

CETECOM Inc.



CETECOM Inc.

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Issued test report consists of 58 Pages

RECOGNIZED BY INDUSTRY CANADA

IC - 3925

Test report no.: 157 FCC/2001
FCC Part 15.247
PCI Card – LW1100P
(FCC ID: FFMLW1100P)

Table of Contents

1 General information

1.1 Notes

1.2 Testing laboratory

1.3 Details of applicant

1.4 Application details

1.5 Test item

1.6 Test standards

2 Technical test

2.1 Summary of test results

2.2 Test report

1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in 1.5. The CETECOM Inc. USA does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM Inc. USA.

1.2 Testing laboratory**CETECOM Inc.**

411 Dixon Landing Road, Milpitas, CA-95035, USA

Phone: +1 408 586 6200 Fax: +1 408 586 6299

E-mail: lothar.schmidt@cetecomusa.com

Internet: www.cetecom.com

1.3 Details of applicant**Name : LG Electronics Inc.****Street : 60-39 Kasan-dong, Kumchon-gu****City : Seoul 153-023****Country : Korea****Telephone : +82 2 3289 3117****Telefax : +82 2 3289 3200****Contact : Mr. William KS. Oh****e-mail : ksoh@lge.com****1.4 Application details**

Date of receipt of application : 2001-05-15

Date of receipt of test item : 2001-05-21

Date of test : 2001-05-30/31

1.5 Test item

Manufacturer : LG Electronics Inc.

Address : See above

Name of EUT : PCI Card

Description : PCI Card for Desktop Personal Computer

Model No. : LW1100P

FCC ID : FFMLW1100P

Additional informations:

Frequency : 2412 – 2483.5 MHz

Type of modulation : DSSS

Number of channels : 11 Channels in US

Antenna : External,gain:2dBi

Power supply : +5VDC

Temperature range : -10°C - +50°C

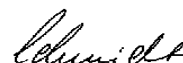
1.6 Test standards FCC Part 15 §15.247

The tests were done following the public notice DA 00-705 released March 30, 2000

2 Technical test**2.1 Summary of test results**

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

Technical responsibility for area of testing :

2001-06-01**EMC&
Radio****Lothar
Schmidt**

Date**Section****Name****Signature**

2.2 Testreport

TEST REPORT

**Testreport no. : 157 FCC/2001
FCC ID: FFMLW1100P
PCI Card**

TEST REPORT REFERENCE**LIST OF MEASUREMENTS**

Paragraph	PARAMETER TO BE MEASURED	PAGE
	Transmitter parameters	
§ 15.247 (a)(2)	Spectrum Bandwidth of a DSSS System	7
§ 15.247 (b)(1)	Maximum peak output power	11
§ 15.247 (c)(1)	Emission limitations	16
§ 15.247 (d)	Power Spectral Density	37
§ 15.247 (e)	Processing Gain of DSSS System	41
§ 15.107	Conducted emissions	44
	Receiver parameters	
§ 15.209	Spurious radiations - Radiated	46
	Test equipment listing	54
	Test Site	55
	Photographs of the equipment	57

ANNEX: Details about processing gain.

NOTE: Conducted Emissions as per § 15.107 are not applicable for the EUT since it is a built in a laptop computer. The Laptop was measured in accordance with FCC part 15 B including the Wireless LAN .

SPECTRUM BANDWITH OF DSSS-SYSTEM**SUBCLAUSE § 15.247 (a)(2)**

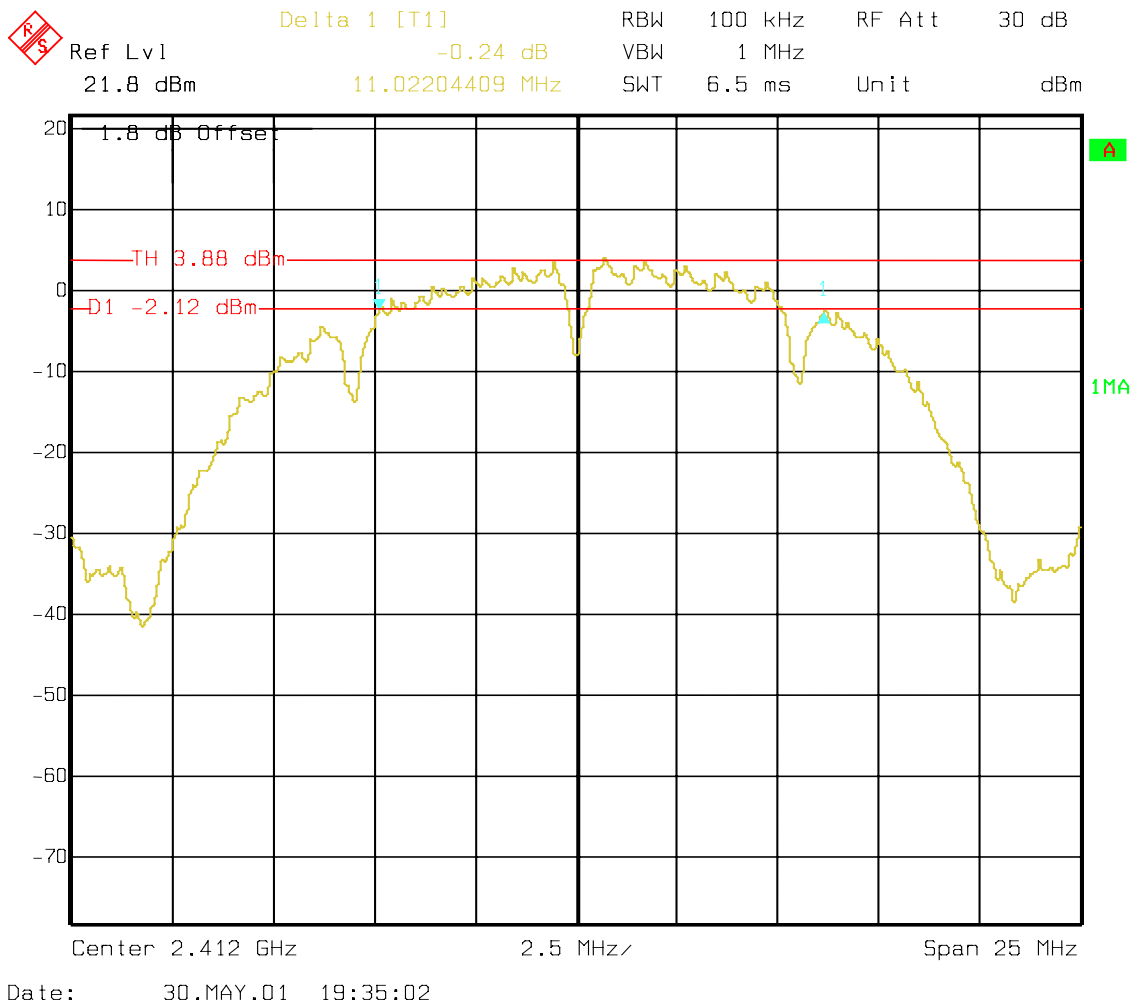
TEST CONDITIONS		6 dB BANDWIDTH (kHz)		
Frequency (MHz)		2412	2437	2462
$T_{nom}(23)^{\circ}C$	$V_{nom}(5.0)V$	11022	9969	9919
Measurement uncertainty		$\pm 3dB$		

LIMIT**SUBCLAUSE §15.247(a) (2)**

The minimum 6dB bandwidth shall be at least 500 KHz

SPECTRUM BANDWIDTH OF DSSS-SYSTEM
Lowest Channel: 2412 MHz

SUBCLAUSE § 15.247 (a)(2)



LIMIT

SUBCLAUSE §15.247(a) (2)

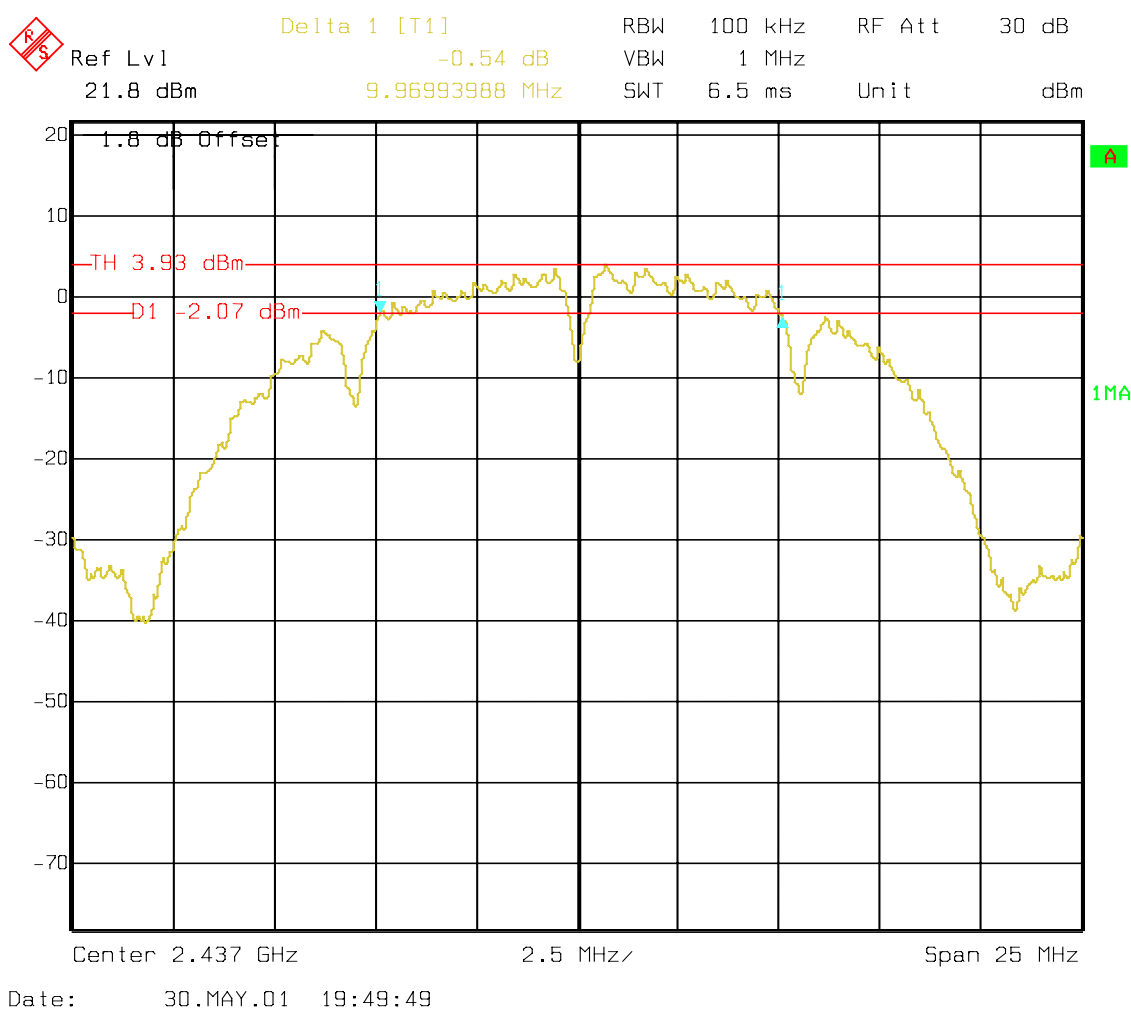
The minimum 6dB bandwidth shall be at least 500 KHz , here 10.02 MHz

ANALYZER SETTINGS: RBW=100KHz , VBW=1MHz

SPECTRUM BANDWIDTH OF DSSS-SYSTEM

Mid Channel: 2437 MHz

SUBCLAUSE § 15.247 (a)(2)



LIMIT

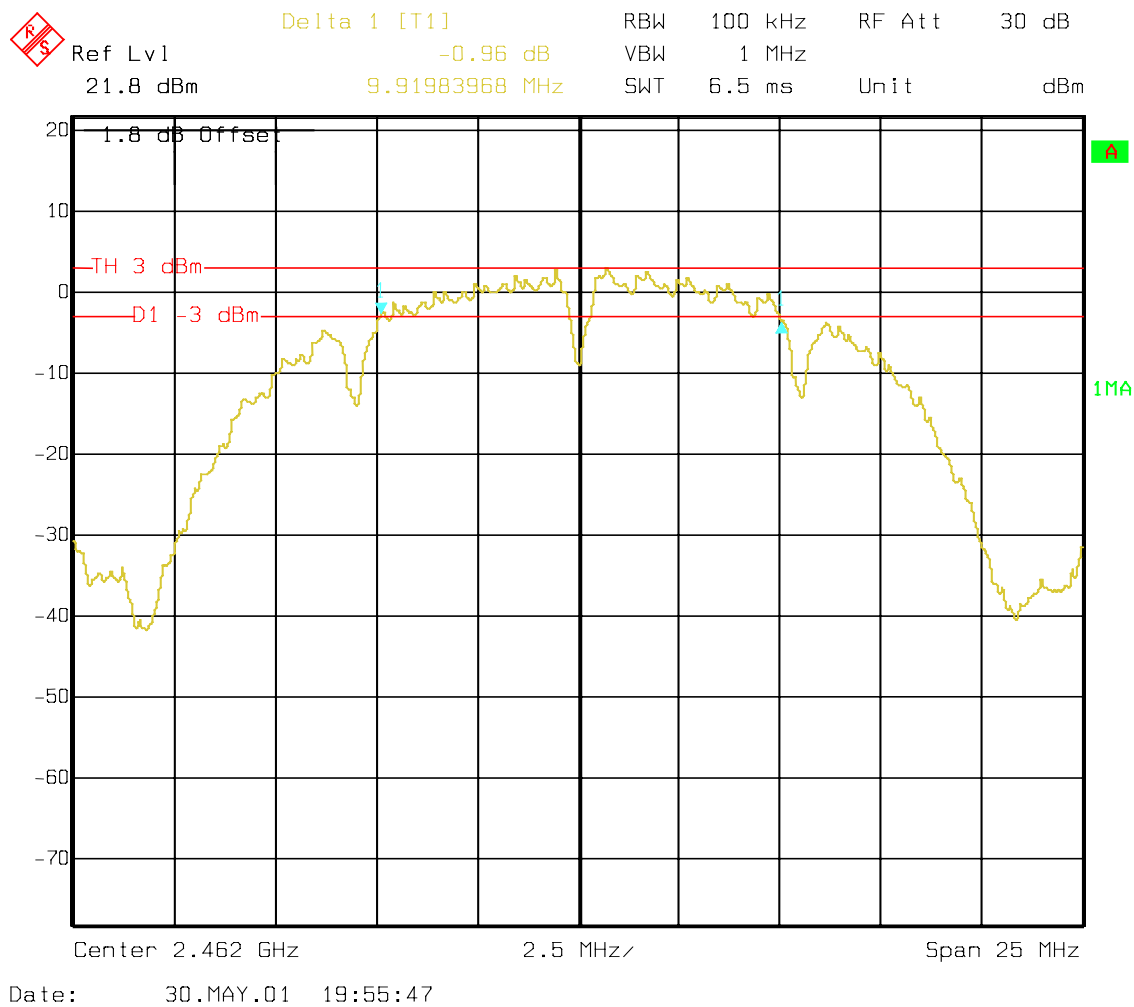
SUBCLAUSE §15.247(a) (2)

The minimum 6dB bandwidth shall be at least 500 KHz , here 11.42 MHz

ANALYZER SETTINGS: RBW=100KHz , VBW=1MHz

SPECTRUM BANDWIDTH OF DSSS-SYSTEM
Highest Channel: 2462 MHz

SUBCLAUSE § 15.247 (a)(2)



LIMIT

SUBCLAUSE §15.247(a) (2)

The minimum 6dB bandwidth shall be at least 500 KHz , here 10.02 MHz

ANALYZER SETTINGS: RBW=100KHz , VBW=1MHz

**MAXIMUM PEAK OUTPUT POWER
(CONDUCTED)****SUBCLAUSE § 15.247 (b) (1)**

TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)					
Frequency (MHz)		2412		2437		2462	
T _{nom} (23)°C	V _{nom} (5.0)V	Pk	15.00	Pk	15.01	Pk	13.98
		Av	9.85	Av	9.67	Av	8.64
Measurement uncertainty		±3dB					

LIMIT**SUBCLAUSE § 15.247 (b) (1)**

Frequency range	RF power output
2400-2483.5 MHz / 5725 – 5850 MHz	1.0 Watt

**MAXIMUM PEAK OUTPUT POWER (EIRP)
(RADIATED)****SUBCLAUSE § 15.247 (b) (1)**

TEST CONDITIONS		MAXIMUM PEAK OUTPUT POWER (dBm)					
Frequency (MHz)		2412		2437		2462	
T _{nom} (23)°C	V _{nom} (5.0)V	Pk	19.82	Pk	20.15	Pk	19.14
		Av	14.67	Av	15.20	Av	13.99
Measurement uncertainty		±3dB					

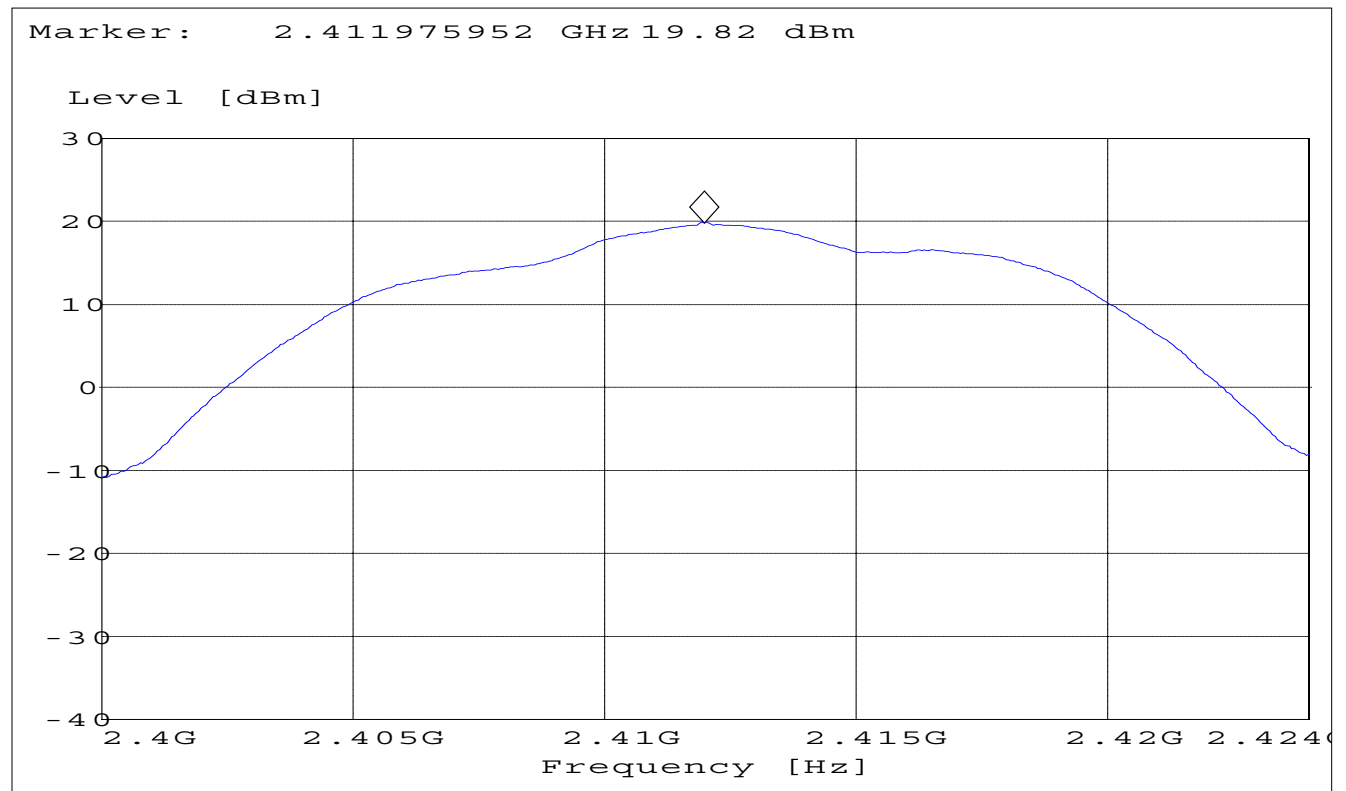
LIMIT**SUBCLAUSE § 15.247 (b) (1)**

Frequency range	RF power output
2400-2483.5 MHz / 5725 – 5850 MHz	1.0 Watt

ANALYZER SETTINGS: RBW=3MHz, VBW=3MHz

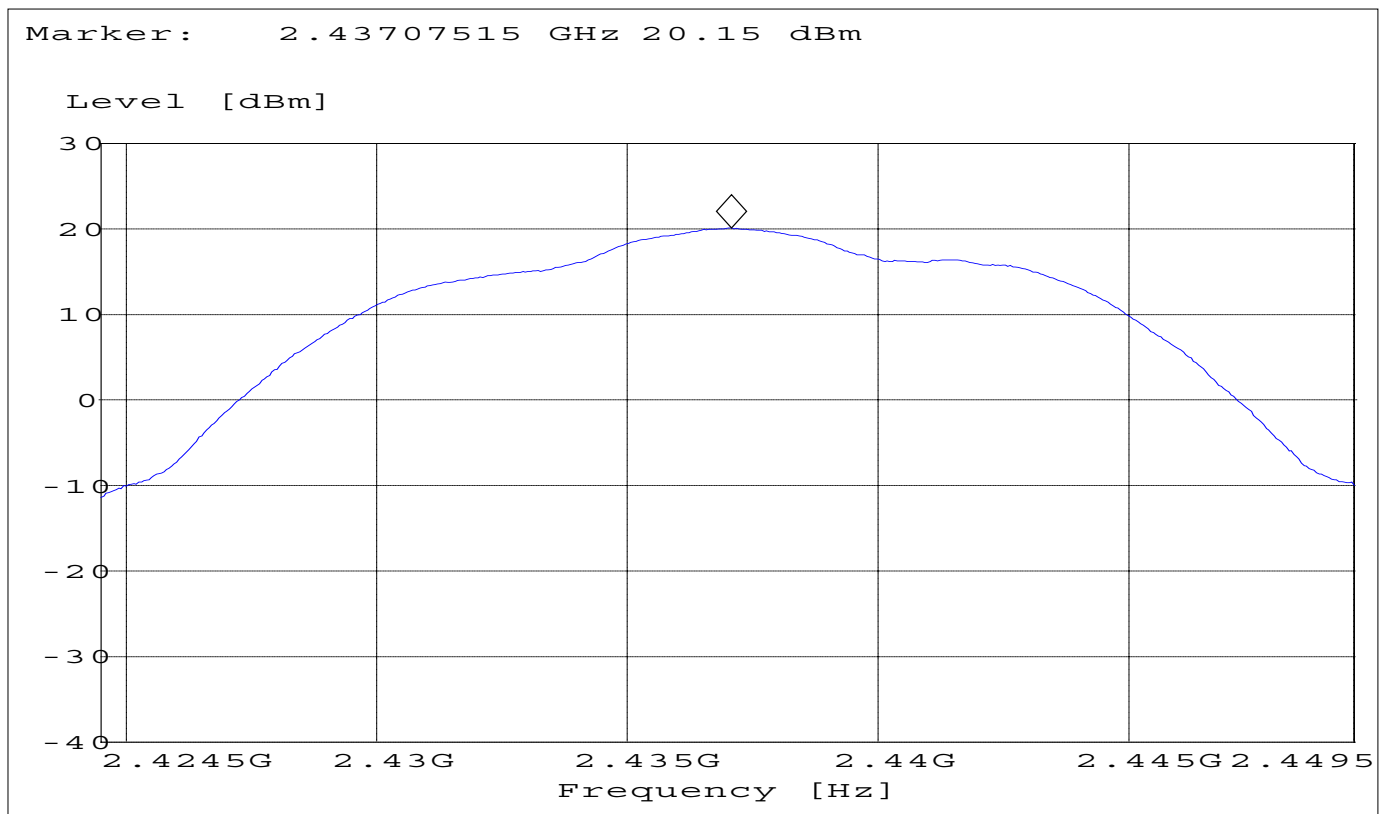
EIRP - Lowest Channel: 2412 MHz

ANALYZER SETTINGS: RBW=3MHz, VBW=3MHz



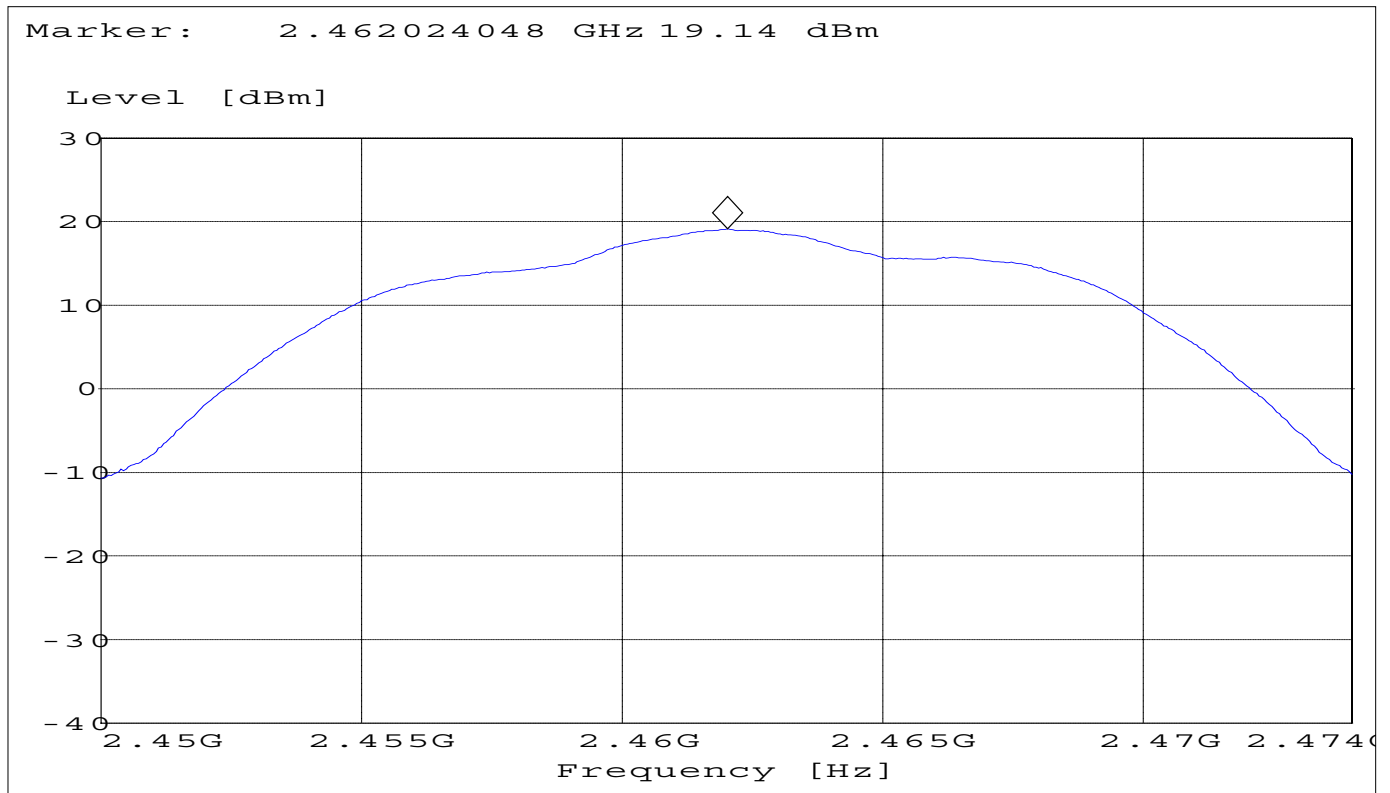
EIRP – Mid Channel: 2437 MHz

ANALYZER SETTINGS: RBW=3MHz, VBW=3MHz



EIRP – Highest Channel: 2462 MHz

ANALYZER SETTINGS: RBW=3MHz, VBW=3MHz

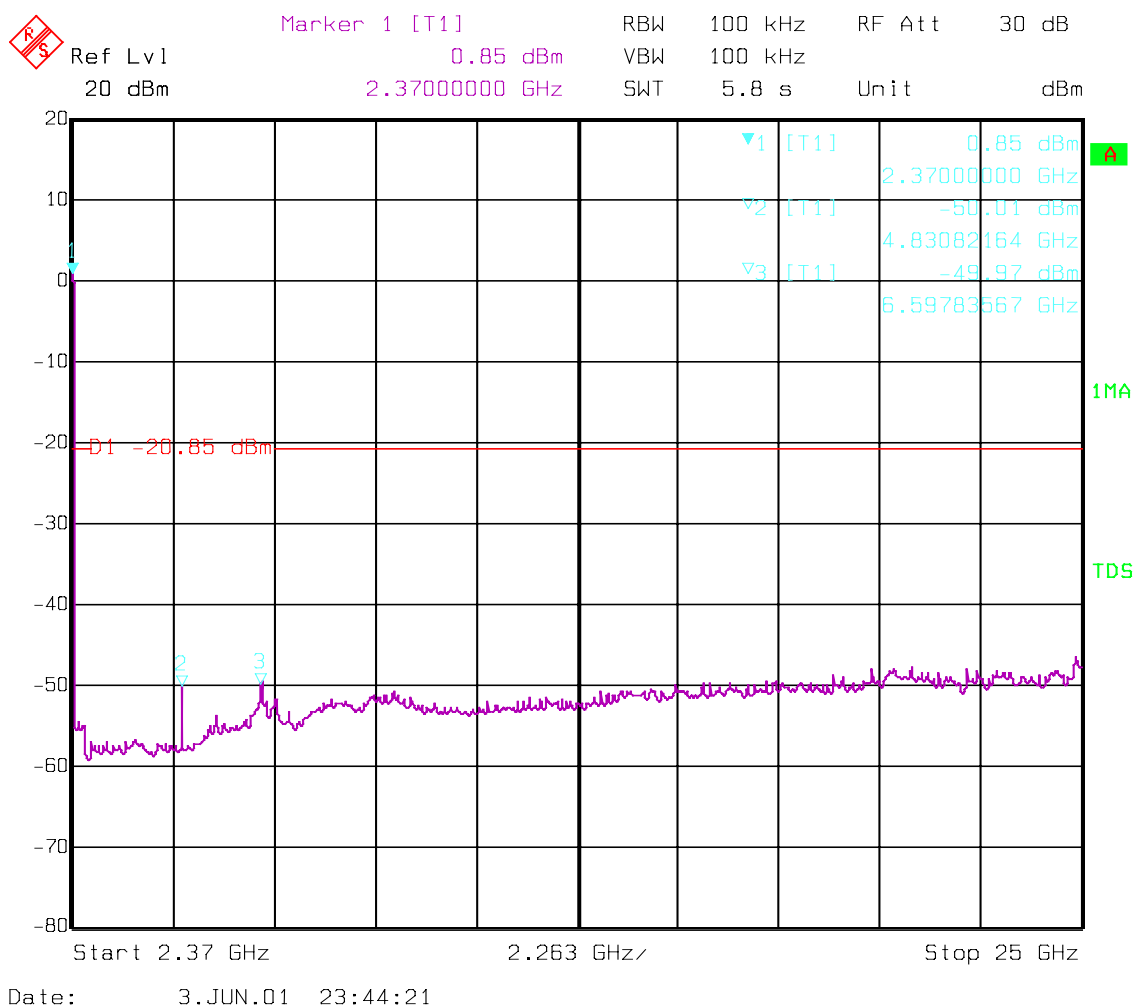


EMISSION LIMITATIONS (Transmitter)

SUBCLAUSE § 15.247 (c) (1)

conducted

2412 MHz up to 25 GHz

**LIMITS****SUBCLAUSE § 15.247 (c)**

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: RBW=100KHz , VBW=1MHz

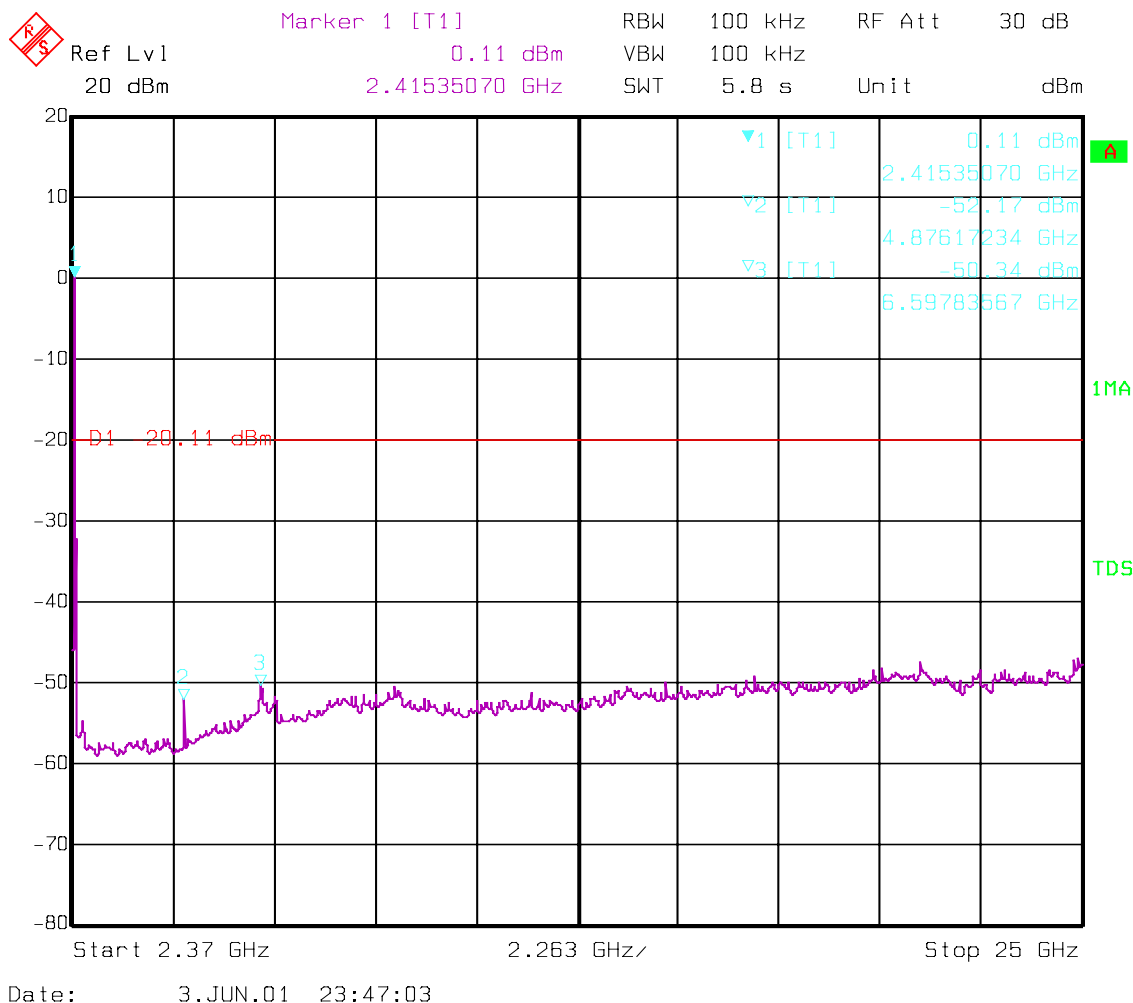
NOTE: The marked peak is the carrier frequency. Frequency resolution is not fine enough to show the exact frequency of the carrier, refer to plots under EIRP.

EMISSION LIMITATIONS (Transmitter)

SUBCLAUSE § 15.247 (c) (1)

conducted

2437 MHz up to 25 GHz



LIMITS

SUBCLAUSE § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: RBW=100KHz, VBW=1MHz

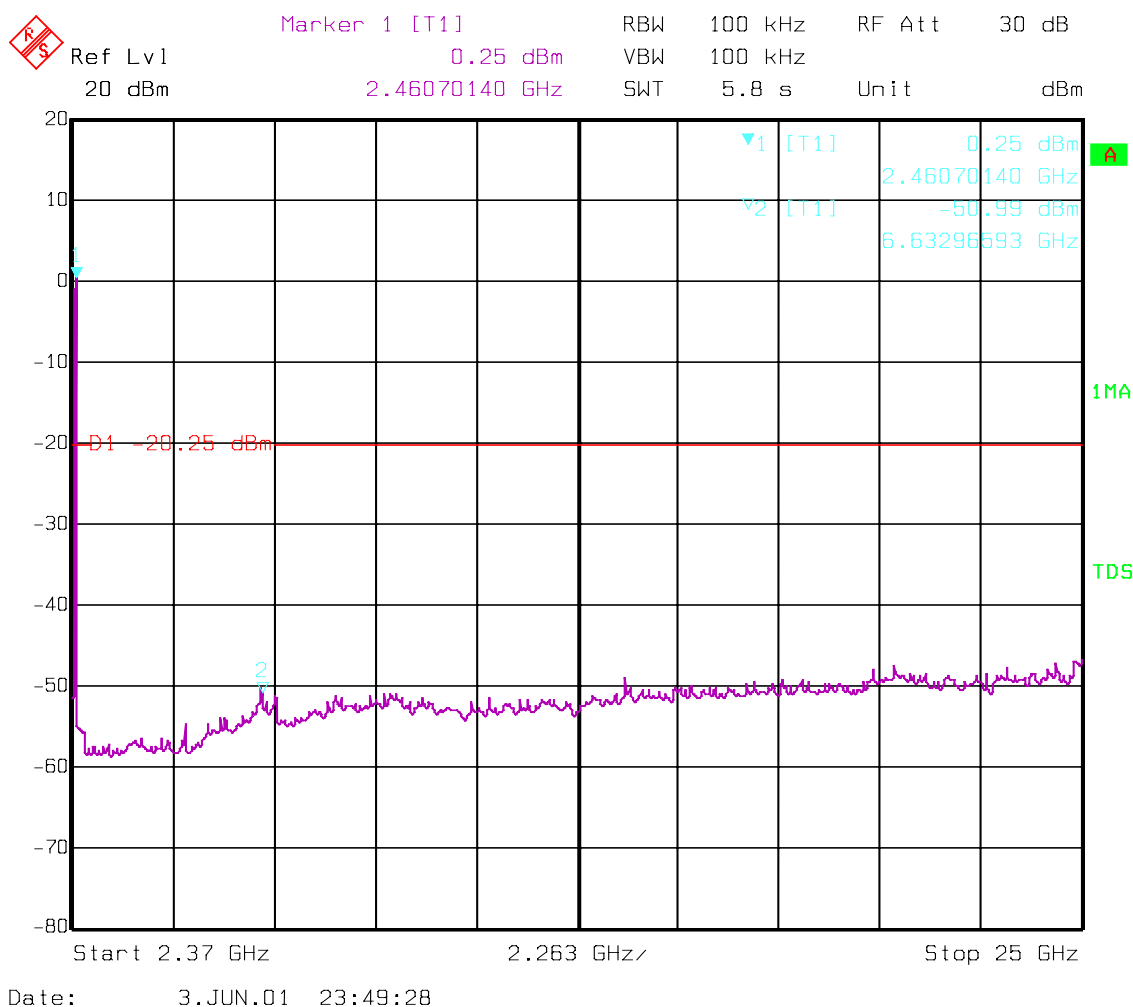
NOTE: The marked peak is the carrier frequency. Frequency resolution is not fine enough to show the exact frequency of the carrier, refer to plots under EIRP.

EMISSION LIMITATIONS (Transmitter)

SUBCLAUSE § 15.247 (c) (1)

conducted

2462 MHz up to 25 GHz



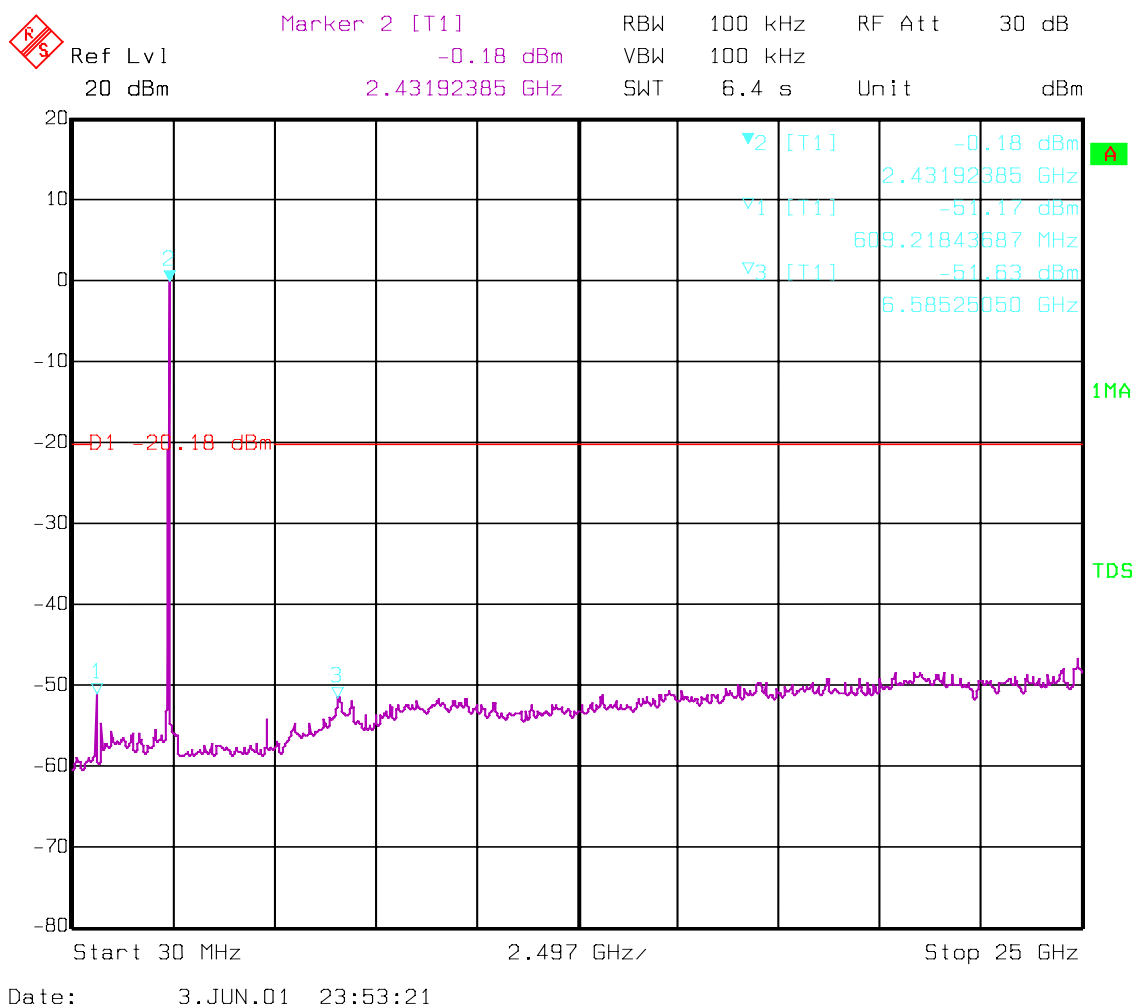
LIMITS

SUBCLAUSE § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: RBW=100KHz , VBW=1MHz

NOTE: The marked peak is the carrier frequency. Frequency resolution is not fine enough to show the exact frequency of the carrier, refer to plots under EIRP.

EMISSION LIMITATIONS (Transmitter)**SUBCLAUSE § 15.247 (c) (1)****Conducted****30 MHz up to 25 GHz (This plot is valid for all three channels)****LIMITS****SUBCLAUSE § 15.247 (c)**

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: RBW=100KHz , VBW=1MHz

NOTE: The marked peak is the carrier frequency. Frequency resolution is not fine enough to show the exact frequency of the carrier, refer to plots under EIRP.

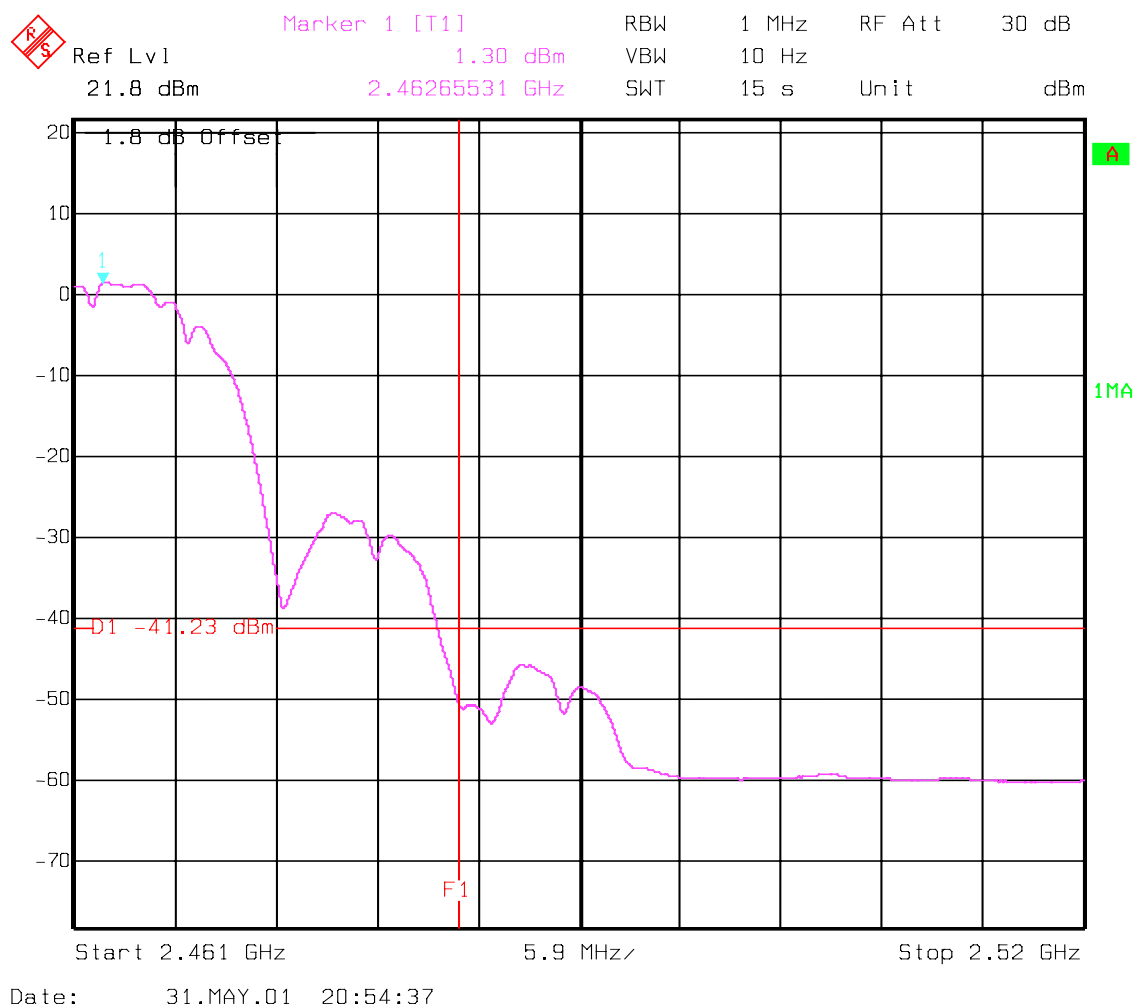
EMISSION LIMITATIONS (Transmitter)

SUBCLAUSE § 15.247 (c) (2)

conducted

spurious in the restricted band 2483.5 – 2500 MHz

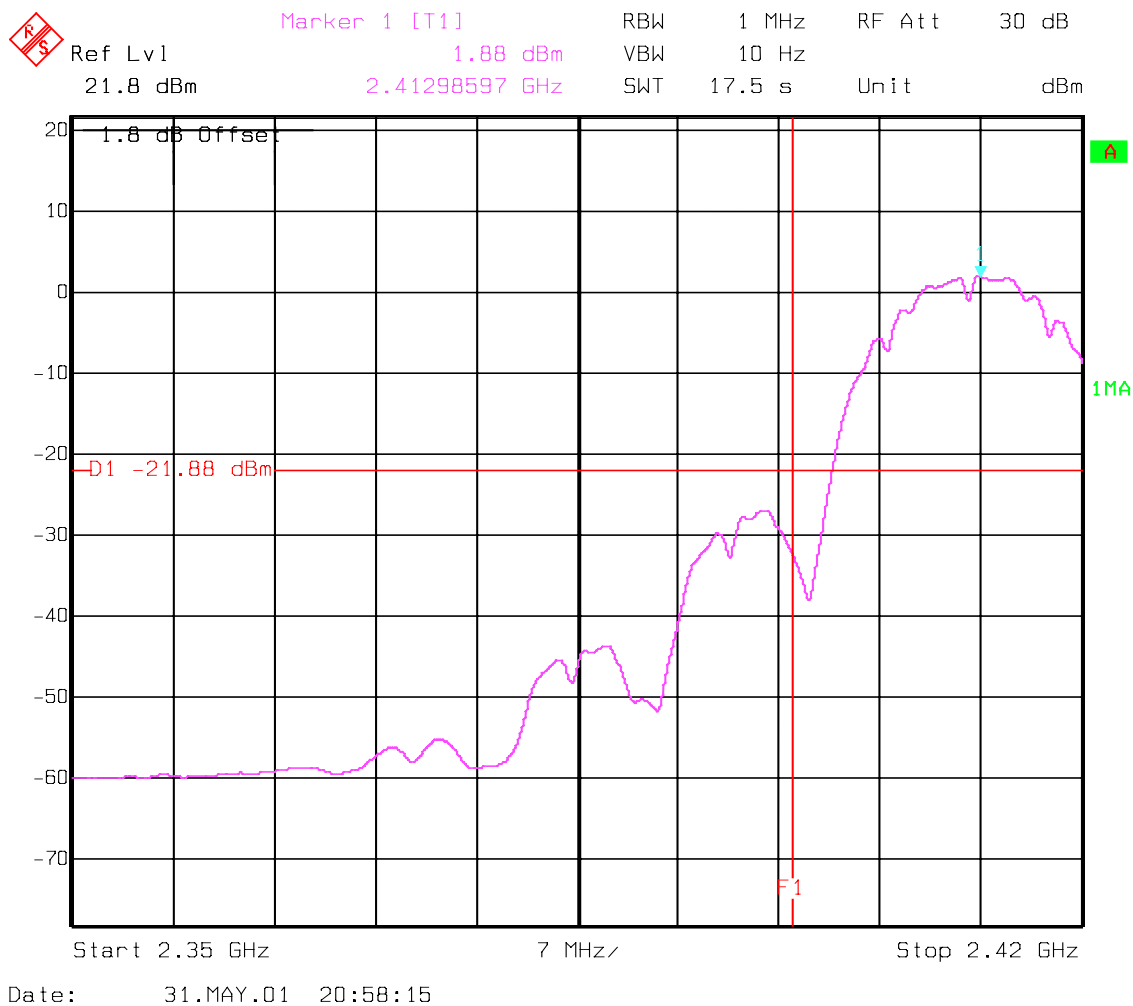
(Higher Band Edge)



ANALYZER SETTINGS: RBW=1MHz , VBW=10Hz

Lower Band Edge

conducted

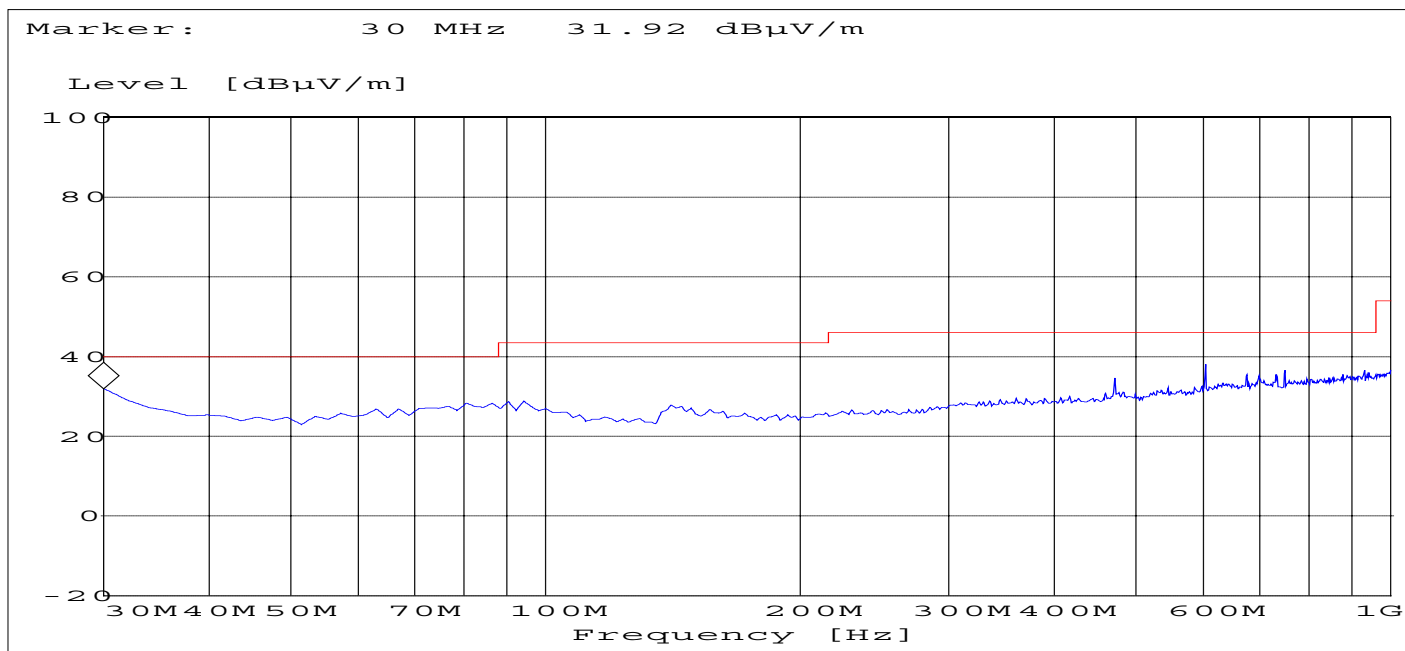


ANALYZER SETTINGS: RBW=1MHz , VBW=10Hz

EMISSION LIMITATIONS (Transmitter)**SUBCLAUSE § 15.247 (c) (1)**

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. In the range between 18 and 26 GHz very short cable connections to the antenna was used to minimize the noise level. Channel 1: 2412 MHz; Channel 2: 2437 MHz; Channel 3: 2462 MHz.

All emission measurements were done in Peak mode to reduce measurement time. In case limits are exceeded the measurements will be repeated and documented in the test report either with Quasi Peak or average detector depending on the frequency range specified in FCC 15 and/or DA00-705. Bandwidth, sweep time etc. were set according DA00-705 and recorded

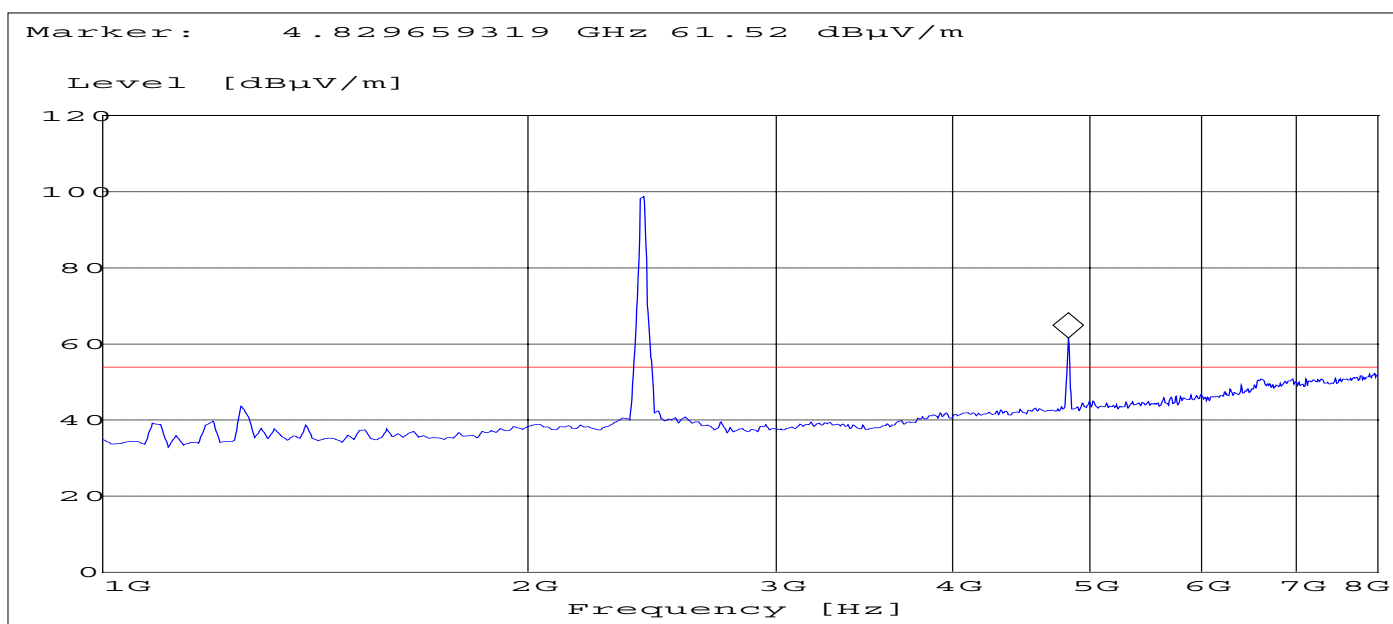
Channel 1: 30MHz-1GHz**LIMITS****SUBCLAUSE § 15.247 (c)**

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz $f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)**Channel 1: 1GHz-8GHz**

NOTE: Since the carrier frequency overloaded the pre-amplifier of the measurement system and created harmonics this test was repeated using a highpass filter. The additional graph(on next page) is only valid regarding the received values above 3 GHz.

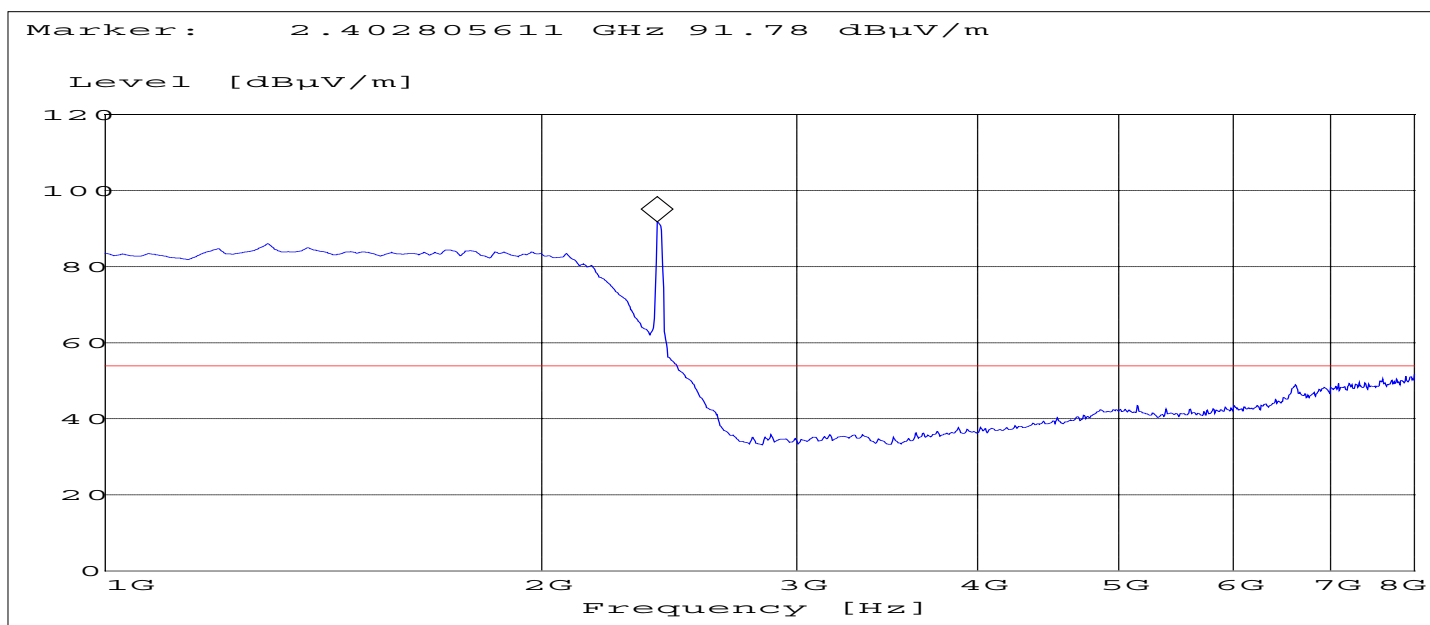
**LIMITS****SUBCLAUSE § 15.247 (c)**

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: $f < 1$ GHz : RBW/VBW: 100 kHz $f \geq 1$ GHz : RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)**Channel 1: 1GHz-8GHz**

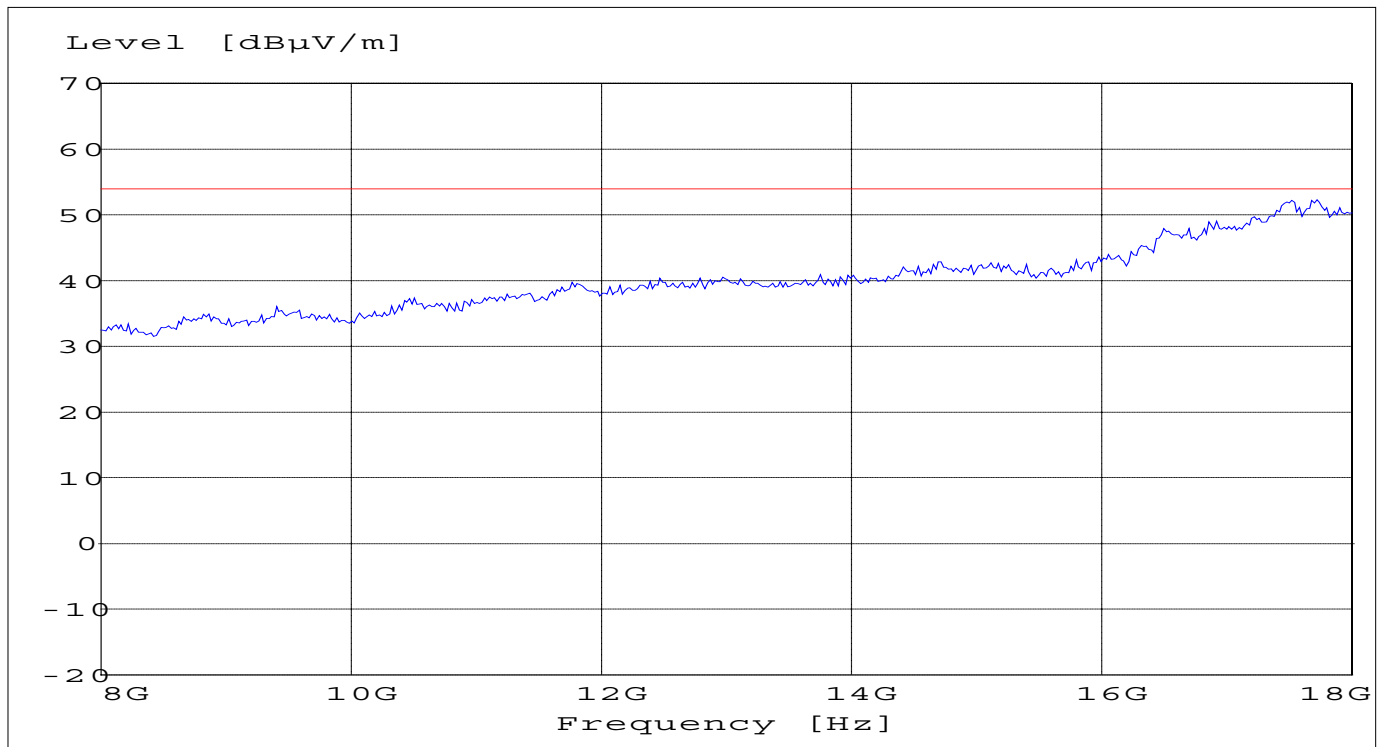
NOTE: This measurement is made using HPF to suppress the carrier in order to prevent the overloading of spectrum analyzer. See remark on previous page.



NOTE: The marked peak is the carrier frequency. Frequency resolution is not fine enough to show the exact frequency of the carrier, refer to plots under EIRP.

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)

Channel 1: 8GHz -18GHz



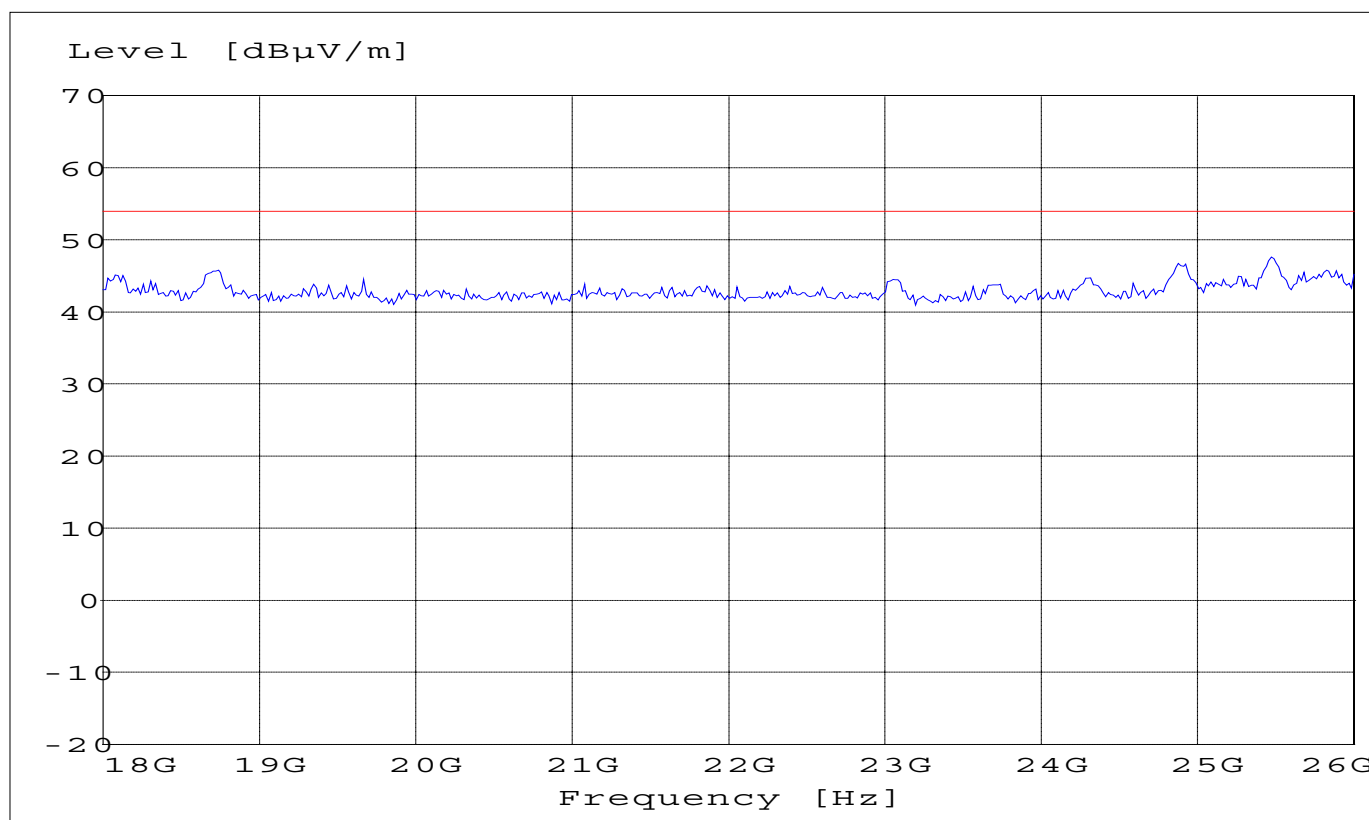
LIMITS

SUBCLAUSE § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

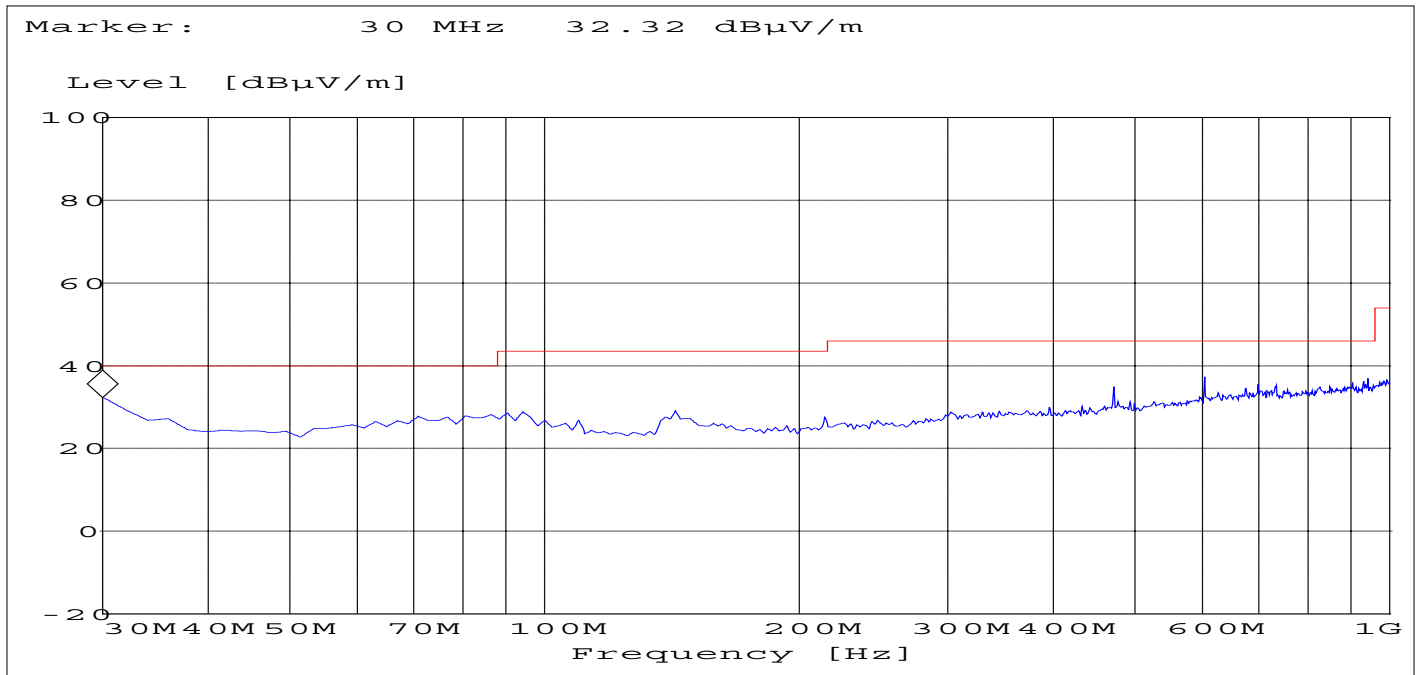
EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)**Channel 1: 18GHz -26GHz****LIMITS****SUBCLAUSE § 15.247 (c)**

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz $f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)

Channel 2: 30MHz -1GHz



LIMITS

SUBCLAUSE § 15.247 (c)

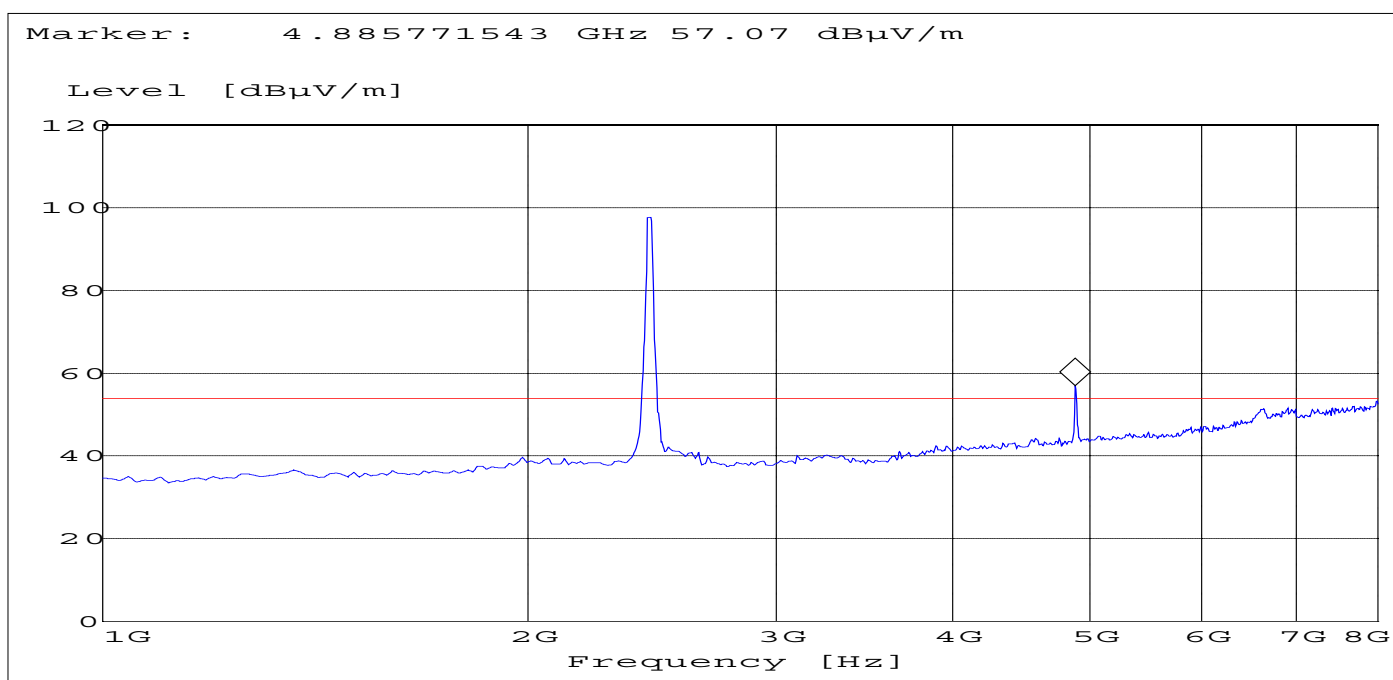
In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)**Channel 2: 1GHz -8GHz**

NOTE: Since the carrier frequency overloaded the pre-amplifier of the measurement system and created harmonics this test was repeated using a highpass filter. The additional graph(on next page) is only valid regarding the received values above 3 GHz.

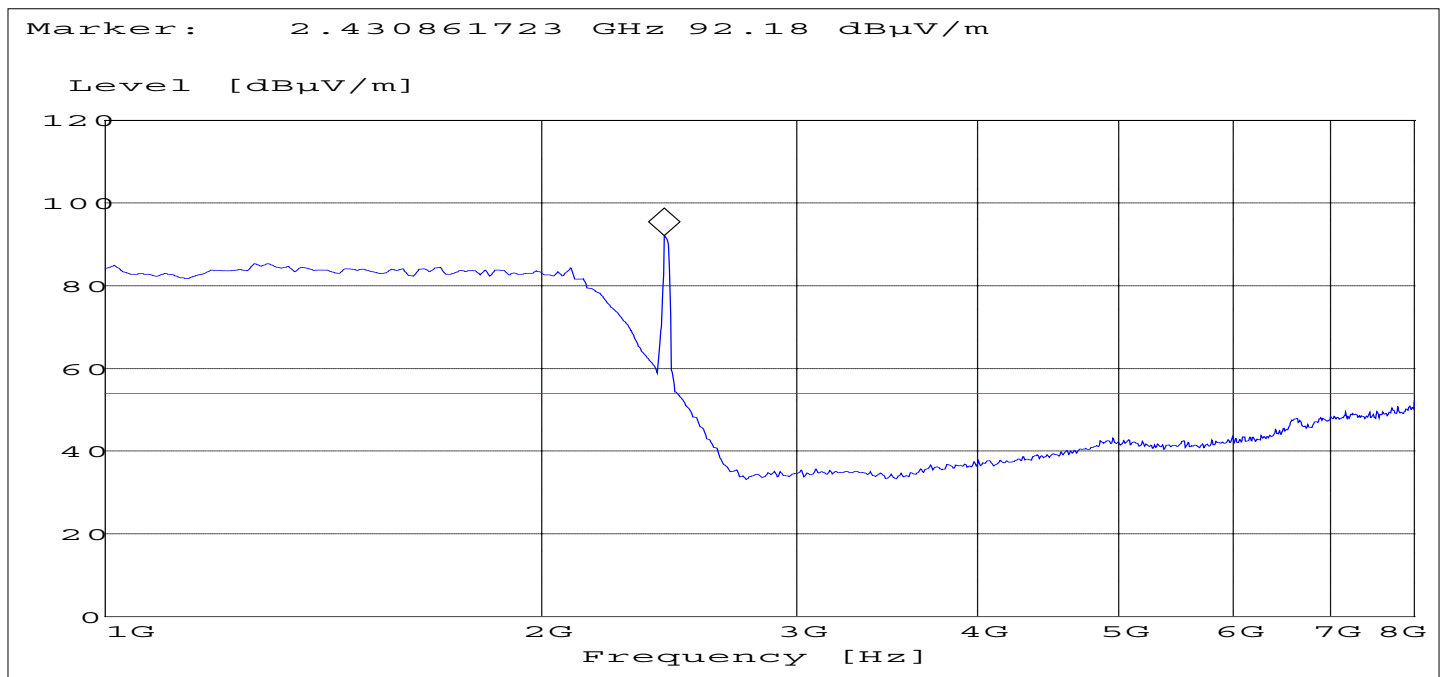
**LIMITS****SUBCLAUSE § 15.247 (c)**

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz $f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)**Channel 2: 1GHz -8GHz**

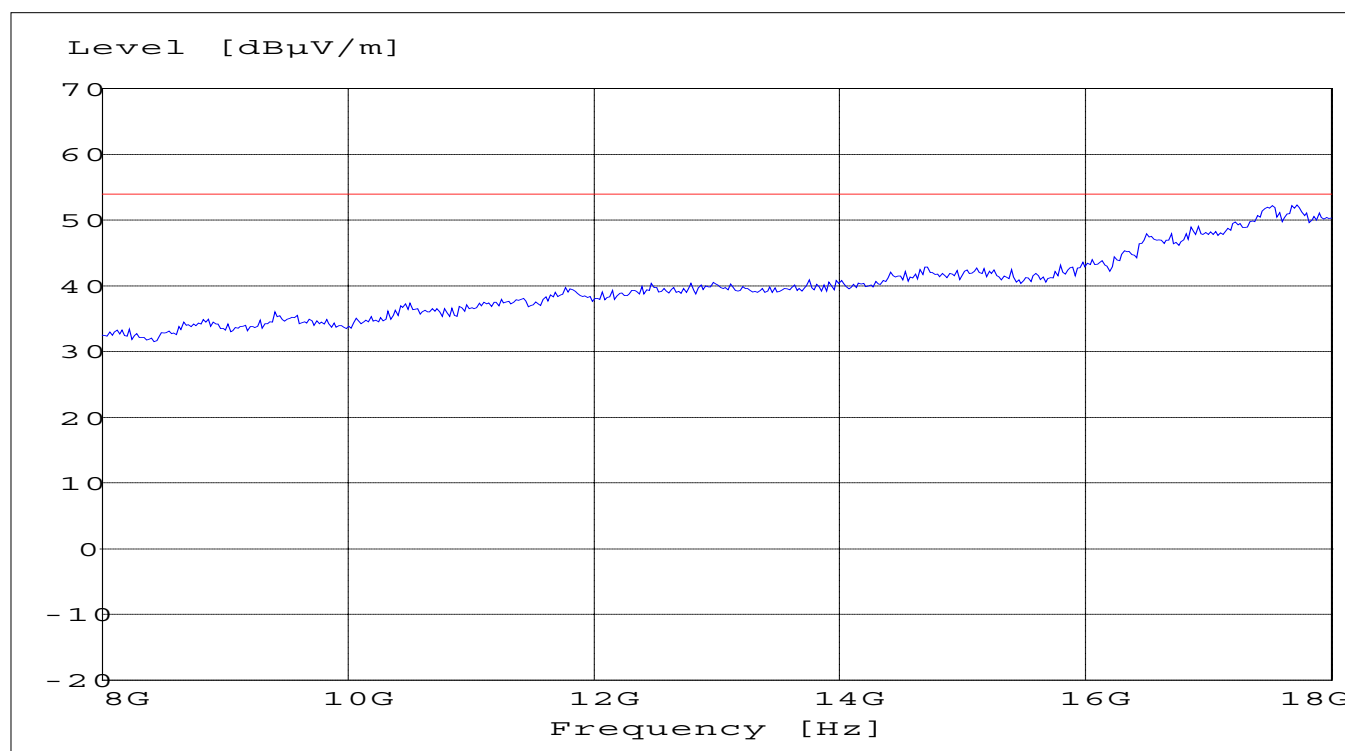
NOTE: This measurement is made using HPF to suppress the carrier in order to prevent the overloading of spectrum analyzer. See remark on previous page.



NOTE: The marked peak is the carrier frequency. Frequency resolution is not fine enough to show the exact frequency of the carrier, refer to plots under EIRP.

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)

Channel 2: 8GHz -18GHz



LIMITS

SUBCLAUSE § 15.247 (c)

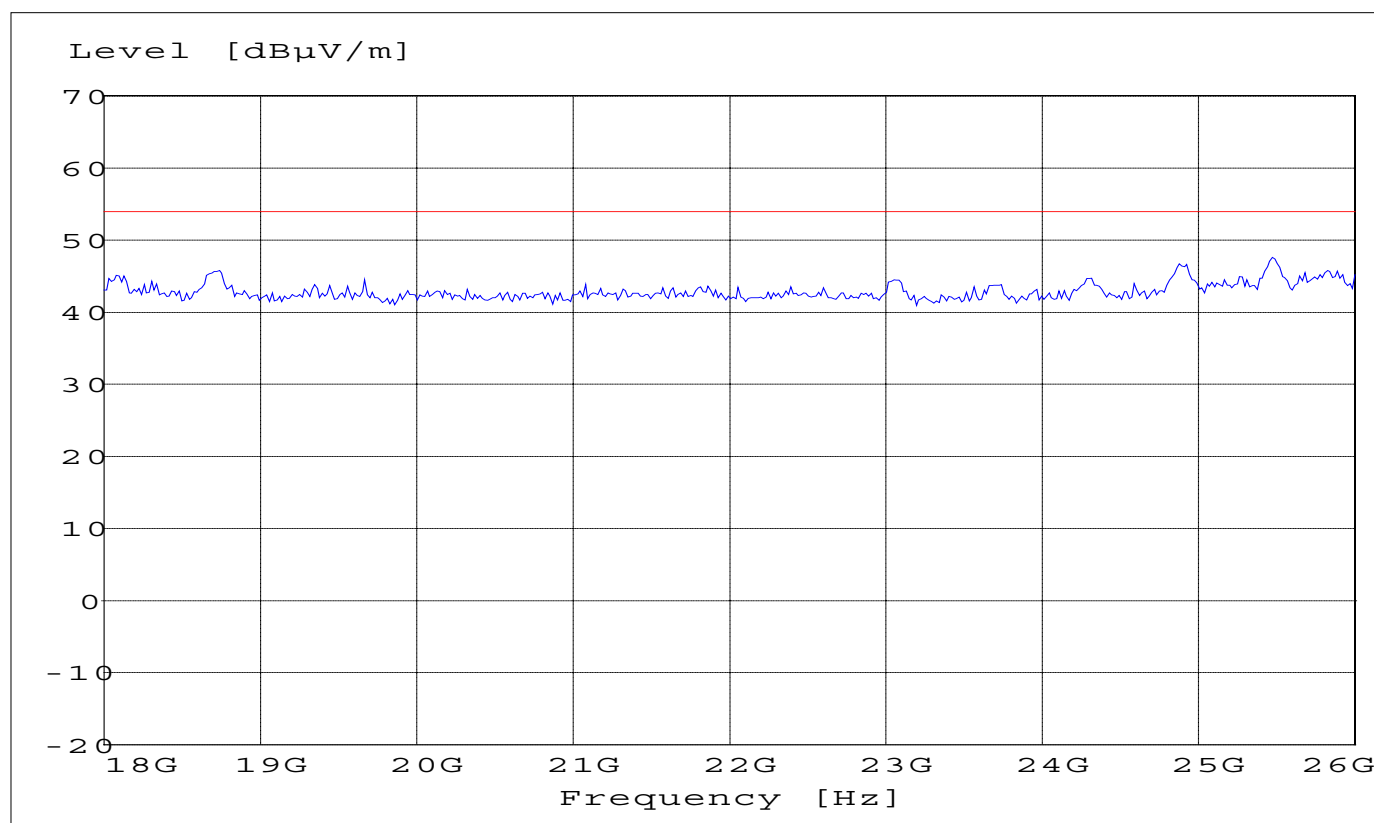
In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

ANALYZER SETTINGS: $f < 1$ GHz : RBW/VBW: 100 kHz

$f \geq 1$ GHz : RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)

Channel 2: 18GHz -26GHz



LIMITS

SUBCLAUSE § 15.247 (c)

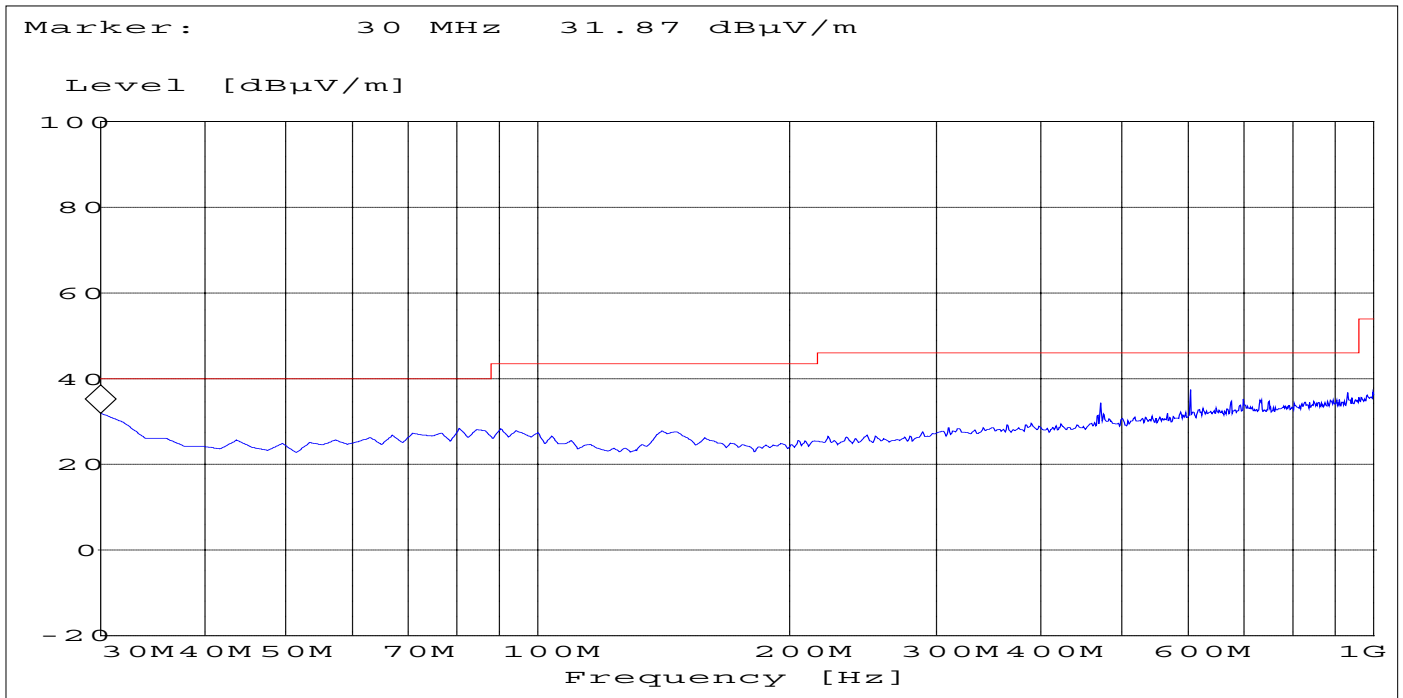
In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)

Channel 3: 30MHz -1GHz



LIMITS

SUBCLAUSE § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

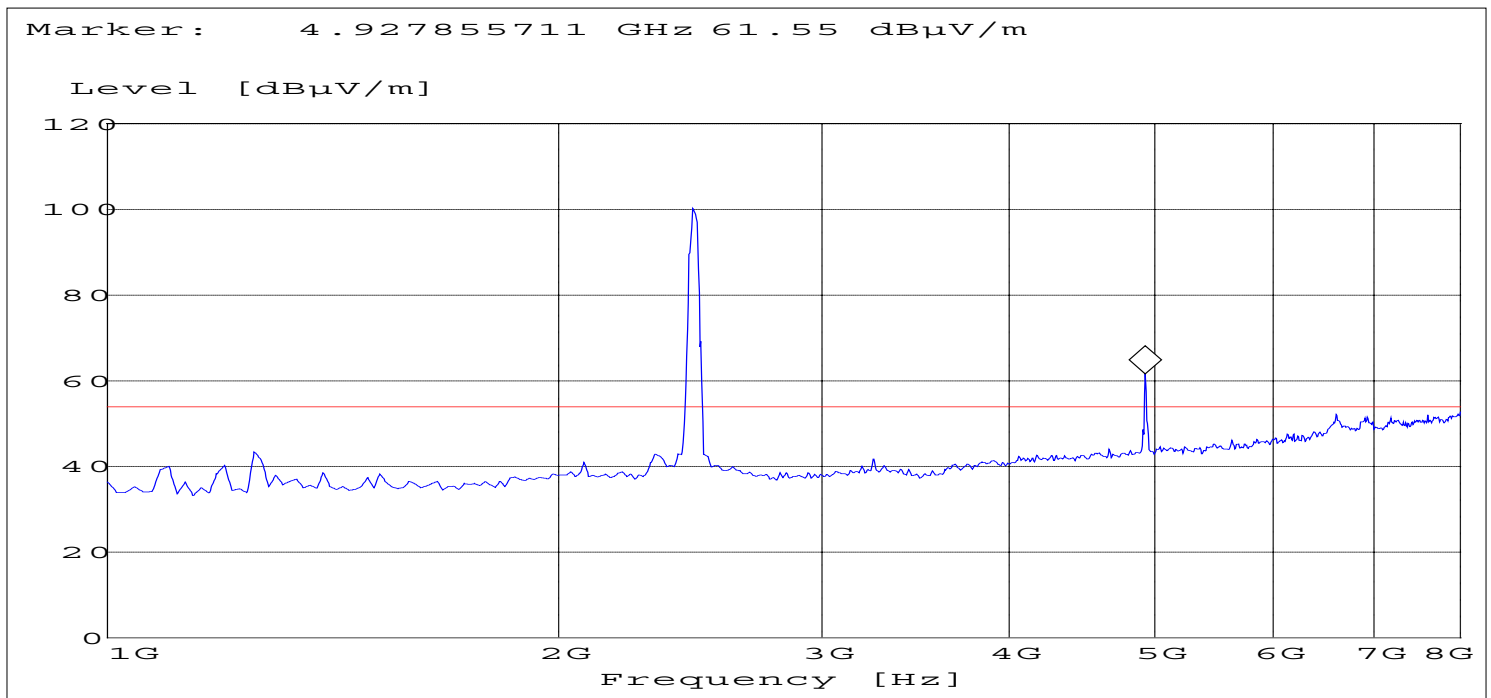
ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)

Channel 3: 1GHz -8GHz

NOTE: Since the carrier frequency overloaded the pre-amplifier of the measurement system and created harmonics this test was repeated using a highpass filter. The additional graph(on next page) is only valid regarding the received values above 3 GHz.



LIMITS

SUBCLAUSE § 15.247 (c)

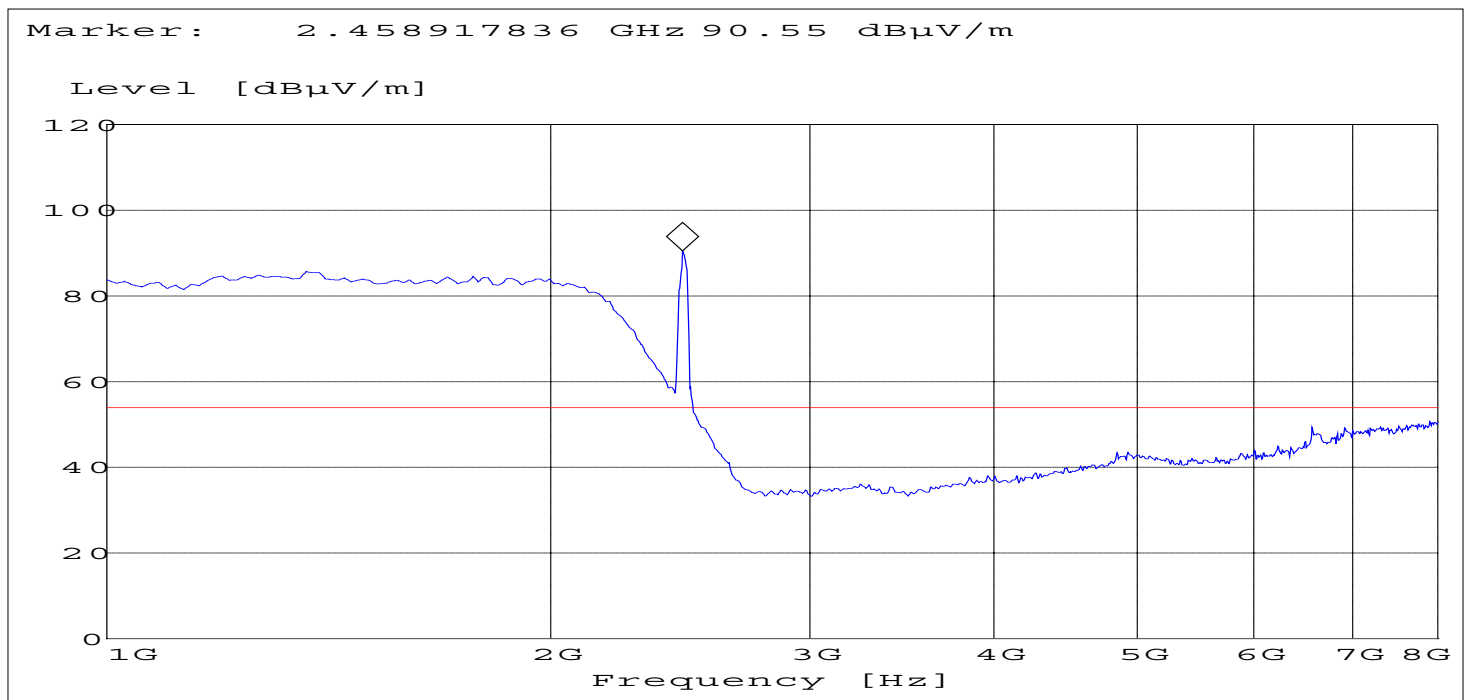
In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)**Channel 3: 1GHz -8GHz**

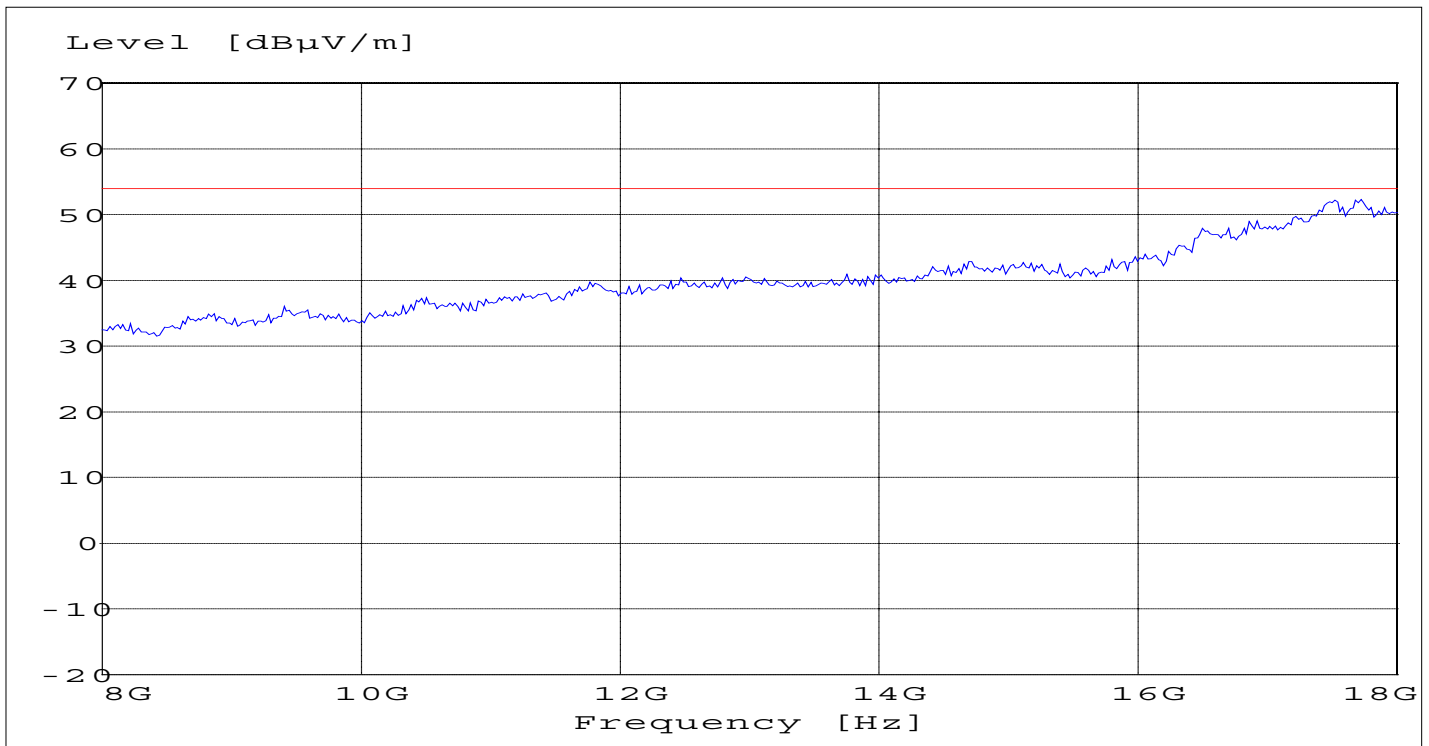
NOTE: This measurement is made using HPF to suppress the carrier in order to prevent the overloading of spectrum analyzer. See remark on previous page.



NOTE: The marked peak is the carrier frequency. Frequency resolution is not fine enough to show the exact frequency of the carrier, refer to plots under EIRP.

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)

Channel 3: 8GHz -18GHz



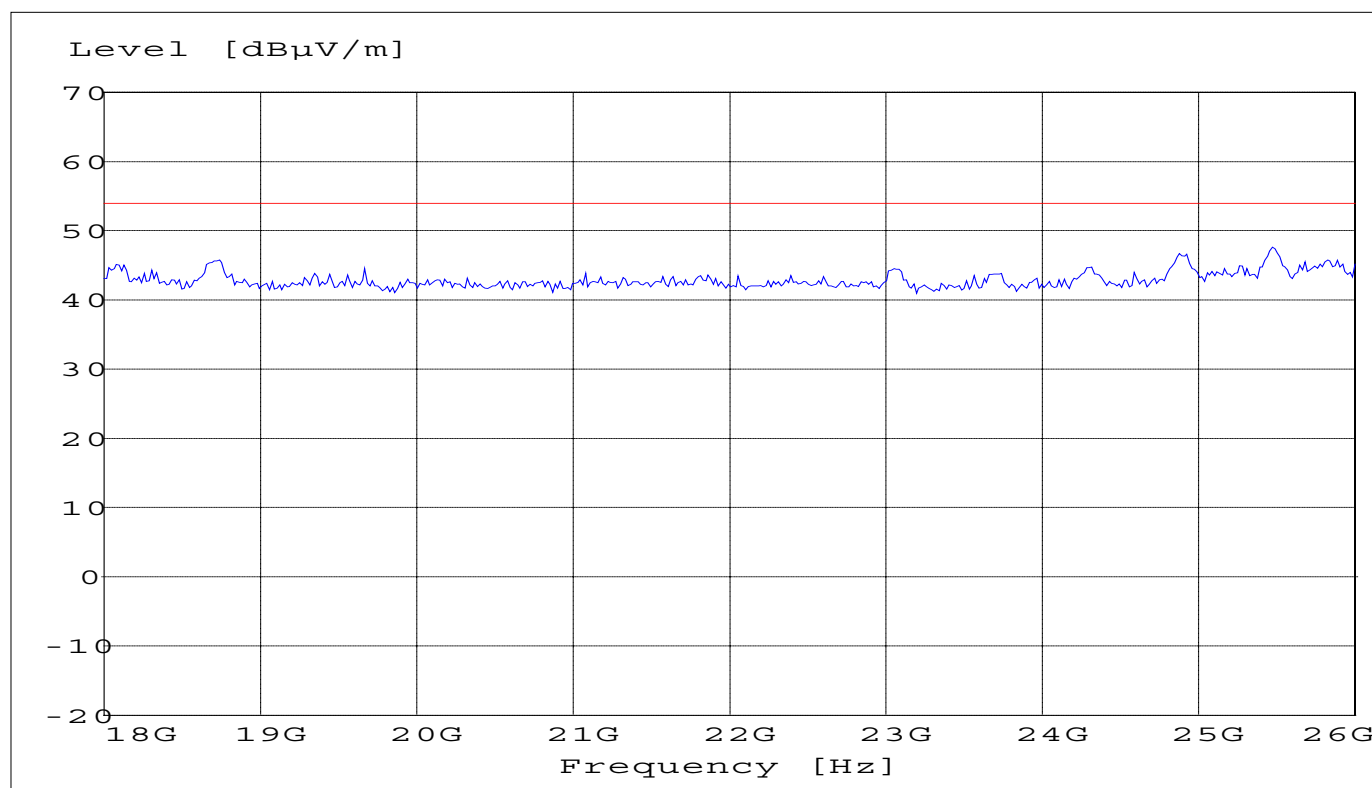
LIMITS

SUBCLAUSE § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

EMISSION LIMITATIONS (Transmitter) SUBCLAUSE § 15.247 (c) (1)**Channel 3: 18GHz -26GHz****LIMITS****SUBCLAUSE § 15.247 (c)**

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired 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)).

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz **$f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz**

POWER SPECTRAL DENSITY**SUBCLAUSE § 15.247 (d)**

TEST CONDITIONS		RF POWER LEVEL IN 3 kHz BW		
Frequency (MHz)		2412	2437	2462
$T_{nom}(23)^{\circ}\text{C}$	$V_{nom}(5.0)\text{V}$	-8.33 dBm	-8.32dBm	-9.30 dBm
Measurement uncertainty		$\pm 3\text{dB}$		

LIMIT**SUBCLAUSE §15.247(d)**

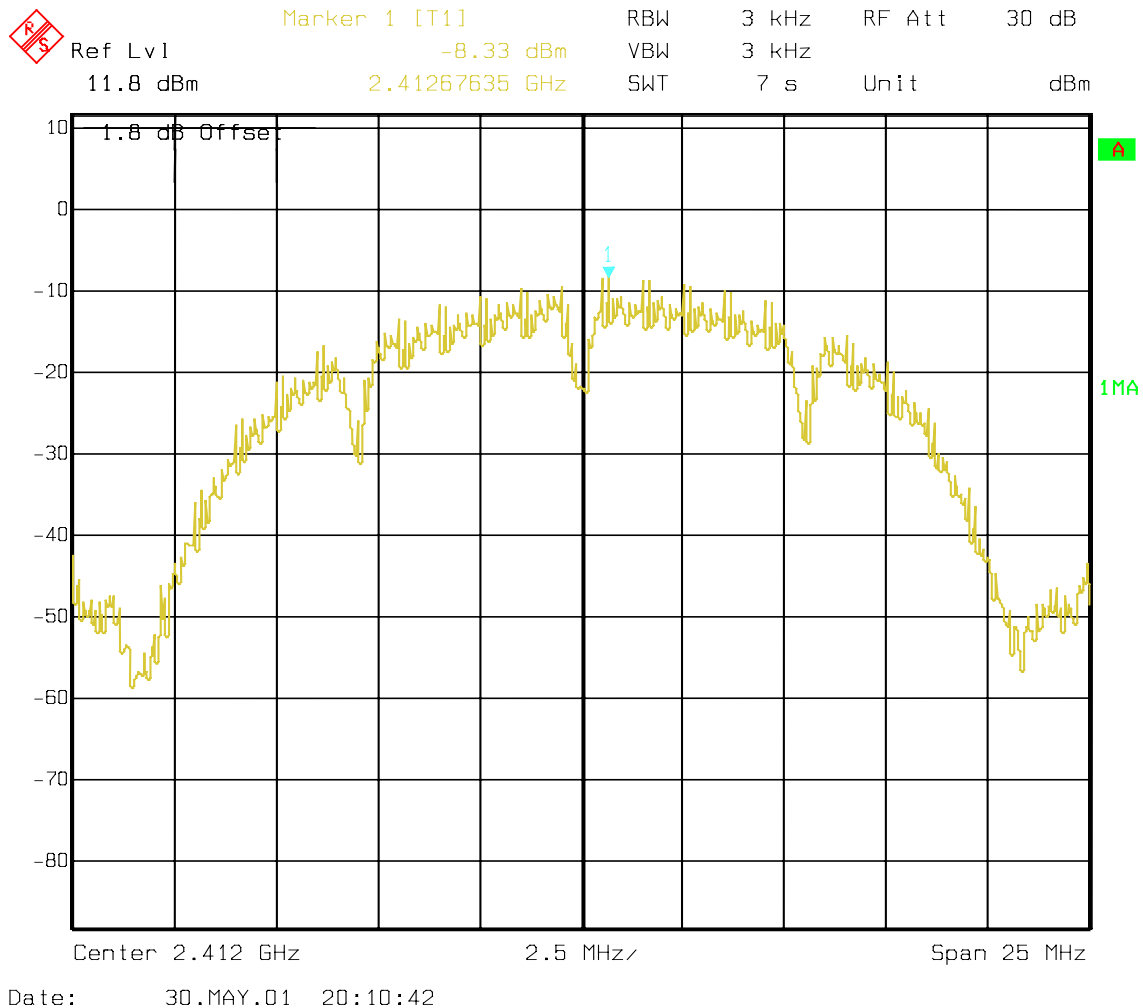
The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band

ANALYZER SETTINGS: RBW=3KHz, VBW=3KHz

POWER SPECTRAL DENSITY

SUBCLAUSE § 15.247 (d)

Lowest Channel: 2412 MHz



LIMIT

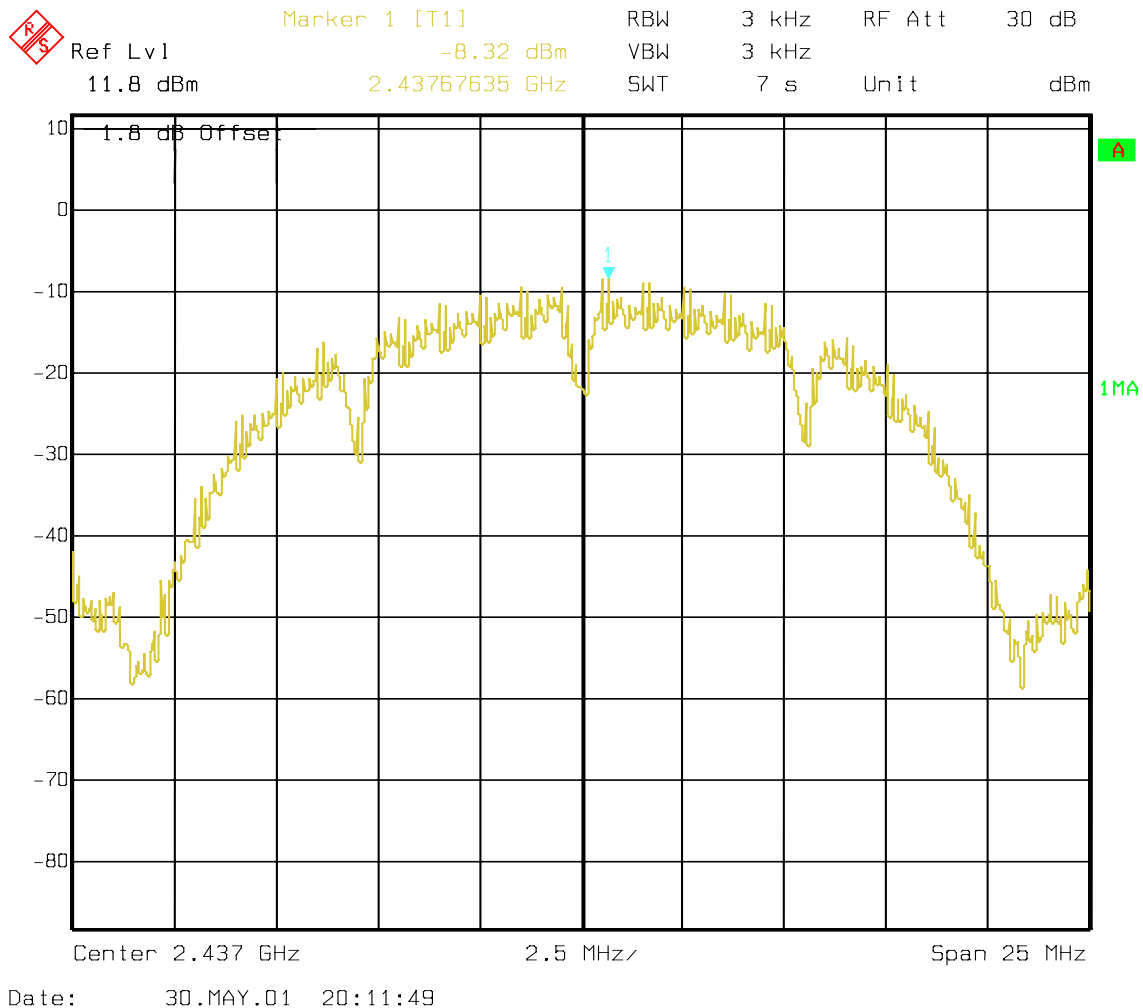
SUBCLAUSE §15.247(d)

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band

POWER SPECTRAL DENSITY

SUBCLAUSE § 15.247 (d)

Mid Channel: 2437 MHz



LIMIT

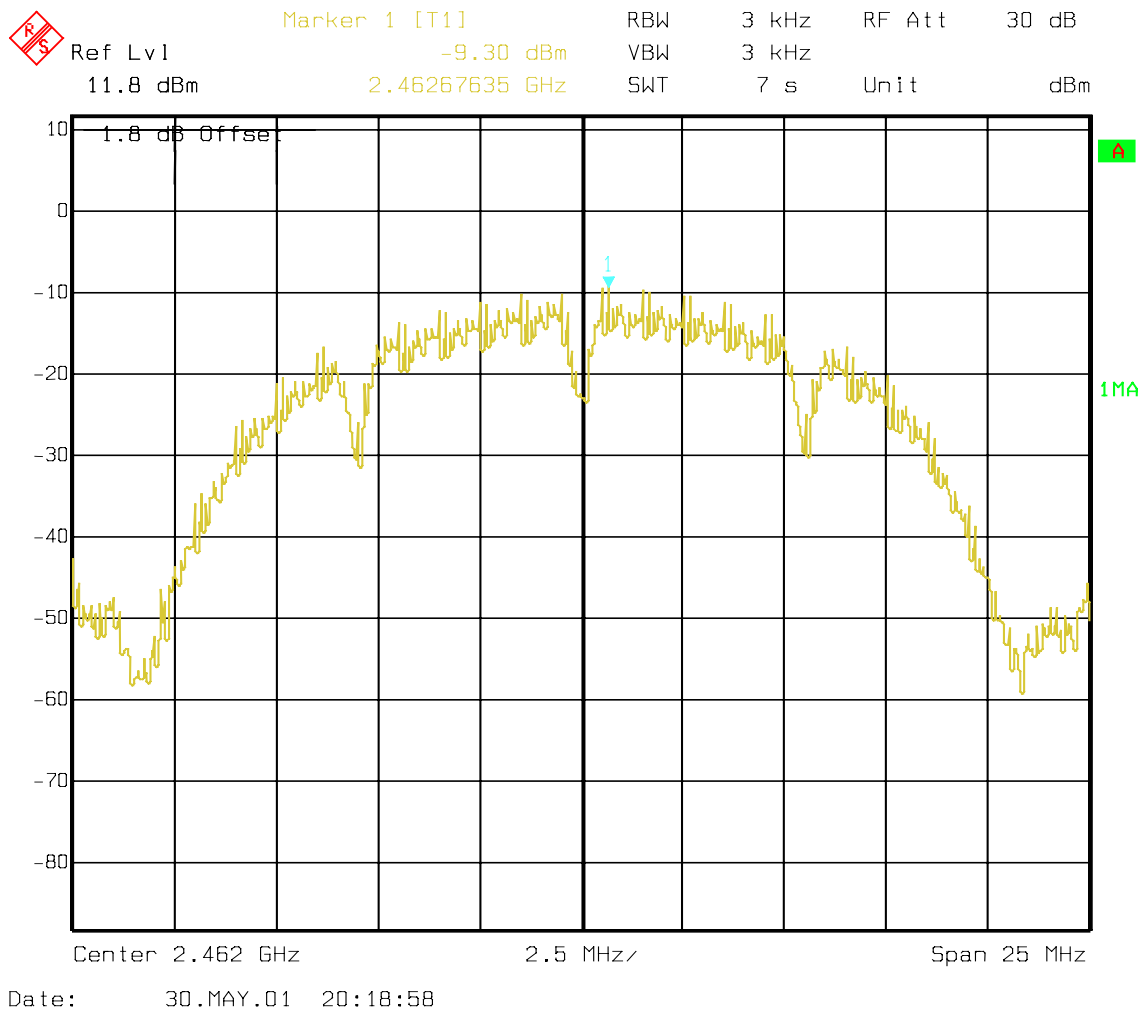
SUBCLAUSE §15.247(d)

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band

POWER SPECTRAL DENSITY

SUBCLAUSE § 15.247 (d)

Highest Channel: 2462 MHz



LIMIT

SUBCLAUSE §15.247(d)

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band

PROCESSING GAIN OF DSSS SYSTEMSSUBCLAUSE §15.247 (e)

(NOTE:The processing gain data is provided by Manufacturer)

11Mbps CHANNEL 1 Processing Gain						
$G_p = (S/N)_o + M_j + L_{sys}$						
Freq.	Gp	(S/N) _o	M _j =J/S	L _{sys}	Jammer	PER
(MHz)	(dB)	(dB)	(dB)	(dB)	(dBm)	
2403.5	20.29	16.4	1.89	2	-48.11	6.34
2403.7	20.85	16.4	2.45	2	-47.55	3.83
2403.9	21.05	16.4	2.65	2	-47.35	4.01
2404.1	20.98	16.4	2.58	2	-47.42	4.82
2404.3	20.39	16.4	1.99	2	-48.01	4.72
2404.5	19.59	16.4	1.19	2	-48.81	4.41
2404.7	19.38	16.4	0.98	2	-49.02	7.54
2404.9	19.30	16.4	0.90	2	-49.1	4.12
2405.1	19.29	16.4	0.89	2	-49.11	4.23
2405.3	19.58	16.4	1.18	2	-48.82	4.54
2405.5	19.20	16.4	0.80	2	-49.2	2.21
2405.7	18.38	16.4	-0.02	2	-50.02	3.02
2405.9	18.29	16.4	-0.11	2	-50.11	5.05
2406.1	18.51	16.4	0.11	2	-49.89	3.79
2406.3	18.03	16.4	-0.37	2	-50.37	4.22
2406.5	17.77	16.4	-0.63	2	-50.63	7.5
2406.7	16.77	16.4	-1.63	2	-51.63	7.8
2406.9	17.29	16.4	-1.11	2	-51.11	7.72
2407.1	17.29	16.4	-1.11	2	-51.11	7.51
2407.3	17.11	16.4	-1.29	2	-51.29	7.24
2407.5	17.32	16.4	-1.08	2	-51.08	7.38
2407.7	16.54	16.4	-1.86	2	-51.86	7.29
2407.9	16.45	16.4	-1.95	2	-51.95	7.74
2408.1	16.48	16.4	-1.92	2	-51.92	7.17
2408.3	16.44	16.4	-1.96	2	-51.96	7.91
2408.5	16.20	16.4	-2.20	2	-52.2	7.89
2408.7	15.74	16.4	-2.66	2	-52.66	7.62

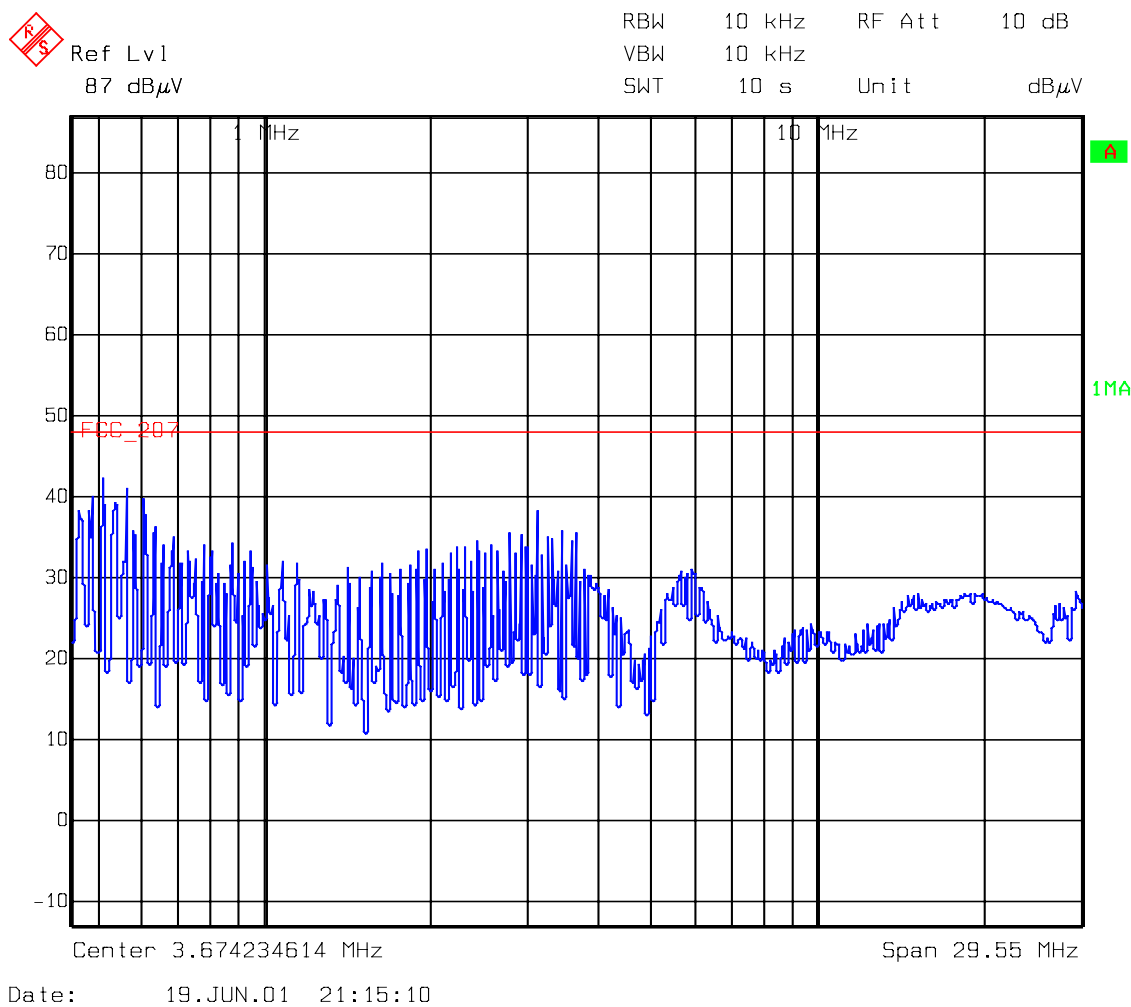
2408.9	16.02	16.4	-2.38	2	-52.38	7.45
2409.1	15.73	16.4	-2.67	2	-52.67	7.62
2409.3	15.56	16.4	-2.84	2	-52.84	7.66
2409.5	15.78	16.4	-2.62	2	-52.62	7.48
2409.7	15.85	16.4	-2.55	2	-52.55	7.28
2409.9	15.47	16.4	-2.93	2	-52.93	7.87
2410.1	15.35	16.4	-3.05	2	-53.05	7.84
2410.3	15.47	16.4	-2.93	2	-52.93	7.49
2410.5	15.39	16.4	-3.01	2	-53.01	7.42
2410.7	15.37	16.4	-3.03	2	-53.03	7.89
2410.9	15.71	16.4	-2.69	2	-52.69	7.73
2411.1	15.79	16.4	-2.61	2	-52.61	6.57
2411.3	16.37	16.4	-2.03	2	-52.03	6.44
2411.5	15.72	16.4	-2.68	2	-52.68	6.65
2411.7	16.10	16.4	-2.30	2	-52.3	7.65
2411.9	15.83	16.4	-2.57	2	-52.57	7.1
2412.1	16.20	16.4	-2.20	2	-52.2	5.71
2412.3	16.23	16.4	-2.17	2	-52.17	7.5
2412.5	16.61	16.4	-1.79	2	-51.79	6.36
2412.7	16.27	16.4	-2.13	2	-52.13	7.24
2412.9	16.42	16.4	-1.98	2	-51.98	7.46
2413.1	15.98	16.4	-2.42	2	-52.42	7.37
2413.3	16.02	16.4	-2.38	2	-52.38	7.32
2413.5	16.19	16.4	-2.21	2	-52.21	7.58
2413.7	16.51	16.4	-1.89	2	-51.89	7.11
2413.9	16.83	16.4	-1.57	2	-51.57	6.71
2414.1	16.57	16.4	-1.83	2	-51.83	7.81
2414.3	16.34	16.4	-2.06	2	-52.06	6.84
2414.5	16.61	16.4	-1.79	2	-51.79	7.56
2414.7	16.29	16.4	-2.11	2	-52.11	7.4
2414.9	17.00	16.4	-1.40	2	-51.4	7.92
2415.1	16.38	16.4	-2.02	2	-52.02	7.35
2415.3	16.38	16.4	-2.02	2	-52.02	6.65
2415.5	16.62	16.4	-1.78	2	-51.78	6.39
2415.7	16.79	16.4	-1.61	2	-51.61	6.48
2415.9	16.52	16.4	-1.88	2	-51.88	6.76
2416.1	16.67	16.4	-1.73	2	-51.73	7.13

2416.3	16.73	16.4	-1.67	2	-51.67	7.04
2416.5	16.96	16.4	-1.44	2	-51.44	6.82
2416.7	16.89	16.4	-1.51	2	-51.51	7.25
2416.9	16.96	16.4	-1.44	2	-51.44	7.2
2417.1	17.40	16.4	-1.00	2	-51	6.97
2417.3	17.40	16.4	-1.00	2	-51	7.84
2417.5	17.39	16.4	-1.01	2	-51.01	7.87
2417.7	18.04	16.4	-0.36	2	-50.36	7.7
2417.9	18.14	16.4	-0.26	2	-50.26	7.87
2418.1	18.16	16.4	-0.24	2	-50.24	6.45
2418.3	18.27	16.4	-0.13	2	-50.13	6.75
2418.5	18.61	16.4	0.21	2	-49.79	7.25
2418.7	19.34	16.4	0.94	2	-49.06	6.32
2418.9	19.46	16.4	1.06	2	-48.94	6.02
2419.1	19.37	16.4	0.97	2	-49.03	7.03
2419.3	18.74	16.4	0.34	2	-49.66	6.71
2419.5	26.93	16.4	8.53	2	-41.47	5.18
2419.7	20.21	16.4	1.81	2	-48.19	7.6
2419.9	20.26	16.4	1.86	2	-48.14	6.47
2420.1	20.09	16.4	1.69	2	-48.31	7.8
2420.3	20.14	16.4	1.74	2	-48.26	7.86
2420.5	20.63	16.4	2.23	2	-47.77	7.36
Test Conditions						
LW1100P						
Transmitter Signal Level at Rx= -50 dBm						
"Mode=11b, Pseudo IBSS"						
Packet Size= 1000byte						
Packet Delay=1, Packet Burst=6						
Intersil Chip Version on Card						

CONDUCTED EMISSIONS § 15.107/207

Measured with AC/DC power adapter plugged in LISN

Phase: Line

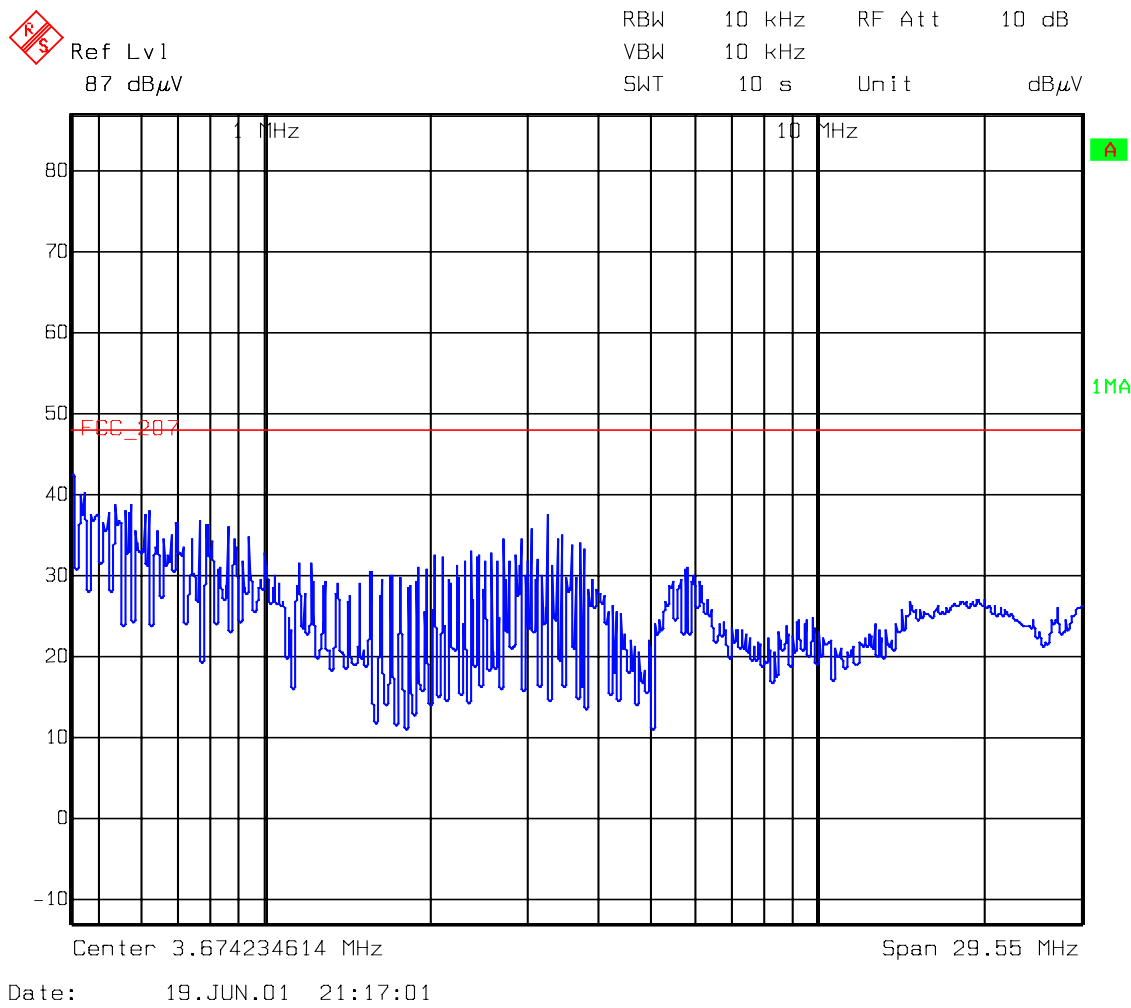


Technical specification : 15.107 / 15.207 (Revised as of October 1, 1991)

Limit

0.45 to 30 MHz	250 μV / 47.96 dBμV
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Phase: Neutral



Technical specification : 15.107 / 15.207 (Revised as of October 1, 1991)

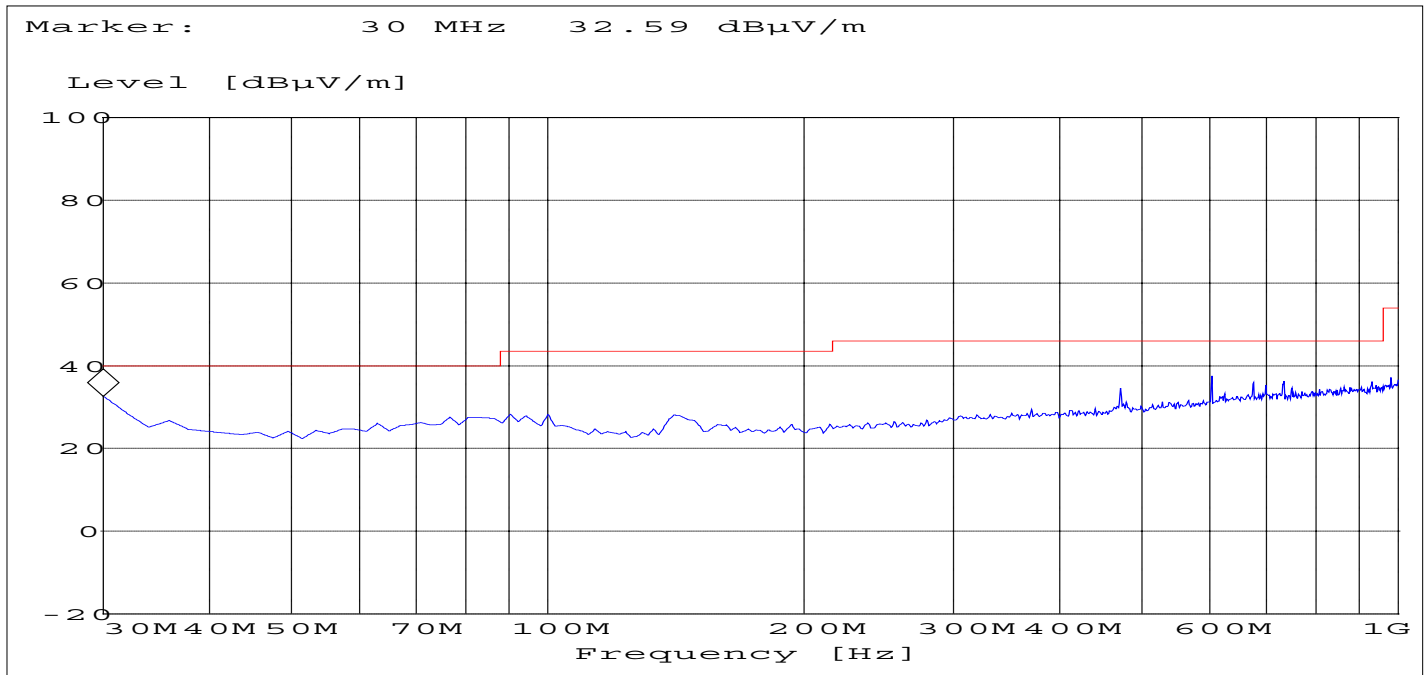
Limit

0.45 to 30 MHz	250 μ V / 47.96 dB μ V
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RECEIVER SPURIOUS RADIATION

§ 15.209

Channel 1: 30MHz – 1GHz



Limits

SUBCLAUSE § 15.209

Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

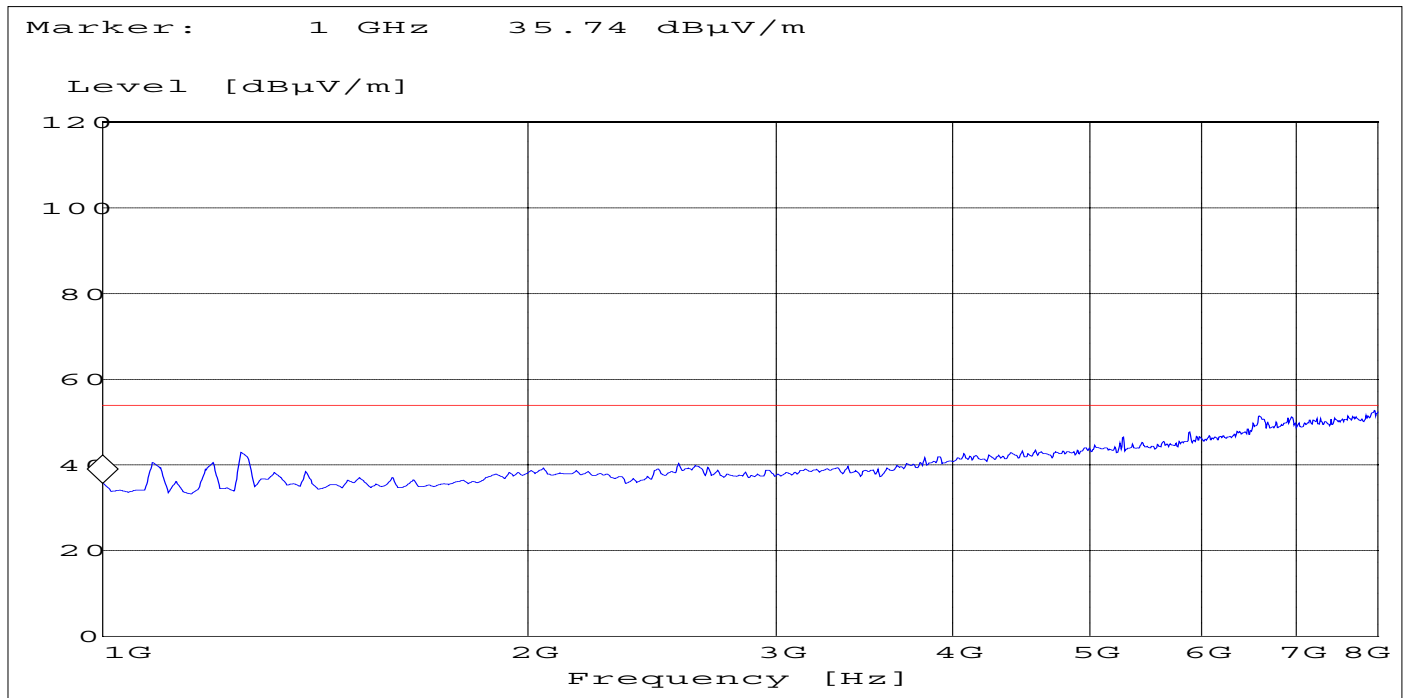
(NOTE: All measurements were done in peak mode)

ANALYZER SETTINGS: f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

RECEIVER SPURIOUS RADIATION

§ 15.209

Channel 1: 1GHz – 8GHz



Limits

SUBCLAUSE § 15.209

Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

(NOTE: All measurements were done in peak mode)

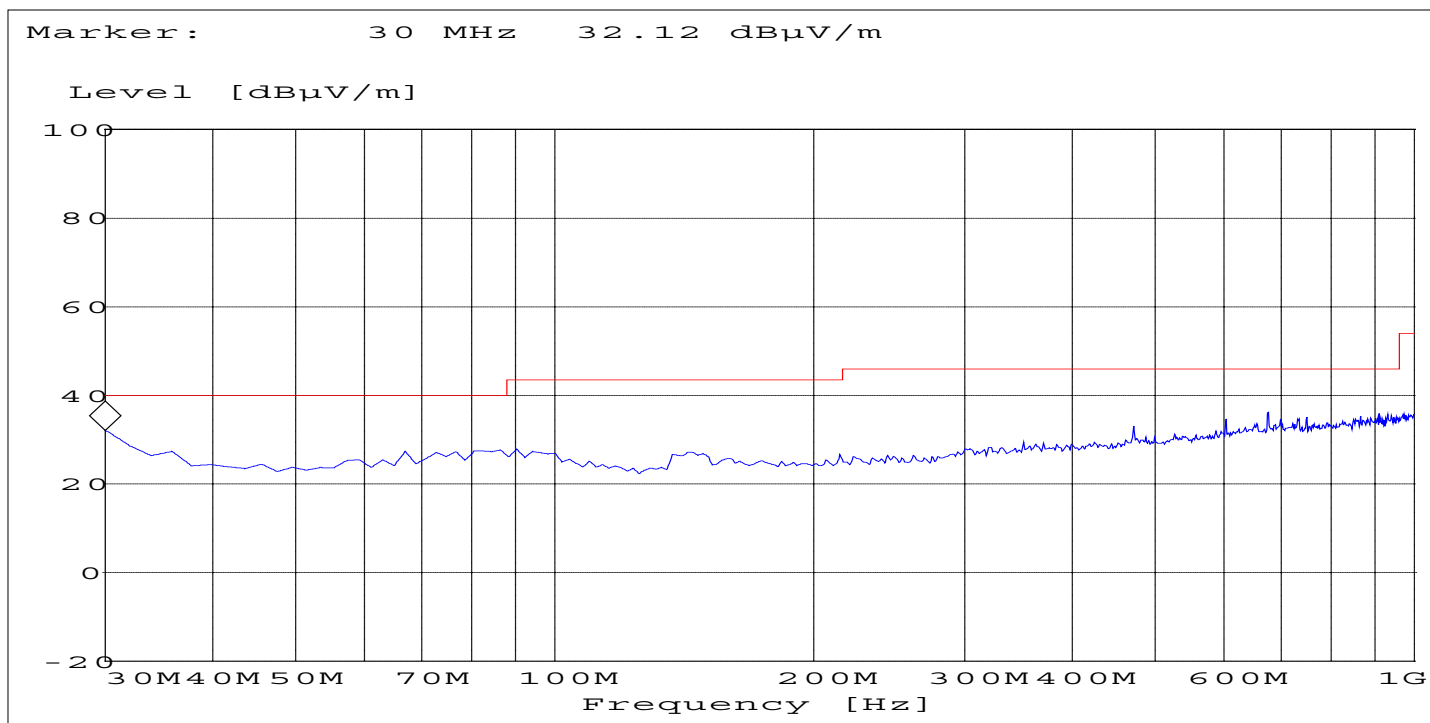
ANALYZER SETTINGS: f < 1 GHz : RBW/VBW: 100 kHz

f ≥ 1GHz : RBW/VBW: 1 MHz

RECEIVER SPURIOUS RADIATION

§ 15.209

Channel 2: 30MHz – 1GHz



Limits

SUBCLAUSE § 15.209

Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

(NOTE: All measurements were done in peak mode)

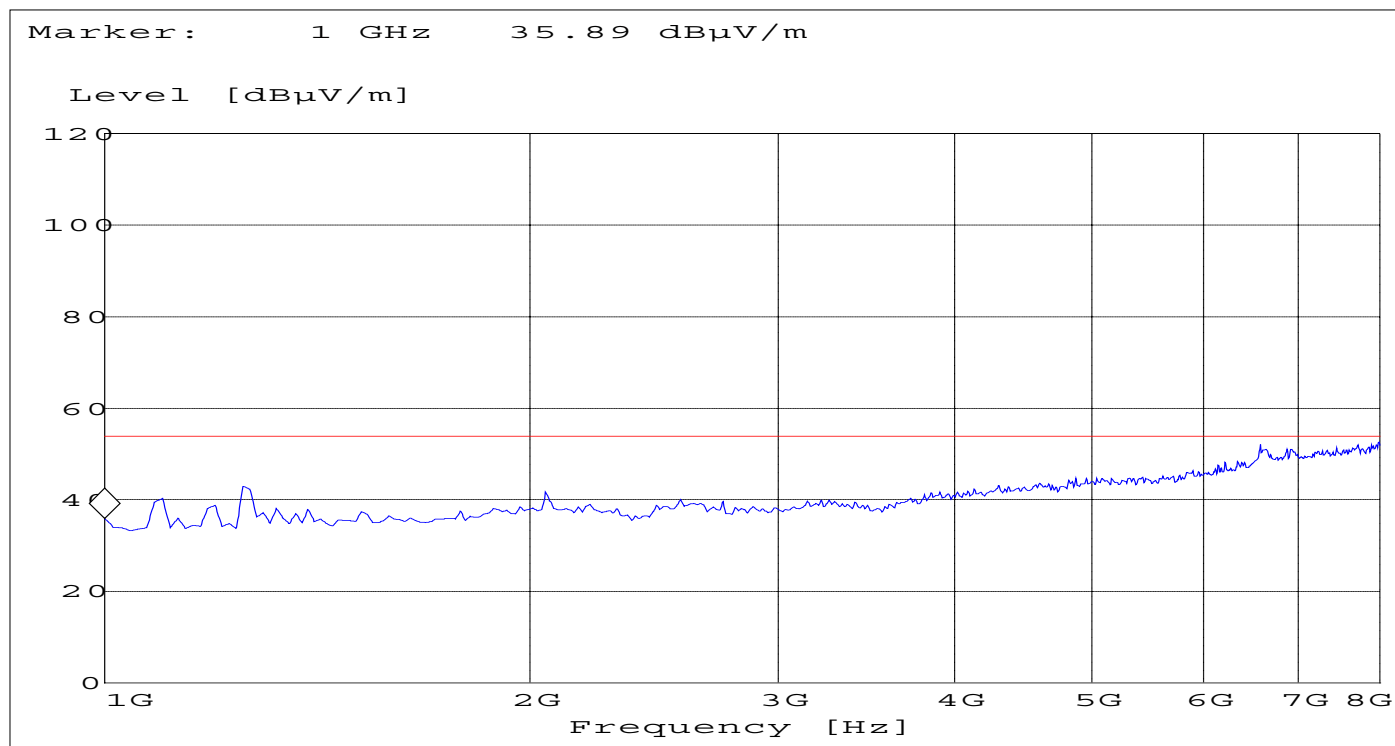
ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

RECEIVER SPURIOUS RADIATION

§ 15.209

Channel 2: 1GHz – 8GHz



Limits

SUBCLAUSE § 15.209

Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

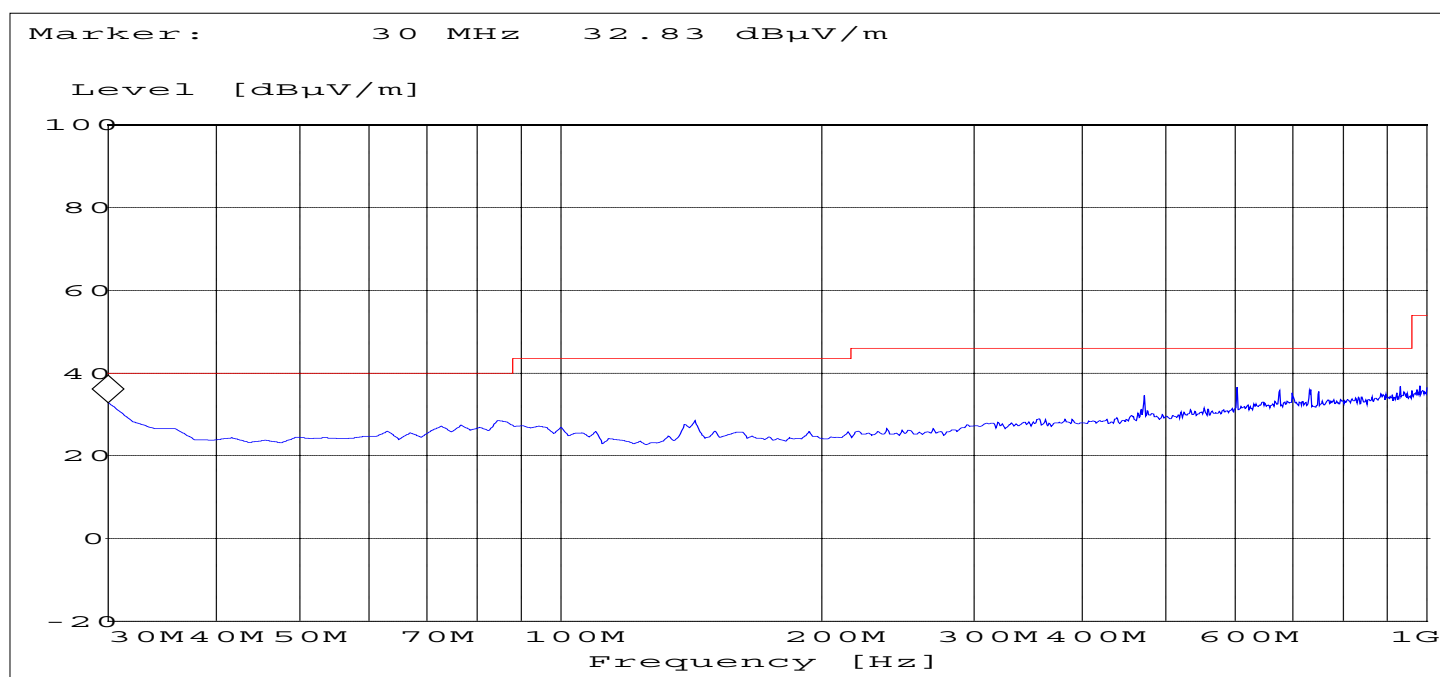
(NOTE: All measurements were done in peak mode)

ANALYZER SETTINGS: $f < 1\text{ GHz}$: RBW/VBW: 100 kHz $f \geq 1\text{ GHz}$: RBW/VBW: 1 MHz

RECEIVER SPURIOUS RADIATION

§ 15.209

Channel 3: 30MHz – 1GHz



Limits

SUBCLAUSE § 15.209

Frequency (MHz)	Field strength (μ V/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

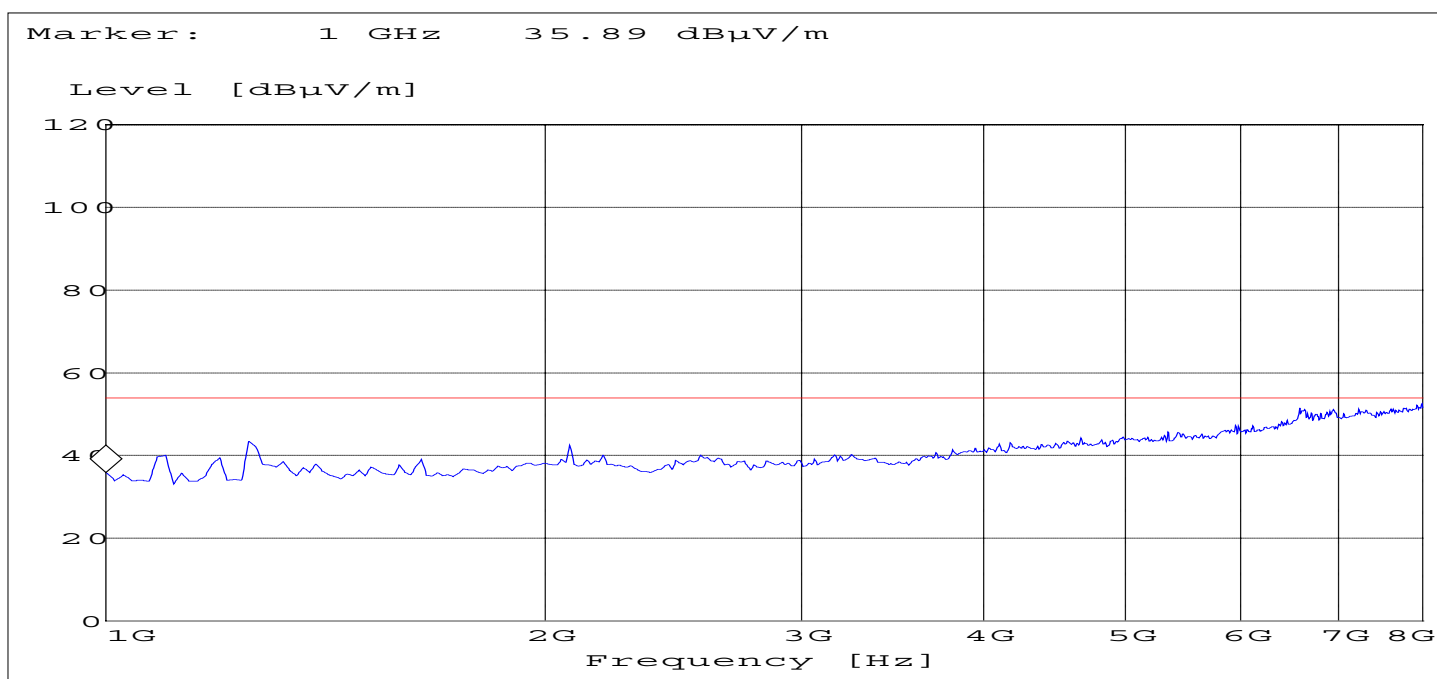
(NOTE: All measurements were done in peak mode)

ANALYZER SETTINGS: $f < 1$ GHz : RBW/VBW: 100 kHz $f \geq 1$ GHz : RBW/VBW: 1 MHz

RECEIVER SPURIOUS RADIATION

§ 15.209

Channel 3: 1GHz – 8GHz



Limits

SUBCLAUSE § 15.209

Frequency (MHz)	Field strength (μ V/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

(NOTE: All measurements were done in peak mode)

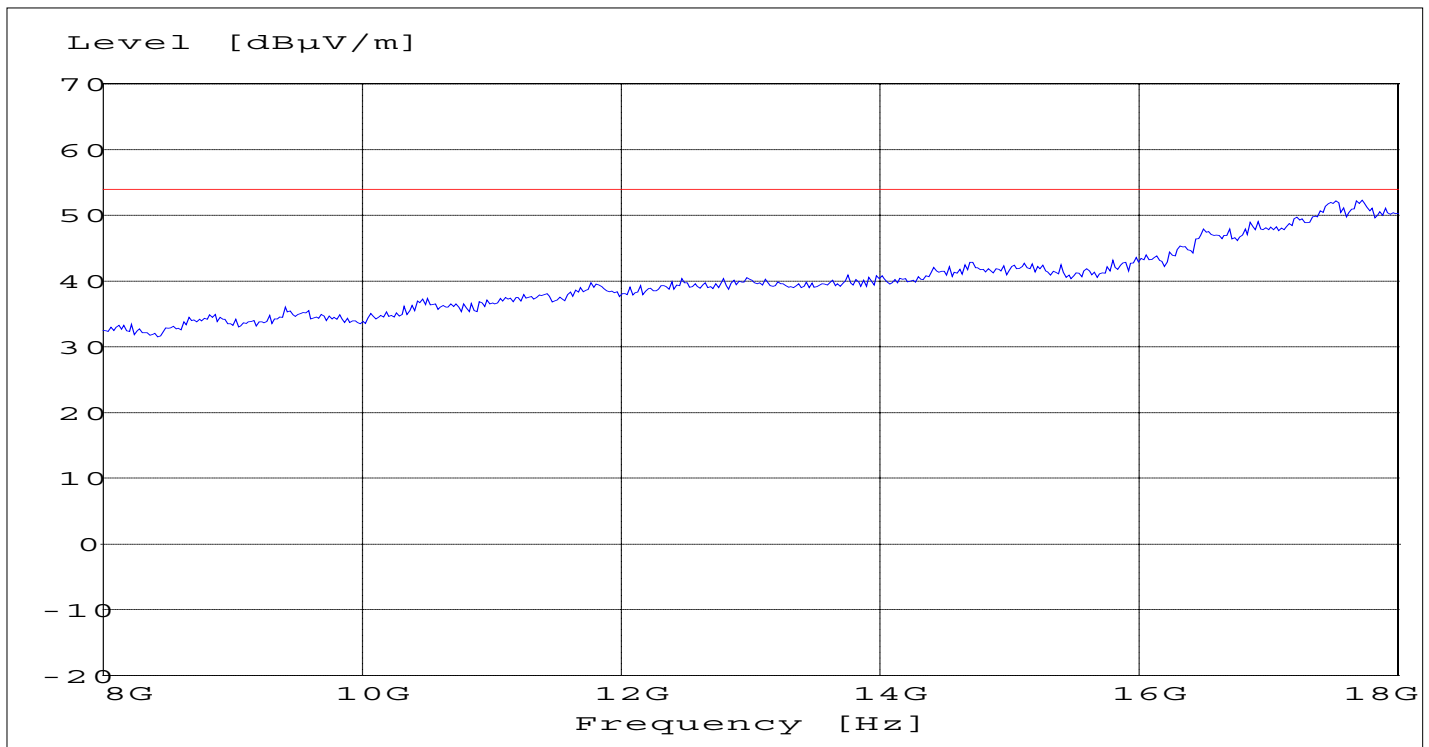
ANALYZER SETTINGS: $f < 1$ GHz : RBW/VBW: 100 kHz $f \geq 1$ GHz : RBW/VBW: 1 MHz

RECEIVER SPURIOUS RADIATION

§ 15.209

8GHz – 18GHz

(NOTE: This plot is applicable for all three channels)



Limits

SUBCLAUSE § 15.209

Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

(NOTE: All measurements were done in peak mode)

ANALYZER SETTINGS: $f < 1 \text{ GHz}$: RBW/VBW: 100 kHz

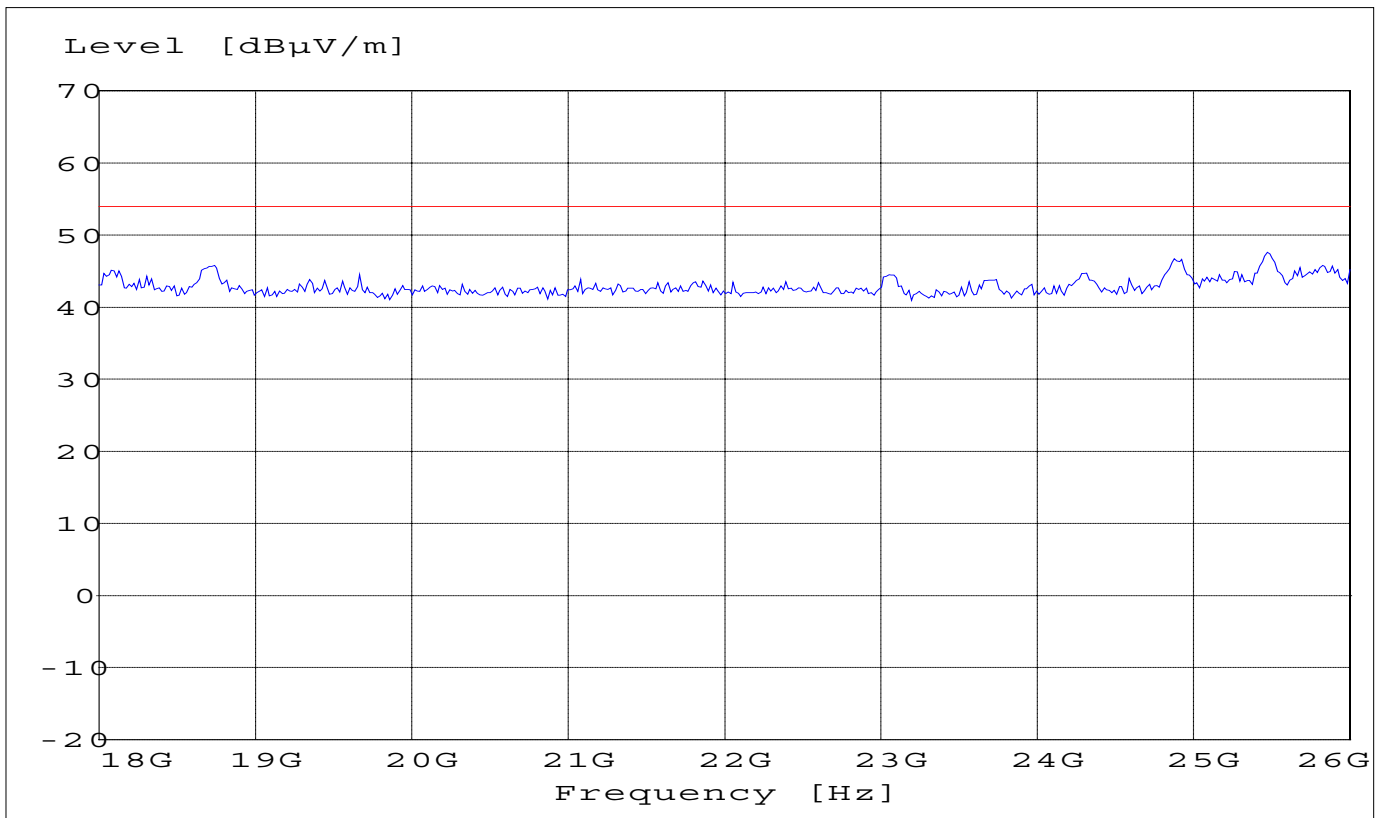
$f \geq 1 \text{ GHz}$: RBW/VBW: 1 MHz

RECEIVER SPURIOUS RADIATION

§ 15.209

18GHz – 26GHz

(NOTE: This plot is applicable for all three channels)



Limits

SUBCLAUSE § 15.209

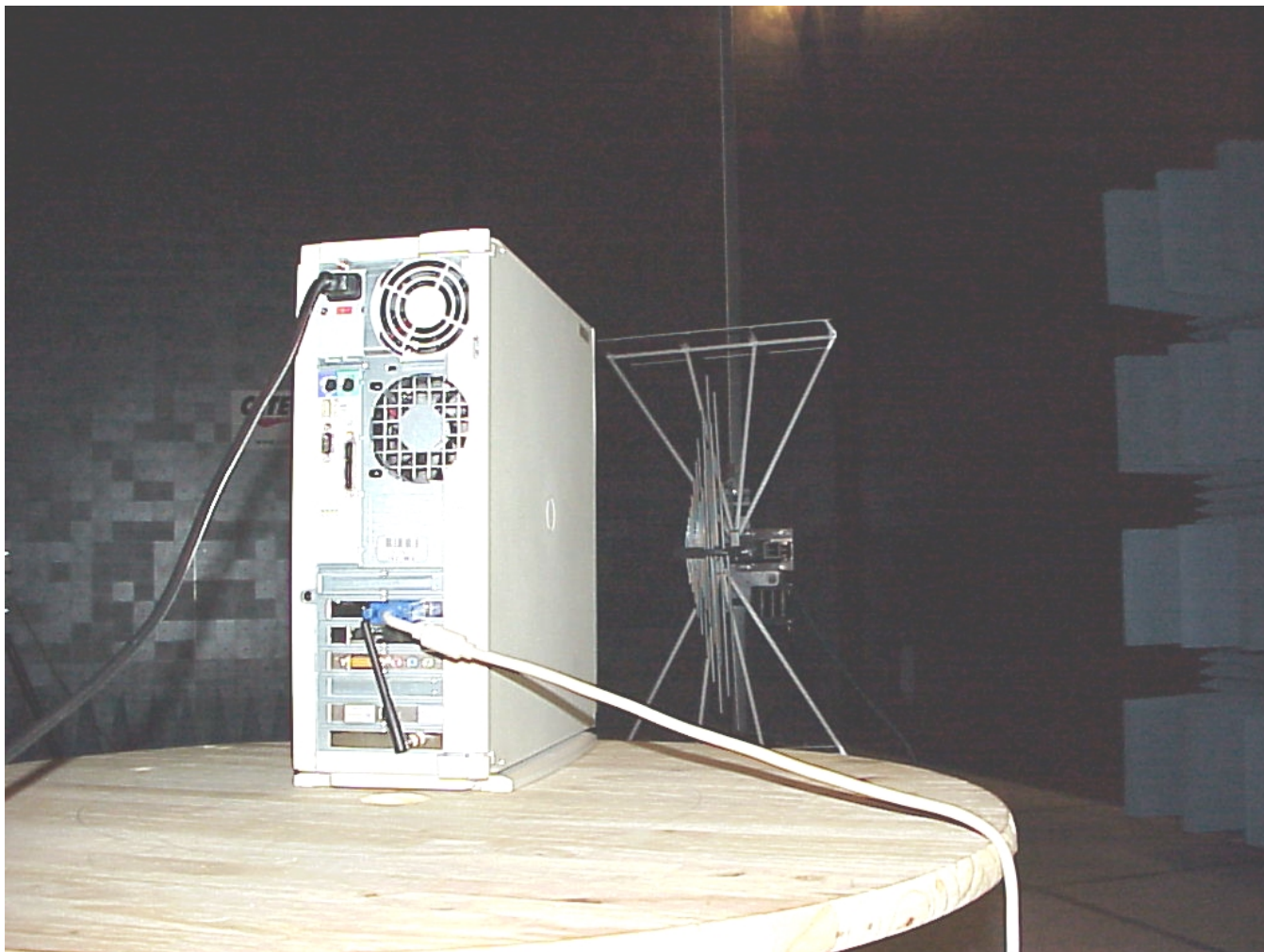
Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

(NOTE: All measurements were done in peak mode)

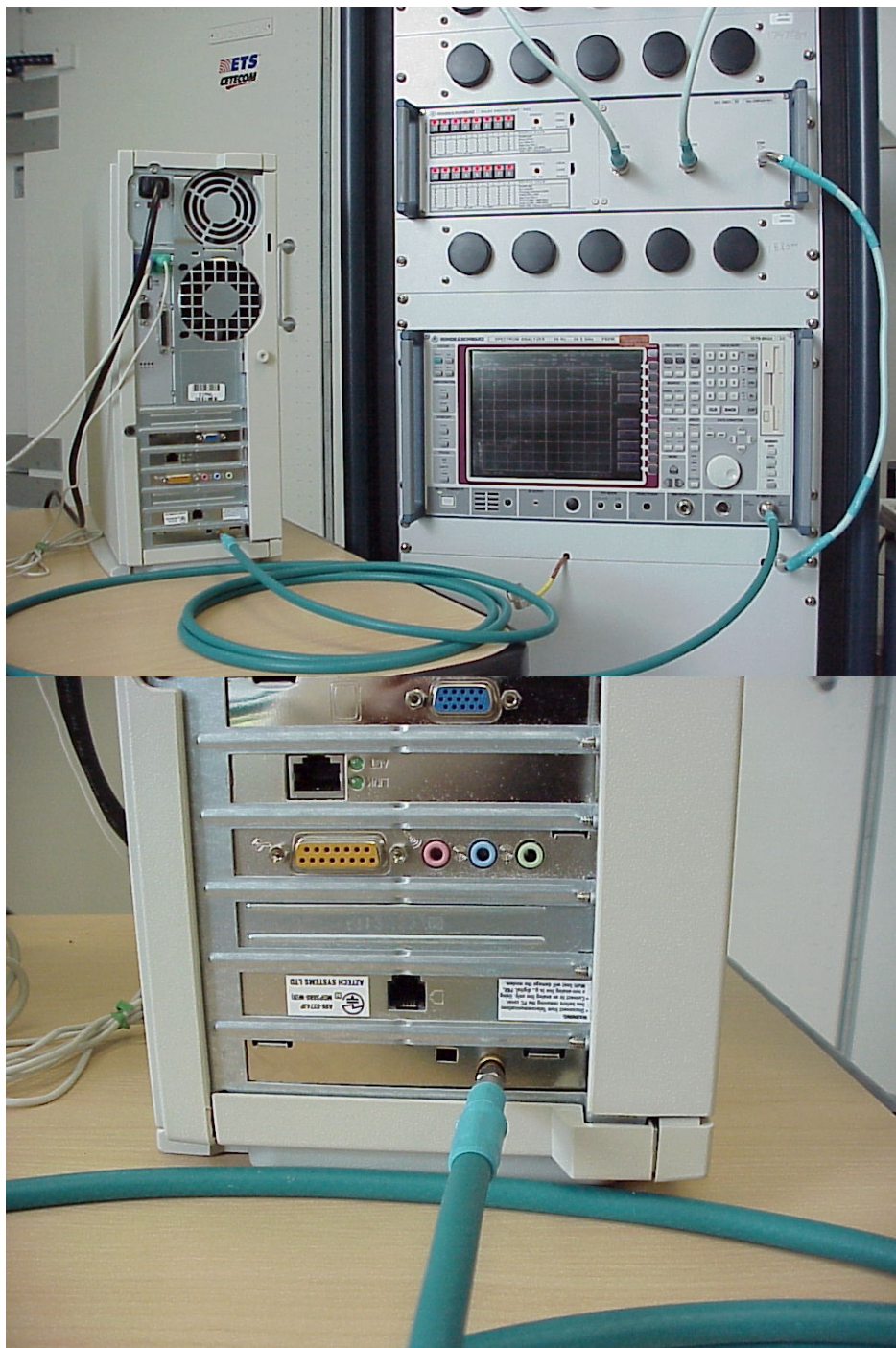
ANALYZER SETTINGS: $f < 1\text{ GHz}$: RBW/VBW: 100 kHz $f \geq 1\text{ GHz}$: RBW/VBW: 1 MHz

[illegible]

TEST SITE
Radiated Emissions

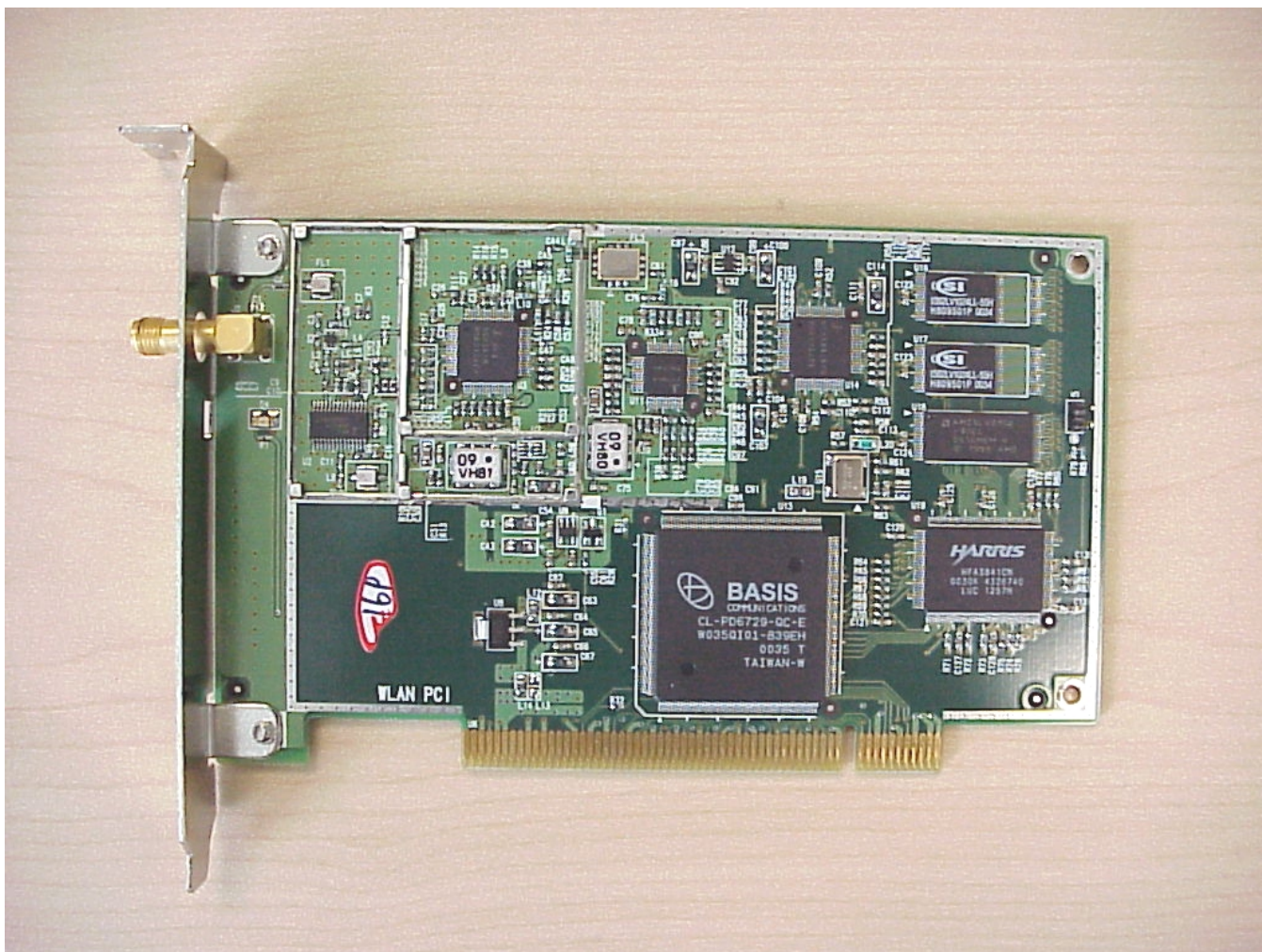


Conducted Emissions



PHOTOGRAPHS OF THE EQUIPMENT

Photograph No.1: PCI Card (top view)



Photograph No.2: PCI Card (bottom view)

