

Test report for
47 CFR Part 15 Subpart C
RSS-210, RSS-247, RSS-Gen



Product name : 520x
Applicant : Innofaith Beauty Sciences B.V.
FCC ID :2BBN7-OBSERV23
IC :30759-OBSERV23

Test report No. : P000292507 001 v1.00

Laboratory information

Accreditation

Kiwa Nederland B.V. complies with the accreditation criteria for test laboratories as laid down in ISO/IEC 17025:2017. The accreditation covers the quality system of the laboratory as well as the specific activities as described in the authorized annex bearing the accreditation number L248 and is granted by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie).

Kiwa Nederland B.V. is designated by the FCC as an Accredited Test Firm for compliance testing of equipment subject to Certification under Parts 15 & 18. The Designation number is: NL0001.

Kiwa Nederland B.V. is a Wireless Device Testing laboratory recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements.
The Industry Canada company number for Kiwa Nederland B.V. is: 4173A. The CABID is NL0001.

Kiwa Nederland B.V. is a registered Conformity Assessment body (CAB) under the Japan-EC MRA (Agreement on Mutual Recognition between Japan and the European Community). The registration number is: 201.

Documentation

The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 10 years at Kiwa Nederland B.V.

Testing Location

Test Site	Kiwa Nederland B.V.
Test Site location	Wilmersdorf 50 7327 AC Apeldoorn The Netherlands Tel. +31 88998 3393
Test Site FCC	NL0001
CABID	NL0001

Revision History

Version	Date	Remarks	By
v0.50	04-05-2023	First draft	KK
v1.00	14-06-2023	Final release	PvW

Table of Contents

Revision History	2
Summary of Test results	5
1 General Description	6
1.1 Applicant	6
1.2 Manufacturer	6
1.3 Tested Equipment Under Test (EUT)	6
1.3.1 Auxiliary items	7
1.4 Product specifications of Equipment under test	7
1.5 Environmental conditions	7
1.6 Measurement standards	7
1.7 Applicable standards	7
1.8 Observation and remarks	7
1.9 Modifications to the EUT (Equipment Under Test)	7
1.10 Conclusions	8
2 Test configuration of the Equipment Under Test	9
2.1 Test mode	9
2.2 Test setups	9
2.3 Equipment used in the test configuration	11
2.4 Sample calculations	11
3 Test results	12
3.1 Radiated spurious emissions	12
3.1.1 Limit	12
3.1.2 Measurement instruments	12
3.1.3 Test setup	12
3.1.4 Test procedure	13
3.1.5 Measurement Uncertainty	13
3.1.6 Test results	14
3.1.7 Plots of the Radiated Spurious Emissions Measurement	15
3.2 Output Power Measurement	29
3.2.1 Limit	29
3.2.2 Measurement instruments	29
3.2.3 Test setup	29
3.2.4 Test procedure	29
3.2.5 Test results of Output Power Measurement	29
3.2.6 Plots of the Output power	30
3.3 AC Power-line conducted emissions	32
3.3.1 Limit	32
3.3.2 Measurement instruments	32

3.3.3	Test setup	32
3.3.4	Test procedure.....	32
3.3.5	Test results and plots of the AC power-line conducted measurement	32
3.3.6	Measurement uncertainty	32
3.3.7	AC Power Line Conducted emission data of the EUT, results	33
3.3.8	Plots of the AC mains conducted spurious measurement.....	34
4	Sample calculations.....	35

Summary of Test results

FCC	ISED	Description	Section in report	Verdict
15.247(d) 15.209 (a)	RSS-Gen 8.9	Radiated spurious emissions	3.1	Pass
15.205 (a)	RSS Gen 8.10	Spurious emissions in the restricted bands	3.1	Pass
15.247 (b)	RSS-247 5.4 (d)	RF output power	3.2	Pass
15.207 (c)	RSS-Gen 8.8	AC power-line conducted emissions	3.3	Pass

Decision rule: Pass/Fail decisions are based on measurement results without taking into account measurement uncertainty.

1 General Description

1.1 Applicant

Client name:	InnoFaith beauty sciences b.v.
Address:	Science Park 5204b, Son en Breugel, The Netherlands
Zip code:	5692 EG
Telephone:	+31402908160
E-mail:	w.d.arkesteijn@innofaith.com
Contact name:	Walter Arkesteijn

1.2 Manufacturer

Manufacturer name:	InnoFaith beauty sciences b.v.
Address:	Science Park 5204b, Son en Breugel, The Netherlands
Zip code:	5692 EG
Telephone:	+31402908160
E-mail:	w.d.arkesteijn@innofaith.com
Contact name:	Walter Arkesteijn

1.3 Tested Equipment Under Test (EUT)

Product name:	520x
Brand name:	InnoFaith beauty sciences b.v.
FCC ID:	2BBN7-OBSERV23
IC:	30759-OBSERV23
Product description:	Skin diagnostic device
Variant model(s):	320
Batch and/or serial No.	-
Software version:	-
Hardware version:	-
Date of receipt	28-03-2023
Tests started:	05-04-2023
Testing ended:	02-05-2023

1.3.1 Auxiliary items

None.

1.4 Product specifications of Equipment under test

Tx Frequency:	BLE: 2400 – 2480 MHz
Rx frequency:	BLE: 2400 – 2480 MHz
Occupied channel width:	1027 kHz
Antenna type:	Ceramic antenna
Antenna gain:	0dBi
Type of modulation:	GFSK
Emission designator	1M03F1D

Disclaimer: The operating frequency bands and OCW are declared by the applicant

1.5 Environmental conditions

Normal test conditions:

Temperature (*) : +15°C to +35°C
Relative humidity(*) : 20 % to 75 %

Test date	05-04-2023	02-05-2023
Ambient temperature	20.4 °C	22.1 °C
Humidity	44.1 %	38.4 %

1.6 Measurement standards

- ANSI C63.10:2013
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02

1.7 Applicable standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C
- RSS-Gen Issue 5
- RSS-210 Issue 9
- RSS-247 Issue 2

1.8 Observation and remarks

The EUT consist of pre-certified radio module so only radiated spurious emissions, RF power and AC power-line conducted emissions measurements has been performed. EUT has evaluated as a class B equipment. EUT has dedicated AC/DC converter so it's considered as AC main powered device.

1.9 Modifications to the EUT (Equipment Under Test)

None.

1.10 Conclusions

The sample of the product showed **NO NON-COMPLIANCES** to the specifications stated in paragraph 1.7 of this report.

The results of the test as stated in this report, are exclusively applicable to the product items as identified in this report. Kiwa Nederland B.V. accepts no responsibility for any properties of product items in this test report, which are not supported by the tests as specified in paragraph 1.7 "*Applicable standards*".

All tests are performed by:

Name : Koray Korcum, MSc.

Review of test methods and report by:

Name : Peter Suringa

The above conclusions have been verified by the following signatory:

Date : 14-08-2023

Name : ing. R. van Barneveld

Function : Test Engineer

Signature :

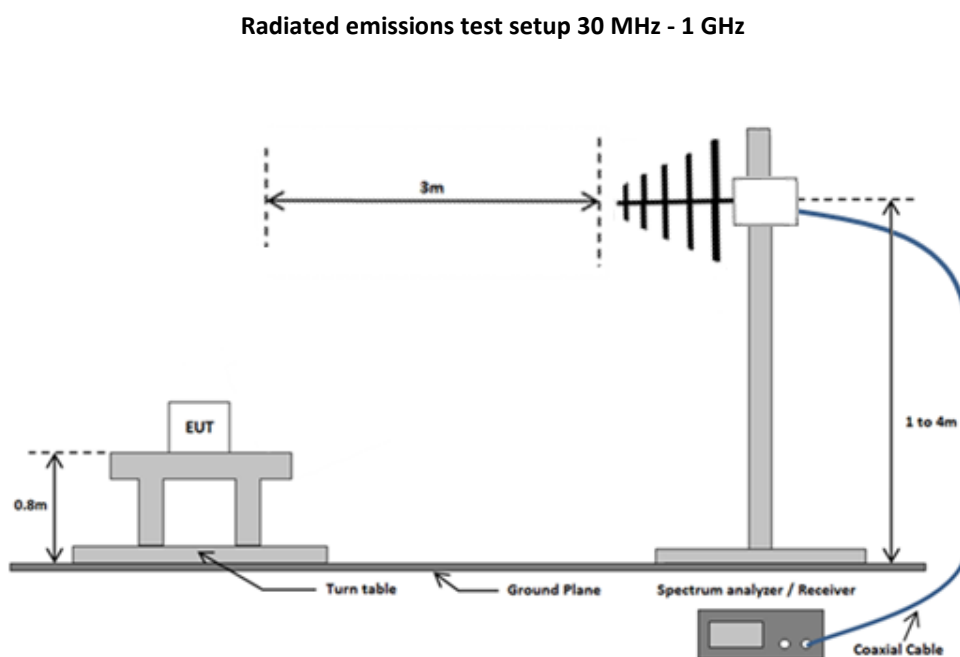
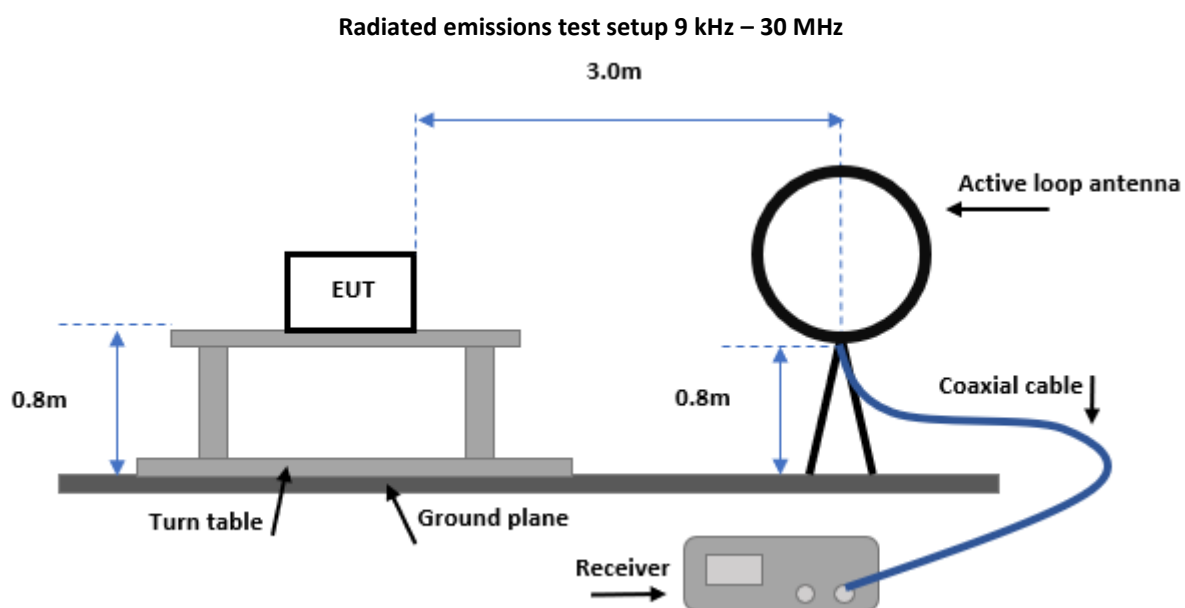
A handwritten signature in blue ink, consisting of a stylized 'R' followed by several horizontal strokes.

2 Test configuration of the Equipment Under Test

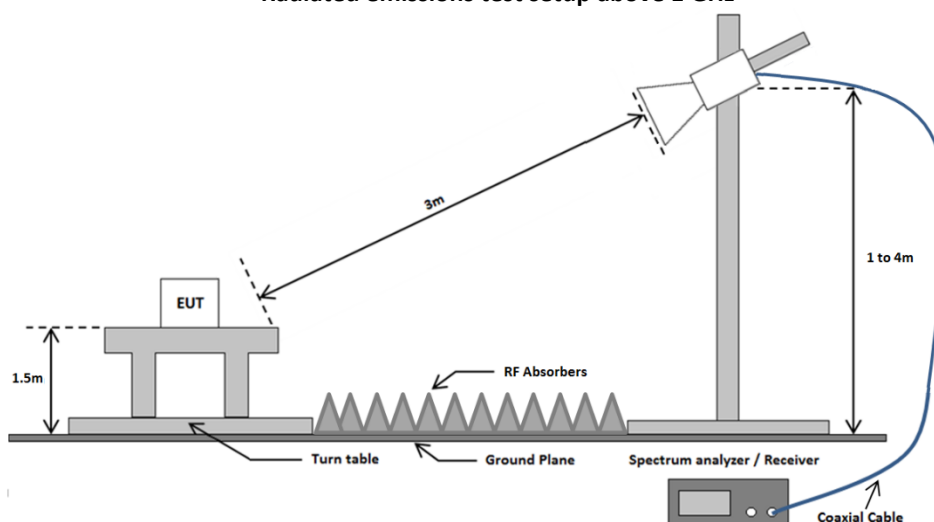
2.1 Test mode

Customer provided a test mode which can configure the EUT to transmit continuously in different channels.

2.2 Test setups

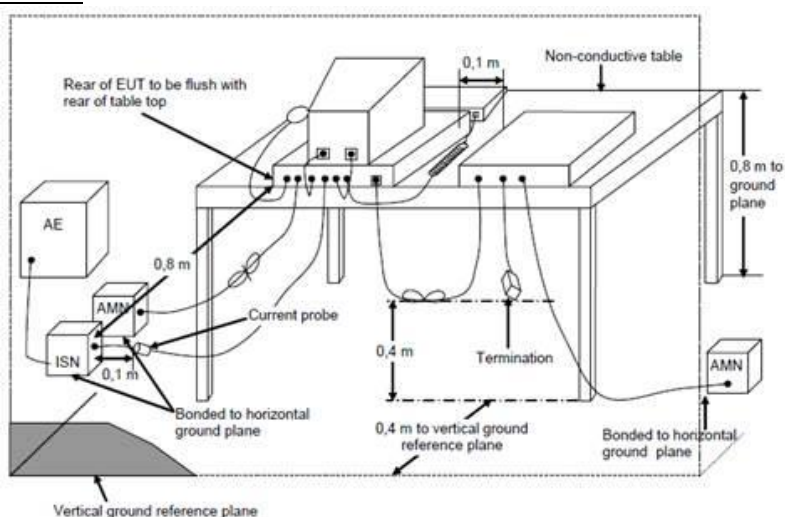


Radiated emissions test setup above 1 GHz



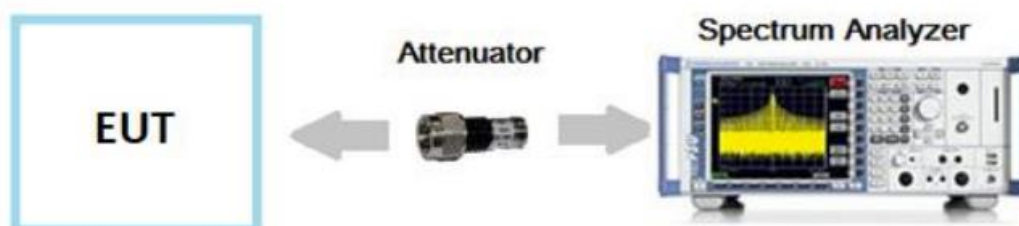
AC Power line conducted emissions test setup

Emissions test at AC mains



Antenna port conducted tests

Conducted test setup



2.3 Equipment used in the test configuration

Description	Manufacturer	Model	ID	Cal. Done date	Cal. due date	Used at Par.
EMI Receiver	Rohde & Schwarz	ESCI	114161	01-2023	01-2024	3.3
EMI Receiver	Rohde & Schwarz	ESR7	114534	01-2023	01-2024	3.1, 3.2
Spectrum analyzer	Rohde & Schwarz	FSP40	114792	03-2023	03-2024	3.1
3.0 GHz HPF	Wainwright	WHK3.0/18G-10EF	114682	07-2021	07-2024	3.1
Active loop antenna	EMCO	6502	114515	01-2022	01-2024	3.1
Biconical antenna + 6dB attenuator	Schwarzbeck + HP	VHA9103 + 8491A	114436 + 114254	03-2021	03-2024	3.1
Logperiodic antenna	EMCO	3147	114385	03-2021	03-2024	3.1
Horn antenna	EMCO	3115	114607	01-2021	01-2024	3.1
Horn antenna	FLANN-MICROWAVE	20240-25	114518	NA*	NA*	3.1
Horn antenna	Scientific atlanta	12A-26	11487	NA*	NA*	3.1
Preamplifier 1-18 GHz	Schwarzbeck	BBV 9718D	114874	12-2022	12-2023	3.1
Preamplifier 18-40 GHz	Miteq	JS4-18004000-33-8P	114693	01-2023	01-2024	3.1
Test software	Raditeq	Radimation Version 2021.1.9	--	--	--	3.1, 3.3
LISN /Two line V-network	Rohde & Schwarz	ENV 216	114379	07-2021	07-2023	3.3

*Note: Standard gain horn antennas do not need calibration

NA= Not Applicable

2.4 Sample calculations

All formulas for data conversions and conversion factors are reported in chapter 4 of this test report.

3 Test results

3.1 Radiated spurious emissions

3.1.1 Limit

15.209(a)

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance(m)
0.009 – 0.490	2400/F(kHz)	$20 \cdot \{\log[2400] - \log[F(\text{kHz})]\}$	300*
0.490 – 1.705	24000/F(kHz)	$20 \cdot \{\log[24000] - \log[F(\text{kHz})]\}$	30*
1.705 – 13.11 14.01 – 30.0	30	29.5	30*
30 -88	100	40	3
88 - 216	150	43,5	3
216-960	200	46	3
Above 960	500	54	3

*Note: Measured values in the plots 9 kHz to 30 MHz corrected to 30m or 300m limit distance according to the method described in ANSI C63.10-2020, clause 6.4

3.1.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.1.3 Test setup

The test setup is as shown in chapter 2.2 of this report.

3.1.4 Test procedure

9 kHz – 30 MHz: According to ANSI C63.10-2013 section 6.4

30 MHz to 26.5 GHz: According to ANSI C63.10-2013, section 6.5 and 6.6

9 kHz to 30 MHz: IRN 441 – Method 10

30 MHz to 1 GHz: IRN 441 – Method 1

1 GHz to 18 GHz: IRN 441– Method 2

18 to 26.5 GHz: IRN 441– Method 3

In case of handheld and/or body-worn equipment, the EUT's orientation (X, Y, Z) was varied in order to ensure that maximum emission amplitudes were attained. In all other cases the associated cabling and the EUT orientation was varied for maximum emissions.

The spectrum was examined from 0.009 MHz to 10 times X GHz, not more than the 10th harmonic of the highest intentional generated frequency (X GHz). Final radiated emission measurements were made at 3m distance.

The 6 highest emission amplitudes relative to the appropriate limit were recorded in this report. Field strength values of radiated emissions at frequencies not listed in the tables are more than 20 dB below the applicable limit.

3.1.5 Measurement Uncertainty

Frequency range	Polarization	Uncertainty
9 kHz – 30 MHz	--	±1.6 dB
30 – 200 MHz	Horizontal	±4.5 dB
	Vertical	±5.4 dB
200 -1000 MHz	Horizontal	±3.6 dB
	Vertical	±4.6 dB
1 – 18 GHz	Horizontal	±5.7 dB
	Vertical	±5.7 dB
18 – 26.5 GHz	Horizontal	±4.9 dB
	Vertical	±4.9 dB

3.1.6 Test results

Frequency	Peak	Quasi-Peak	Quasi-Peak Limit	Angle	Height	Polarization
77,189 MHz	20 dB μ V/m	8,2 dB μ V/m	40 dB μ V/m	117 degrees	2 m	Horizontal
94,464 MHz	27,7 dB μ V/m	19 dB μ V/m	43,5 dB μ V/m	48 degrees	1,2 m	Vertical
35,836 MHz	28,4 dB μ V/m	17 dB μ V/m	40 dB μ V/m	32 degrees	1,2 m	Vertical

Frequency	Peak	Quasi-Peak	Quasi-Peak Limit	Angle	Height	Polarization
334,029 MHz	26,8 dB μ V/m	21,3 dB μ V/m	46 dB μ V/m	182 degrees	1 m	Vertical
365,94 MHz	27,1 dB μ V/m	20,4 dB μ V/m	46 dB μ V/m	163 degrees	1 m	Vertical
785,038 MHz	31 dB μ V/m	19,4 dB μ V/m	46 dB μ V/m	149 degrees	1,7 m	Horizontal

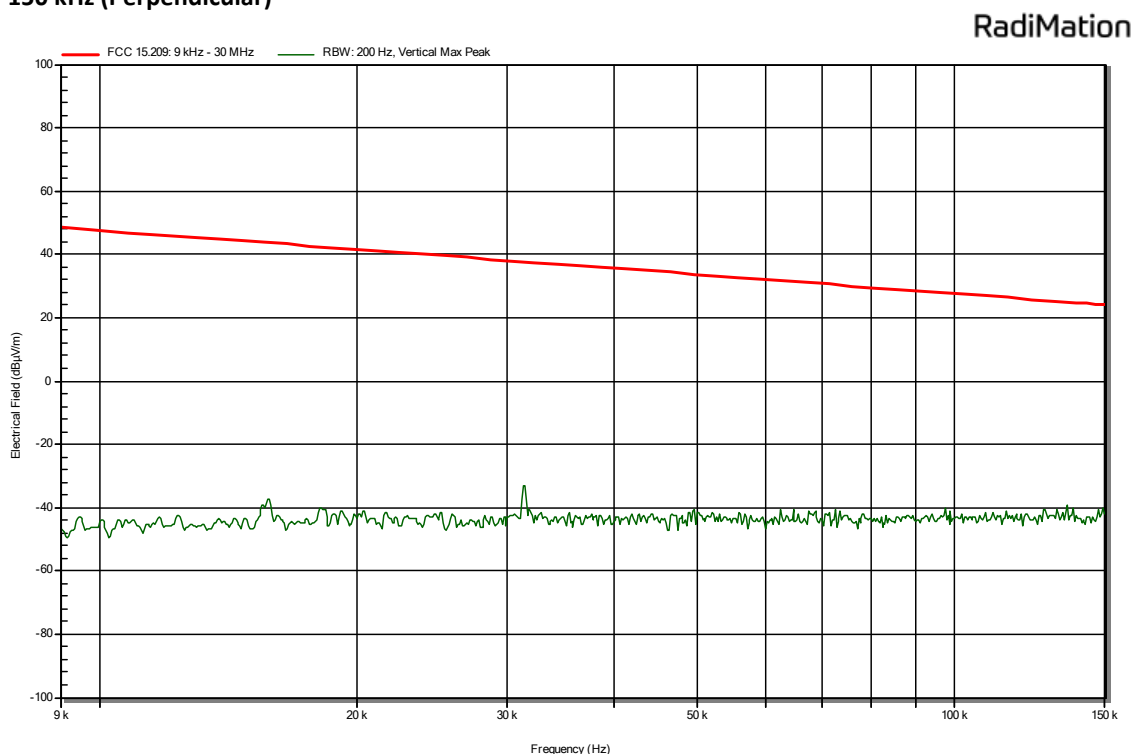
Frequency	Peak	Peak Limit	Average	Average Limit	Angle	Height	Polarization
4,959 GHz	47,3 dB μ V/m	74 dB μ V/m	39,9 dB μ V/m	54 dB μ V/m	327 degrees	1,5 m	Horizontal
14,592 GHz	62,9 dB μ V/m	74 dB μ V/m	49,3 dB μ V/m	54 dB μ V/m	8 degrees	1 m	Horizontal
9,477 GHz	55,8 dB μ V/m	74 dB μ V/m	43,2 dB μ V/m	54 dB μ V/m	359 degrees	3,5 m	Vertical

Frequency	Peak	Peak Limit	Average	Average Limit	Angle	Height	Polarization
4,88 GHz	46,7 dB μ V/m	74 dB μ V/m	35,3 dB μ V/m	54 dB μ V/m	356 degrees	2,5 m	Vertical

The results of the radiated emission tests are depicted in the table above. A selection of plots is provided on the next pages.

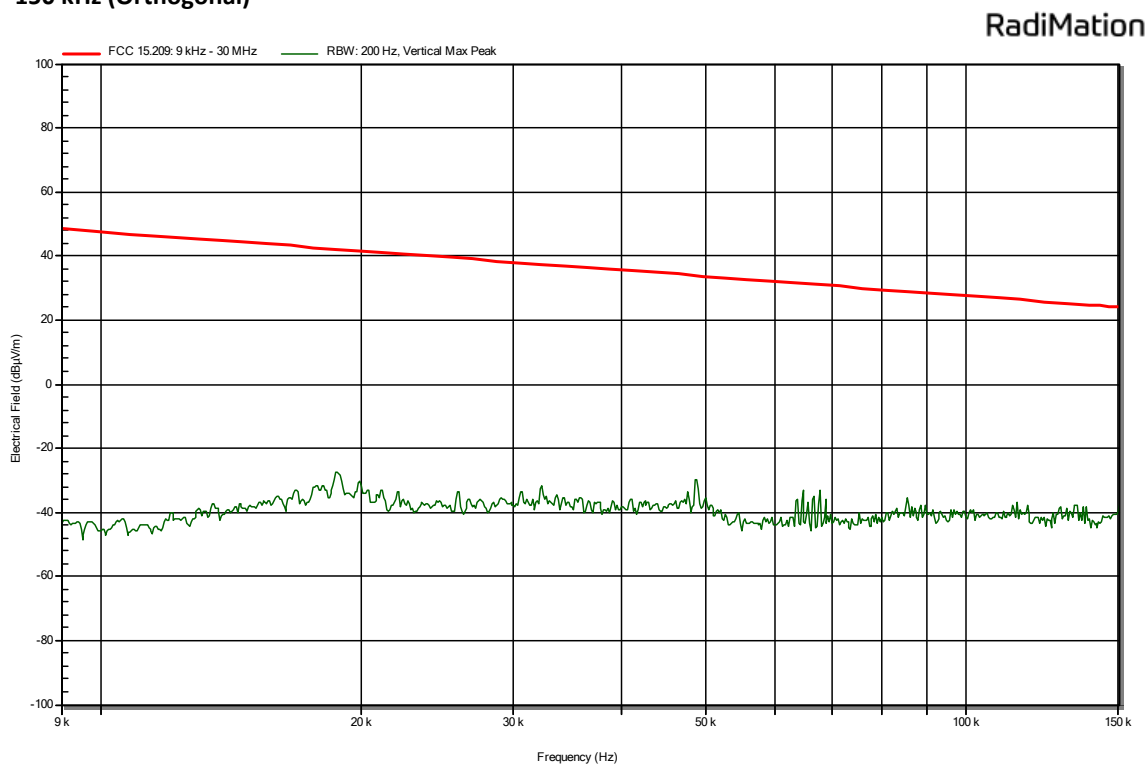
3.1.7 Plots of the Radiated Spurious Emissions Measurement

9 – 150 kHz (Perpendicular)



Plot 1a: radiated emissions of the EUT, Antenna Perpendicular, in the range 9 – 150 kHz (pre-scan peak values shown).

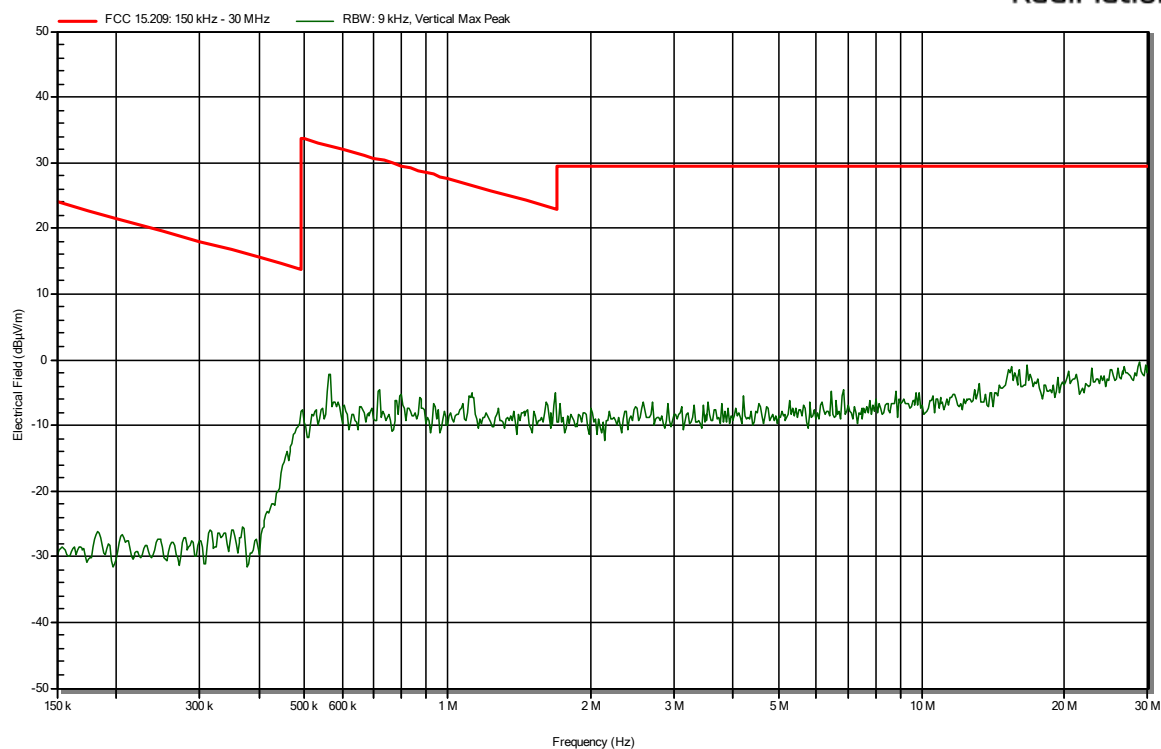
9 – 150 kHz (Orthogonal)



Plot 1b: radiated emissions of the EUT, Antenna Orthogonal, in the range 9 – 150 kHz (pre-scan peak values shown).

150 kHz – 30 MHz (Perpendicular)

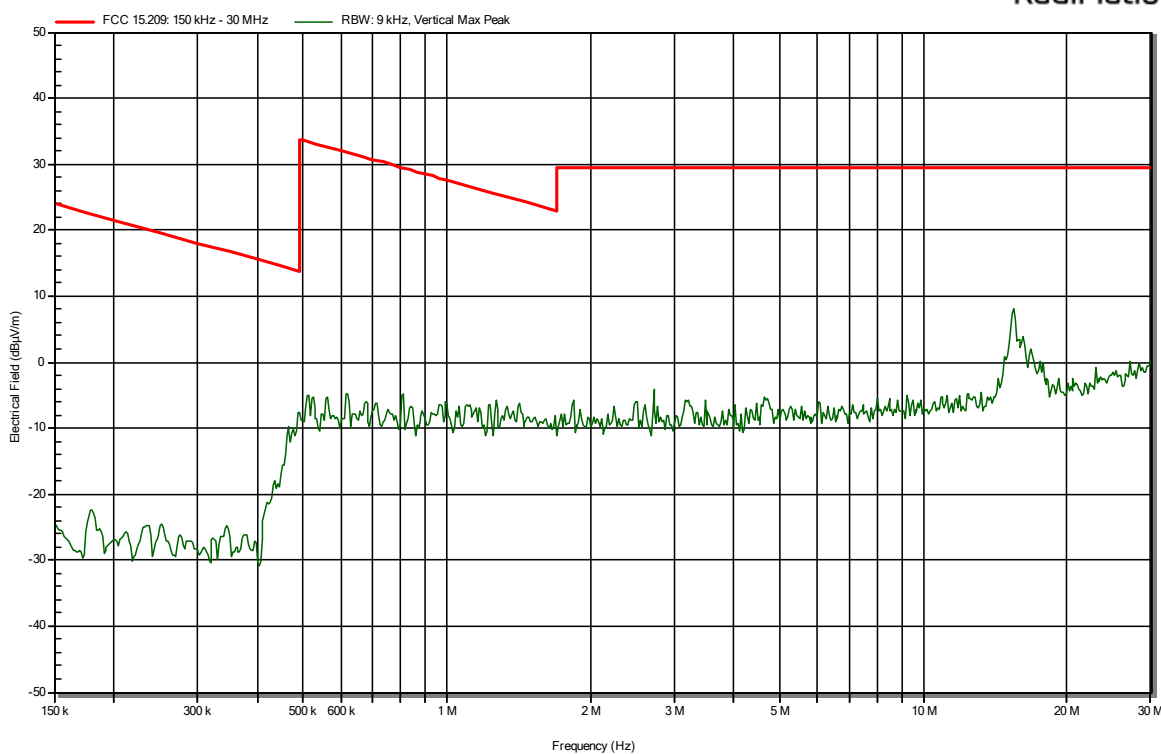
RadiMation



Plot 2a: radiated emissions of the EUT, Antenna Perpendicular, in the range 150 kHz – 30 MHz (pre-scan peak values shown).

150 kHz – 30 MHz (Orthogonal)

RadiMation



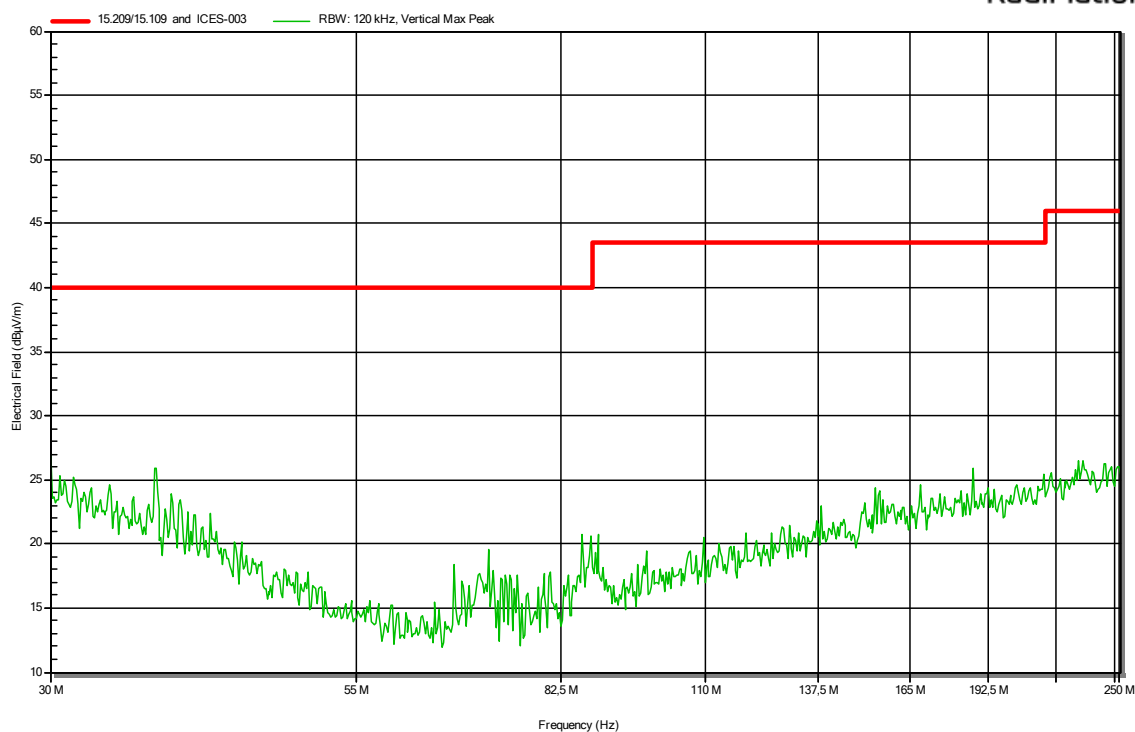
Plot 2b: radiated emissions of the EUT, Antenna Orthogonal, in the range 150 kHz – 30 MHz (pre-scan peak values shown).

30 – 250 MHz

Vertical

Low channel

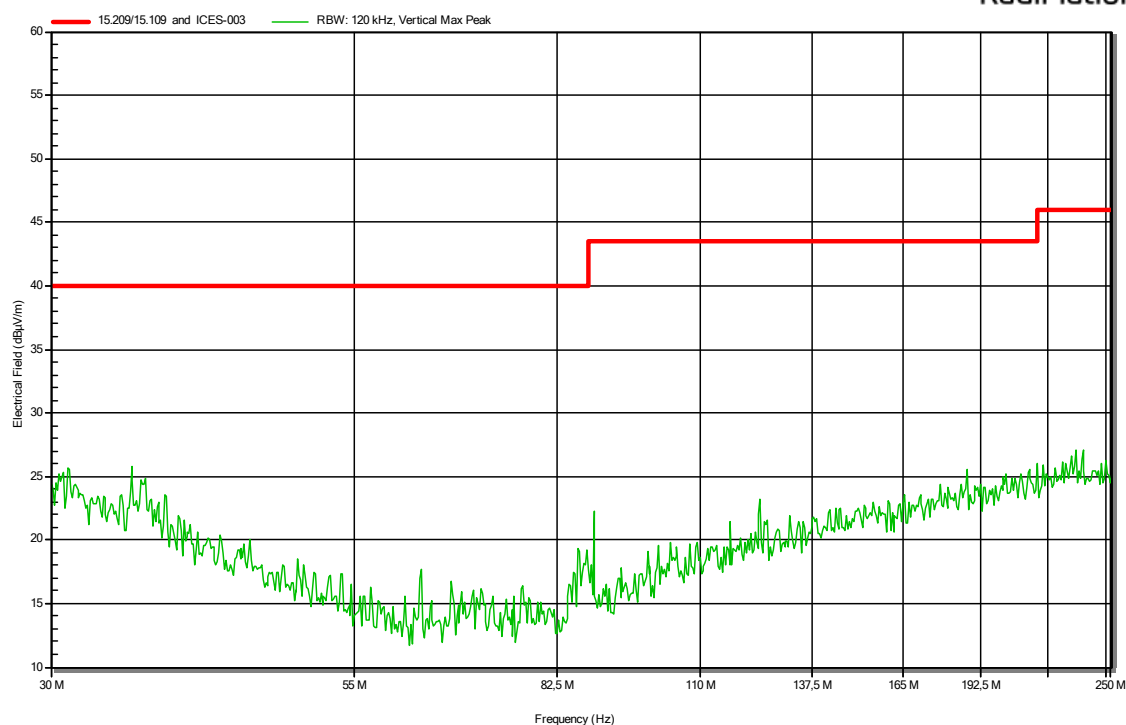
RadiMation



Plot 3a: radiated emissions of the EUT, Antenna vertical, in the range 30 –250 MHz (pre-scan peak values shown).

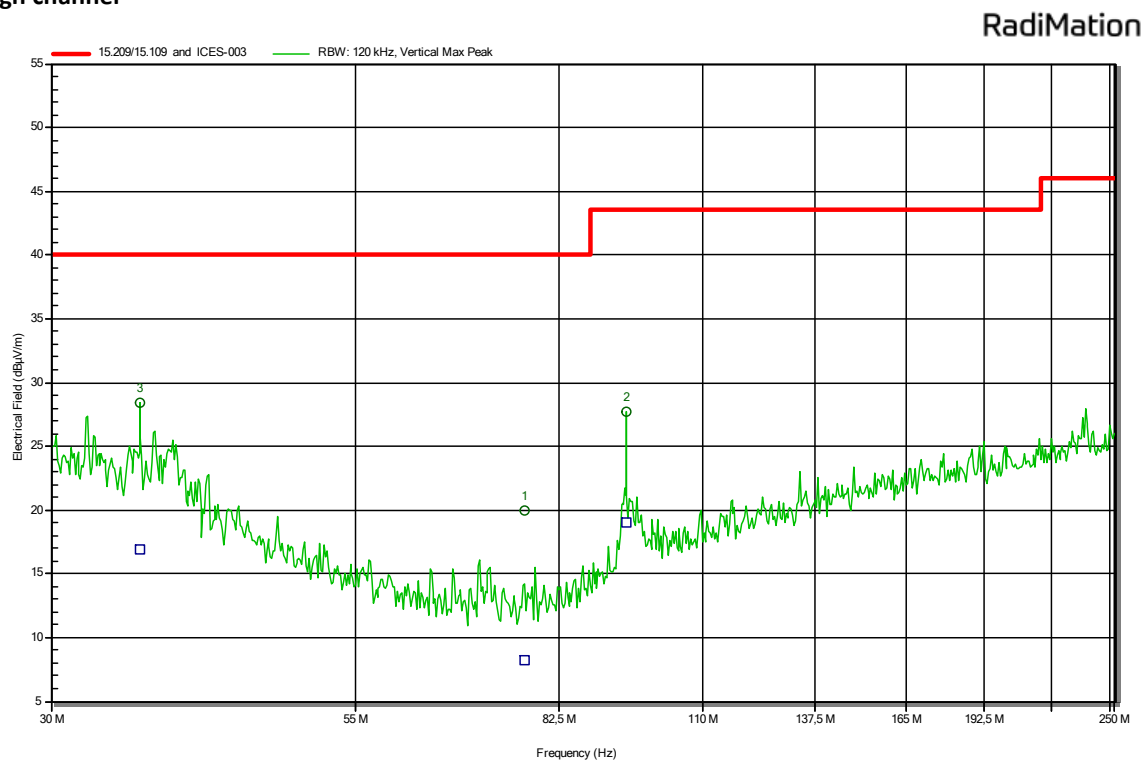
Mid channel

RadiMation



Plot 4a: radiated emissions of the EUT, Antenna vertical, in the range 30 –250 MHz (pre-scan peak values shown).

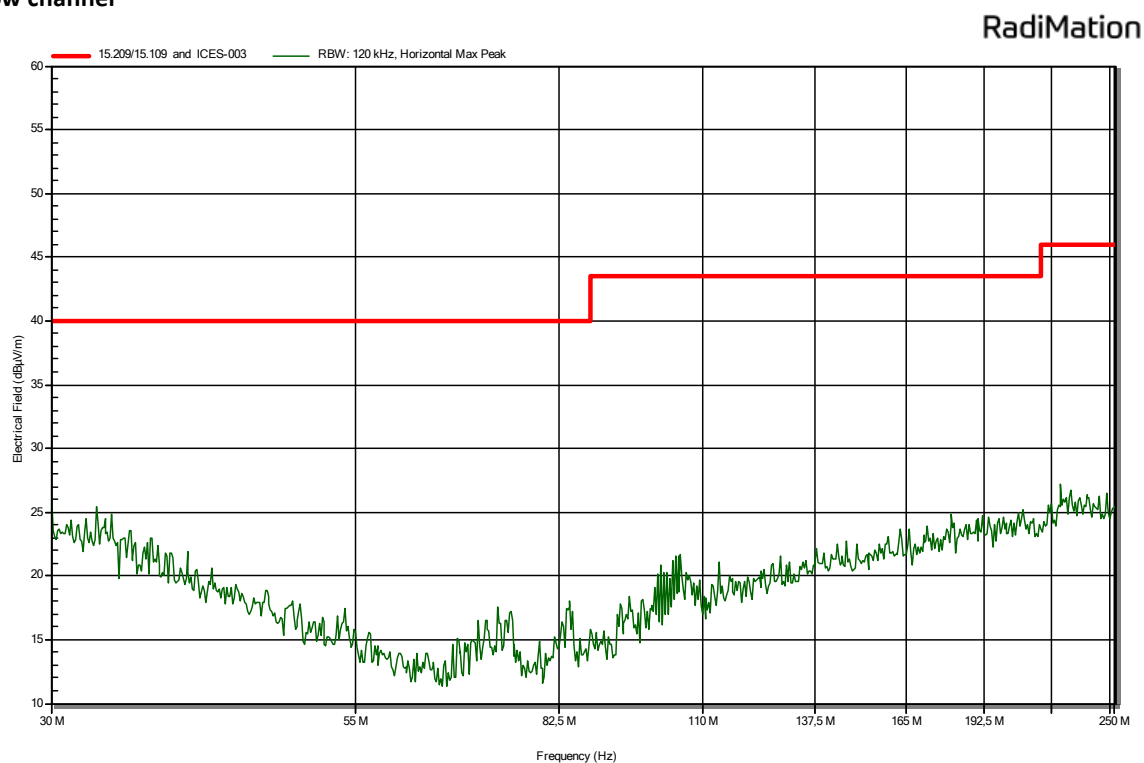
High channel



Plot 5a: radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz (pre-scan peak values shown).

Horizontal

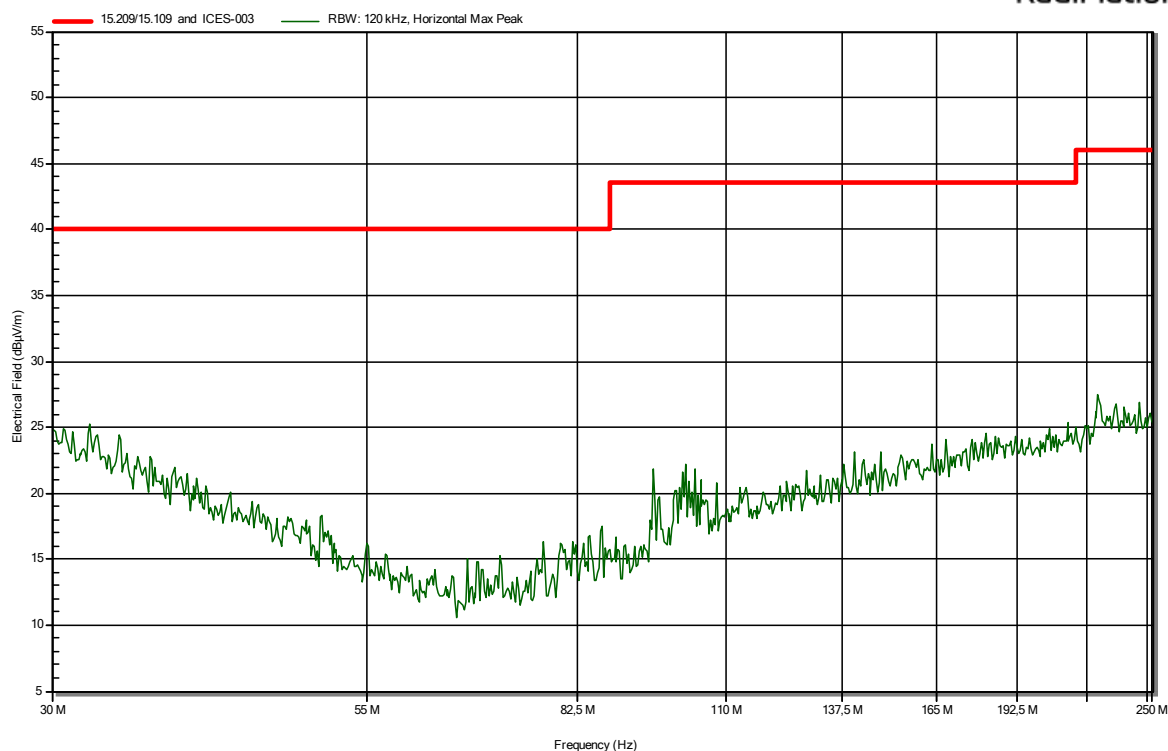
Low channel



Plot 3b: radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz (pre-scan peak values shown).

Mid channel

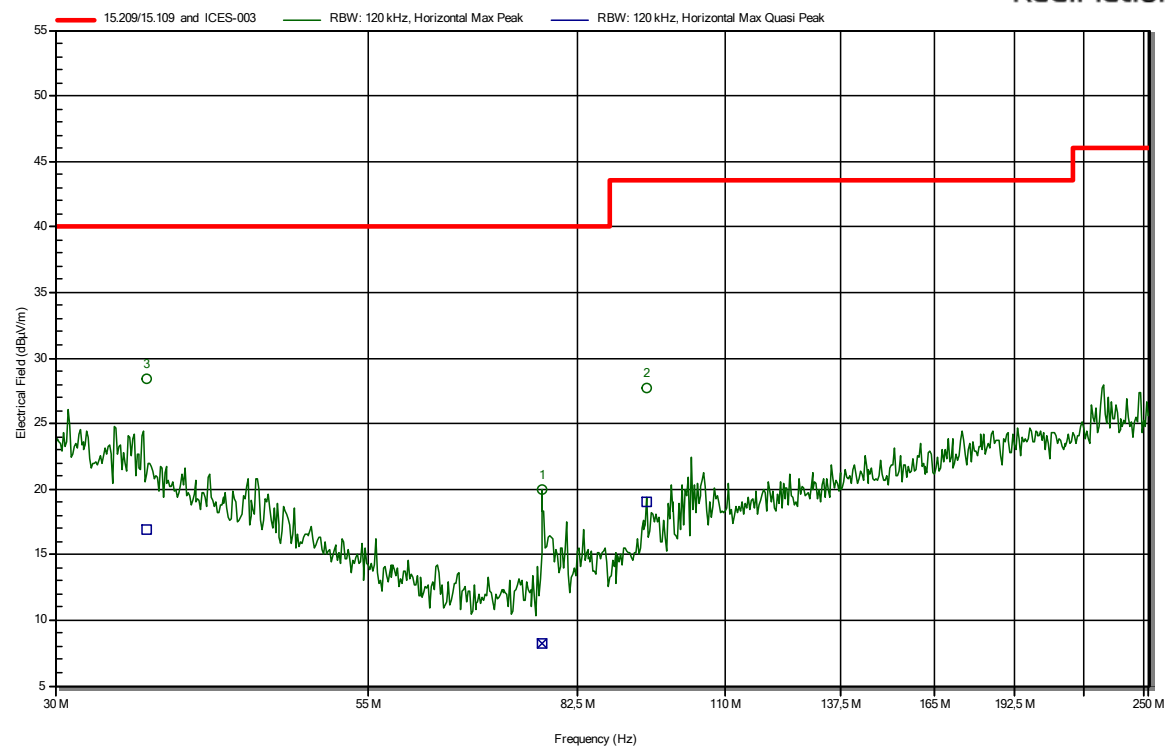
RadiMation



Plot 4b: radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz (pre-scan peak values shown).

High channel

RadiMation



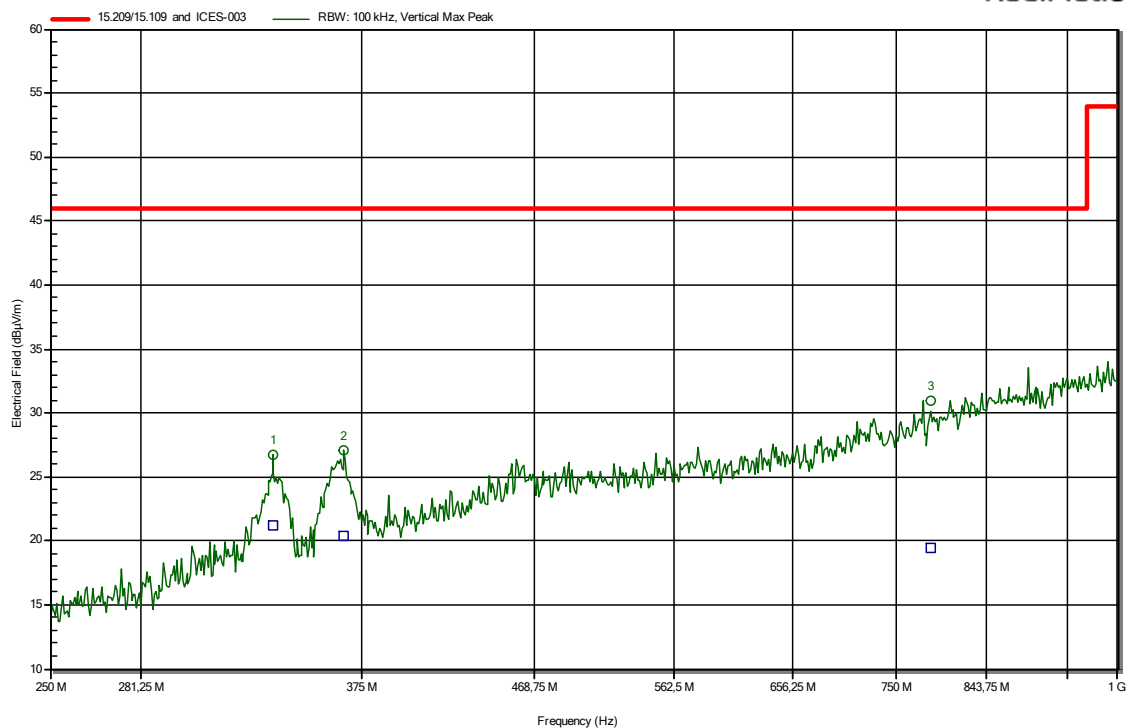
Plot 5b: radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz (pre-scan peak values shown).

250 – 1000 MHz

Vertical

Low channel

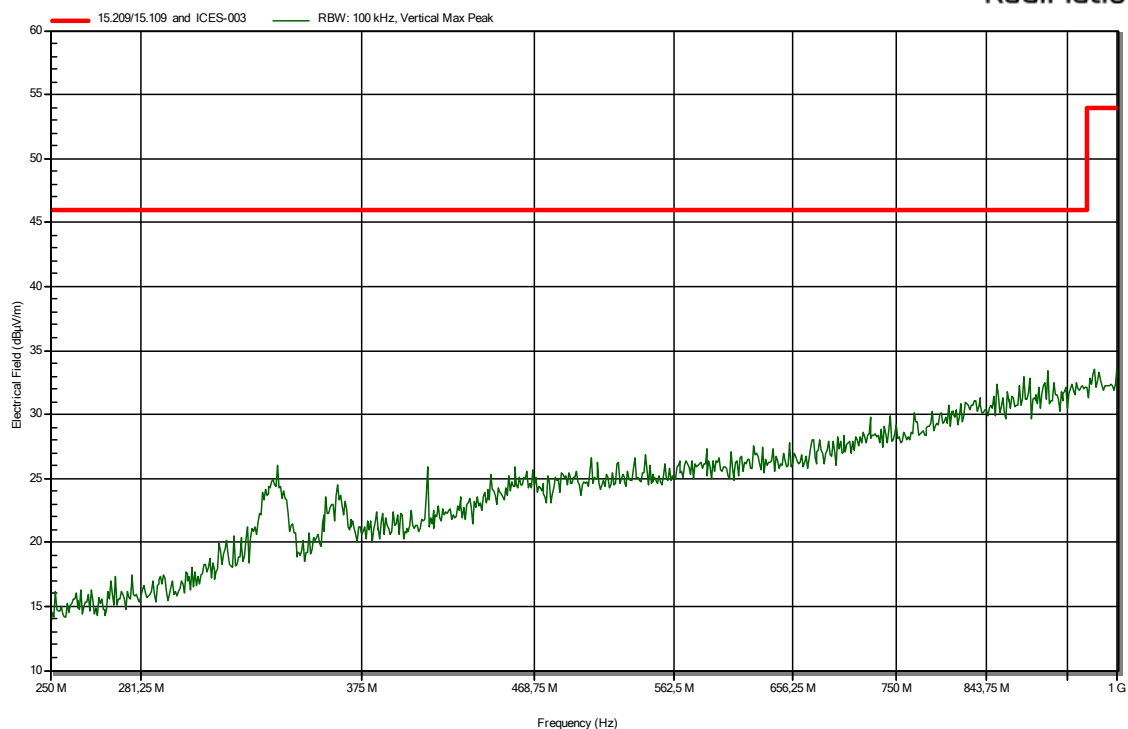
RadiMation



Plot 6a: radiated emissions of the EUT, Antenna vertical, in the range 250 – 1000 MHz (pre-scan peak values shown).

Mid channel

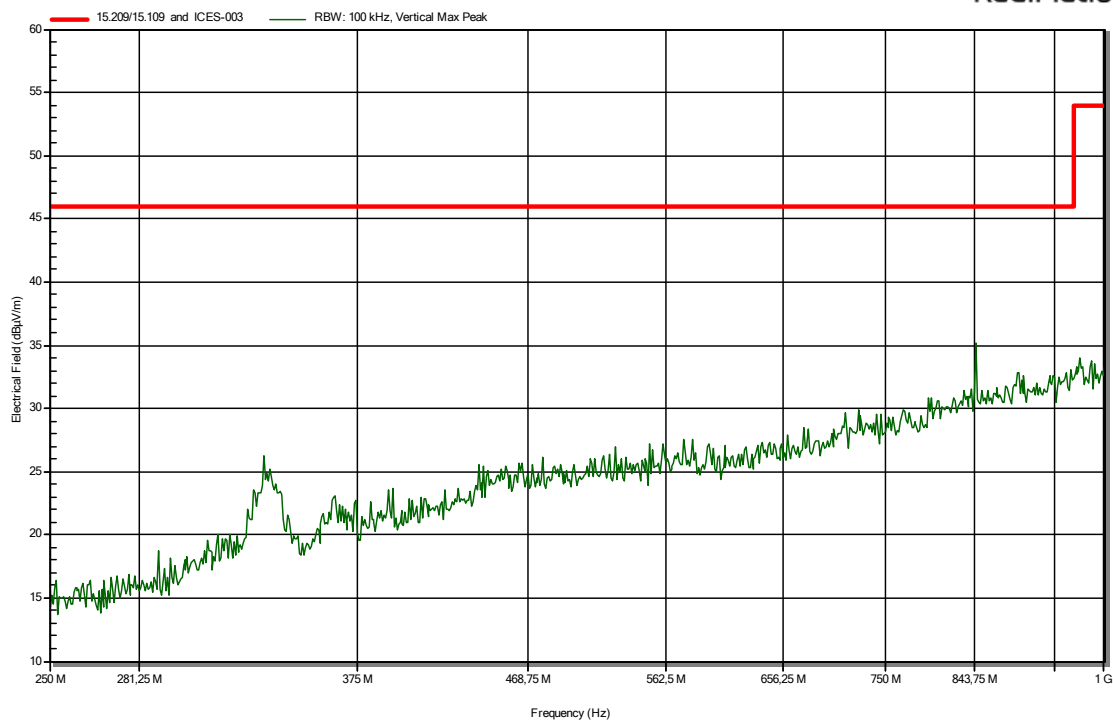
RadiMation



Plot 7a: radiated emissions of the EUT, Antenna vertical, in the range 250 – 1000 MHz (pre-scan peak values shown).

High channel

RadiMation

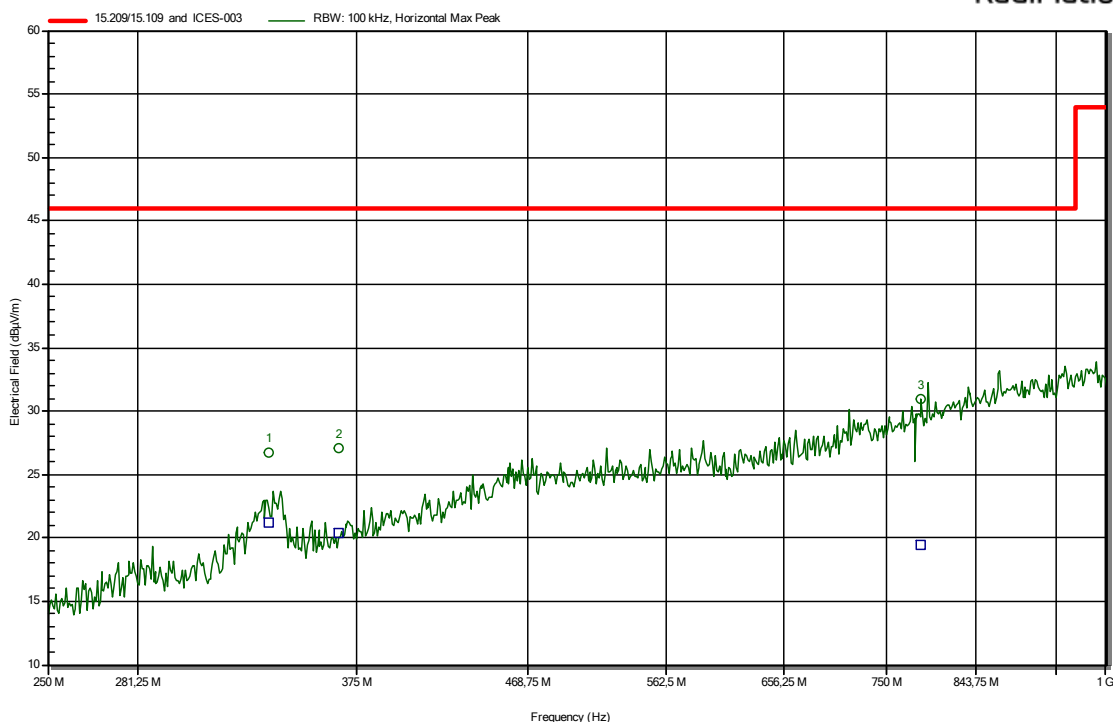


Plot 8a: radiated emissions of the EUT, Antenna vertical, in the range 250 – 1000 MHz (pre-scan peak values shown).

Horizontal

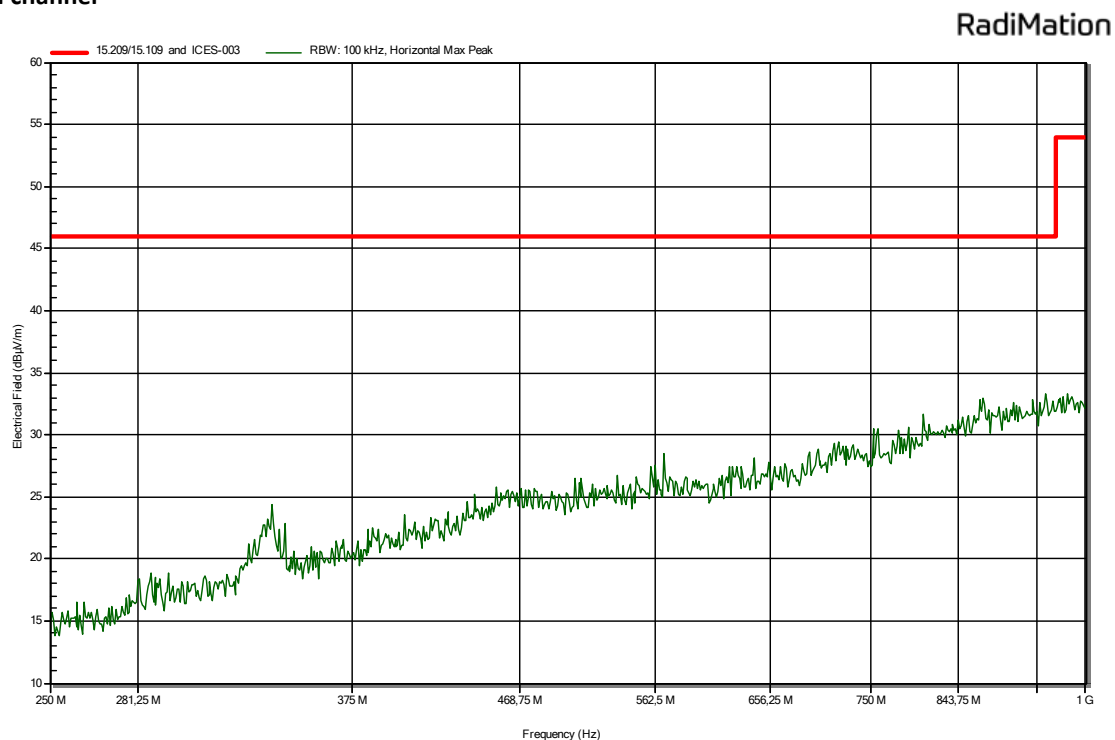
Low channel

RadiMation



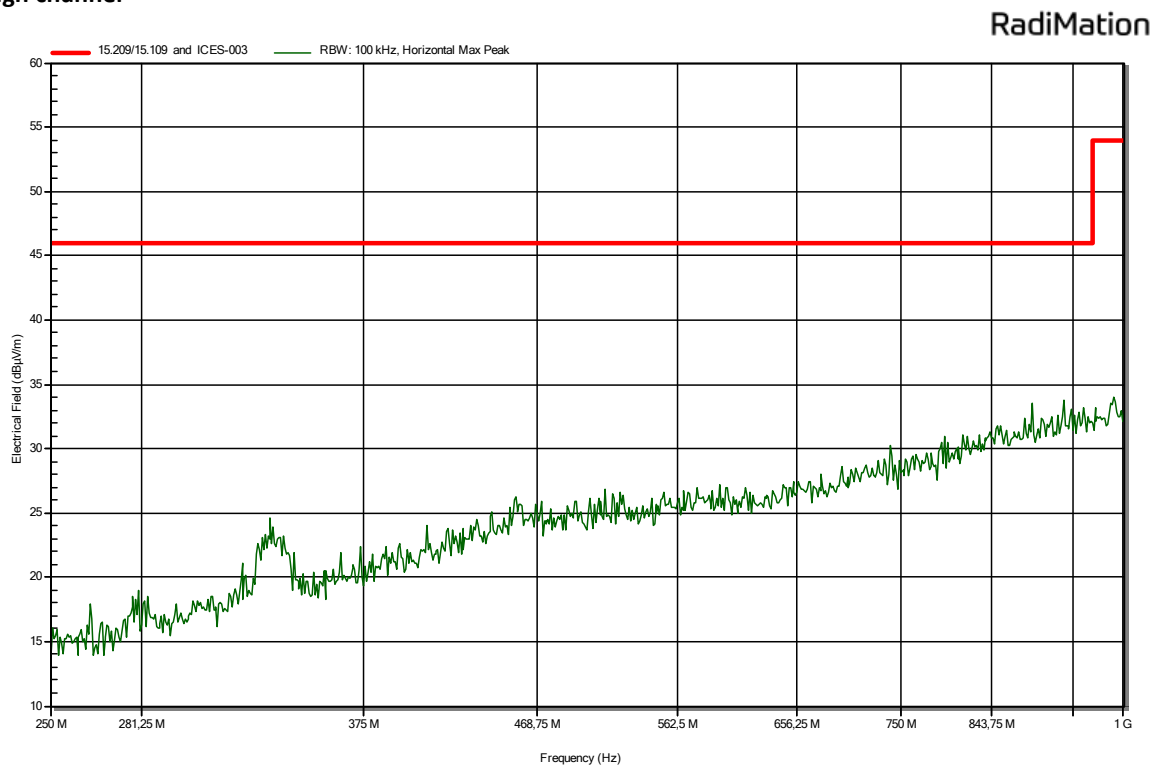
Plot 6b: radiated emissions of the EUT, Antenna horizontal, in the range 250 – 1000 MHz (pre-scan peak values shown).

Mid channel



Plot 7b: radiated emissions of the EUT, Antenna horizontal, in the range 250 – 1000 MHz (pre-scan peak values shown).

High channel



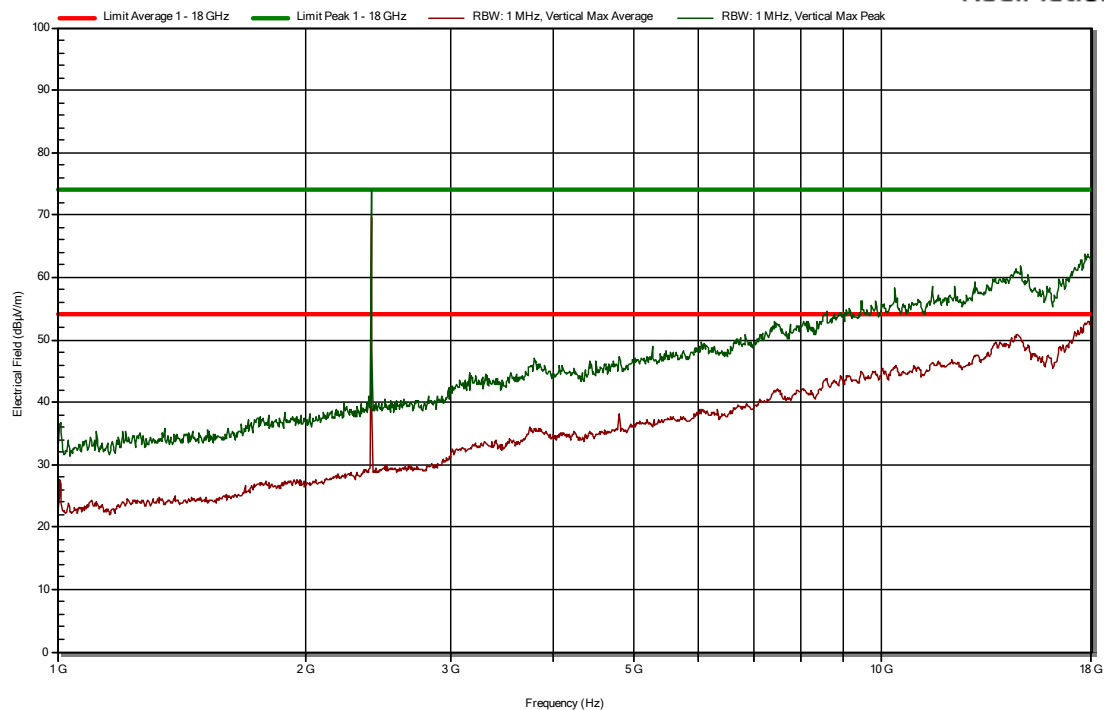
Plot 8b: radiated emissions of the EUT, Antenna horizontal, in the range 250 – 1000 MHz (pre-scan peak values shown).

1 – 18 GHz

Vertical

Low channel

RadiMation

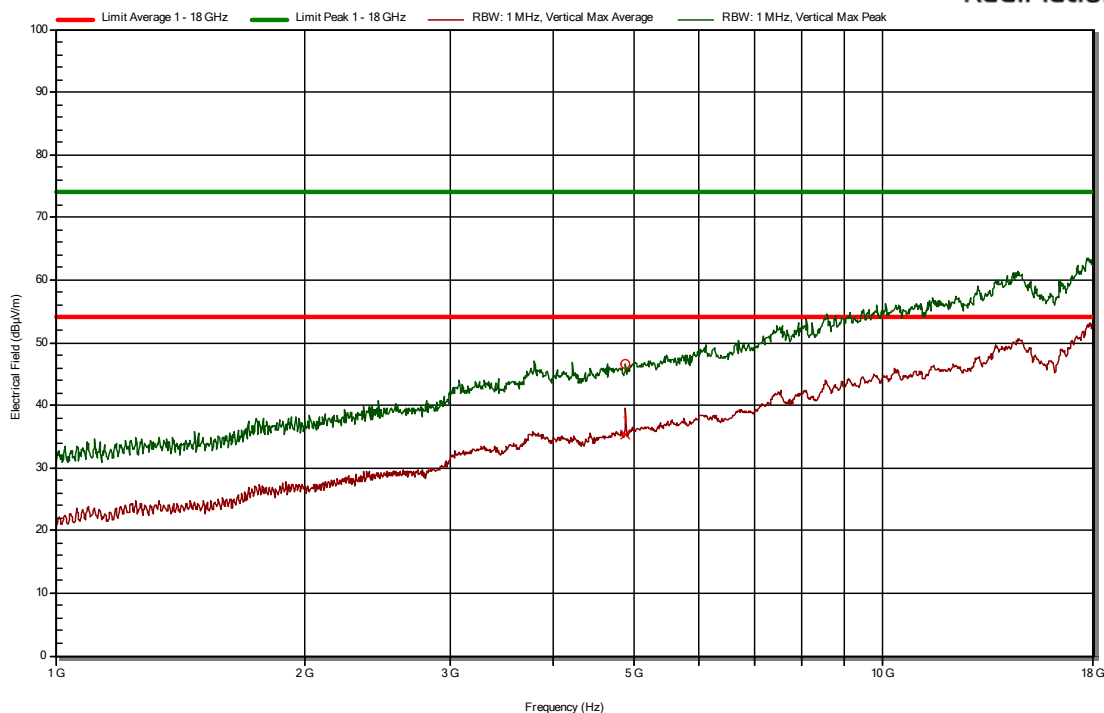


Note: The peak seen in the plot at 2.4 GHz range is the fundamental signal thus not a subject to the limit.

Plot 9a: radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz (peak values shown).

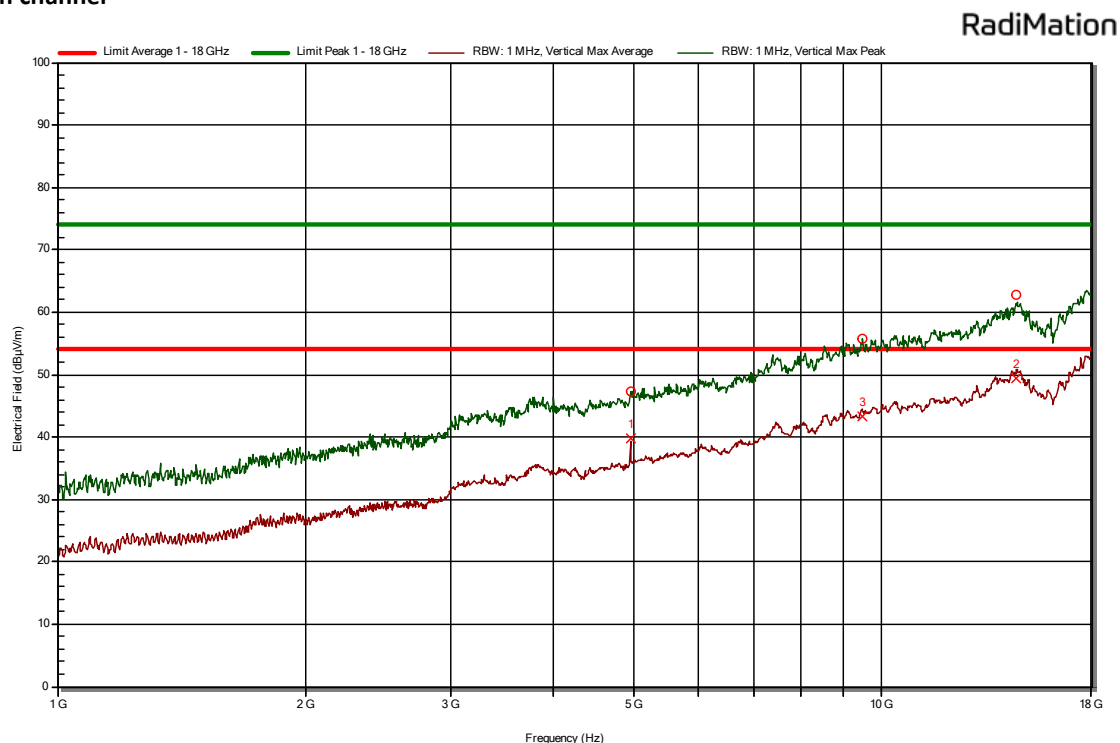
Mid channel

RadiMation



Plot 10a: radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz (peak values shown).

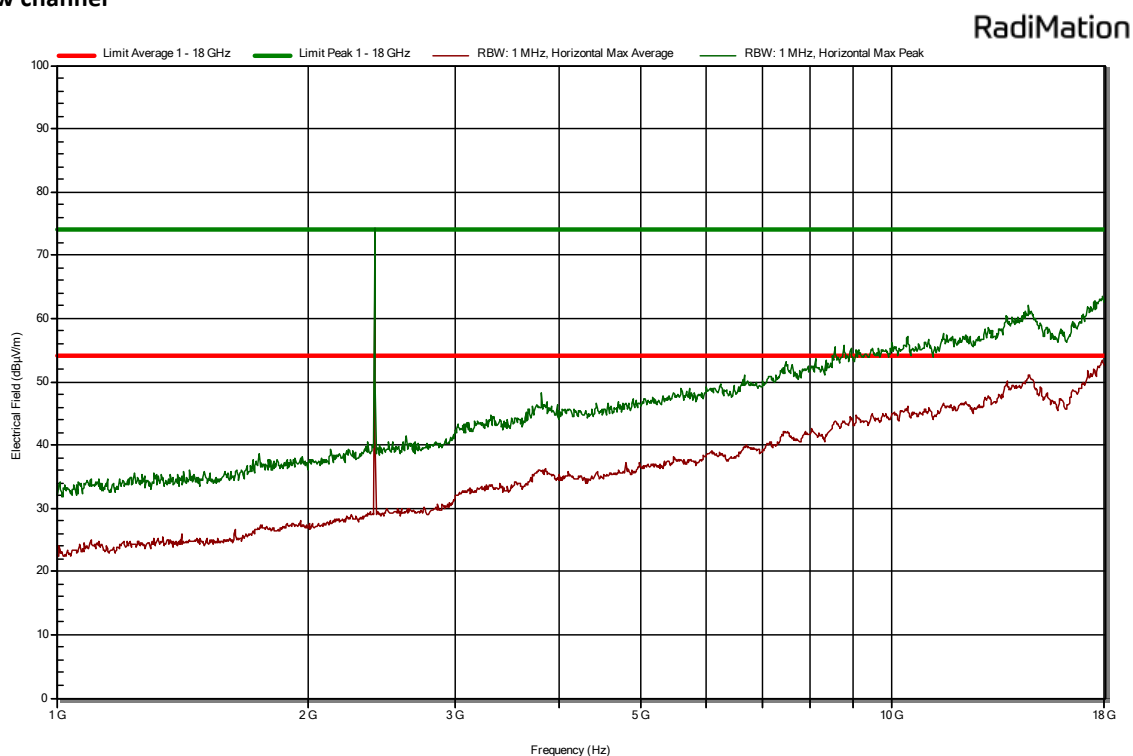
High channel



Plot 11a: radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz (peak values shown).

Horizontal

Low channel

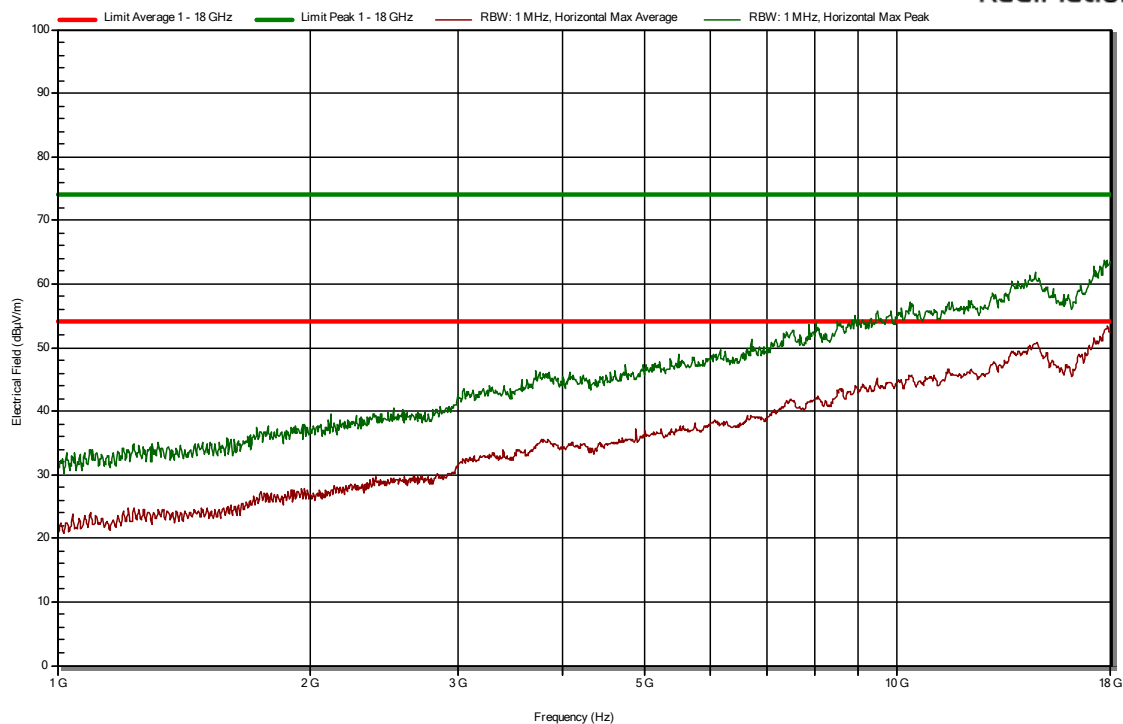


Note: The peak seen in the plot at 2.4 GHz range is the fundamental signal thus not a subject to the limit.

Plot 9b: radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz (peak values shown).

Mid channel

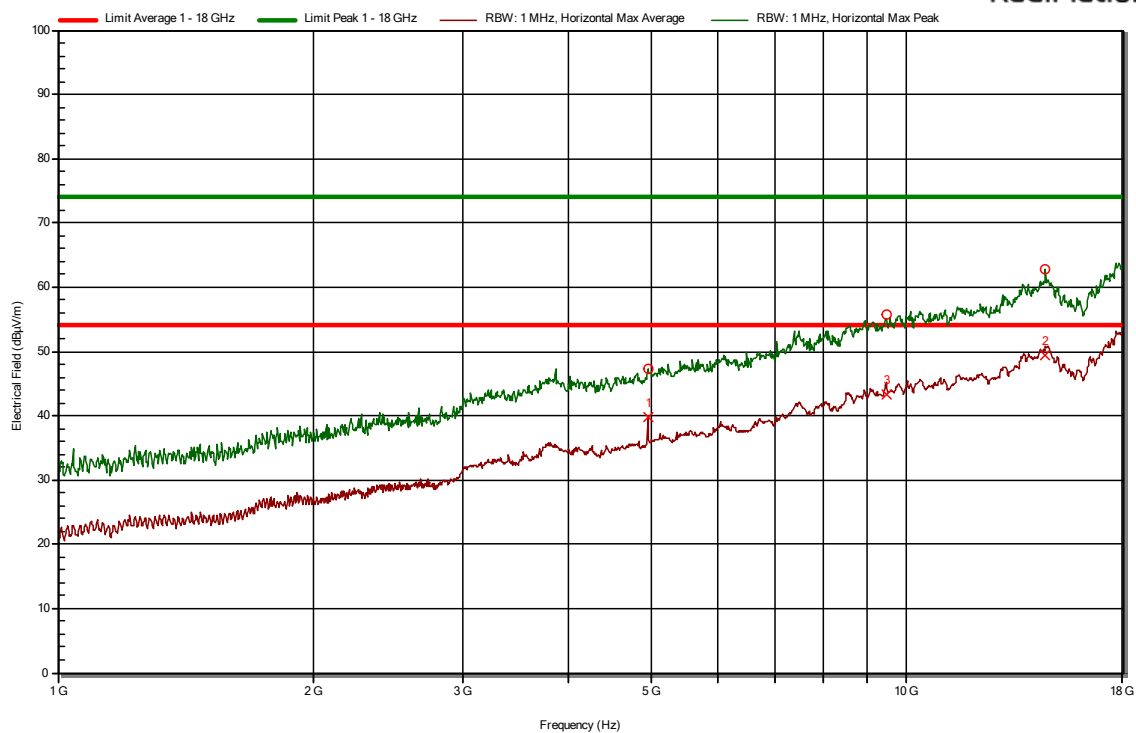
RadiMation



Plot 10b: radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz (peak values shown).

High channel

RadiMation



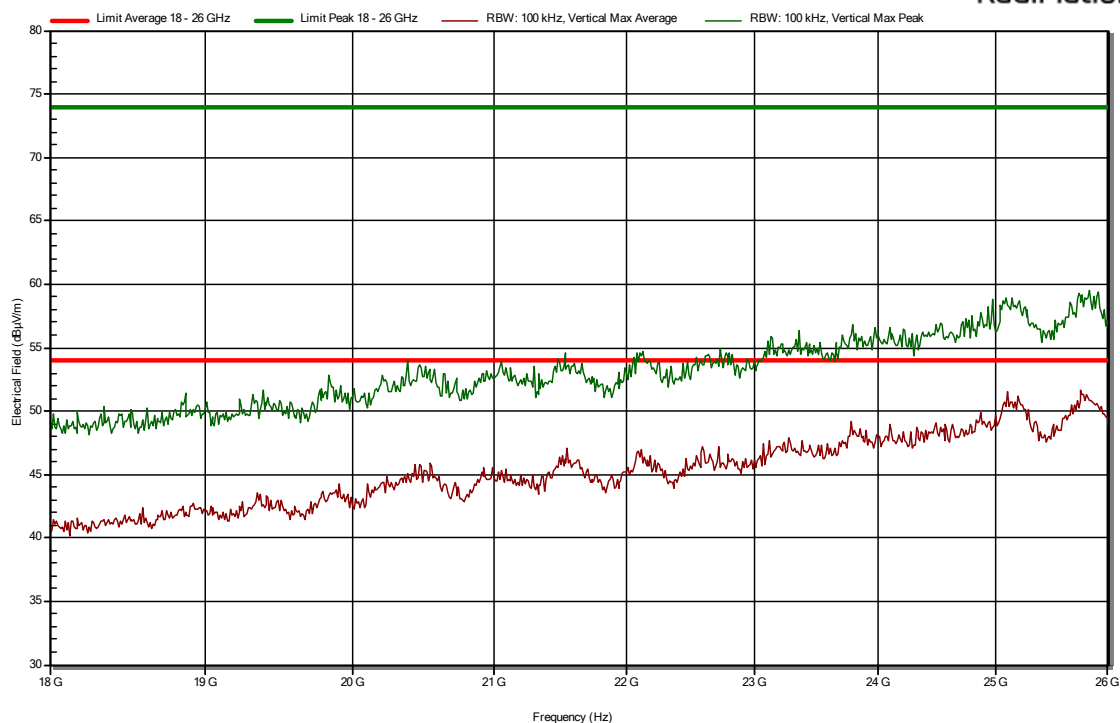
Plot 11b: radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz (peak values shown).

18 – 26 GHz

Vertical

Low channel

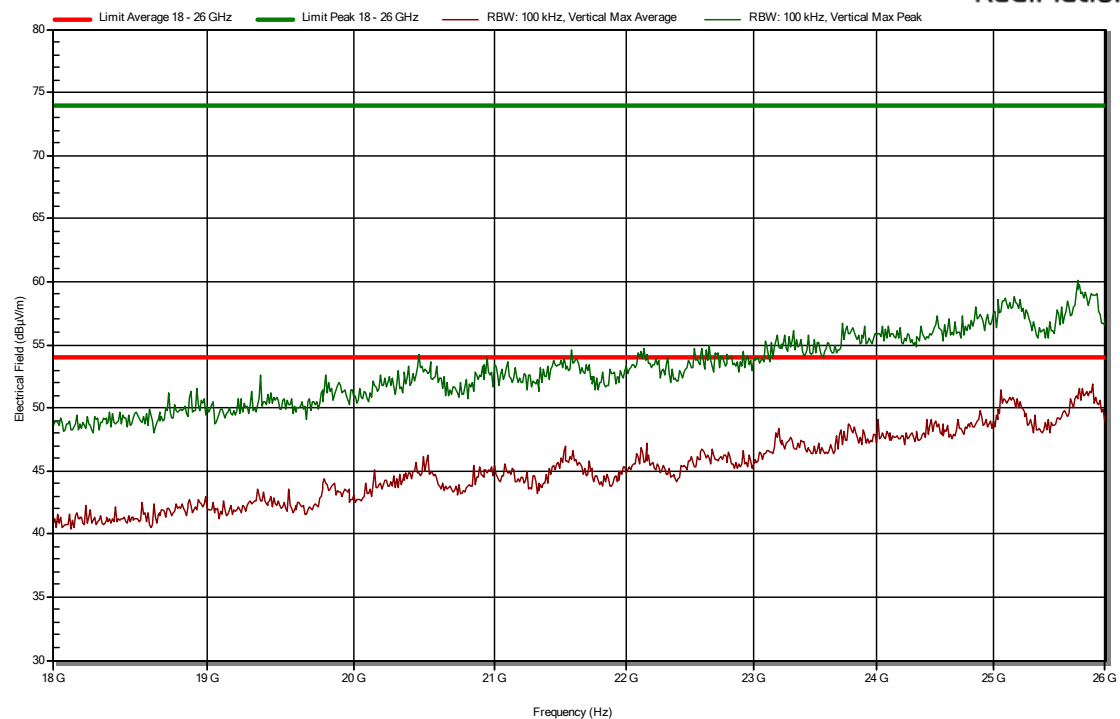
RadiMation



Plot 9a: radiated emissions of the EUT, Antenna vertical, in the range 18 – 26 GHz (peak values shown).

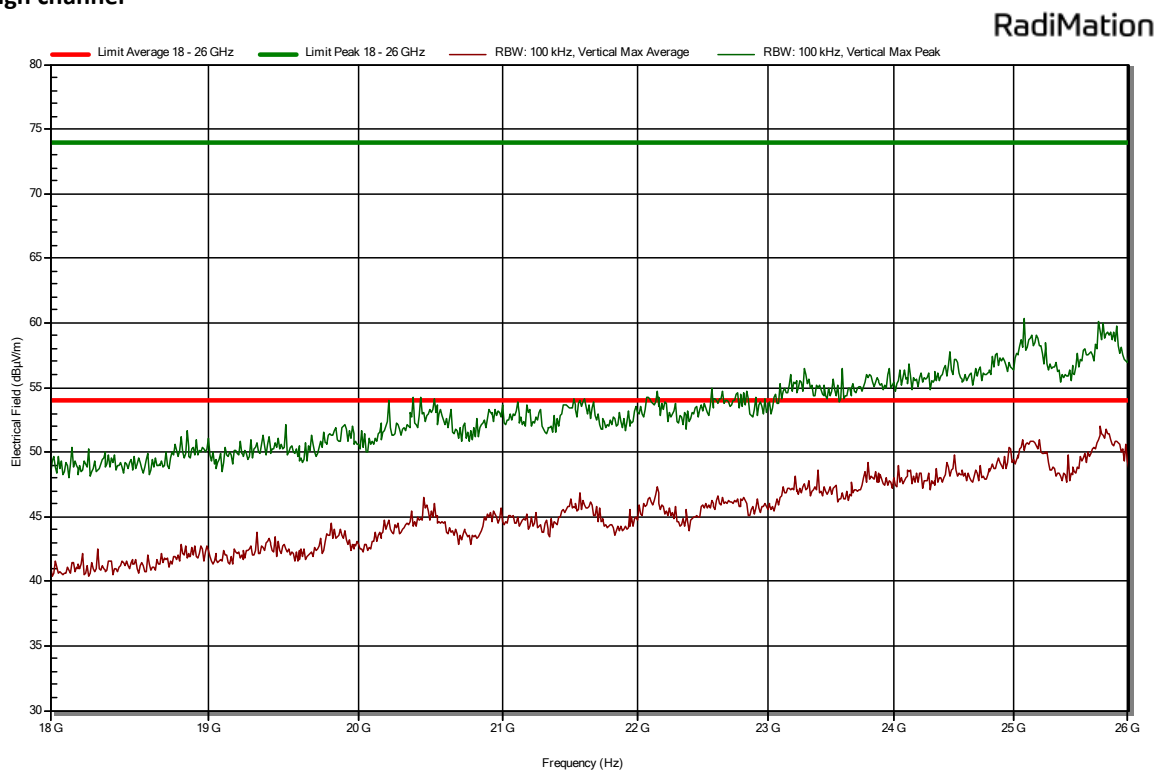
Mid channel

RadiMation



Plot 10a: radiated emissions of the EUT, Antenna vertical, in the range 18 – 26 GHz (peak values shown).

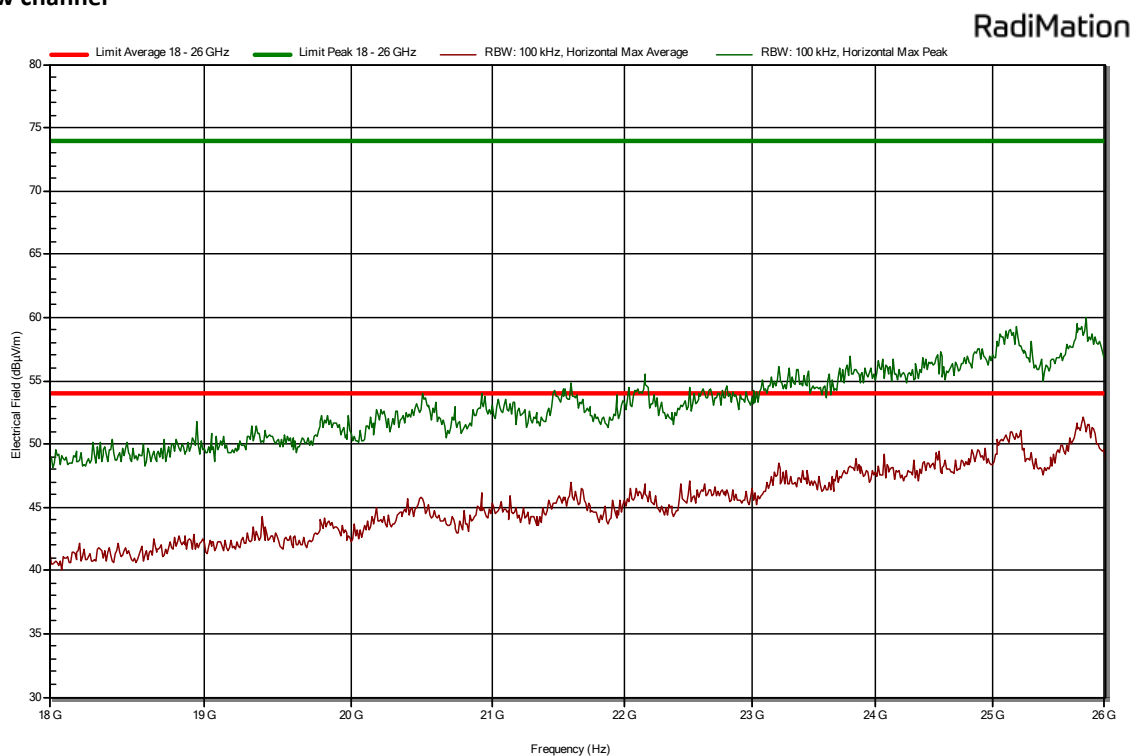
High channel



Plot 11a: radiated emissions of the EUT, Antenna vertical, in the range 18 – 26 GHz (peak values shown).

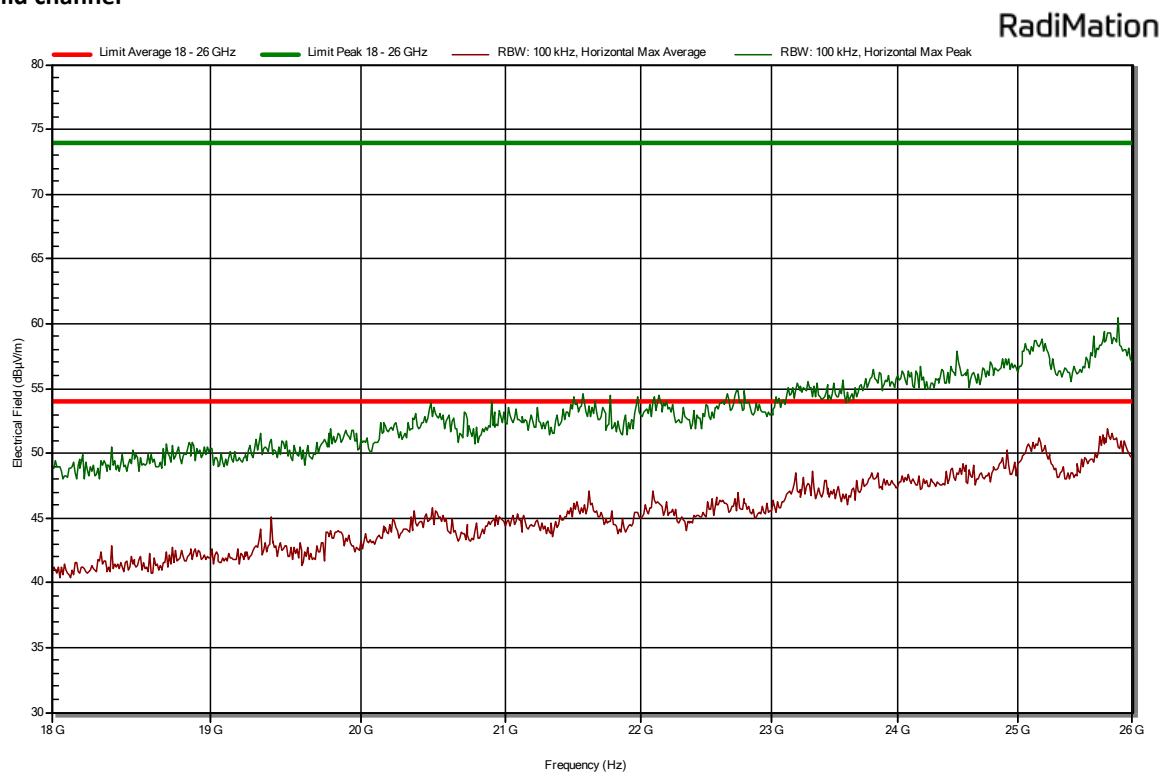
Horizontal

Low channel



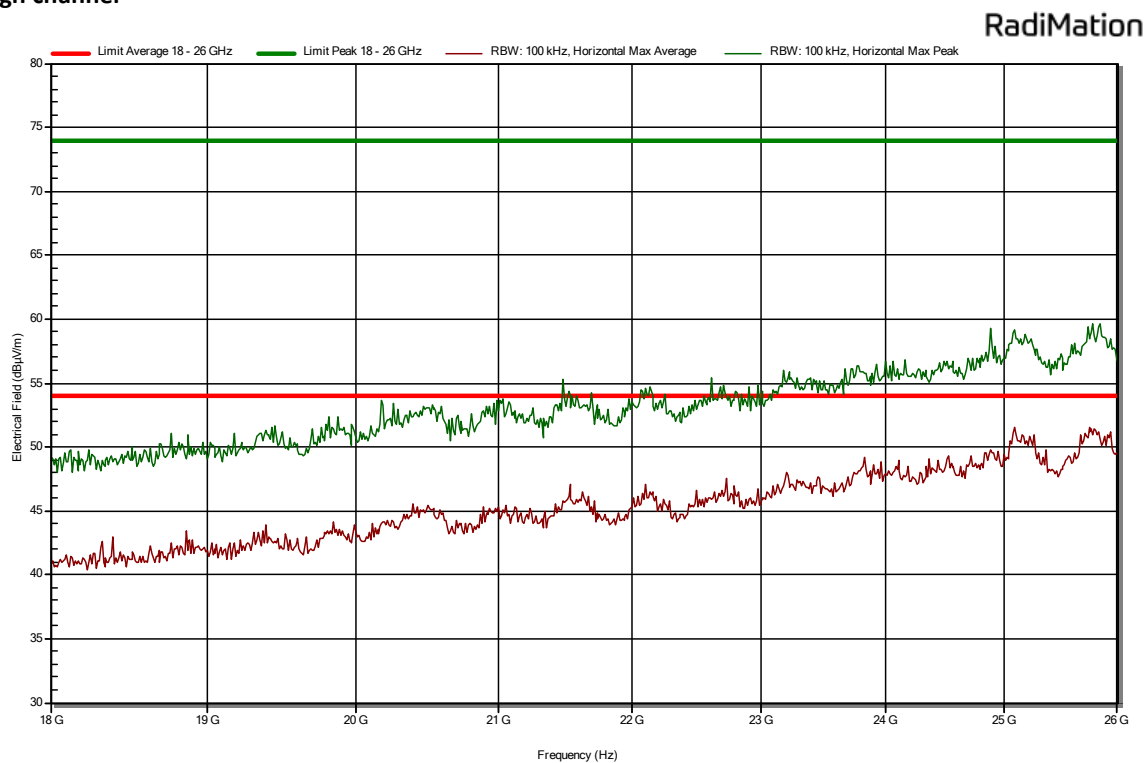
Plot 9b: radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26 GHz (peak values shown).

Mid channel



Plot 10b: radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26 GHz (peak values shown).

High channel



Plot 11b: radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26 GHz (peak values shown).

3.2 Output Power Measurement

3.2.1 Limit

For systems using digital modulation in the 2400-2483.5 MHz, the limit for the peak output power is 1W (30 dBm). If transmitting antenna of directional gain greater than 6 dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point to point operation, the limit has to be reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.2.3 Test setup

The test setup is as shown in chapter 2.2 of this report.

3.2.4 Test procedure

The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02.

IRN 402 - RF power (W) - Method 12 – Output power using a spectrum analyser (peak method)

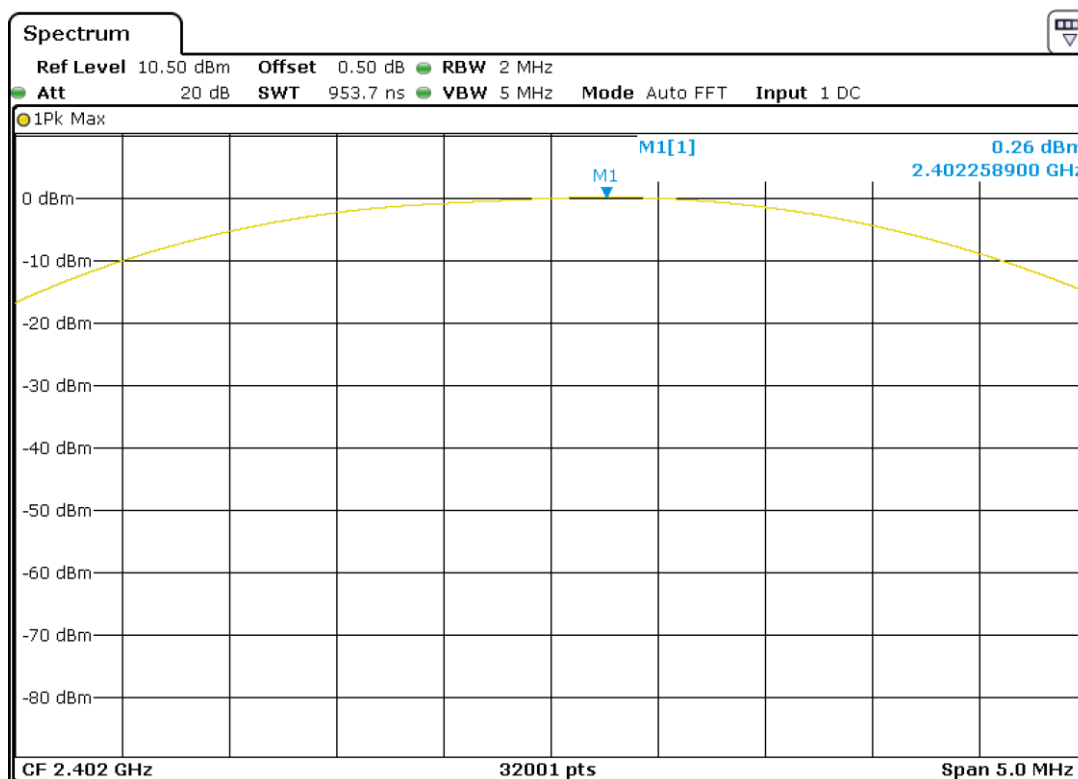
3.2.5 Test results of Output Power Measurement

Peak method				
Technology Std.	Channel	Frequency (MHz)	Data rate	Peak output conducted power (dBm)
Bluetooth Low Energy	37	2402	1 Mbps	0.26
	17	2440	1 Mbps	1.59
	39	2480	1 Mbps	2.65
Uncertainty	±0.71 dB			

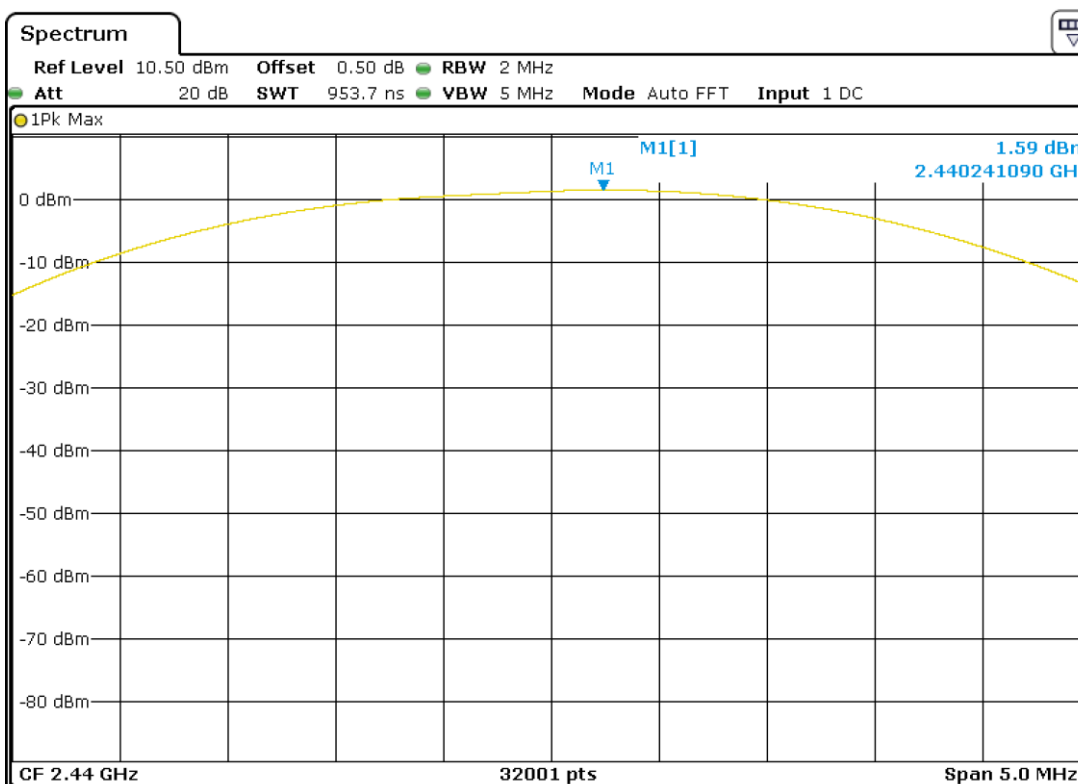
Note: plots are provided on the next page

3.2.6 Plots of the Output power

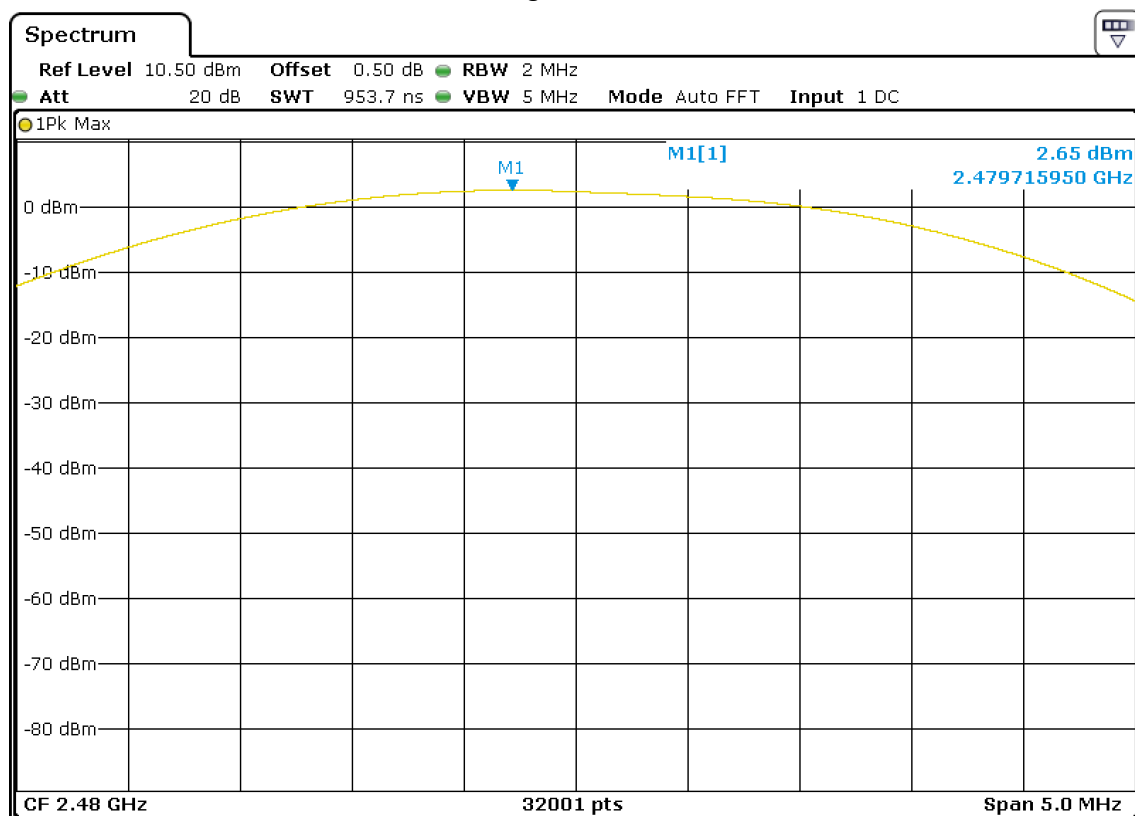
Low channel



Mid channel



High channel



3.3 AC Power-line conducted emissions

3.3.1 Limit

According to 15.207 (a), (c)

An intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	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.

3.3.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.3.3 Test setup

The test setup is as shown in chapter 2.2 of this report.

3.3.4 Test procedure

According to ANSI C63.10-2020 Section 6.2
IRN 439 – Method 1

3.3.5 Test results and plots of the AC power-line conducted measurement

See next page.

3.3.6 Measurement uncertainty

+/- 3.6 dB

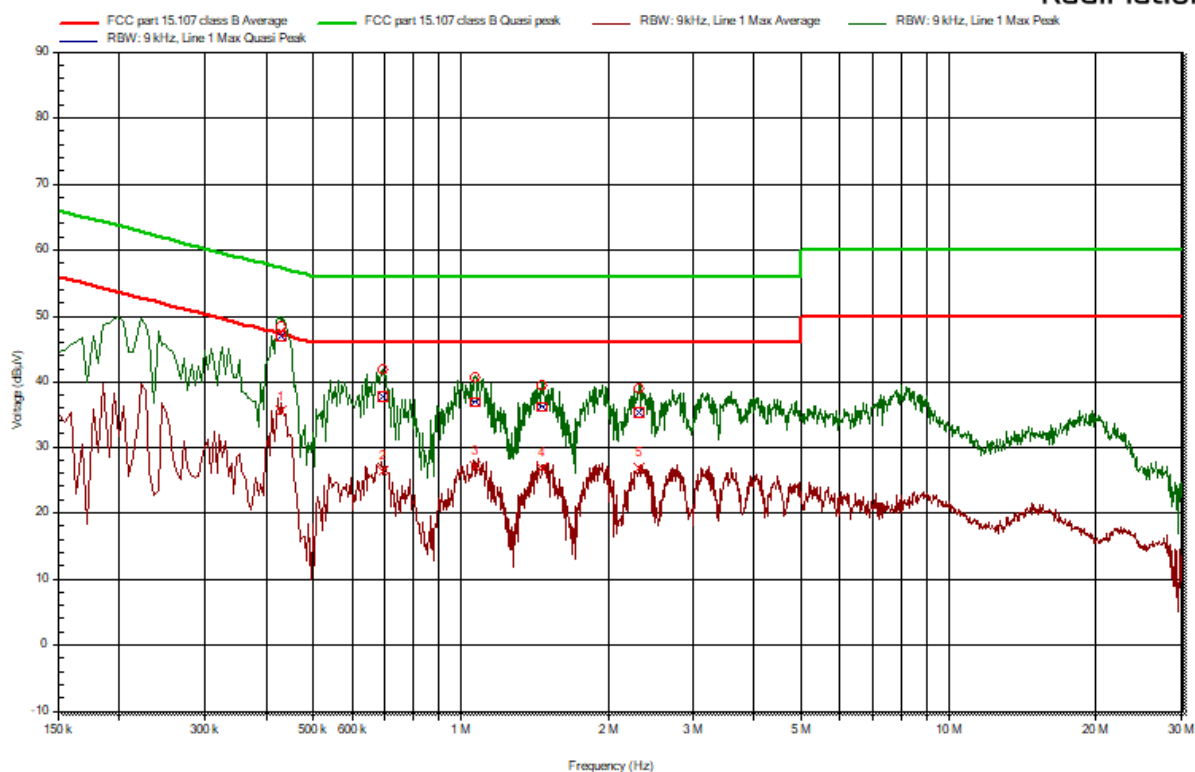
3.3.7 AC Power Line Conducted emission data of the EUT, results

Frequency	Average	Average Limit	Quasi-Peak	Quasi-Peak Limit	Status	LISN
222 kHz	31,7 dB μ V	52,7 dB μ V	43 dB μ V	62,7 dB μ V	Pass	Neutral
423,6 kHz	30,2 dB μ V	47,4 dB μ V	40 dB μ V	57,4 dB μ V	Pass	Neutral
8,138 MHz	21,2 dB μ V	50 dB μ V	35,1 dB μ V	60 dB μ V	Pass	Neutral
2,913 MHz	15,8 dB μ V	46 dB μ V	28,4 dB μ V	56 dB μ V	Pass	Neutral
1,64 MHz	15,3 dB μ V	46 dB μ V	26,6 dB μ V	56 dB μ V	Pass	Neutral

Frequency	Average	Average Limit	Quasi-Peak	Quasi-Peak Limit	Status	LISN
429 kHz	35,3 dB μ V	47,3 dB μ V	47,1 dB μ V	57,3 dB μ V	Pass	Line 1
694,5 kHz	26,3 dB μ V	46 dB μ V	37,8 dB μ V	56 dB μ V	Pass	Line 1
1,068 MHz	27,1 dB μ V	46 dB μ V	36,9 dB μ V	56 dB μ V	Pass	Line 1
1,468 MHz	26,7 dB μ V	46 dB μ V	36 dB μ V	56 dB μ V	Pass	Line 1
2,314 MHz	26,7 dB μ V	46 dB μ V	35,3 dB μ V	56 dB μ V	Pass	Line 1

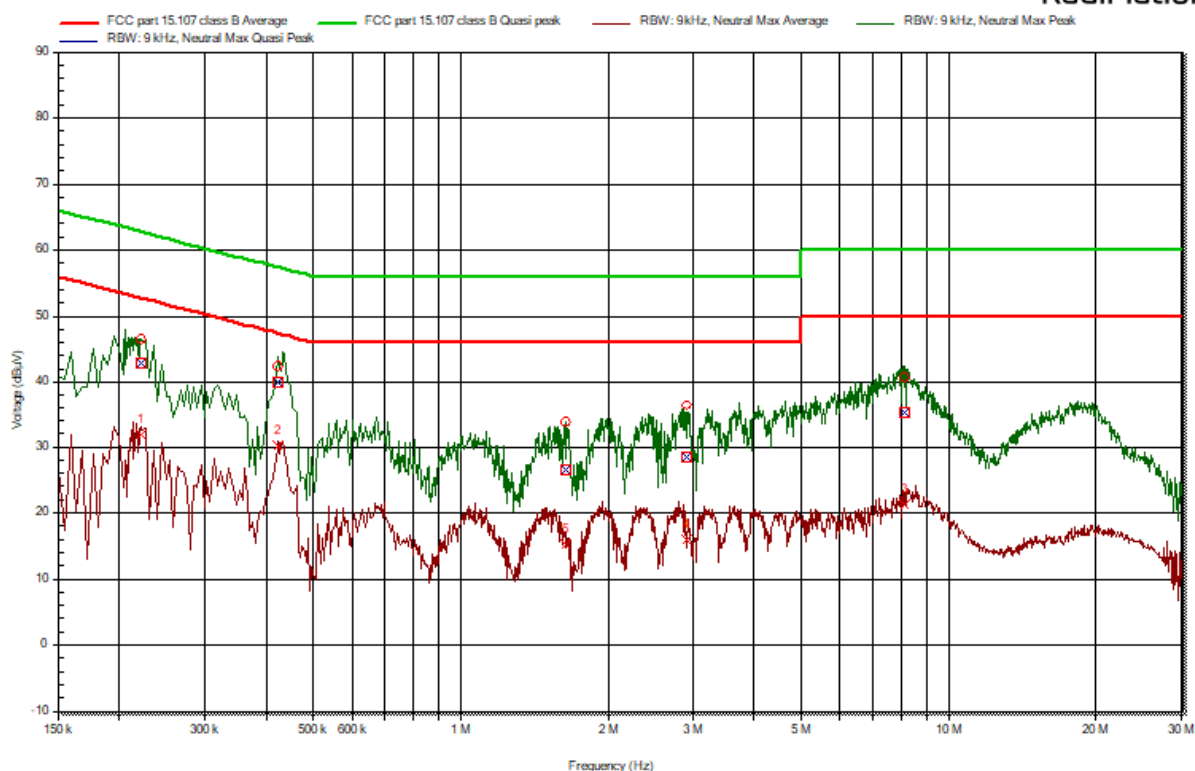
3.3.8 Plots of the AC mains conducted spurious measurement

RadiMation



Pre-scan plot with peak detector of the AC Power-line Conducted emissions on Phase

RadiMation



Pre-scan plot with peak detector of the AC Power-line Conducted emissions on Neutral

4 Sample calculations

All formulas for data conversions and conversion factors are reported in this chapter.

Conducted emission Measurement:

$$U_{\text{lisn}} (\text{dB}\mu\text{V}) = U (\text{dB}\mu\text{V}) + \text{Corr. (dB)}$$

Where:

U = Measuring receiver voltage

LISN insertion loss = Voltage division factor of LISN

Corr. = sum of single correction factors of used LISN, cables and pulse limiter.

Linear interpolation will be used for frequencies in between the values in the table.

Frequency (Mhz)	Voltage division LISN (db)	Insertion Loss Pulse limiter (dB)	Cable loss (dB)	Corr. (dB)
	TE 00208 SN: 892785/004 Rohde & Schwarz ESH3-Z5	TE 00756 SN: 5SM03153 Rohde & Schwarz ESH3-Z2	TE 11134	
0,15	0,09	9,87	0,02	9,98
0,2	0,1	9,87	0,03	10
0,3	0,1	9,87	0,03	10
0,5	0,1	9,87	0,08	10,05
0,7	0,12	9,87	0,25	10,24
0,8	0,12	9,87	0,25	10,24
1	0,13	9,87	0,11	10,11
2	0,16	9,87	0,15	10,18
3	0,19	9,87	0,21	10,27
5	0,26	9,88	0,21	10,35
7	0,36	9,89	0,25	10,5
8	0,39	9,89	0,25	10,53
10	0,46	9,91	0,29	10,66
15	0,77	9,93	0,34	11,04
20	0,95	9,96	0,37	11,28
25	1,12	9,99	0,43	11,54
30	1,1	10,04	0,45	11,59

Magnetic field strength measurement:

$$H \left[dB \left(\mu \frac{A}{m} \right) \right] = V[dB(\mu V)] + L_c[dB] + AF^H \left[\frac{dB}{\Omega m} \right]$$

Where:

H is the magnetic field strength (to be compared to the limit)

V is the voltage level measured by the receiver or spectrum analyzer

L_c is the cable loss

AF^H is the magnetic antenna factor

Frequency (MHz)	AF (dB/Ωm)	CL (dB)	Corr. (dB)
	114515 EMCO 6505 S/N:9112-2710	SAR cable	
0,009	-32,35	0,7	-31,65
0,01	-33,16	0,05	-33,11
0,02	-37,56	0,07	-37,49
0,03	-39,29	0,1	-39,19
0,04	-40,11	0,1	-40,01
0,1	-41,27	0,1	-41,17
0,2	-41,48	0,1	-41,38
0,5	-41,58	0,1	-41,48
1	-41,62	0,2	-41,42
3	-41,6	0,2	-41,4
5	-41,65	0,3	-41,35
10	-42,11	0,6	-41,51
15	-42,88	0,9	-41,98
20	-43,78	1	-42,78
25	-44,85	0,7	-44,15
27	-45,36	1,2	-44,16
30	-46,25	1	-45,25

Field Strength Measurement:

$$E \text{ (dB}\mu\text{V/m)} = U \text{ (dB}\mu\text{V)} + AF \text{ (dB/m)} + \text{Corr. (dB)}$$

Where:

E = Electric field strength

U = Measuring receiver voltage

AF = Antenna factor

CL = Cable loss

Corr. = sum of single correction factors of used cable and amplifier (if applicable).

Linear interpolation will be used for frequencies in between the values in the table.

Tables shows an extract of the values.

Frequency (Mhz)	AF (dB/m) Id: 114436 + 114254 VHA9103 + 8491A SN: 2408	Cable loss (dB) Id: SAR cable	Corr. (dB)
30	25,4	0,68	26,1
100	16,8	1,15	18,0
150	16,8	1,41	18,2
200	15,3	1,63	16,9
250	19,3	1,93	21,2
300	13,3	2,12	15,4
350	14,6	2,20	16,8
400	22,0	2,29	24,3
450	23,0	2,53	25,5
500	23,8	2,67	26,5
550	25,4	2,90	28,3
600	24,8	3,02	27,8
650	25,2	3,09	28,3
700	25,0	3,22	28,2
750	25,8	3,56	29,4
800	25,8	3,69	29,5
900	26,5	3,81	30,3
950	27,0	3,91	30,9
1000	27,4	4,30	31,7

Frequency (MHz)	AF (dB/m)	Gain (dB)	Cable loss (dB)	Corr. (dB)
	TE 00531 Emco 3115 SN: 9412-4377	TE 11132 Miteq JS4-18004000-30-8P-A1	TE 01315	
1000	23,6	40,4	2,0	66
1500	25,1	40,5	2,4	68
2000	27,1	40,5	2,7	70,3
2500	28,6	40,7	3,2	72,5
3000	30,5	40,7	3,2	74,4
3500	31,2	40,7	3,4	75,3
4000	32,7	40,9	4,9	78,5
4500	32,4	40,9	4,4	77,7
5000	33,2	40,7	4,6	78,5
5500	34,0	40,5	4,5	79
6000	34,6	40,0	5,2	79,8
6500	34,3	39,4	5,9	79,6
7000	35,2	38,6	5,7	79,5
7500	36,4	39,2	5,9	81,5
8000	37,0	38,9	6,3	82,2
8500	37,5	38,4	6,4	82,3
9000	38,1	37,4	6,5	82
9500	37,8	37,0	7,1	81,9
10000	38,2	36,5	7,3	82
10500	38,1	36,7	7,6	82,4
11000	38,3	36,9	8,3	83,5
11500	38,5	37,6	8,1	84,2
12000	39,1	38,3	8,4	85,8
12500	38,7	38,5	8,3	85,5
13000	39,2	38,9	9,2	87,3
13500	40,5	40,2	8,3	89
14000	41,1	40,0	8,2	89,3
14500	41,4	40,1	8,2	89,7
15000	40,2	41,4	8,3	89,9
15500	37,9	41,4	8,6	87,9
16000	37,5	42,8	9,2	89,5
16500	38,6	42,3	8,8	89,7
17000	41,1	43,1	9,4	93,6
17500	42,7	43,2	9,4	95,3
18000	44,0	44,2	9,8	98

Frequency (MHz)	AF (dB/m)	Gain (dB)	Cable loss (dB)	Corr. (dB)
	TE 00818 Flann 20240-25 SN: 163703	TE 11131 Miteq JS4-18004000-30-8P-A1	TE 01315	
18000	31,3	26,2	9,8	67,3
19000	31,5	26,1	9,6	67,2
20000	31,7	25,9	11	68,6
21000	31,9	24,3	10,7	66,9
22000	32,1	18,3	10,5	60,9
23000	32,2	18,9	10,8	61,9
24000	32,3	23,6	11,4	67,3
25000	32,4	24,5	11,6	68,5
26000	32,5	25,3	11,7	69,5

<<END OF REPORT>>