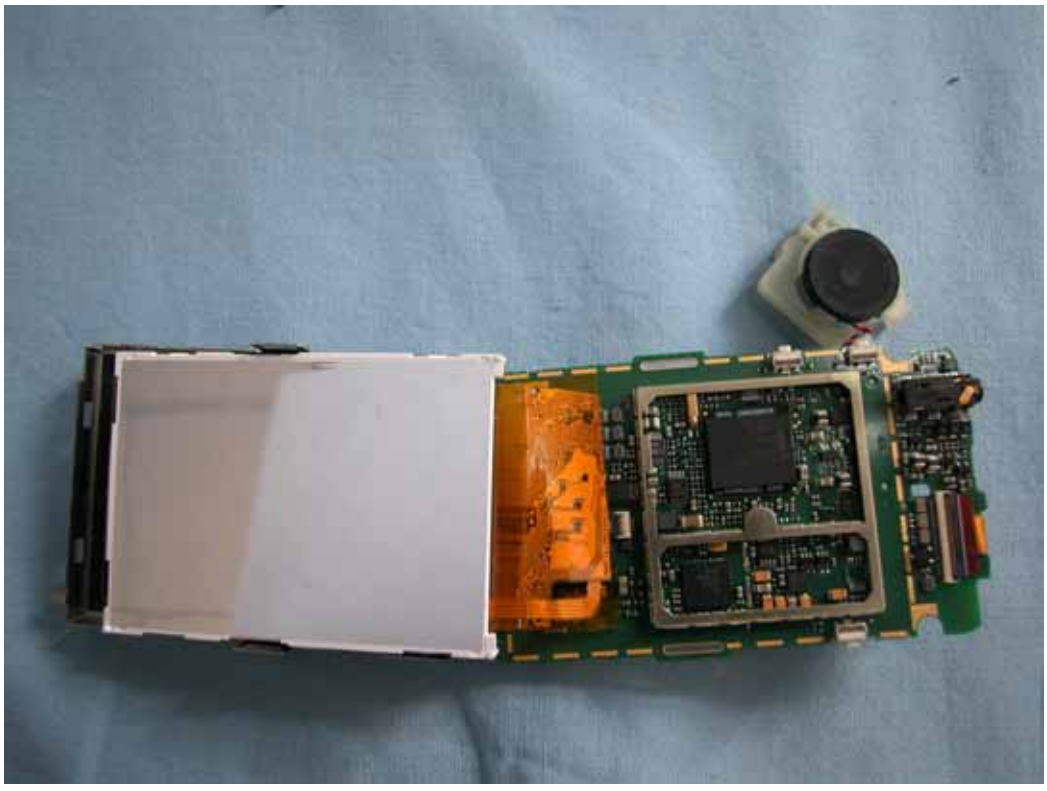
Mobile phone Disassembly



mobile phone PCB back view



mobile phone PCB front view



mobile phone PCB front view

4 LABORATORY ENVIRONMENT

Screen Room (4.5 meters×4 meters×2.7 meters) did not exceed following limits along the conducted RF perfomance testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Average Noise Level	< -78dBm

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

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.2 dB, 10 m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 26 to 1000 MHz

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

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

Conducted chamber did not exceed following limits along the EMC testing:

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

Fully-anechoic chamber (6.8 meters×3.08 meters×3.53 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, 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 26 to 1000 MHz

5 SUMMARY OF TEST RESULTS

Abbreviations used in this clause:

P Pass

F Fail

NA not applicable

NM not measured

See **ANNEX A** for detail.

SUMMARY OF MEASUREMENT RESULTS	PARA. NO.	VERDICT
Occupied 6dB Bandwidth	15.247(a)(2)	P
Maximum Peak Power Output	15.247(b)(1)	P
Conducted Spurious Emissions	15.247(c)	P
Radiated Spurious Emissions	15.247(c)	P
Peak Power Spectral Density	15.247(d)	P
Band Edges Measurement	15.247(c)	P
Powerline Conducted Emissions	15.207(a)	P

6 MAIN TEST INSTRUMENTS

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER
1	Test Receiver	ESS	847151/015	R&S
2	Test Receiver	ESI40	831564/002	R&S
3	BiLog Antenna	3142B	9908-1403	EMCO
4	BiLog Antenna	3142B	9908-1405	EMCO
5	Signal Generator	SMT06	831285/005	R&S
6	Signal Generator	SMP04	100070	R&S
7	LISN	ESH2-Z5	829991/012	R&S
8	Spectrum Analyzer	E4440A	MY41000262	Agilent
9	Universal Radio Communication Tester	CMU200	100680	R&S
10	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO
11	Dual-Ridge Waveguide Horn Antenna	3116	2663	EMCO
12	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO
13	Climatic chamber	PL-2G	343074	ESPEC
14	Vector Singal Analyzer	FSQ26	200136	R&S

7 TEST PERIOD

The performed test started on Apr, 13, 2006 and finished on Jun. 27, 2006.

8 TEST LOCATION

Safety & EMC laboratory of Telecommunication Metrology Center of Ministry of Information Industry.

ANNEX A MEASUREMENT RESULTS

A.1 Occupied 6dB Bandwidth (§15.247(a)(2))

A. 1.1 Method of Test

The EUT is connected to the spectrum analyzer via a low loss cable.

If the EUT is not equipped with and antenna connector, A temporary antenna connector has to be installed. The EUT is switched on, the hopping function is disabled.

Occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data.

Data were taken at the extreme and mid frequencies of the EUT frequency band.

A. 1.2 Test Results

The table below lists the result of 6 dB BW.

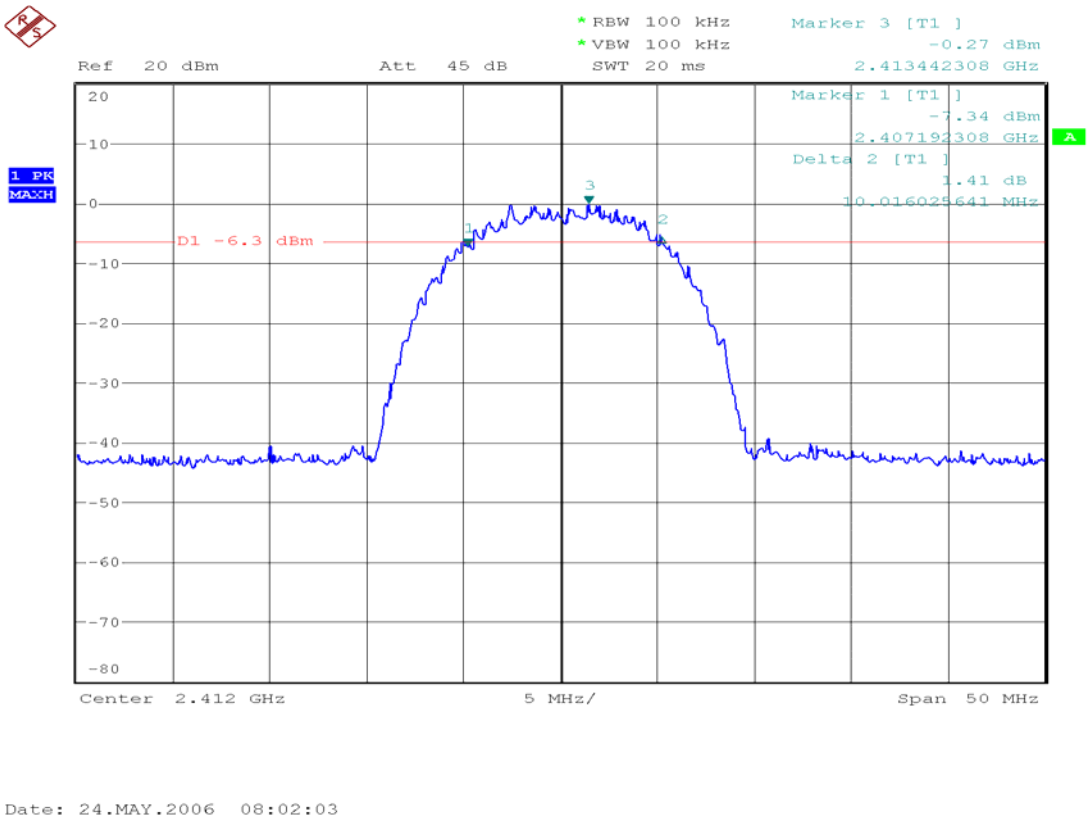
WLAN (6 dB BW)

Frequency(MHz)	Occupied Bandwidth (6 dB BW)(kHz)
802.11b	10016
802.11g	16586

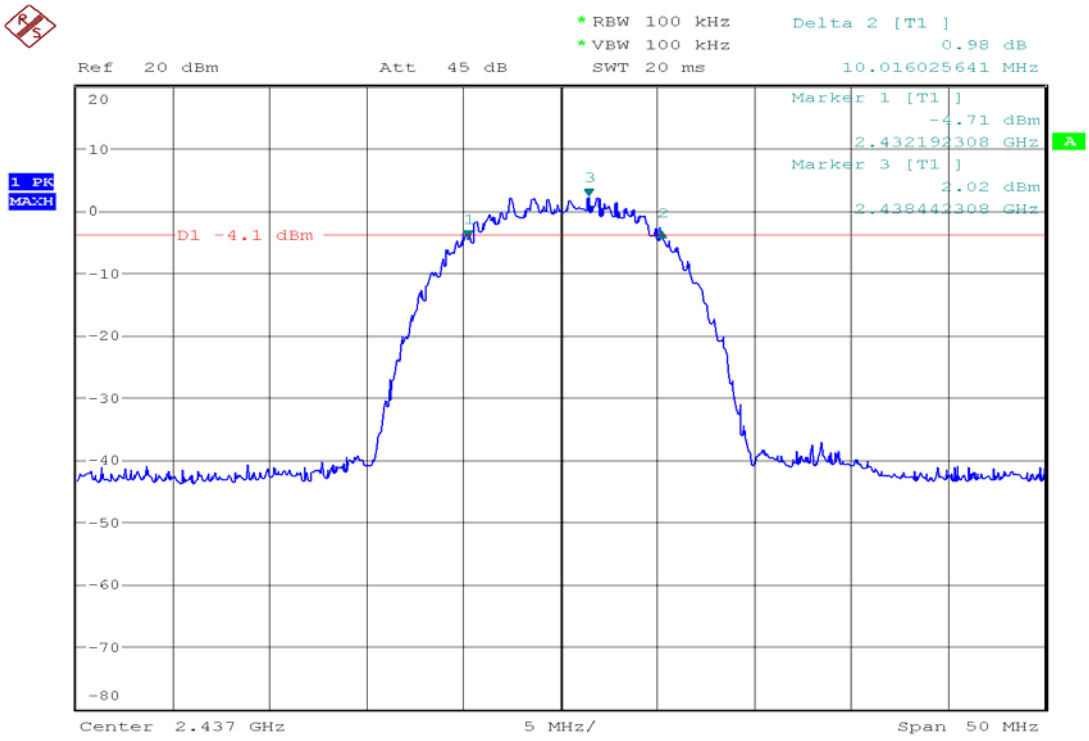
Spectrum analyzer plots are as follows.

ANALYZER SETTINGS: RBW = VBW =100 kHz

A.1.2.1 802.11b Channel 1 - Occupied Bandwidth (6 dB BW)

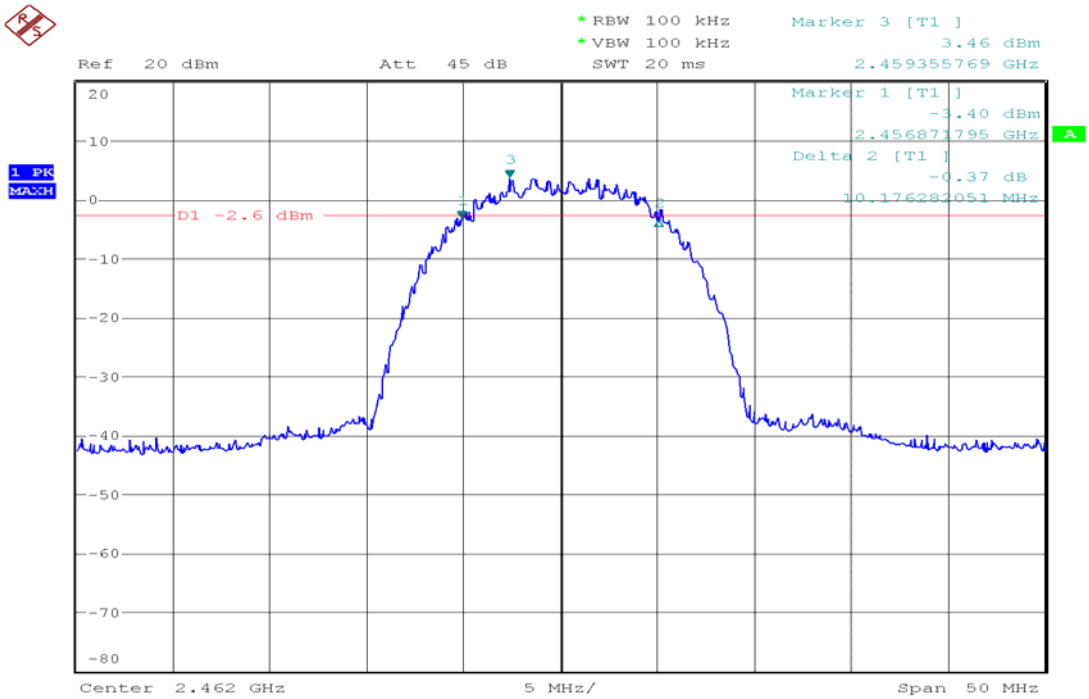


A.1.2.2 802.11b Channel 6 - Occupied Bandwidth (6 dB BW)



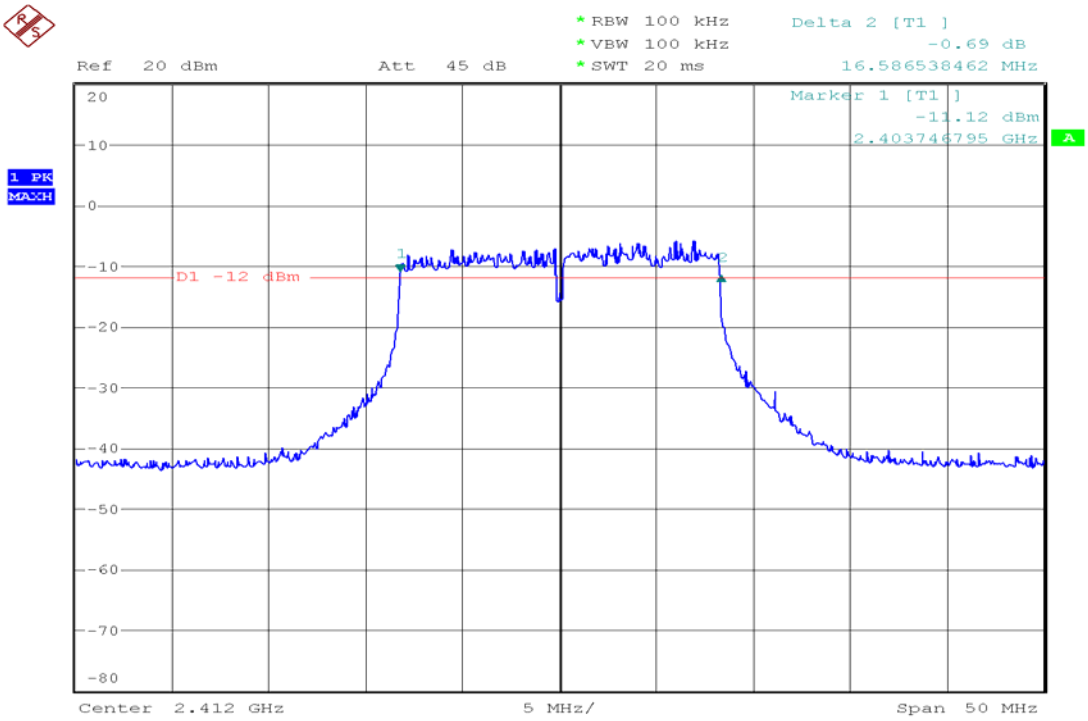
Date: 24.MAY.2006 07:58:47

A.1.2.3 802.11b Channel 11 - Occupied Bandwidth (6 dB BW)



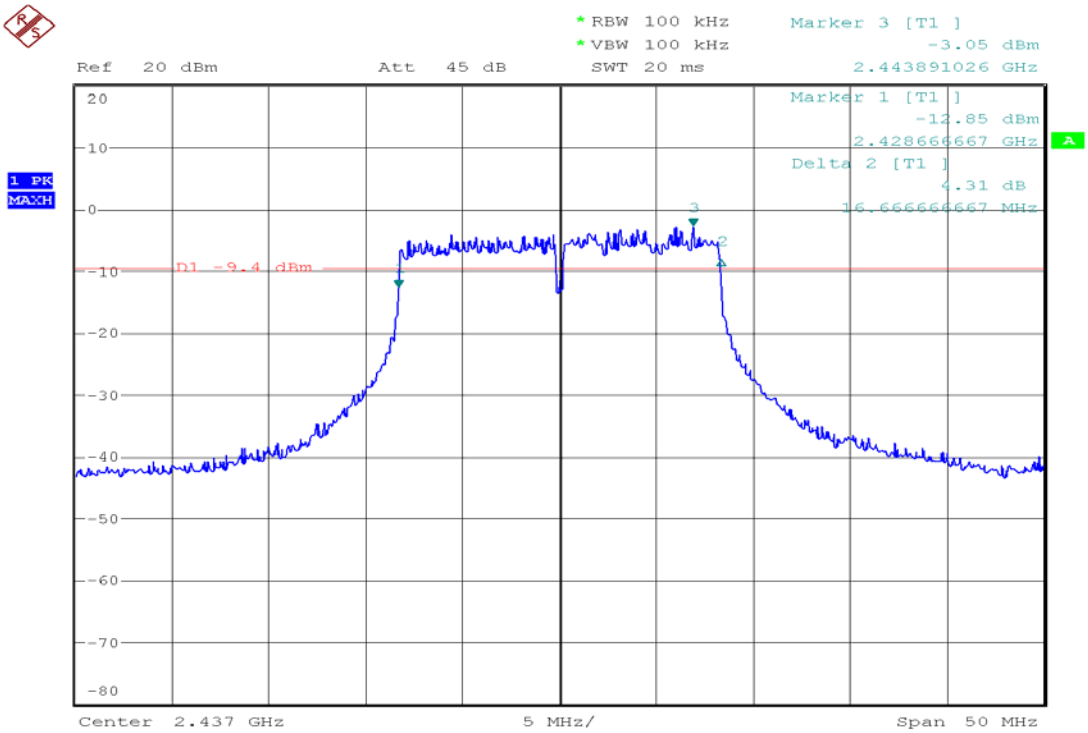
Date: 24.MAY.2006 07:55:35

A.1.2.4 802.11g Channel 1 - Occupied Bandwidth (6 dB BW)



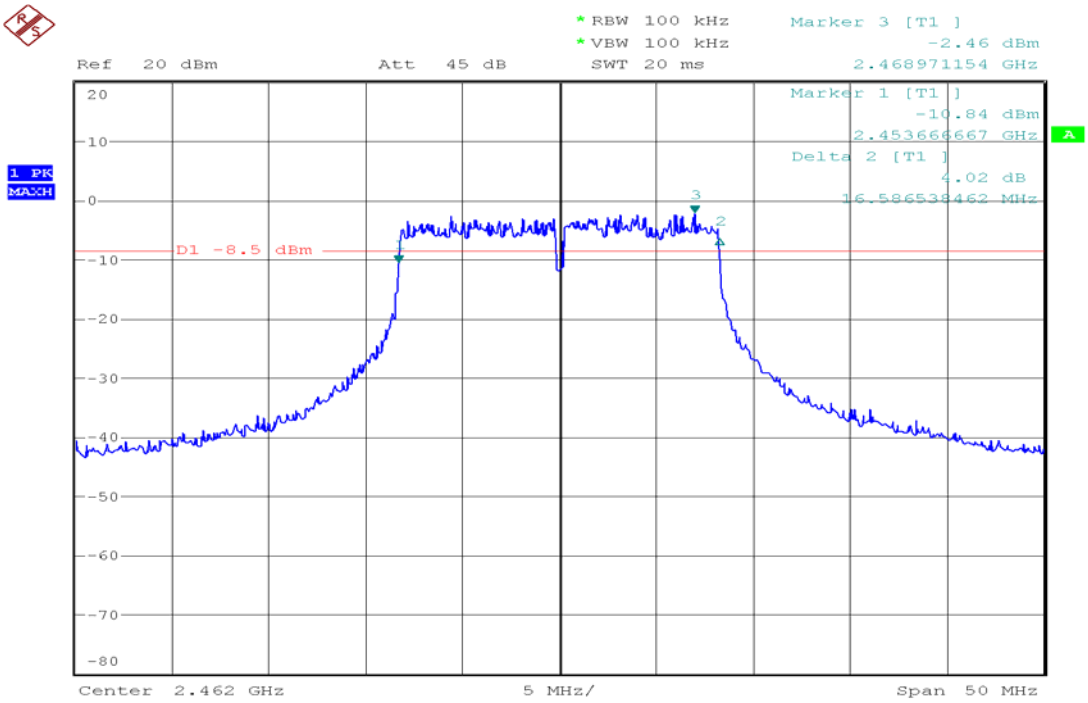
Date: 24.MAY.2006 07:39:45

A.1.2.5 802.11g Channel 6 - Occupied Bandwidth (6 dB BW)



Date: 24.MAY.2006 07:44:47

A.1.2.6 802.11g Channel 11 - Occupied Bandwidth (6 dB BW)



A.2 Maximum Peak Power Output (§15.247(b)(1))

A.2.1 Method of Test

This measurement applies to equipment with an integral antenna, equipment with an antenna connector, and equipped with an antenna as declared by the applicant.
The power was measured with modulation (declared by the applicant).

A.2.2 Test result

Test conditions	Mode	Channel 1	Channel 6	Channel 11
		[dBm]	[dBm]	[dBm]
T nom=25℃	802.11b	13.7	16.1	16.9
V nom=3.9 V	802.11g	15.7	17.7	18.7

A.3 Conducted Spurious Emissions (§15.247(c))

A.3.1 Method of Test

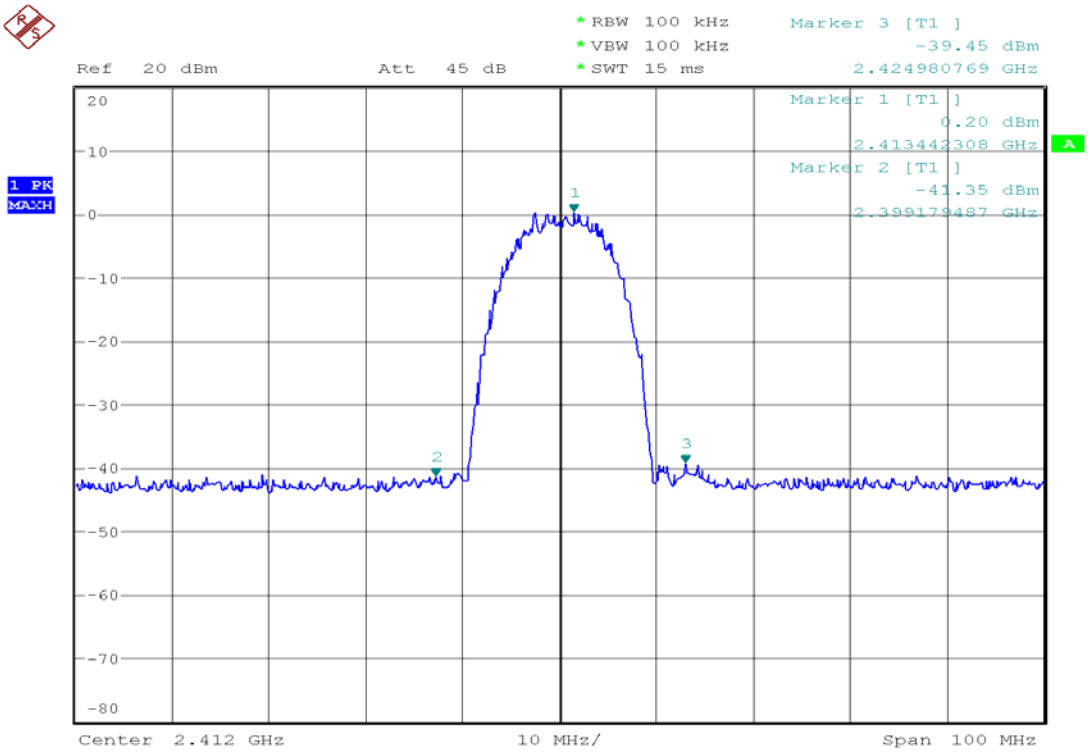
The EUT is connected to the spectrum analyzer via a low loss cable. If the EUT is not equipped with and antenna connector, A temporary antenna connector has to be installed. The EUT is switched on, the hopping function is disabled.
Conducted emissions measurements are only provided for selected frequencies in order to reduce the amount of submitted data.

A. 3.2 Test Results

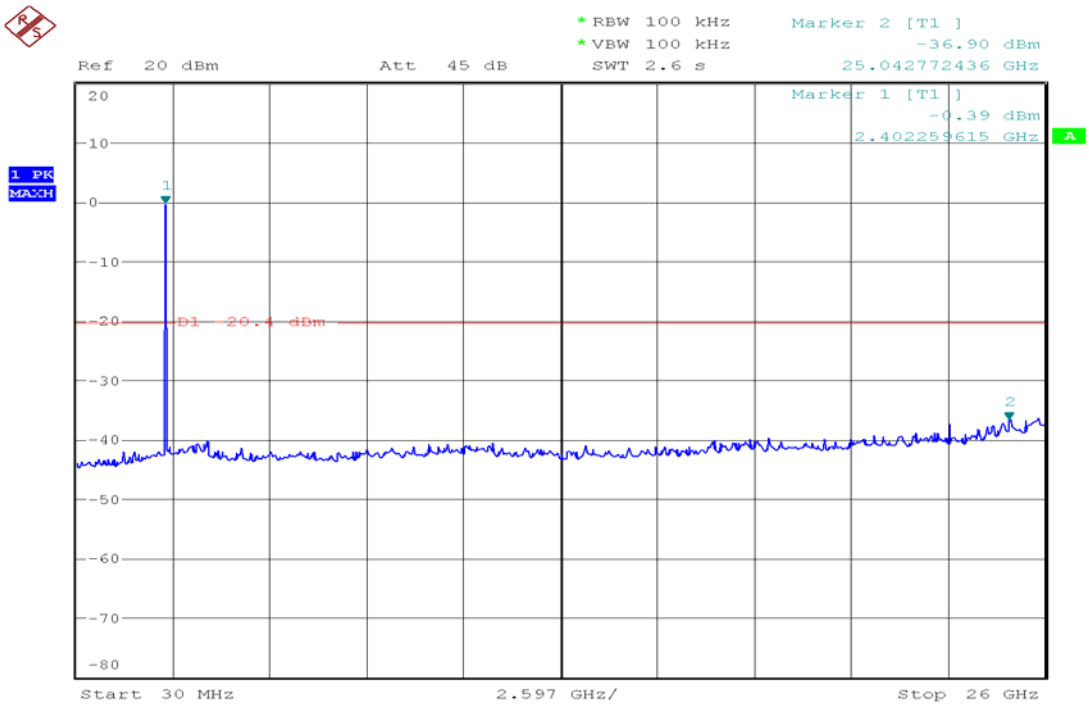
Spectrum analyzer plots are as follows.

ANALYZER SETTINGS: RBW = VBW = 100 kHz

A.3.2.1 802.11b Channel 1 – Conducted Spurious at Center Frequency

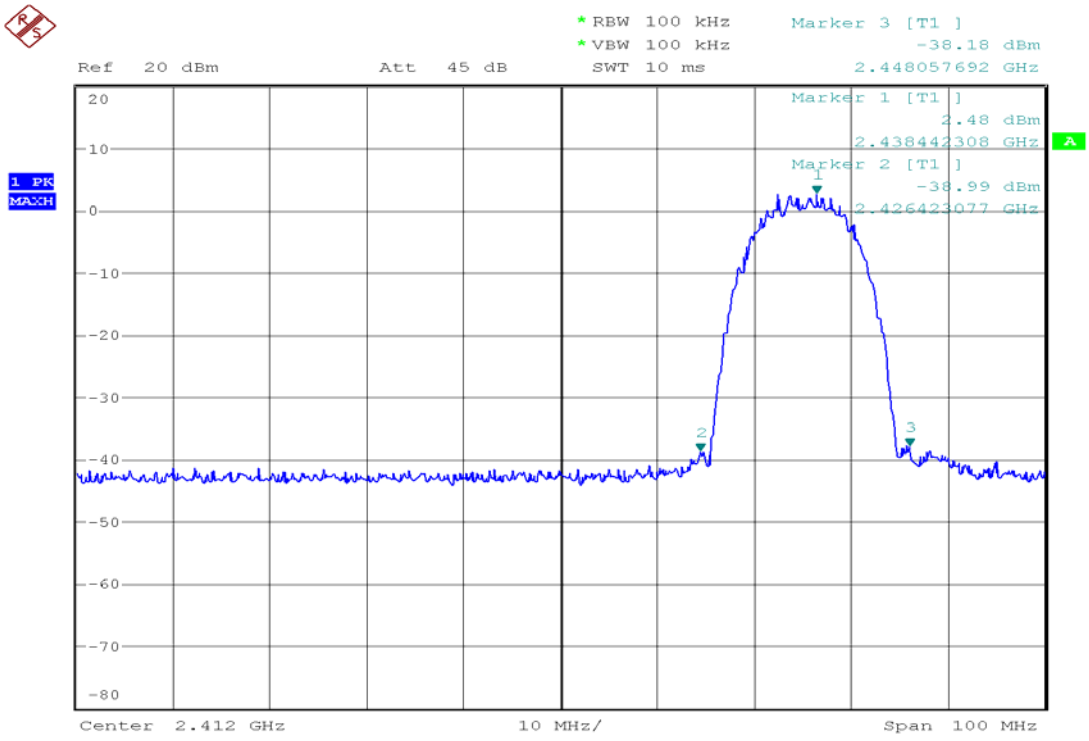


A.3.2.2 802.11b Channel 1 – Conducted Spurious from 30 MHz to 26 GHz



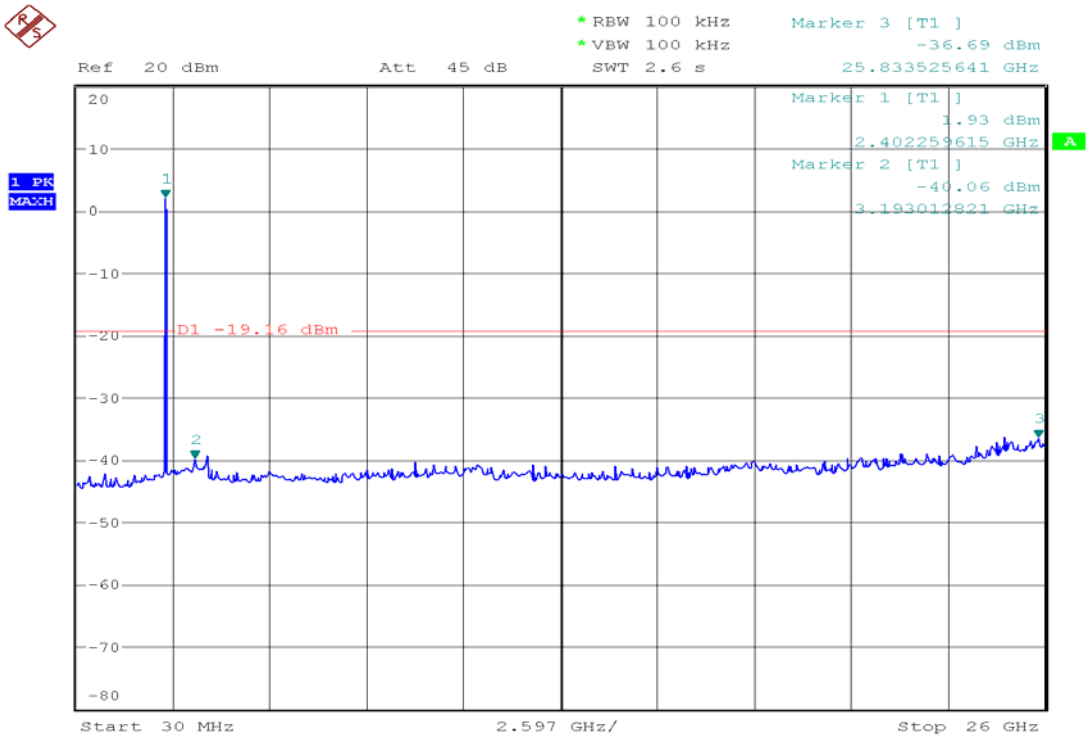
Date: 25.MAY.2006 05:14:50

A.3.2.3 802.11b Channel 6 – Conducted Spurious at Center Frequency



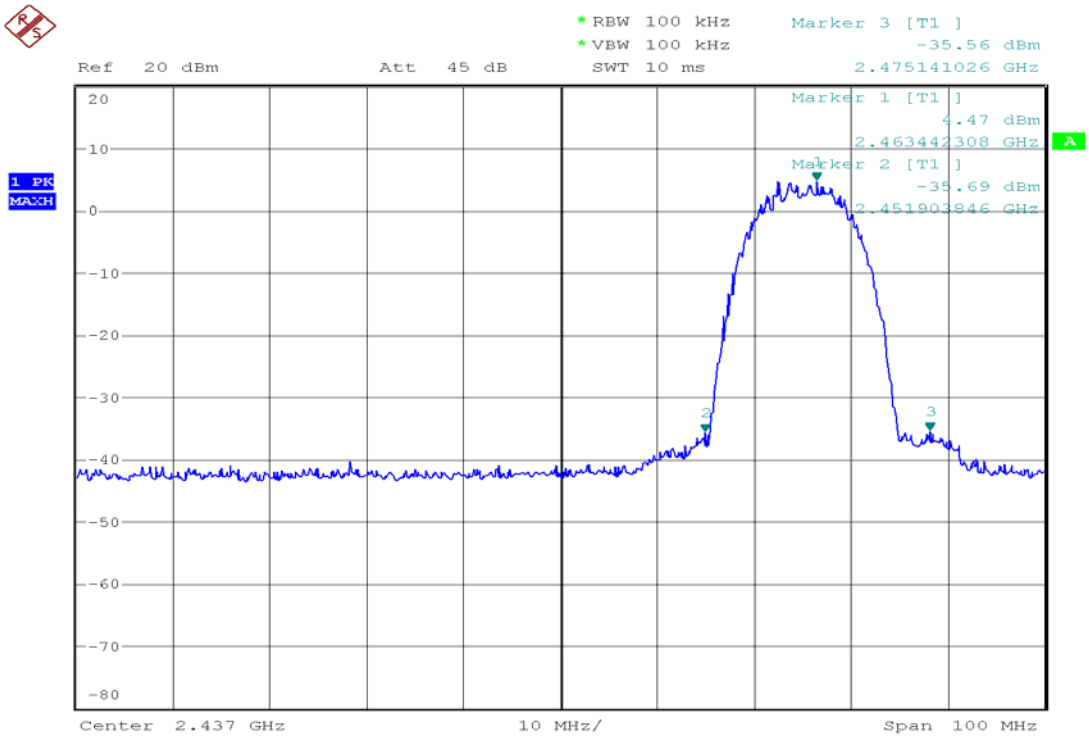
Date: 25.MAY.2006 05:20:15

A.3.2.4 802.11b Channel 6 – Conducted Spurious from 30 MHz to 26 GHz



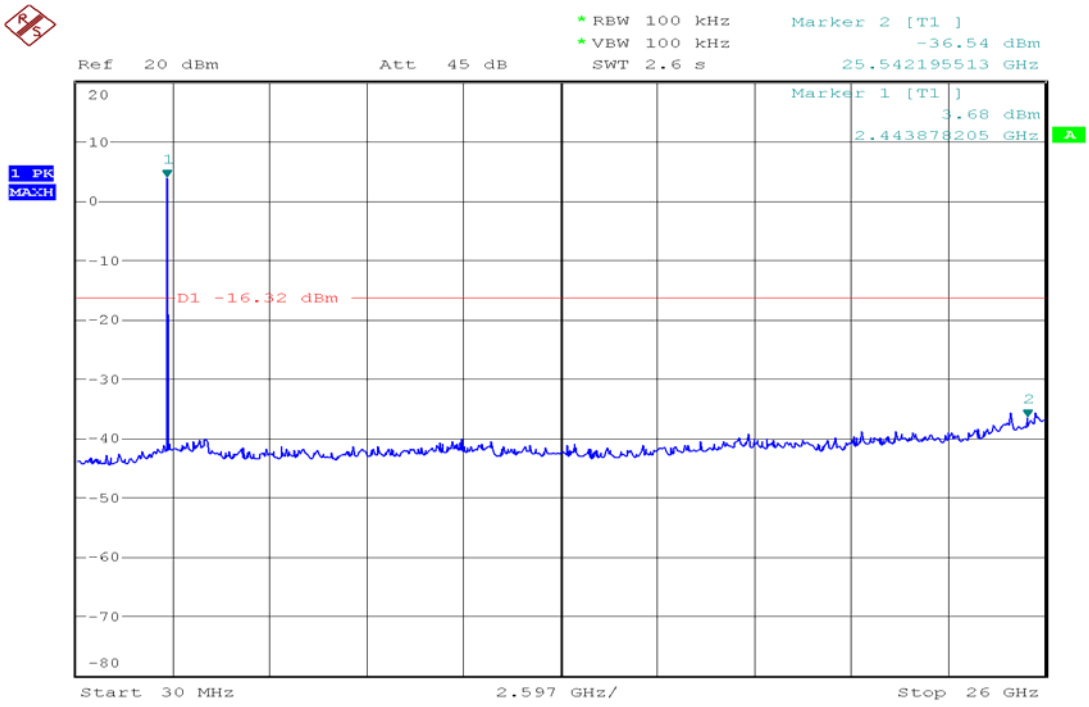
Date: 25.MAY.2006 05:25:53

A.3.2.5 802.11b Channel 11 – Conducted Spurious at Center Frequency



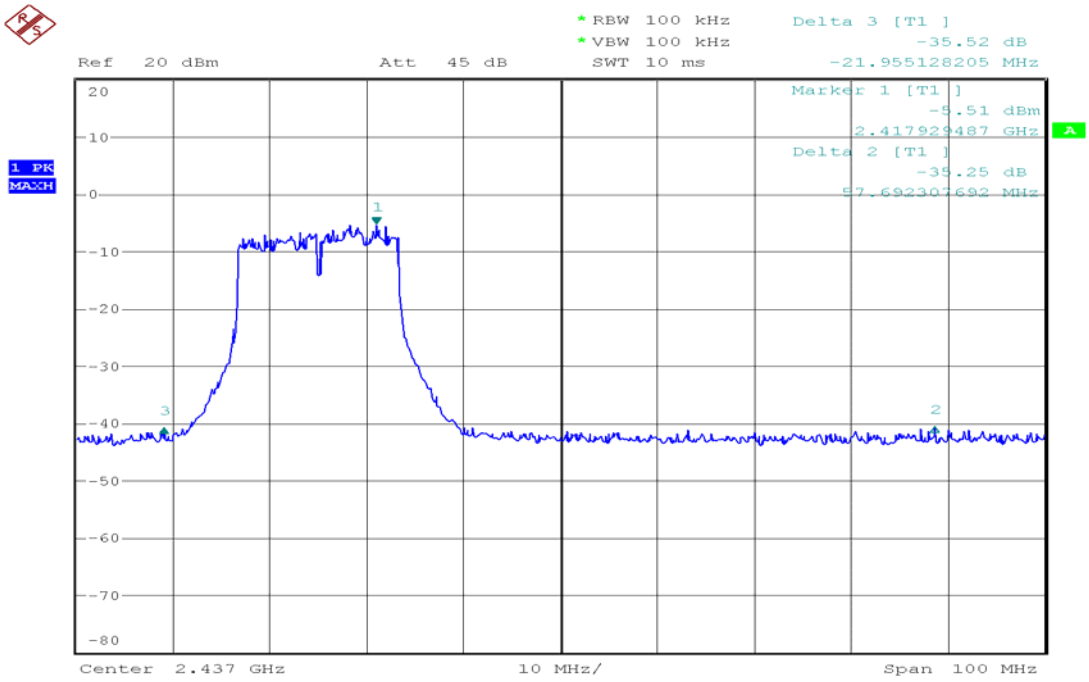
Date: 25.MAY.2006 07:19:12

A.3.2.6 802.11b Channel 11 – Conducted Spurious from 30 MHz to 26 GHz



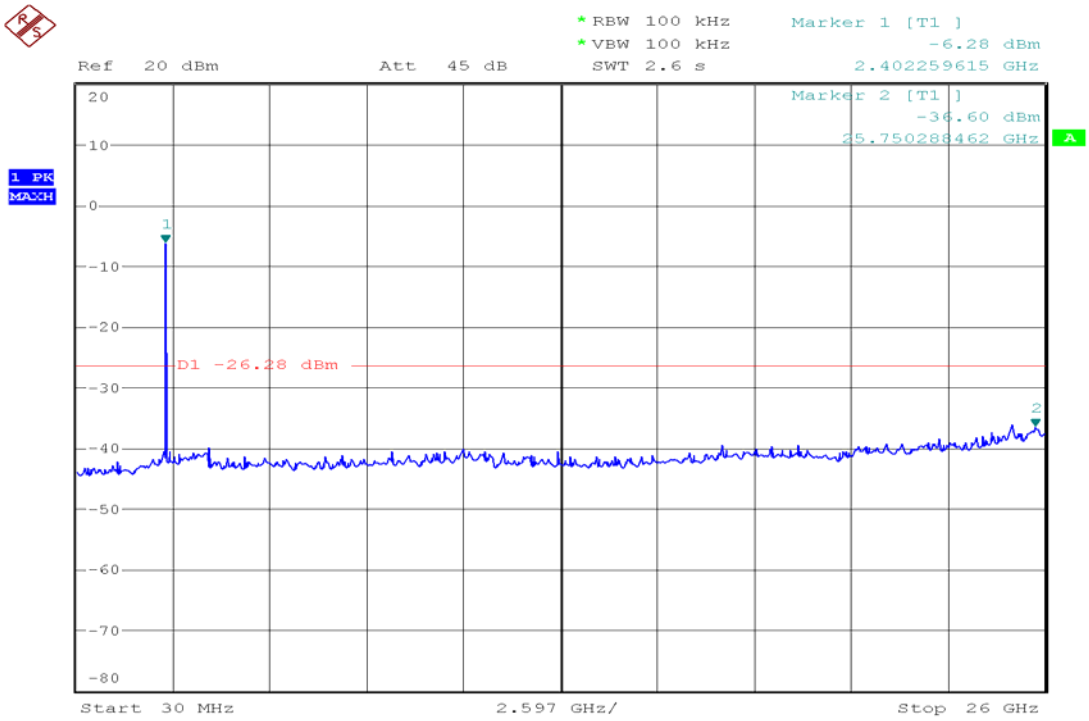
Date: 25.MAY.2006 07:21:09

A.3.2.7 802.11g Channel 1 – Conducted Spurious at Center Frequency



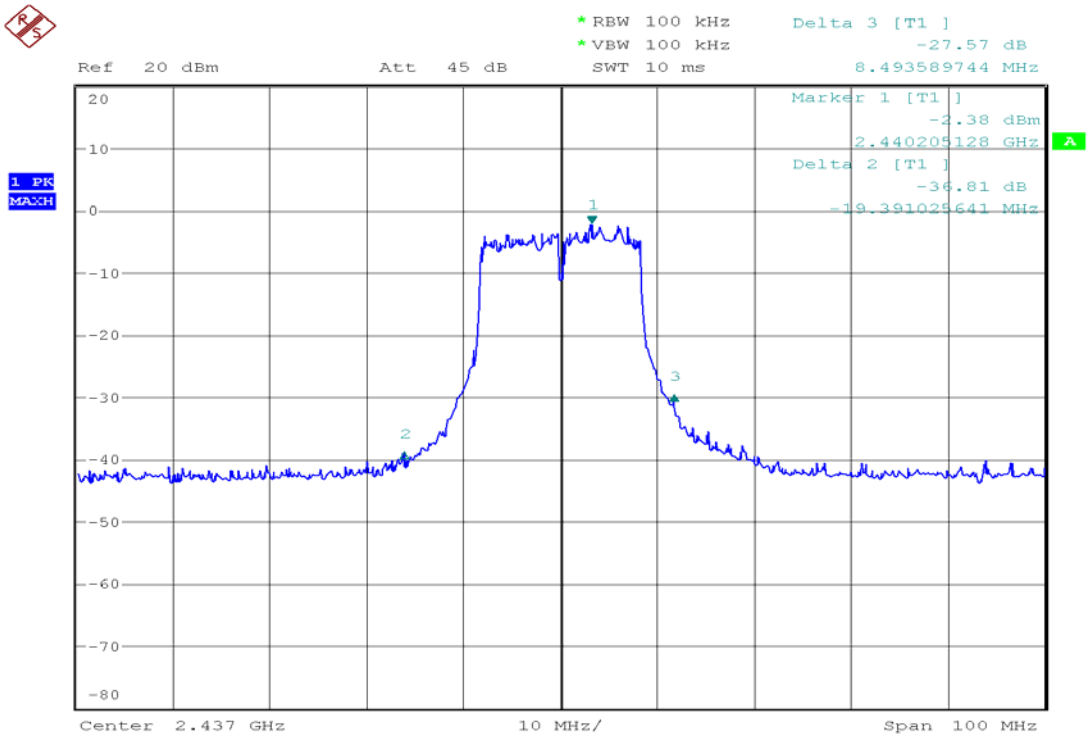
Date: 25.MAY.2006 07:56:16

A.3.2.8 802.11g Channel 1 – Conducted Spurious from 30 MHz to 26 GHz



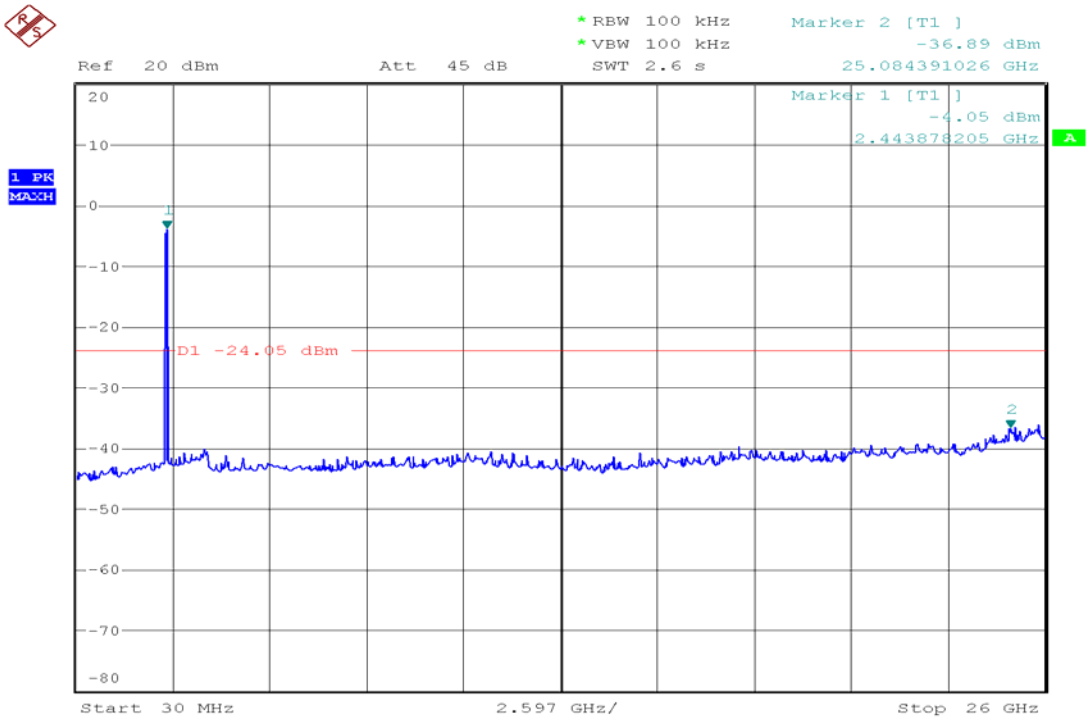
Date: 25.MAY.2006 07:54:36

A.3.2.9 802.11g Channel 6- Conducted Spurious at Center Frequency



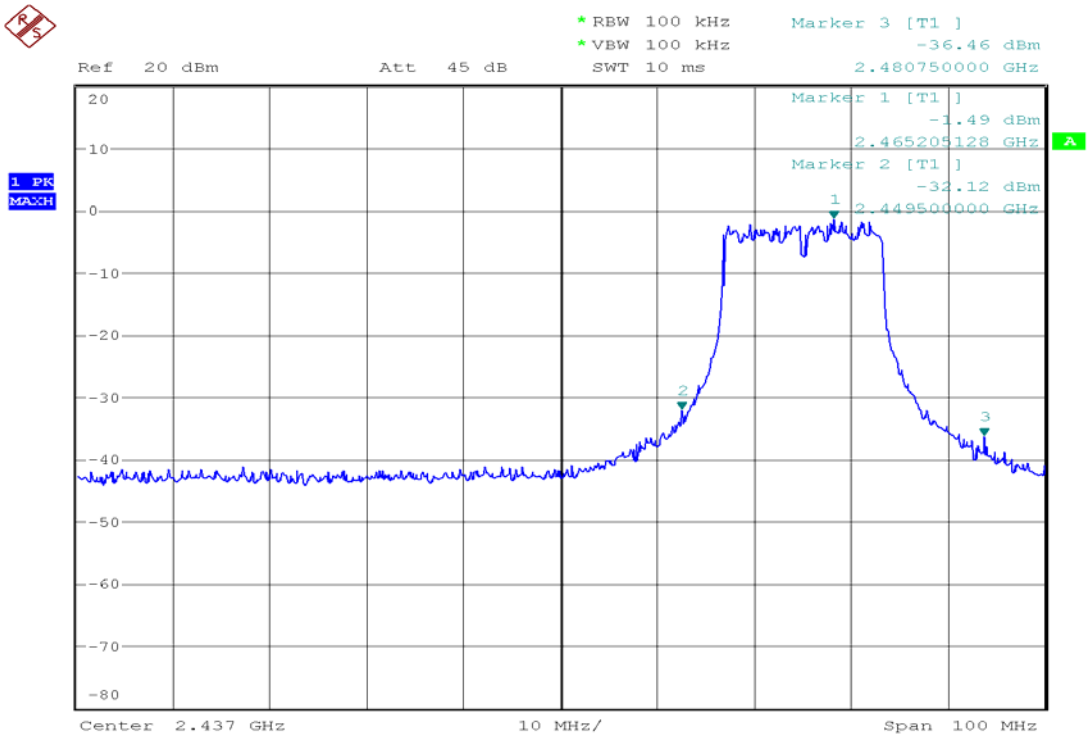
Date: 25.MAY.2006 07:59:59

A.3.2.10 802.11g Channel 6 – Conducted Spurious from 30 MHz to 26 GHz



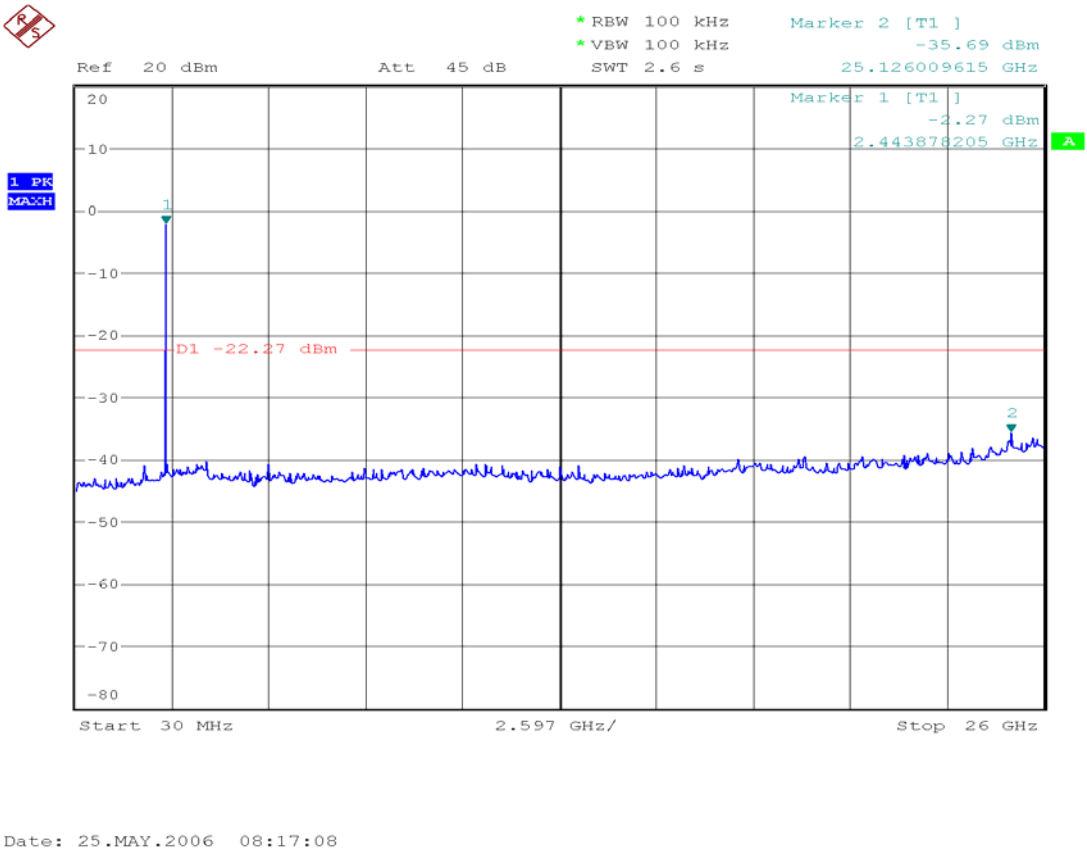
Date: 25.MAY.2006 08:01:14

A.3.2.11 802.11g Channel 11- Conducted Spurious at Center Frequency



Date: 25.MAY.2006 08:15:52

A.3.2.12 802.11g Channel 11 – Conducted Spurious from 30 MHz to 26 GHz



A.4 Radiated Spurious Emissions (§15.247,&15.205,&15.209,&15.35)

A.4.1 Measurement Method

The radiated emission in WLAN operating mode was measured in the Semi-Anechoic Chamber. The performance of this chamber is fully compliance to ANSI C63.4.

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels. In this situation, both 802.11b and 802.11g have the three channels to be tested.

The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

A.4.2 Measurement Limit

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. Attenuation below the general limits specified in § 15.209(a) is not required.

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)).

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

Calculation of limit
Limit=100.19dBuV/m-20dB=80.19dBuV/m.

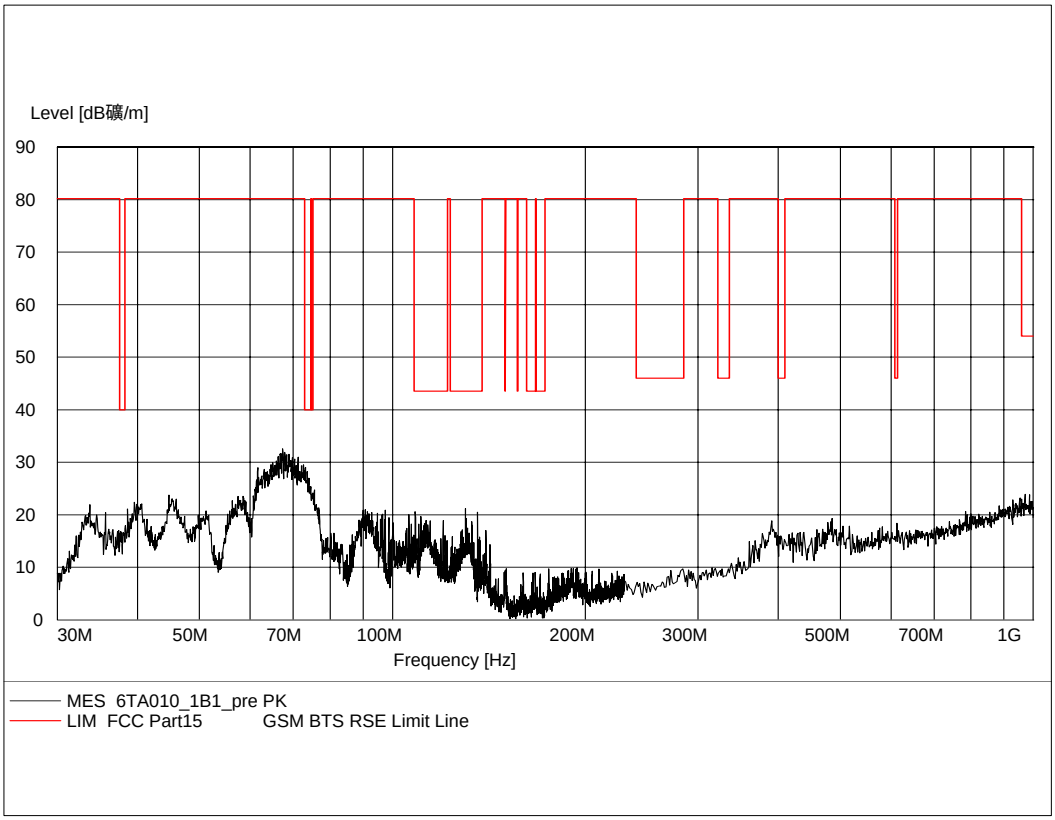
A.4.3 Measurement Results

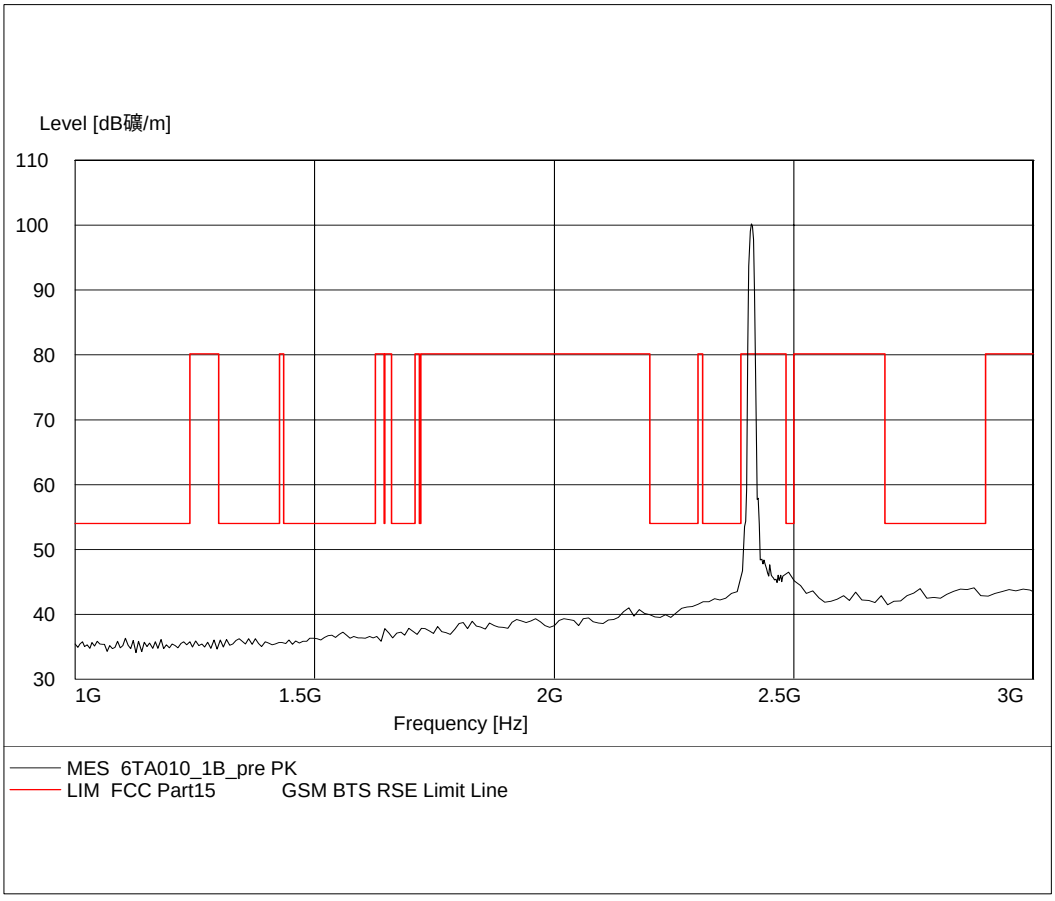
No non-compliance noted.

NOTE: The spurious emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels.

WLAN:

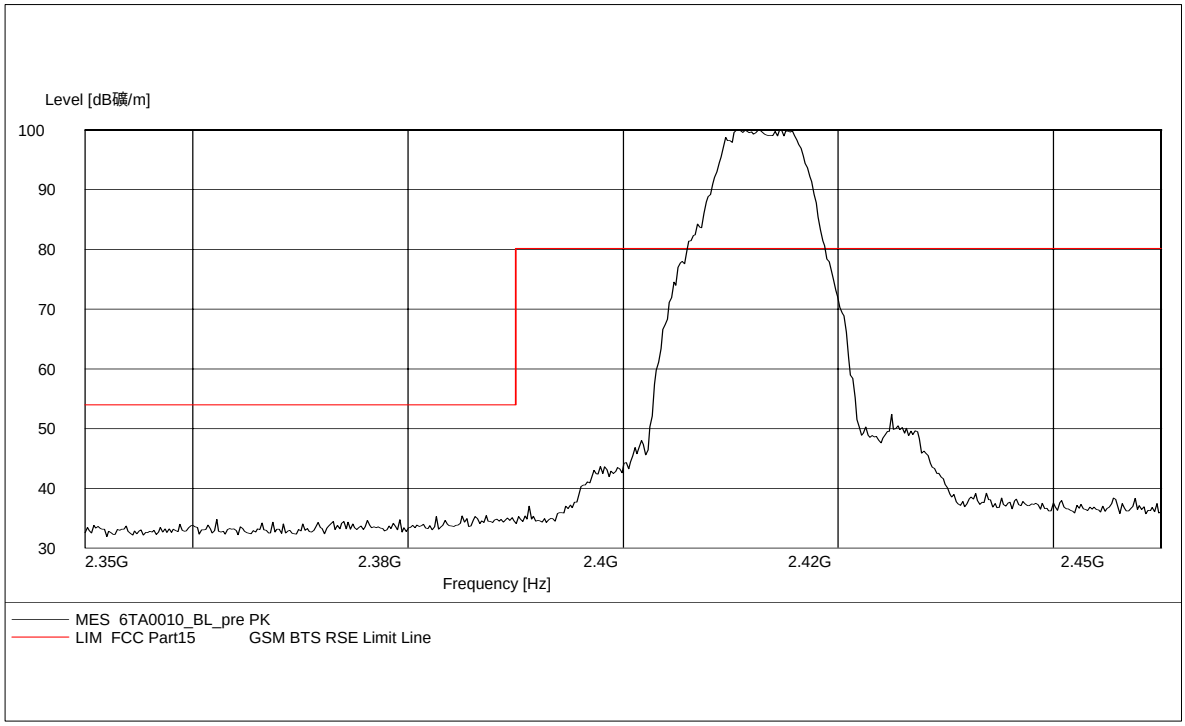
A.4.3.1 RADIATED SPURIOUS EMISSIONS-Channel 1, 802.11b : 30MHz – 3GHz



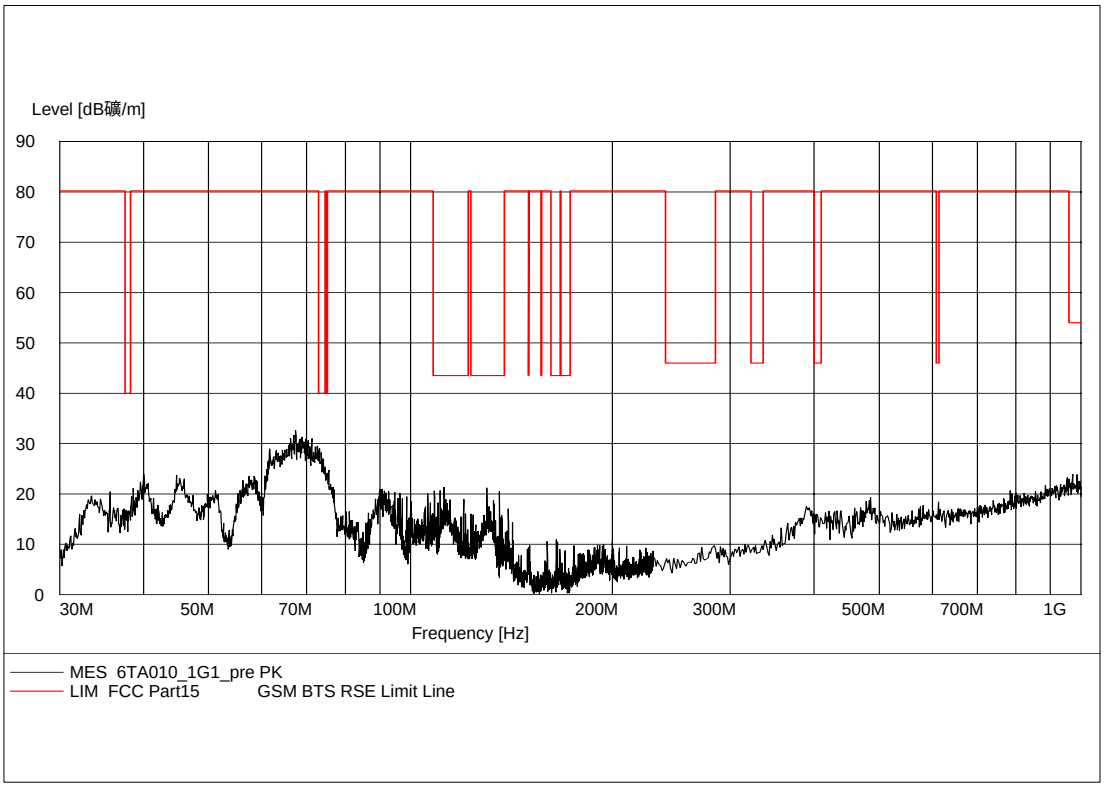


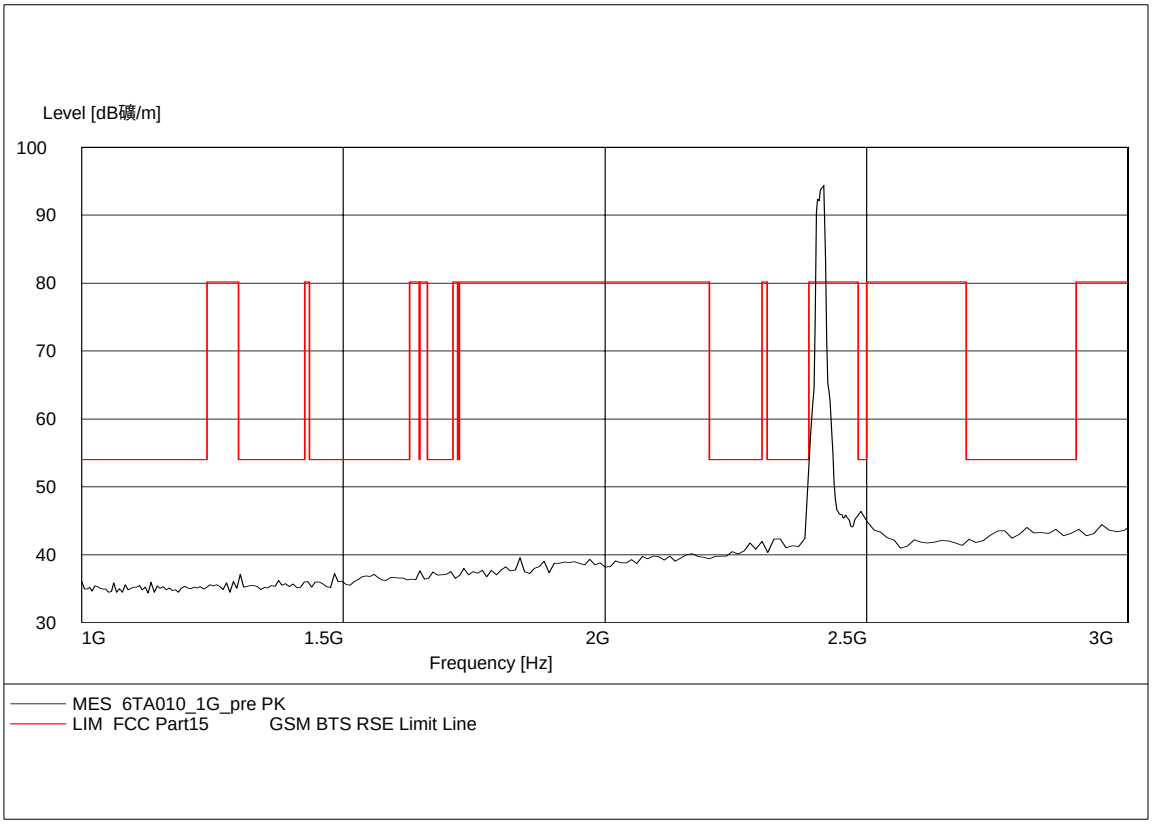
Note: the spike over the limit is coming from the traffic carrier.

Detailed Sweep



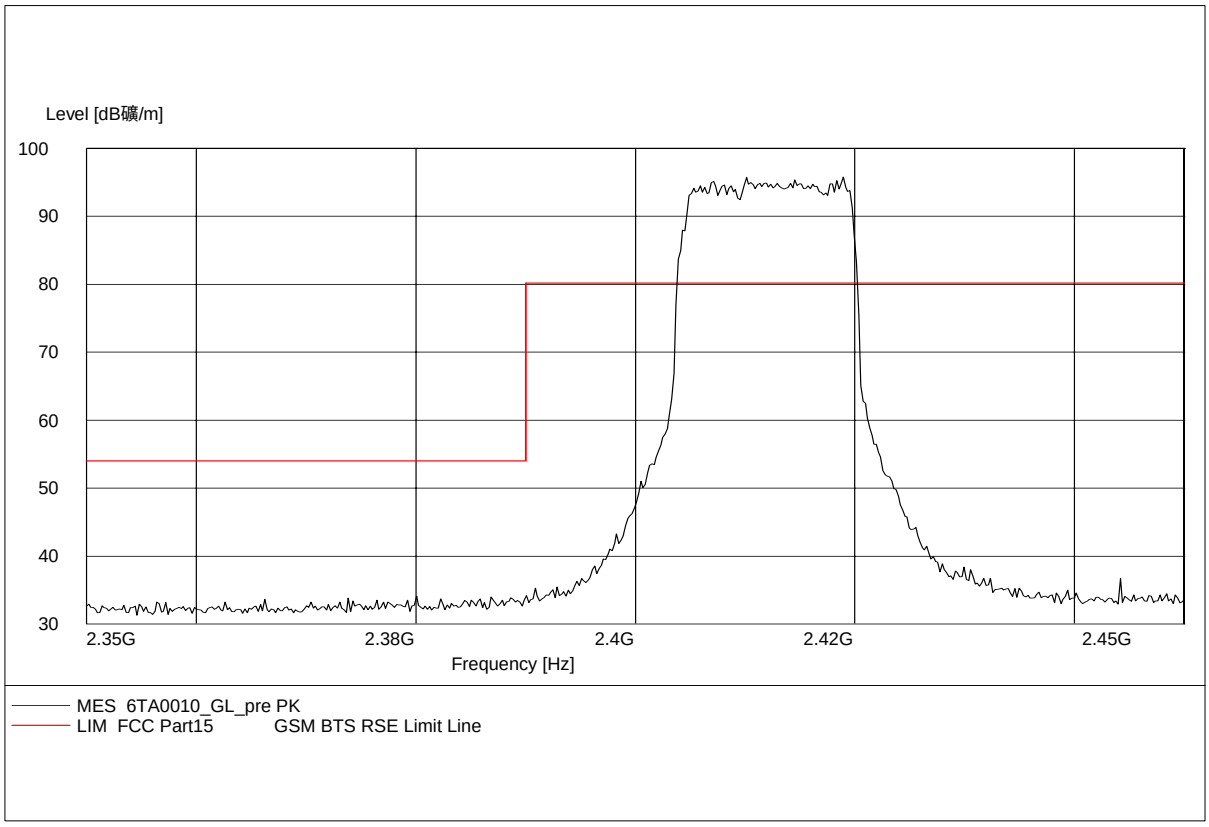
A.4.3.2 RADIATED SPURIOUS EMISSIONS-Channel 1, 802.11g : 30MHz – 3GHz



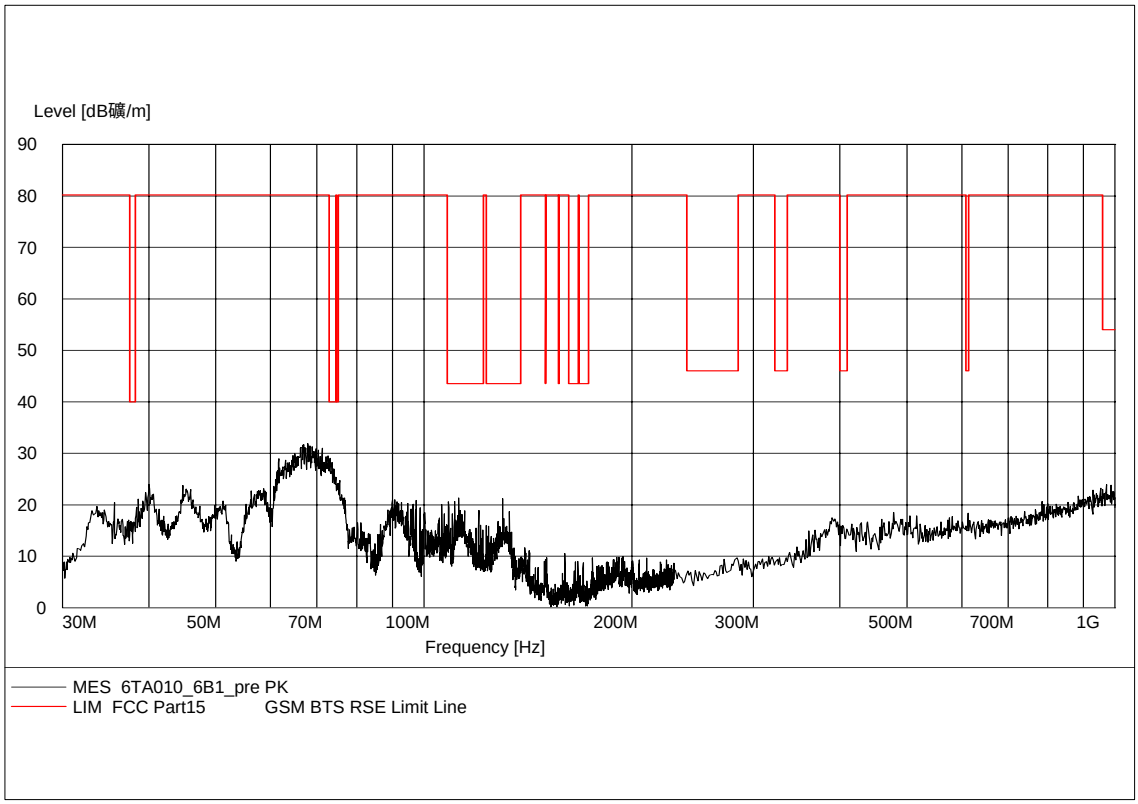


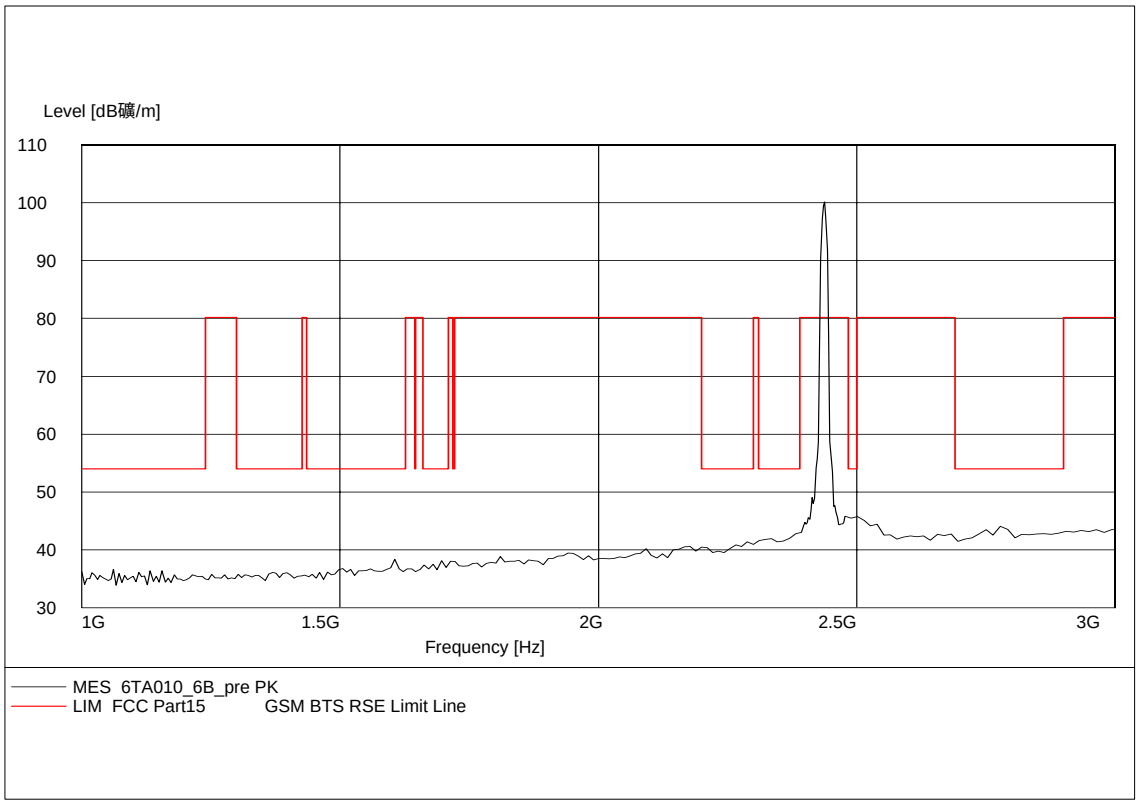
Note: the spike over the limit is coming from the traffic carrier.

Detailed Sweep



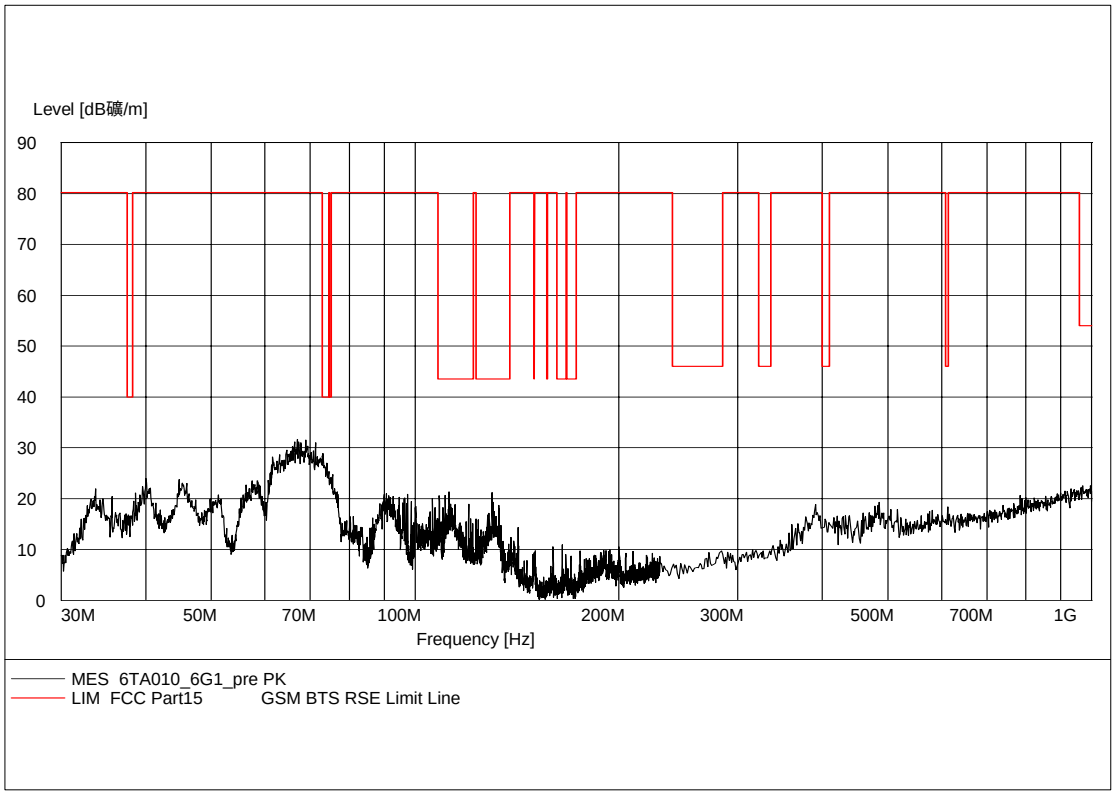
A.4.3.3 RADIATED SPURIOUS EMISSIONS-Channel 6, 802.11b : 30MHz –3GHz

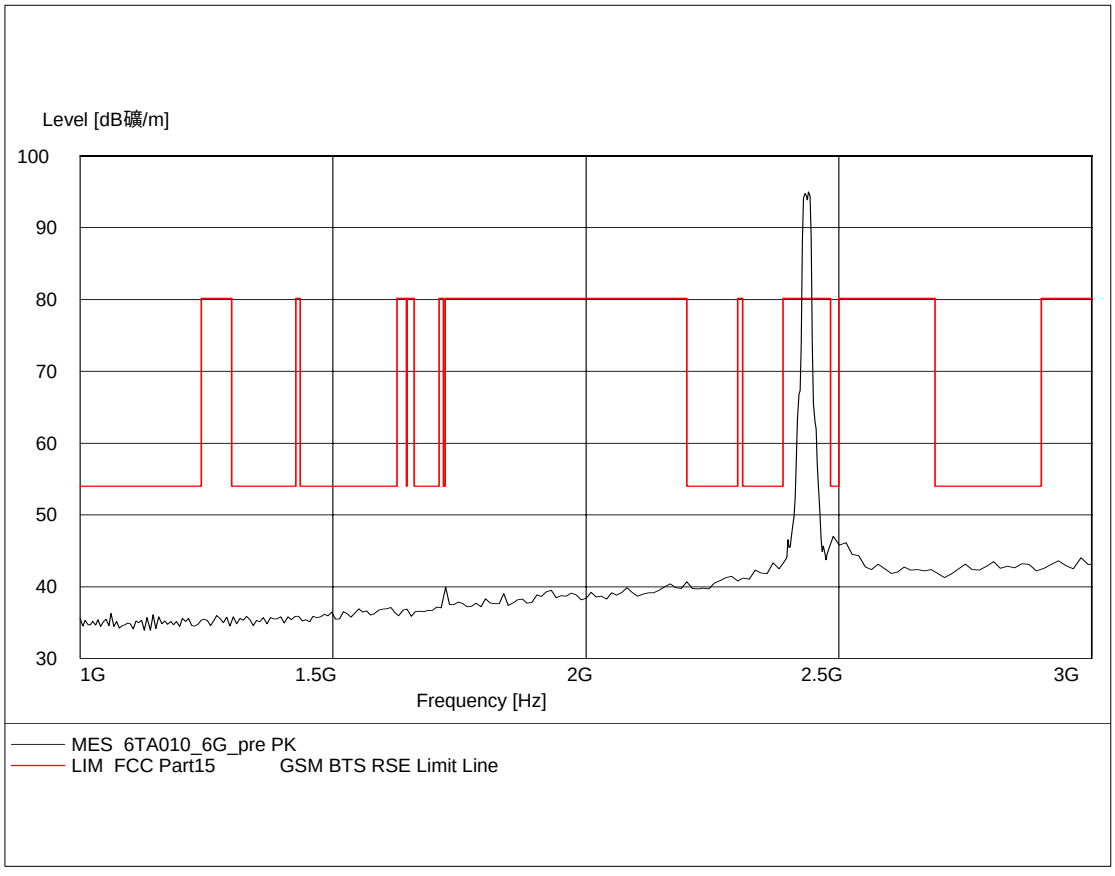




Note: the spike over the limit is coming from the traffic carrier.

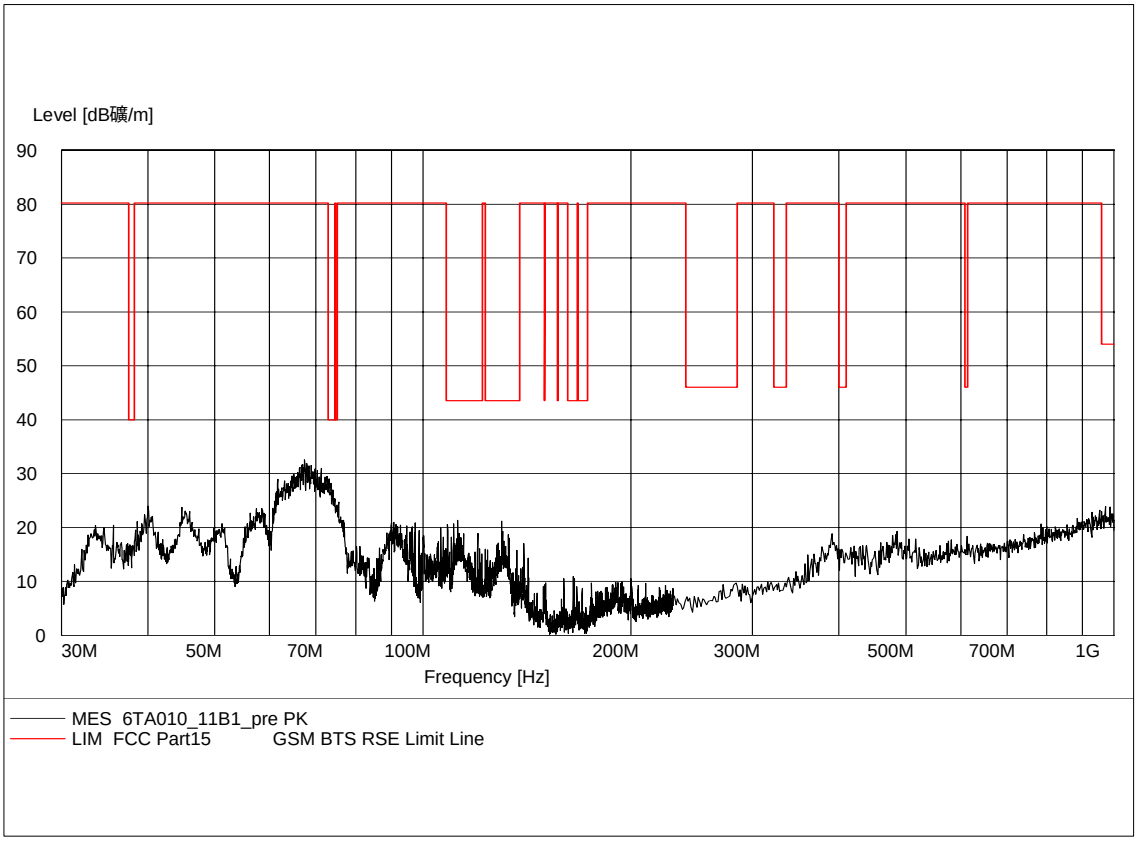
A.4.3.4 RADIATED SPURIOUS EMISSIONS-Channel 6, 802.11g : 30MHz –3GHz

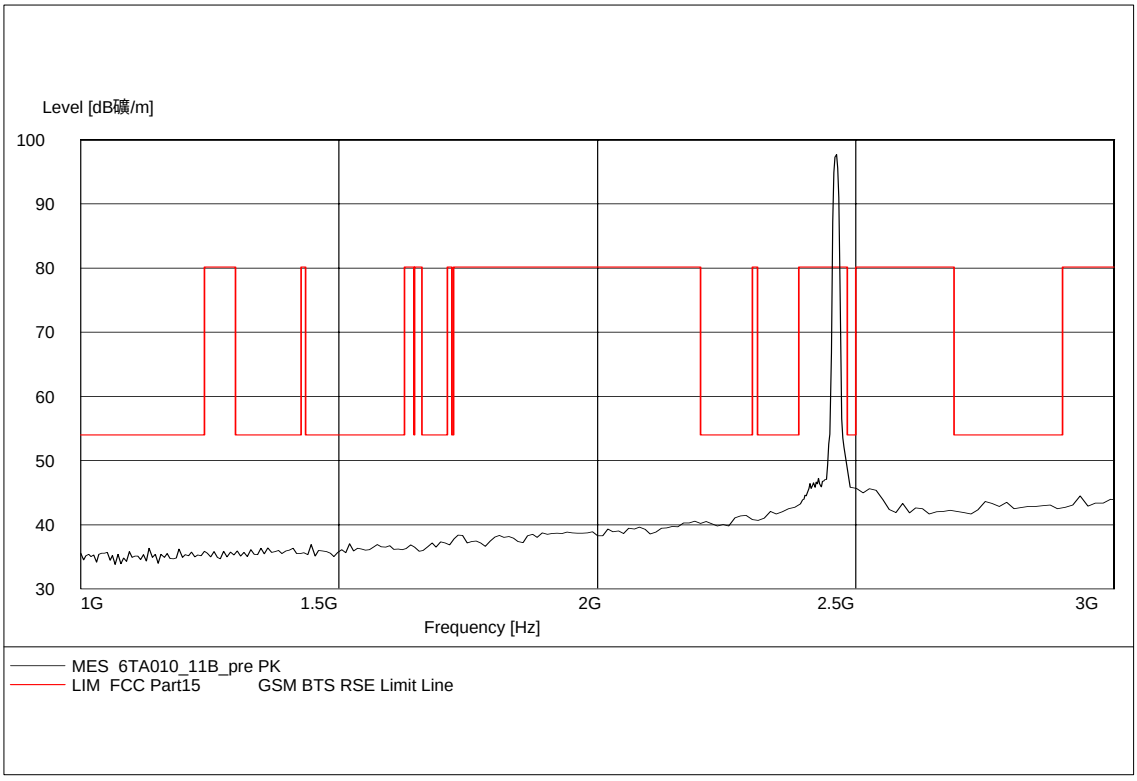




Note: the spike over the limit is coming from the traffic carrier.

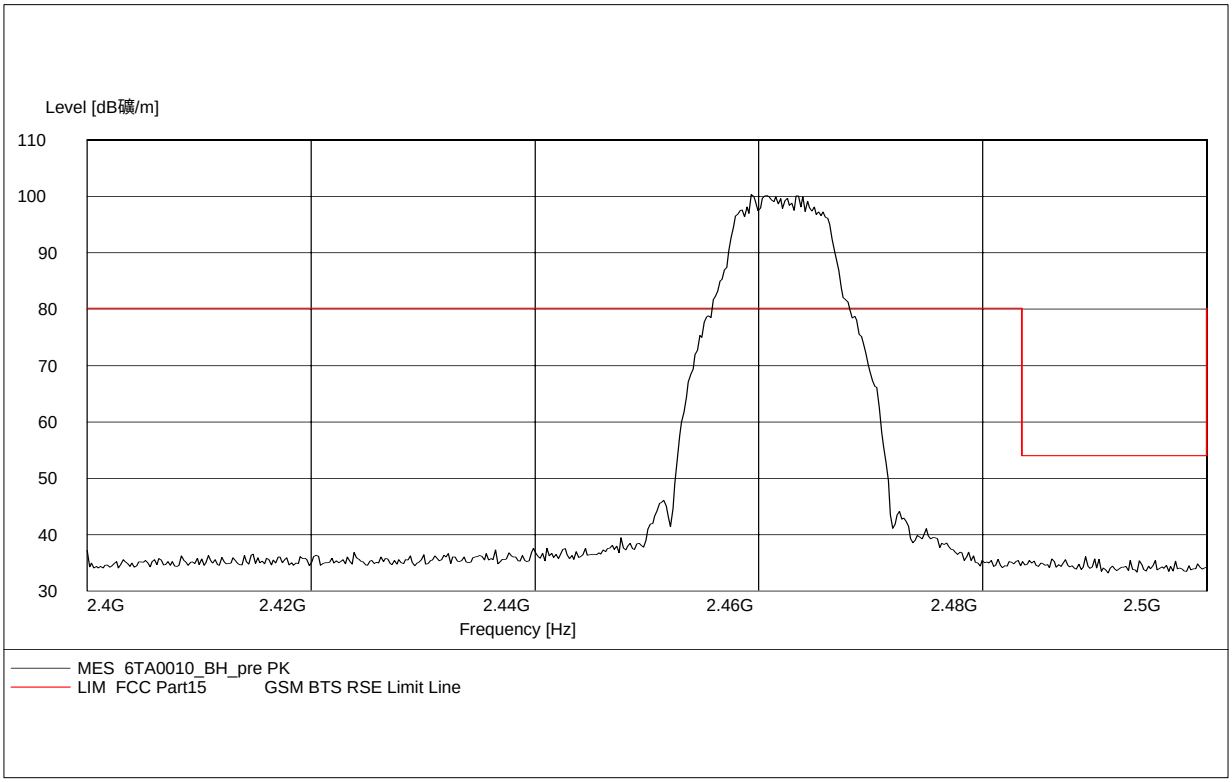
A.4.3.5 RADIATED SPURIOUS EMISSIONS-Channel 11, 802.11b : 30MHz –3GHz



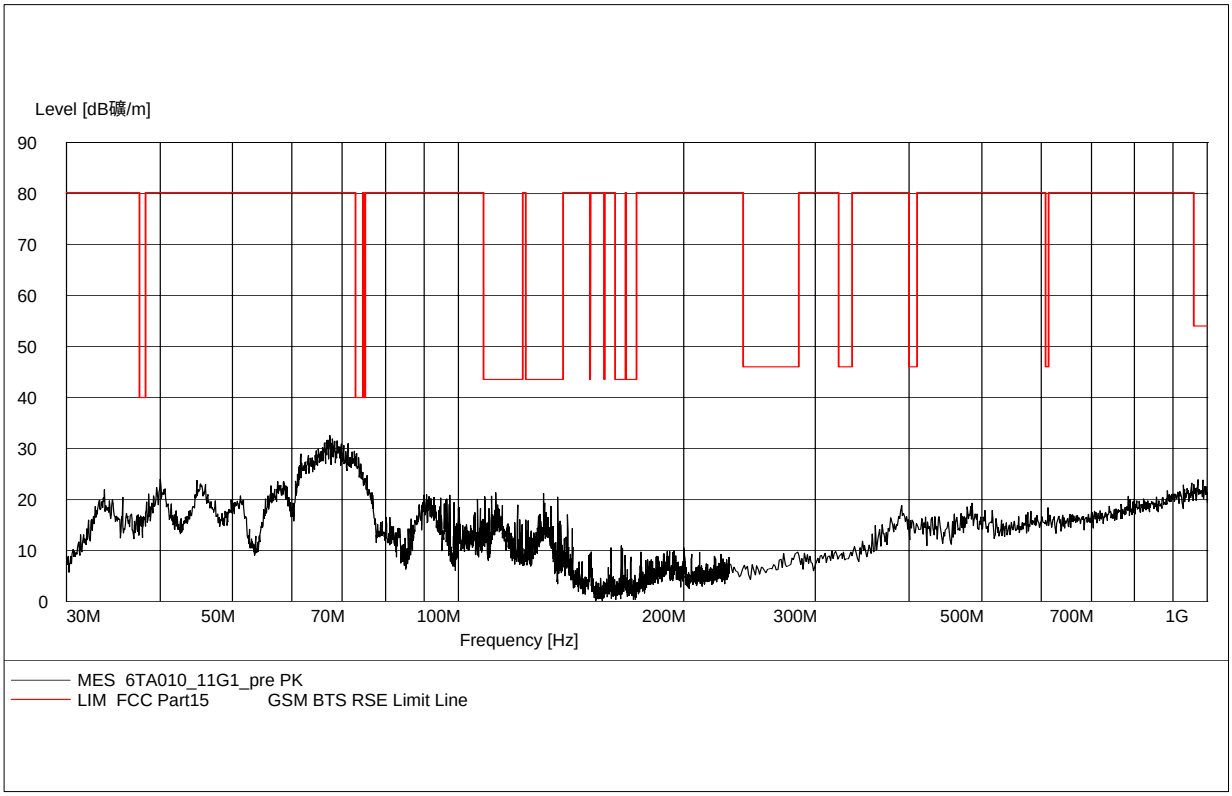


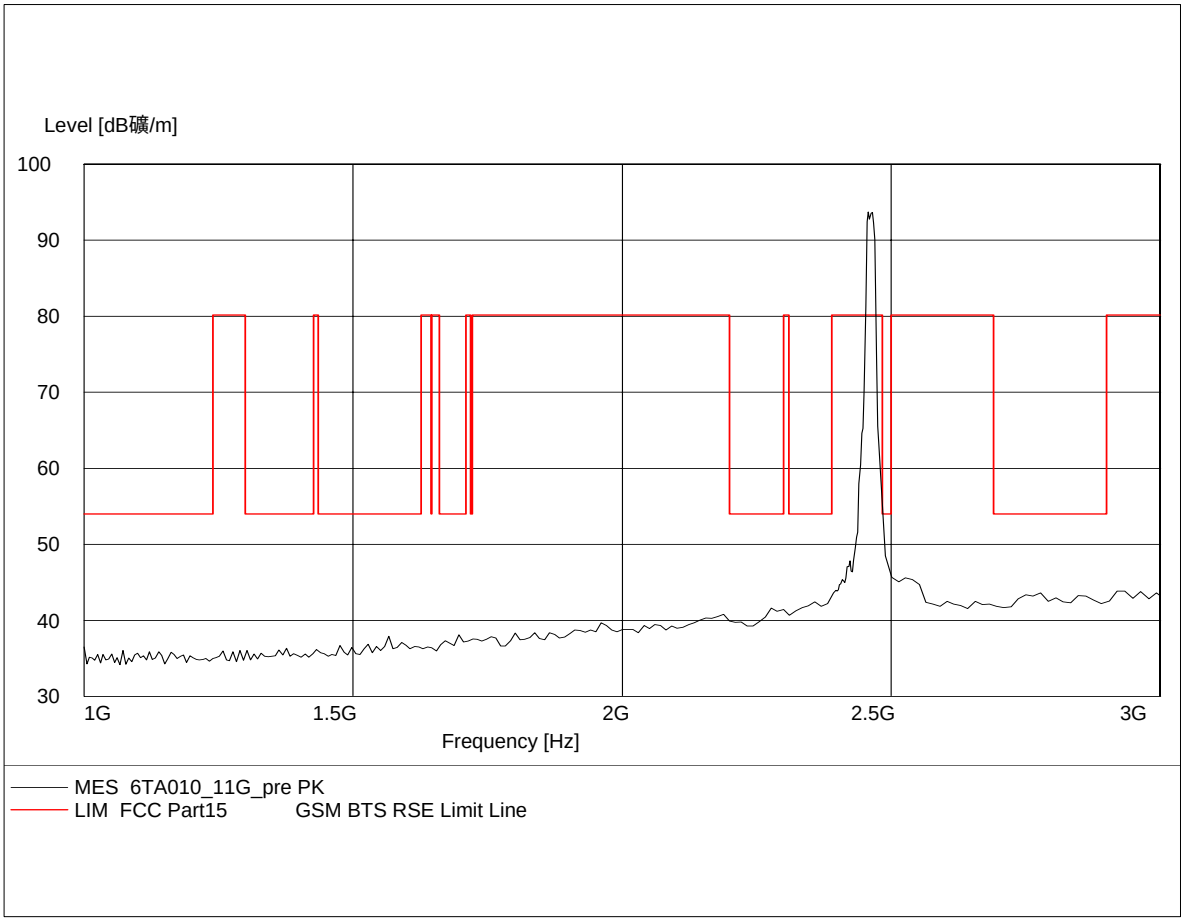
Note: the spike over the limit is coming from the traffic carrier.

Detailed Sweep

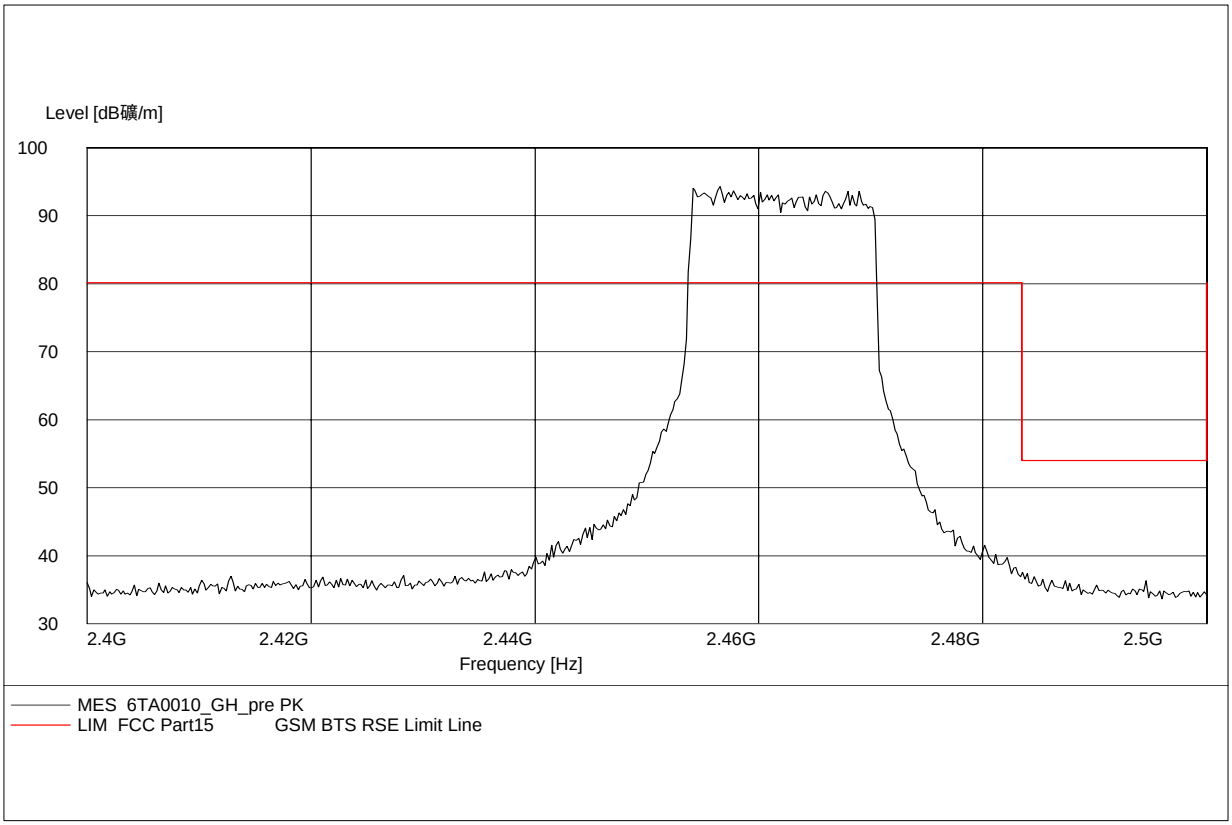


A.4.3.6 RADIATED SPURIOUS EMISSIONS-Channel 11, 802.11g : 30MHz –3GHz

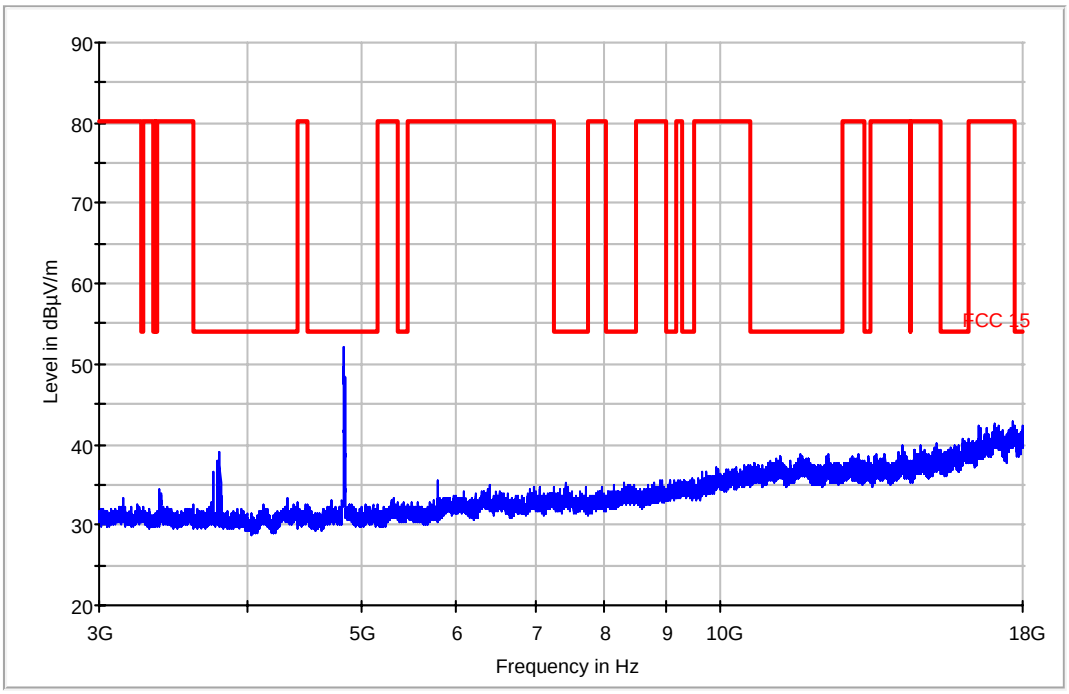




Detailed sweep

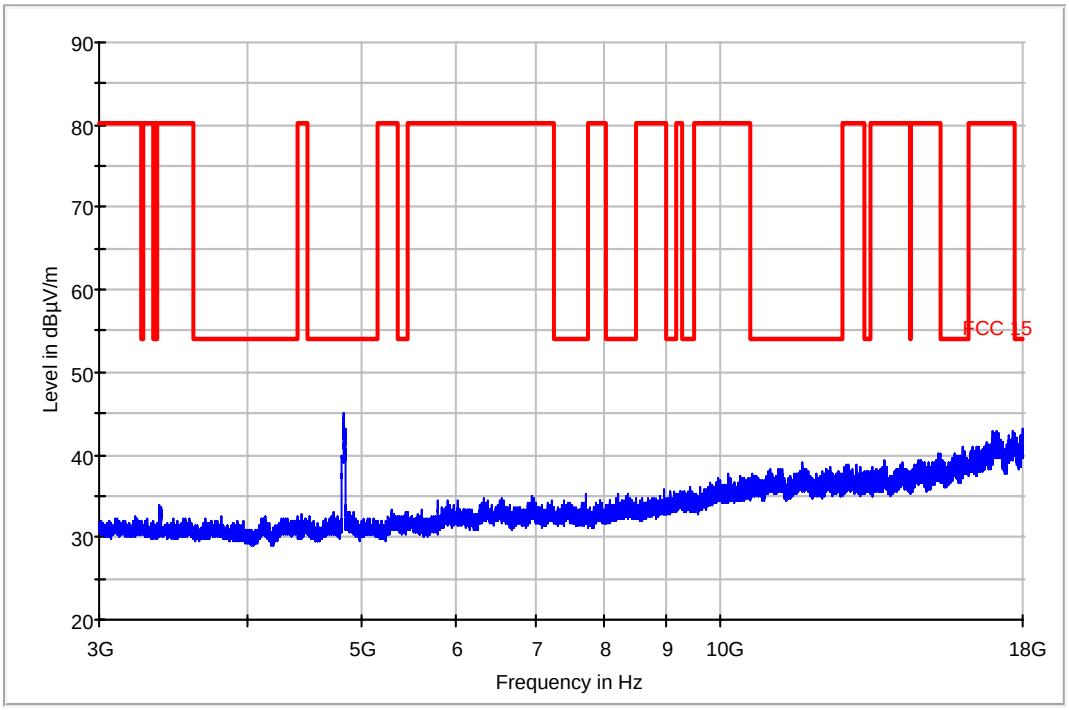


A.4.3.7 RADIATED SPURIOUS EMISSIONS-Channel 1, 802.11b : 3GHz – 18GHz



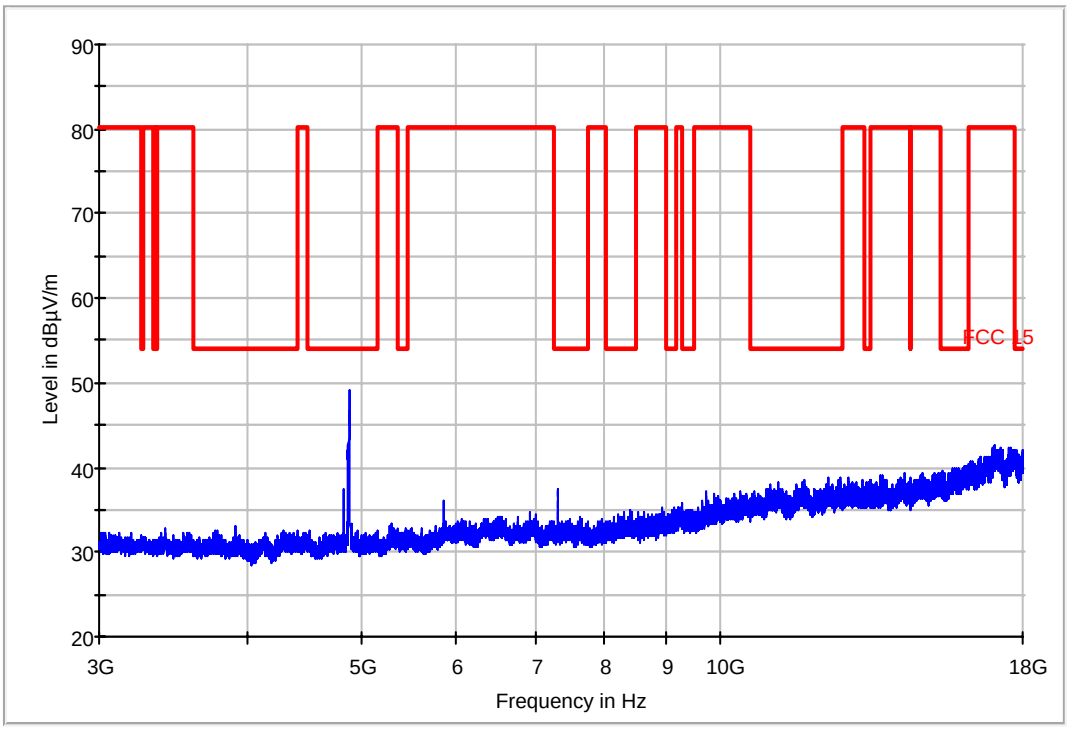
MaxPeak-MaxHold FCC 15:Limit

A.4.3.8 RADIATED SPURIOUS EMISSIONS-Channel 1, 802.11g : 3GHz – 18GHz



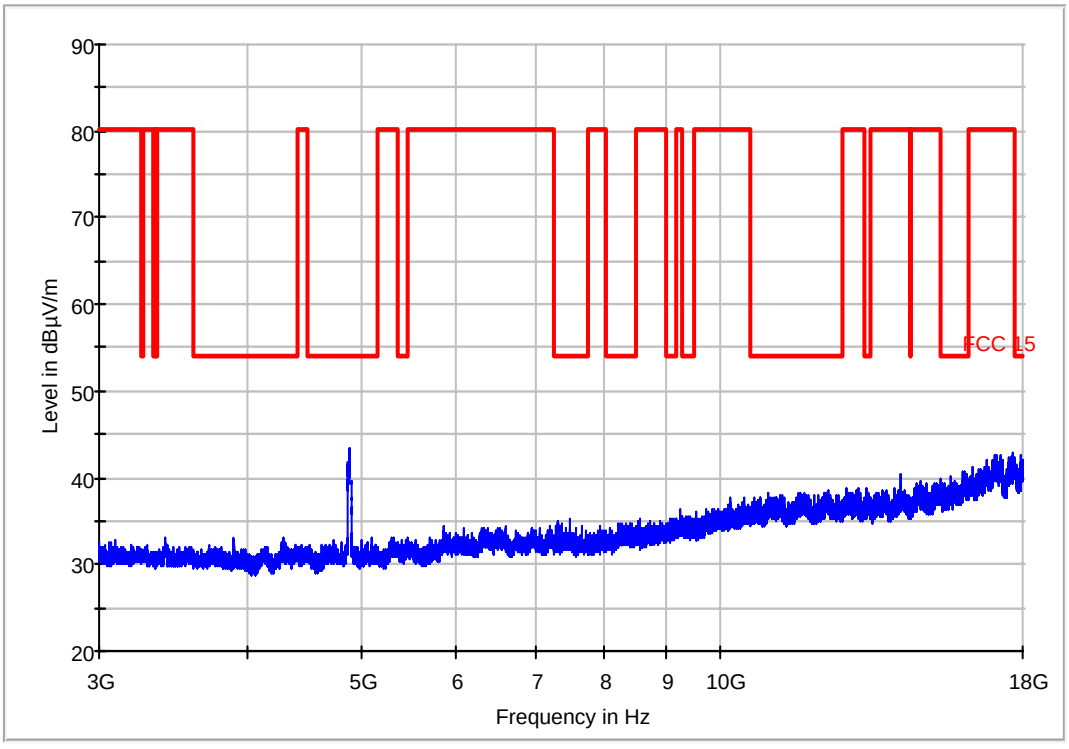
MaxPeak-MaxHold FCC 15:Limit

A.4.3.9 RADIATED SPURIOUS EMISSIONS-Channel 6, 802.11b : 3GHz – 18GHz



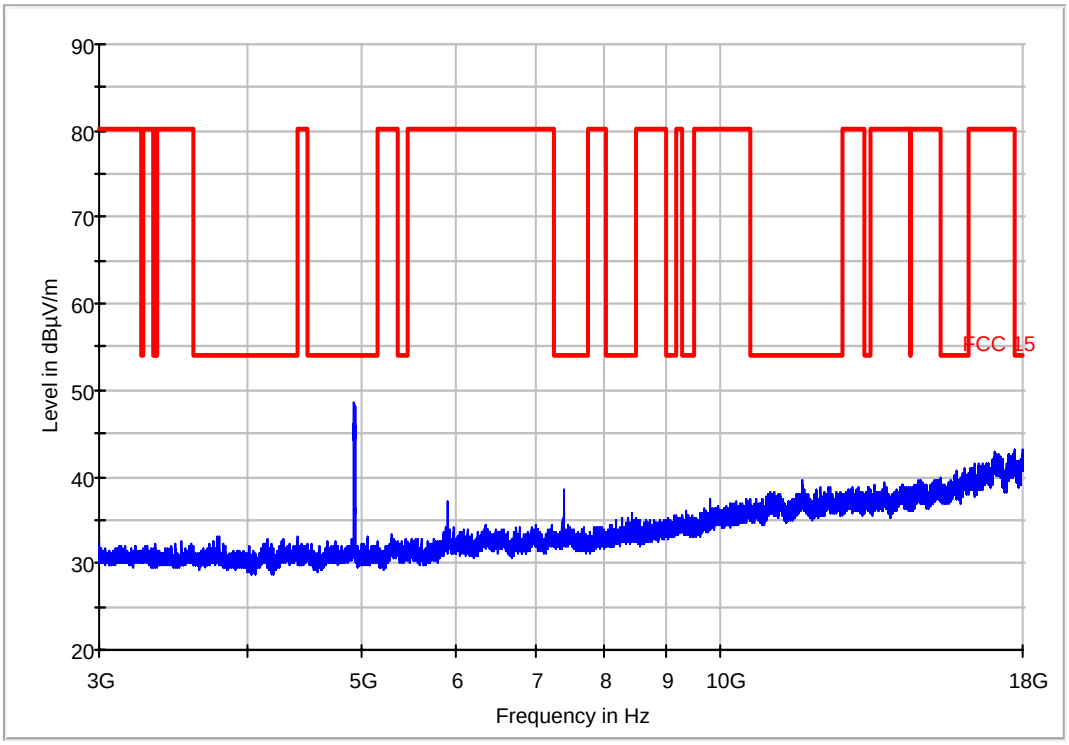
MaxPeak-MaxHold FCC 15:Limit

A.4.3.10 RADIATED SPURIOUS EMISSIONS-Channel 6, 802.11g : 3GHz – 18GHz



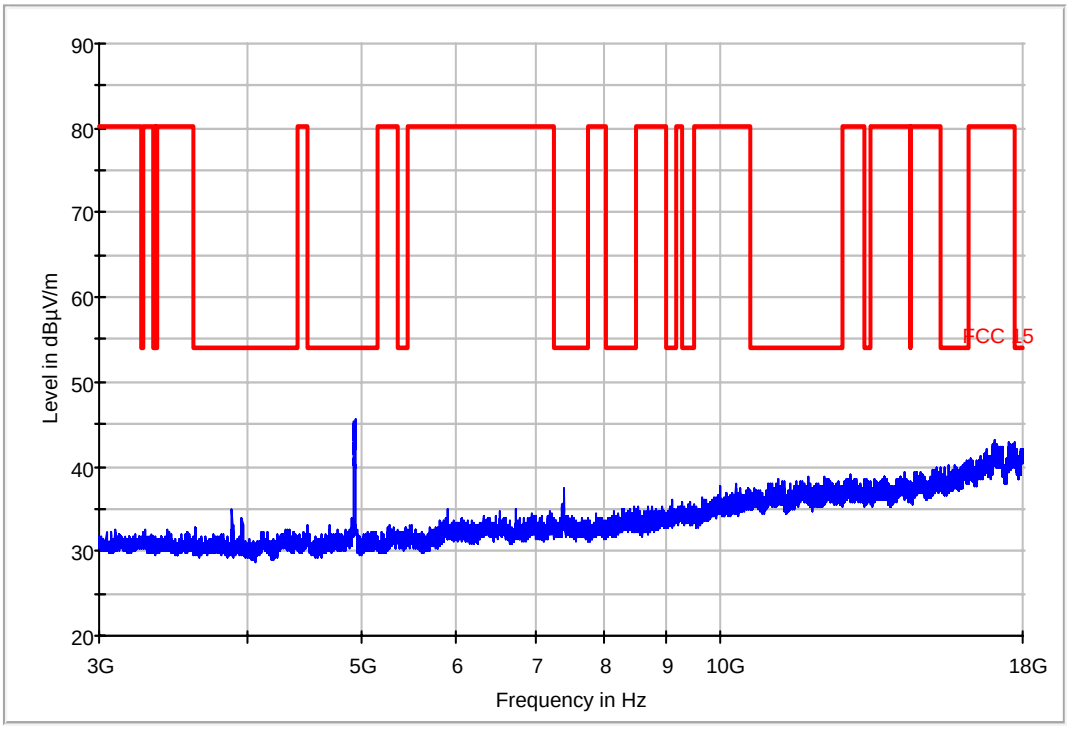
MaxPeak-MaxHold FCC 15:Limit

A.4.3.11 RADIATED SPURIOUS EMISSIONS-Channel 11, 802.11b : 3GHz – 18GHz



MaxPeak-MaxHold FCC 15:Limit

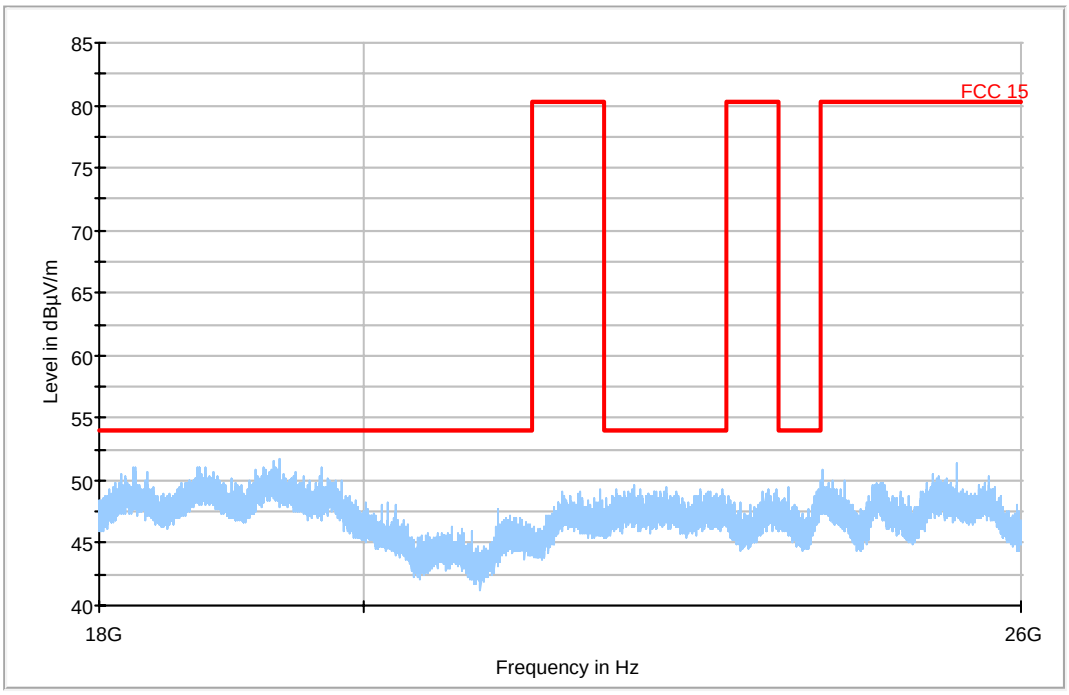
A.4.3.12 RADIATED SPURIOUS EMISSIONS-Channel 11, 802.11g : 3GHz – 18GHz



MaxPeak-MaxHold FCC 15:Limit

A.4.3.13 Radiated spurious emission (18GHz-26GHz)

Note: This plot is valid for low, mid & high channels (worst-case plot). It is same as the floor noise.



A.5 Peak Power Spectral Density (§15.247(d))

A.5.1 Method of Test

The transmitter output was connected to spectrum analyzer through an attenuator. The spectrum analyzer's resolution bandwidth were set at 3 KHz RBW and 3 KHz VBW as that of the fundamental frequency. Set the sweep time = 1s.The power spectral density was measured and recorded. The Sweep time is allowed to be longer than span/3KHz for a full response of the mixer in the spectrum analyzer.

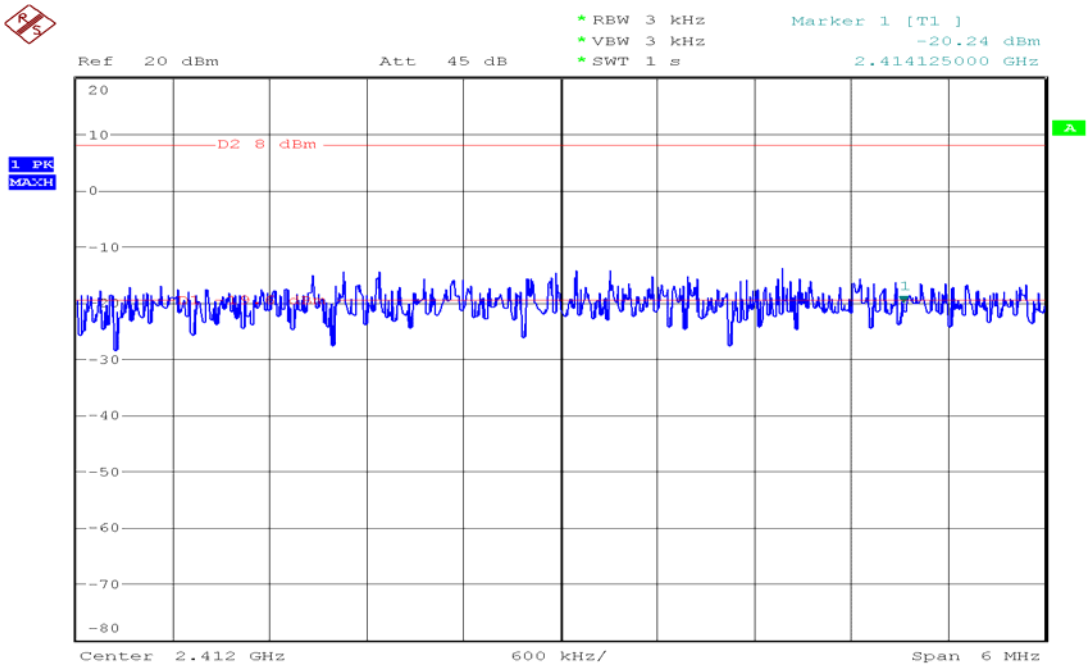
A.5.2 Limits

Mode	Channel	Frequency (MHz)	Limits (dBm)	Power Spectral Decsity (dBm/3 KHz)
802.11b	1	2412	8	- 20.24
	6	2437	8	- 18.51
	11	2462	8	- 16.75
802.11g	1	2412	8	- 25.09
	6	2437	8	- 22.55
	11	2462	8	- 21.84

A.5.3 Test results

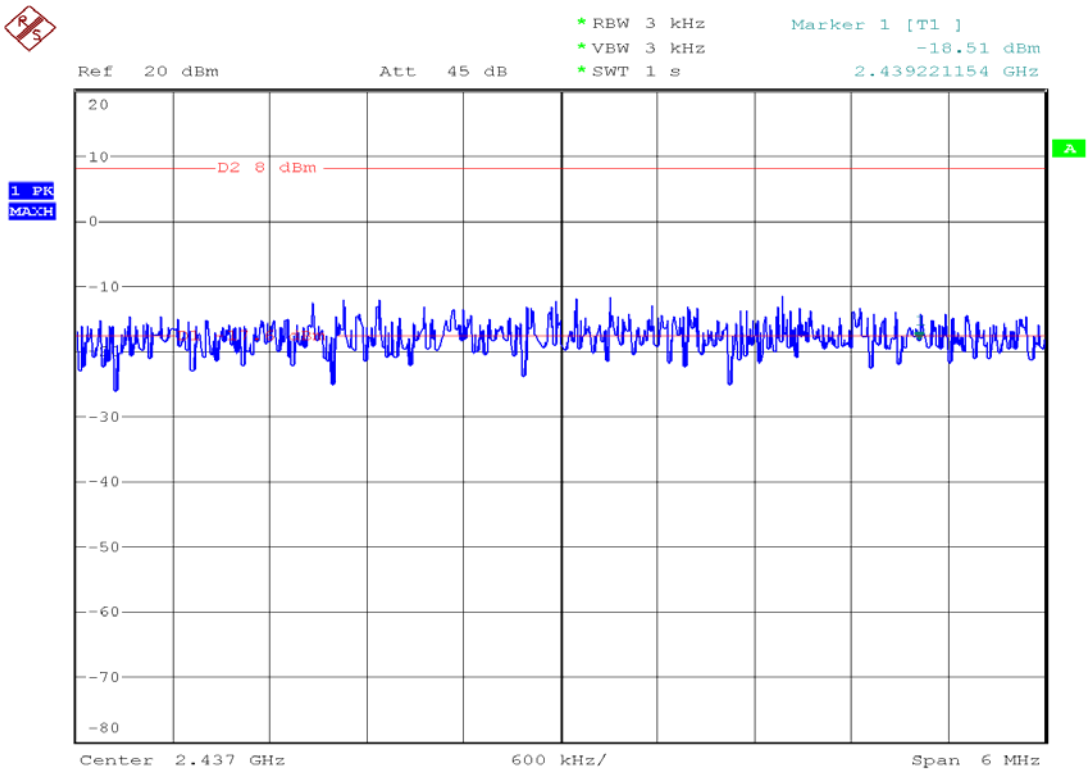
See attached diagrams

A.5.3.1 Peak Power Spectral Density – 802.11b Channel 1:



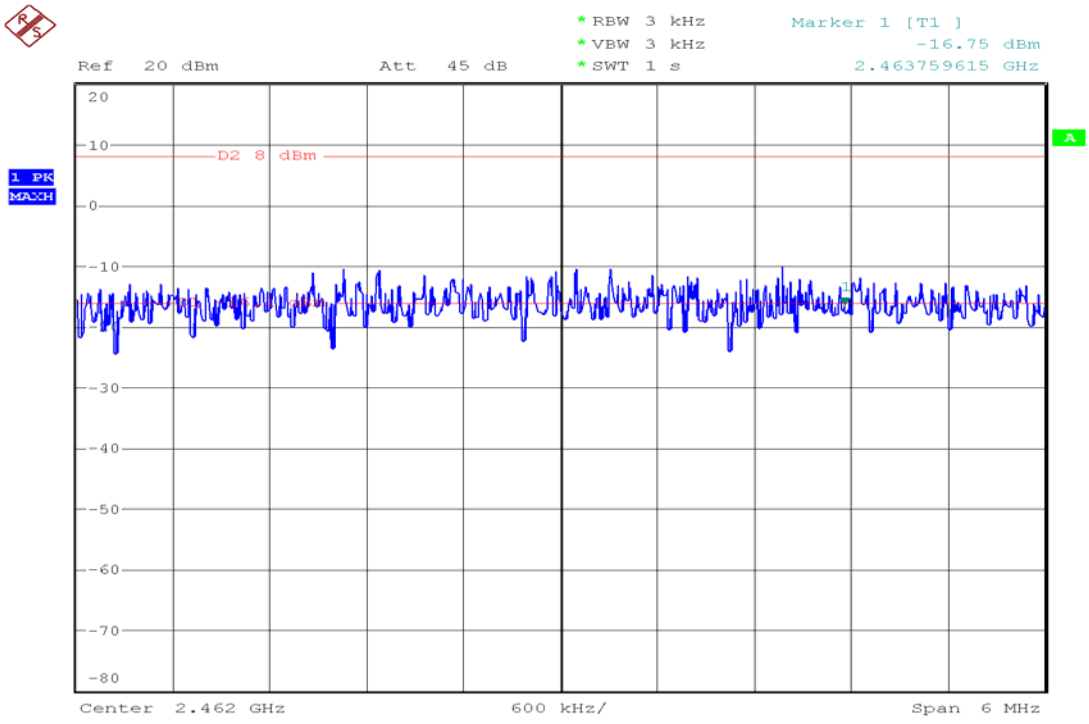
Date: 24.MAY.2006 08:49:53

A.5.3.2 Peak Power Spectral Density – 802.11b Channel 6:



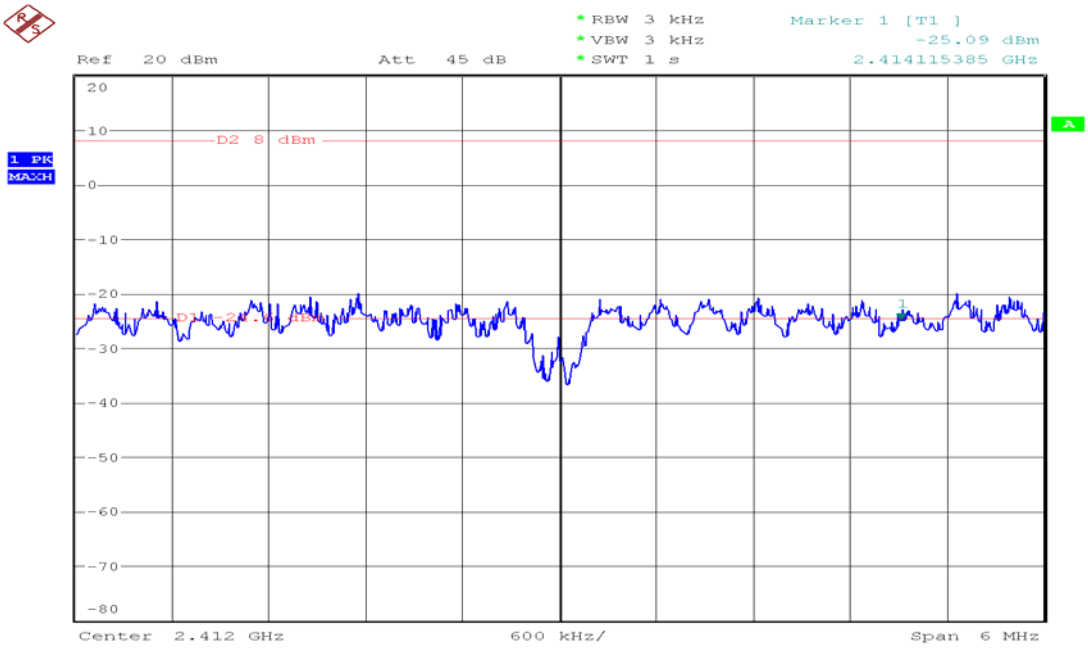
Date: 24.MAY.2006 08:53:26

A.5.3.3 Peak Power Spectral Density – 802.11b Channel 11:



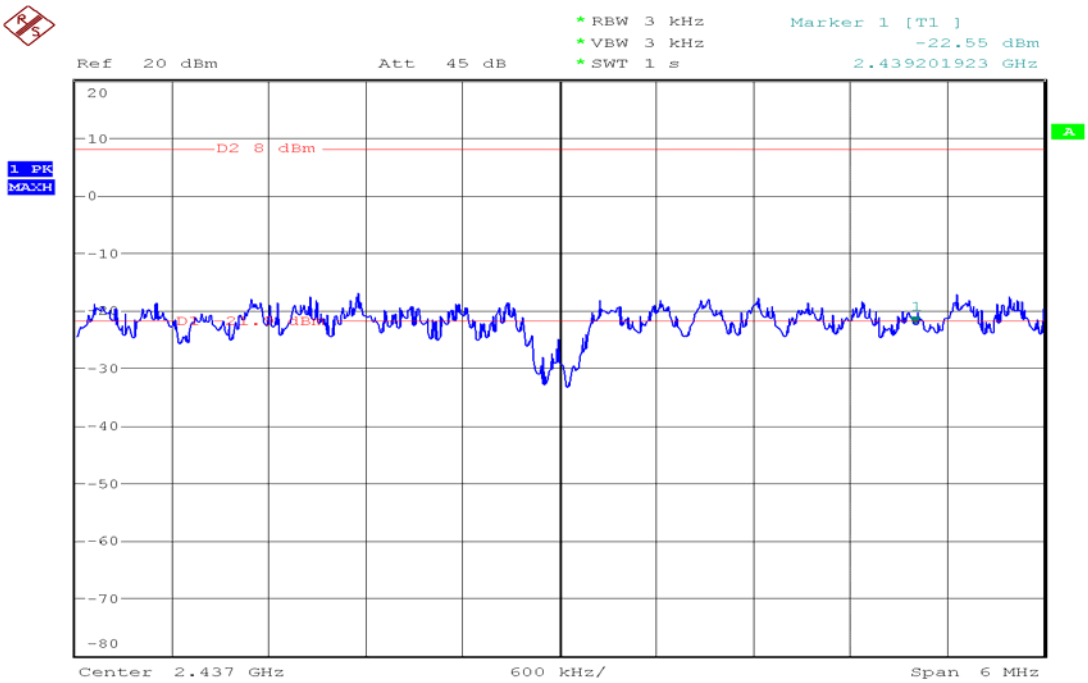
Date: 24.MAY.2006 08:56:23

A.5.3.4 Peak Power Spectral Density – 802.11g Channel 1:



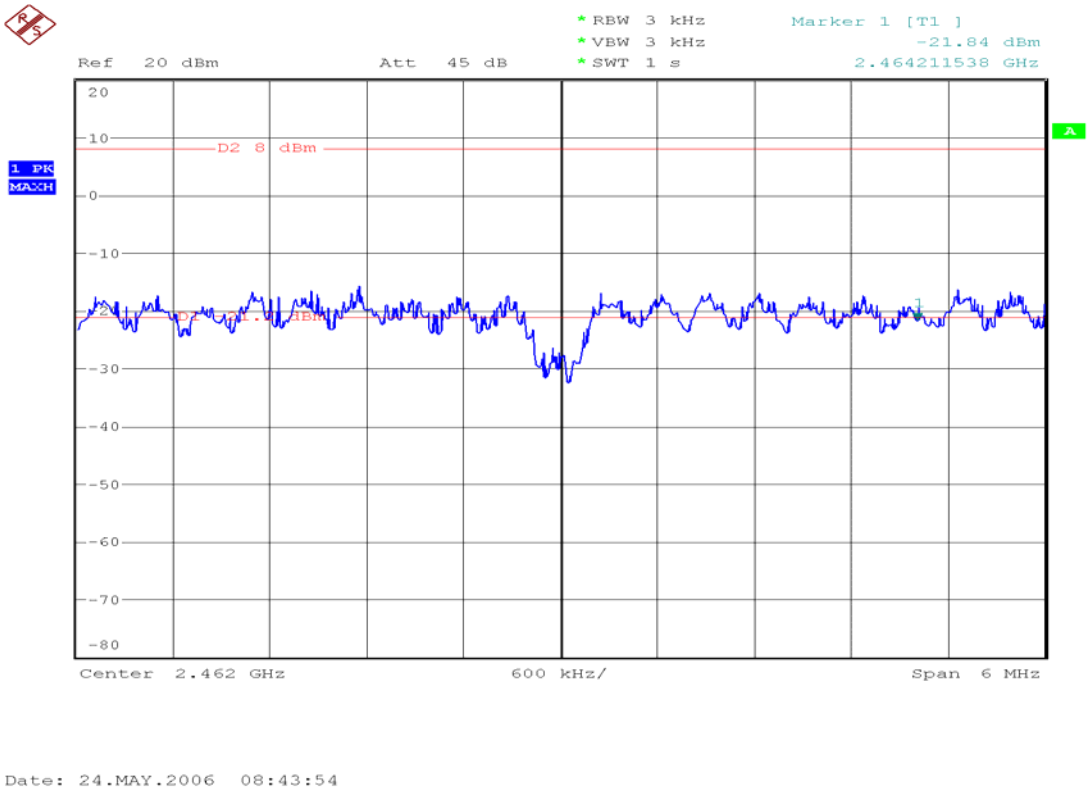
Date: 24.MAY.2006 08:47:19

A.5.3.5 Peak Power Spectral Density – 802.11g Channel 6:



Date: 24.MAY.2006 08:40:45

A.5.3.6 Peak Power Spectral Density – 802.11g Channel 11:



A.6 Band Edges Measurement (§15.247(c))

A.6.1 Method of Test

In any 100kHz 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 20dB below that in the 100kHz 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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

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)).

The transmitter output was connected to the spectrum analyzer via a low lose cable.Set both RBW and VBW of spectrum analyzer to 100KHz with convenient frequency span including 100 KHz bandwidth from band edge.The band edges was measured and recorded.

A.6.2 Limit

20dB below peak output power.

A.6.3 Test Result

802.11b :

Test Result in lower band (Channel 1): PASS

Test Result in higher band (Channel 11): PASS

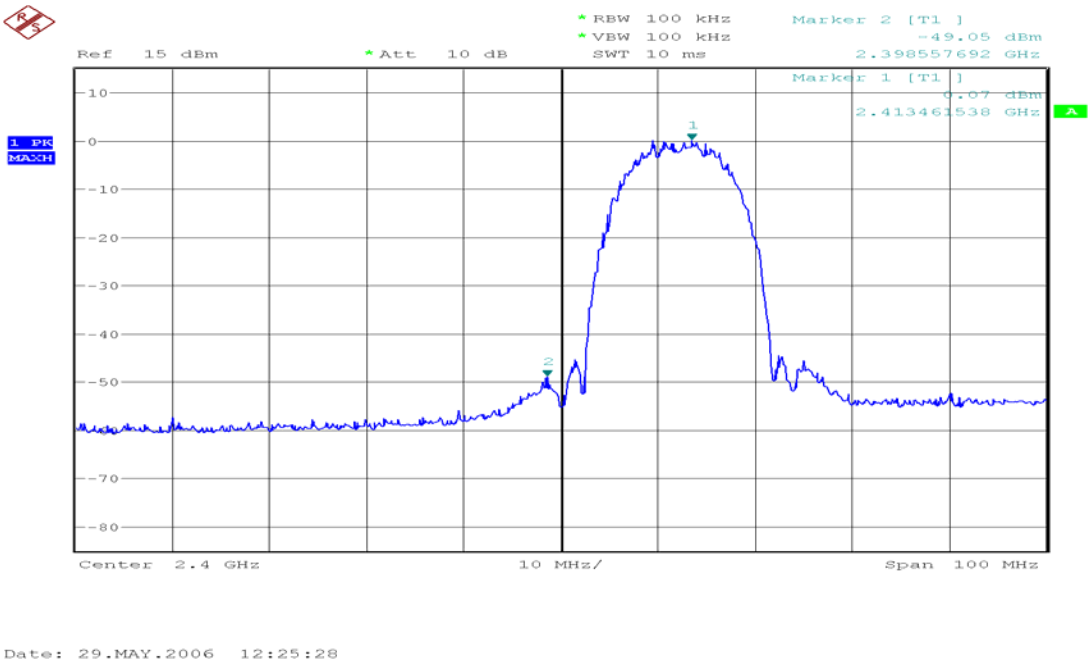
802.11g:

Test Result in lower band (Channel 1): PASS

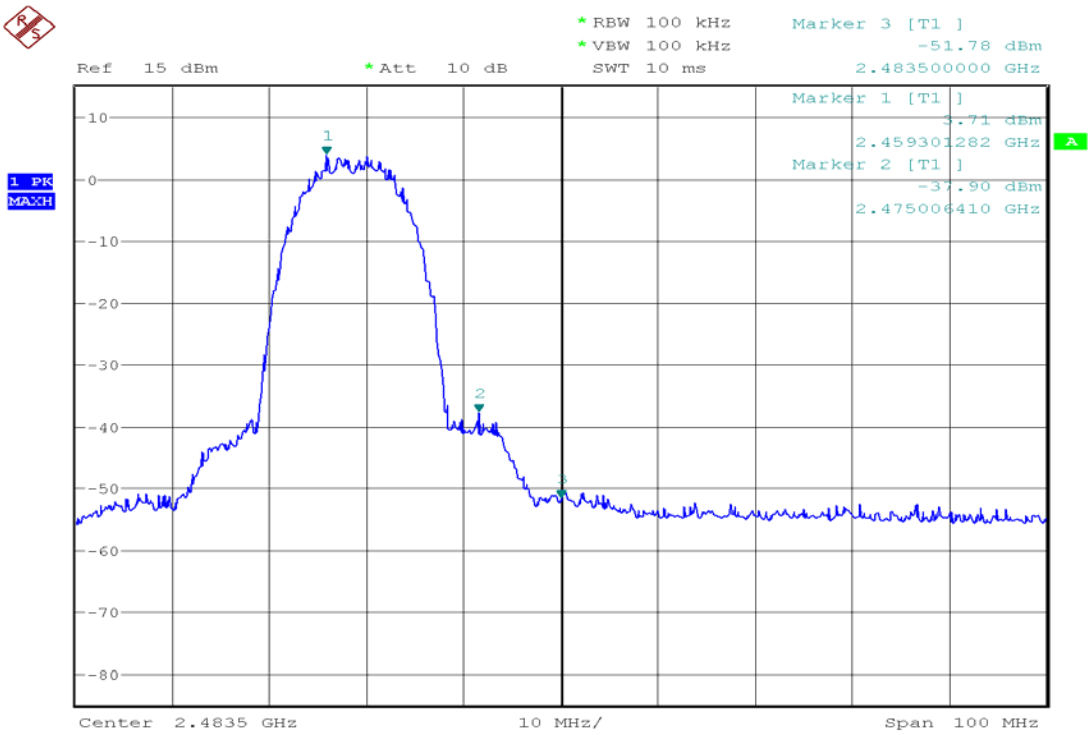
Test Result in higher band (Channel 11): PASS

The spectrum analyzer plots are listed blow:

A.6.3.1 802.11b Channel 1:

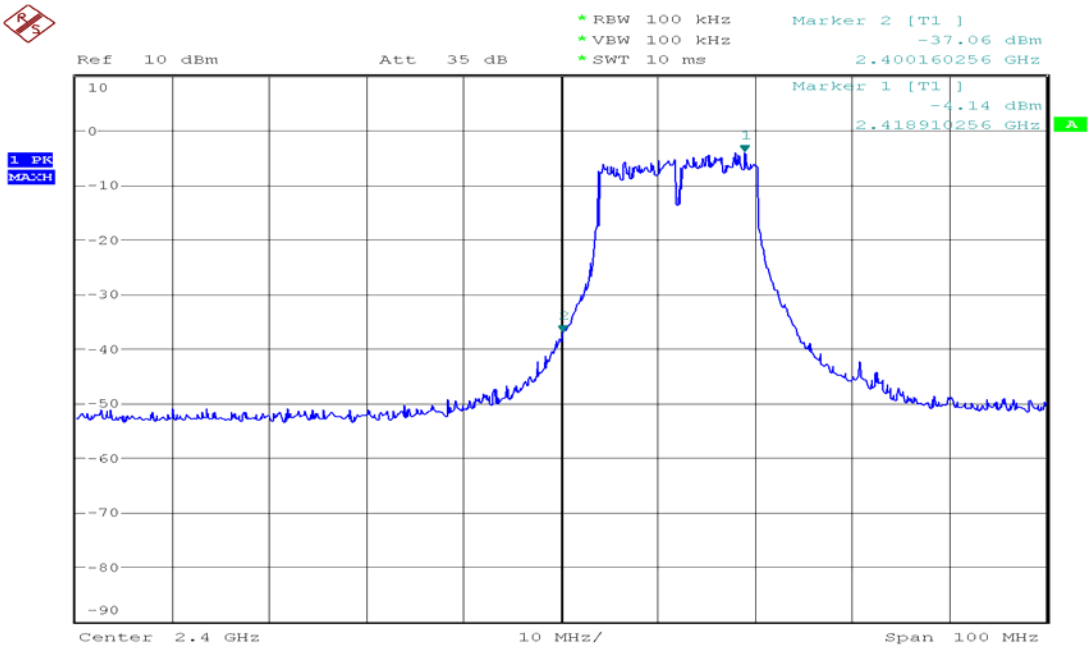


A.6.3.2 802.11b Channel 11:



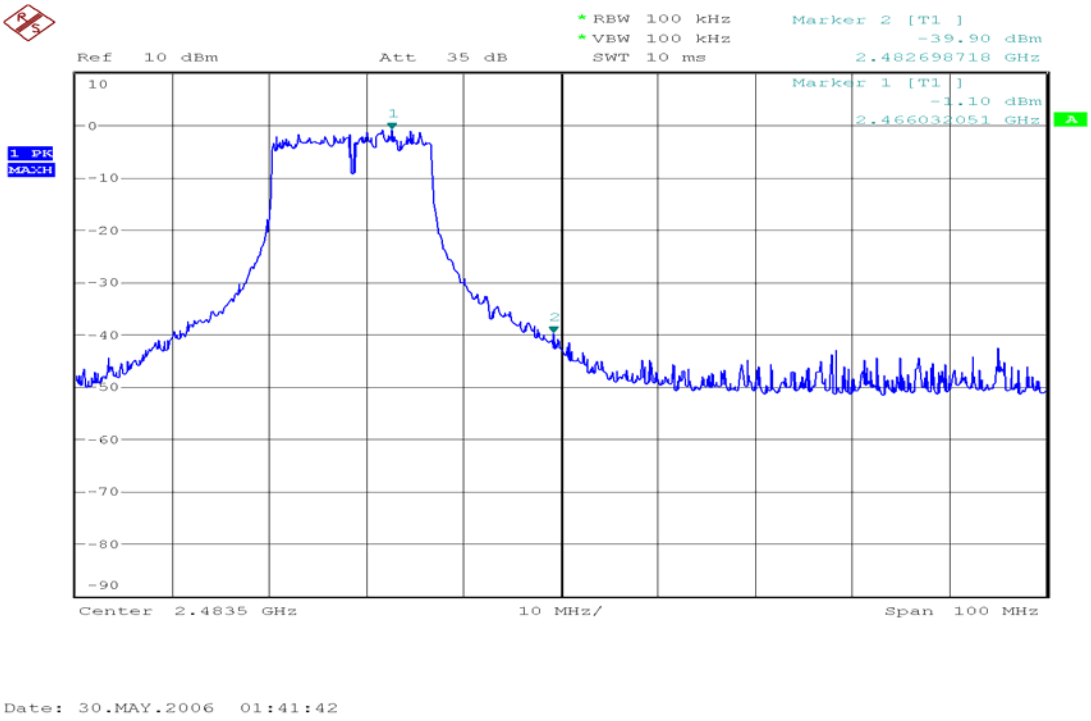
Date: 29.MAY.2006 12:29:20

A.6.3.3 802.11g Channel 1:



Date: 30.MAY.2006 01:37:05

A.6.3.4 802.11g Channel 11:



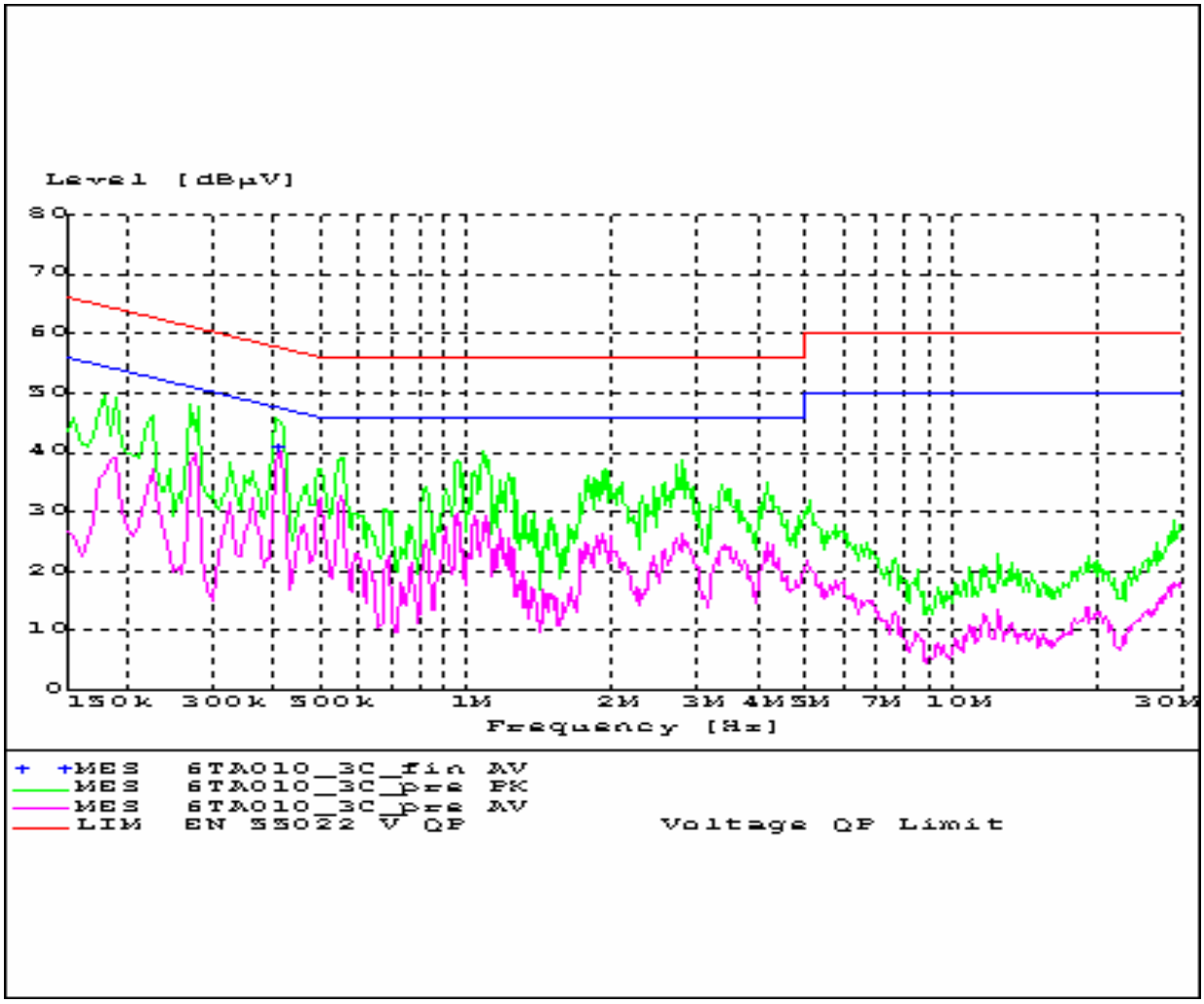
A.7 Powerline Conducted Emissions (§15.107/§207)

A.7.1 Limit

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi -Peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50
* Decreases with logarithm of the frequency		

A.7.2 Measurement result

Result Plot



MEASUREMENT RESULT: "6TA010_3C_fin AV"

4/19/2006 19:31

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.410000	40.50	10.1	48	7.1	N	FLO

ANNEX B TEST LAYOUT

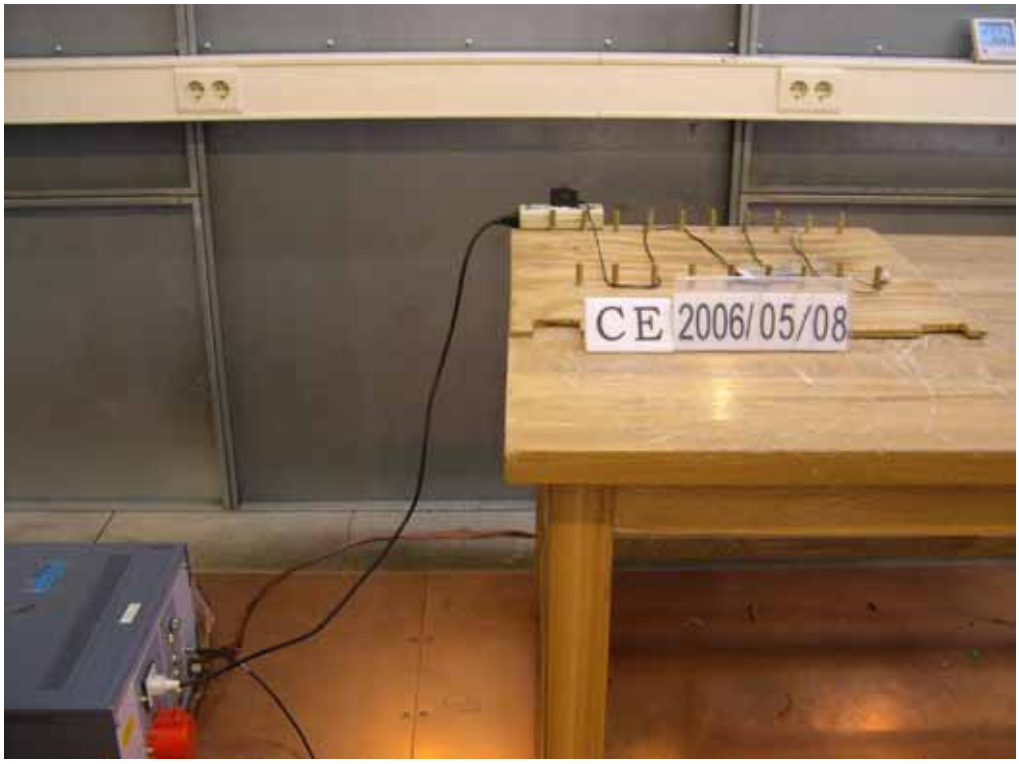


Fig C.1 Conducted Emission

Fig C.2 Radiated Spurious Emission

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