Test report for

47 CFR Part 15 Subpart C

The RvA is signatory to ILAC - MRA

Product name	: Mega macsx
Applicant	: Hella Gutmann Solutions GmbH
FCC ID	: 2AEOK015265301

Test report No. : P000276511 002 Ver 2.00

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).

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Documentation

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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	22-04-2023	First draft	R.T
v1.00	04-072023	Final release	R.T
v2.00	13-07-2023	Revised Updated FCC ID Updated section 2.3 equipment calibration Updated section 3.1.4 and 3.3.4 Added END OF REPORT statement	R.T

Table of Contents

Summary of Test results

FCC	Description	Section in report	Verdict
15.247(d) 15.209 (a)	Radiated spurious emissions	3.1	Pass
15.207 (c)	AC power-line conducted emissions	3.2	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:	Hella Gutmann Solutions GmbH
Address:	Am Krebsbach 2, Ihringen, Germany
Zip code:	79241
Telephone:	49 7668 9900-0
E-mail:	Juergen.Ruf@hella-gutmann.com
Contact name:	Jürgen Ruf

1.2 Manufacturer

Manufacturer name:	Hella Gutmann Solutions GmbH
Address:	Am Krebsbach 2, Ihringen, Germany
Zip code:	79241
Telephone:	49 7668 9900-0
E-mail:	Juergen.Ruf@hella-gutmann.com
Contact name:	Jürgen Ruf

1.3 Tested Equipment Under Test (EUT)

Product name:	Mega macs x
Brand name:	Hella Gutmann Solutions GmbH
FCC ID:	2AEOK015265301
IC:	Not applicable
Product type:	Diagnostic device
Model(s):	-
Batch and/or serial No.	-
Software version:	1.0
Hardware version:	61.39
Date of receipt	11-04-2023
Tests started:	11-04-2023
Testing ended:	18-04-2023

1.3.1 Auxiliary items

AUX1

Product name:	Power supply for EUT
Brand name:	CINCON ELECTRONICS CO.,LTD
Product type:	AC ADAPTER
Model(s):	TRH70A150
Batch and/or serial No.	-
Remarks:	Connects to EUT

AUX2

Product name:	Lenovo Thinkpad
Brand name:	Lenovo
Product type:	Notebook
Model(s):	-
Batch and/or serial No.	-
Remarks:	Connects to EUT

1.4 Product specifications of Equipment under test

Tx Frequency:	BLE: 2400.0 MHz -2483.5 MHz, WLAN: 2400.0 MHz -2483.5 MHz
Rx frequency:	BLE: 2400.0 MHz -2483.5 MHz, WLAN: 2400.0 MHz -2483.5 MHz
Occupied channel width:	BLE : 1 MHz, WLAN: 20MHz, 40MHz
Antenna type:	Integrated antenna
Antenna gain:	+ 3.0 dBi
Type of modulation:	GFSK

Disclaimer: The operating frequency bands are declared by the applicant

1.5 Environmental conditions

Normal test conditions:

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

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 §15.207
- FCC Part 15 Subpart C §15.209
- FCC Part 15 Subpart C §15.247

1.8 Observation and remarks

The EUT contains a pre-certified module, therefore only spurious emissions were tested.

1.9 Modifications to the EUT (Equipment Under Test)

-

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 : Raoul Tolud, MSc

Review of test methods and report by:

Name : Koray Korum, MSc

The above conclusions have been verified by the following signatory:

Date : 30-10-2023

Name : ing. R. van Barneveld

Function : Test Engineer

Signature :

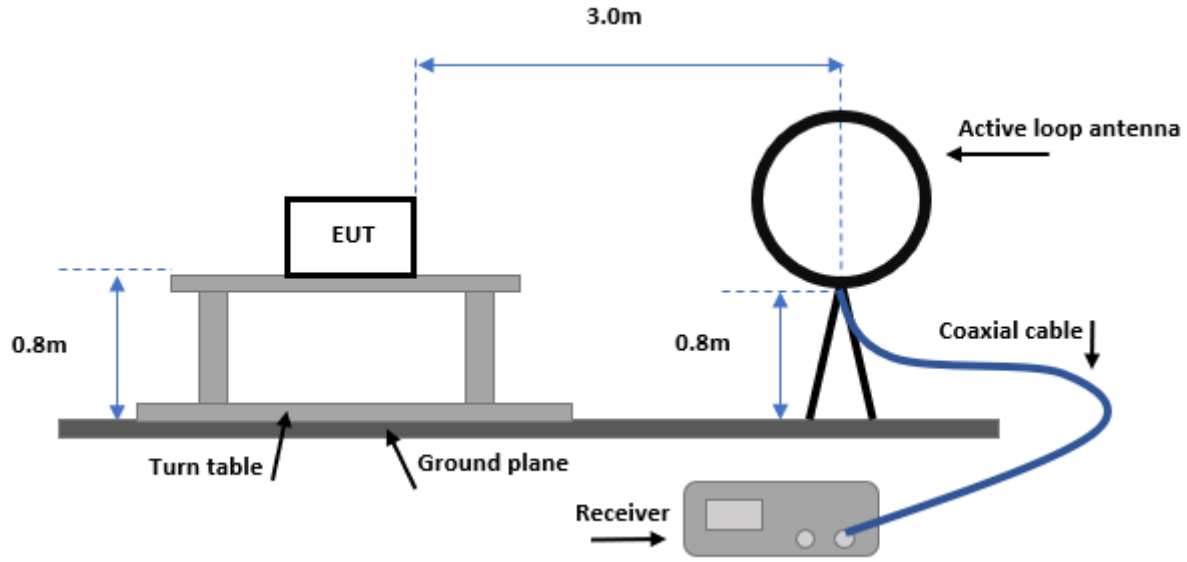
2 Test configuration of the Equipment Under Test

2.1 Test mode

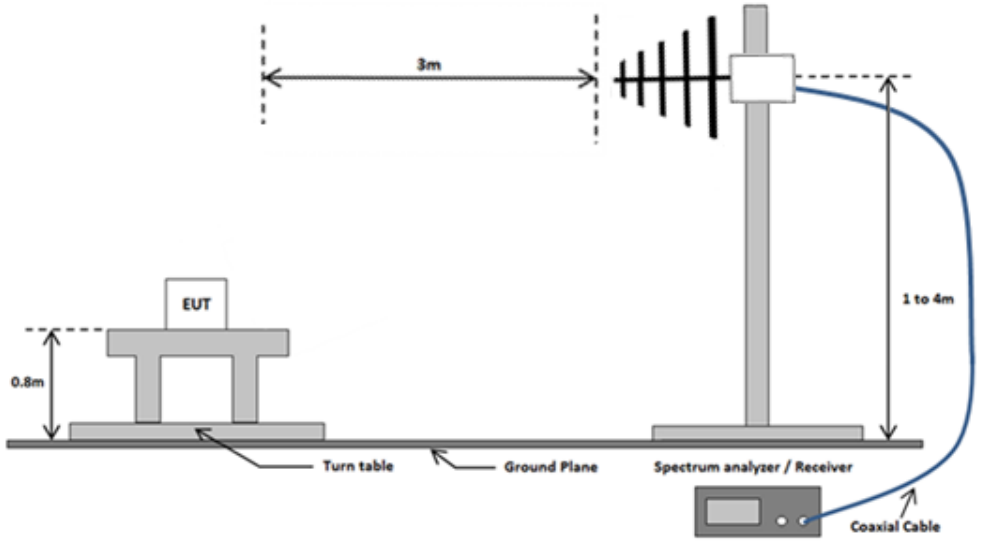
The manufacturer provided a radio test mode that enabled us to configure the radio settings of the EUT.

2.2 Test setups

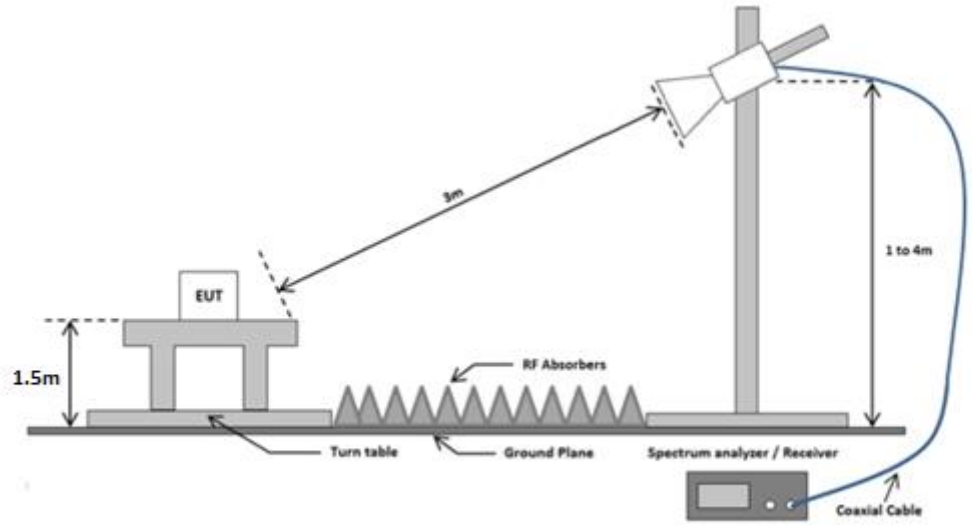
Radiated emissions test setup 9 kHz – 30 MHz



Radiated emissions test setup 30 MHz - 1 GHz

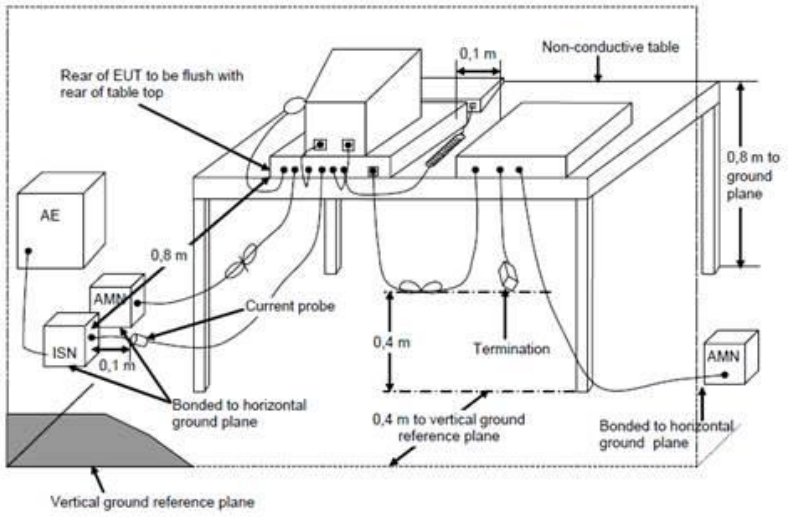


Radiated emissions test setup above 1 GHz



AC Power line conducted emissions test setup

Emissions test at AC mains



List of used cables					
Number	**Function**	**From**	**To**	**Length**	**Remarks**
1	AC Power	mains 120Vac 60 Hz	AUX1 & AUX2	< 3m	-
2	x Vdc power	AUX1	EUT	< 3m	-
3	Ethernet	EUT	AUX2	<3m	-

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	3.1/3.2
Spectrum analyzer	Rohde & Schwarz	FSV40	114527	11-2022	11-2024	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
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	TE 02008	--	--	3.1
LISN /Two line V-network	Rohde & Schwarz	ENV 216	114379	07-2021	07-2023	3.2

*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*{log[2400]-log[F(kHz)]}	300*
0.490 – 1.705	24000/F(kHz)	20*{log[24000]-log[F(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 C63.10-2013, 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

3.2 Test results

250-1000MHz mid channel

Peak Number	Frequency	Peak	Angle	Height	Distance	Polarization
1	750.063 MHz	45 dBµV/m	174 degrees	1 m	3 m	Horizontal
2	343.563 MHz	42.3 dBµV/m	174 degrees	1 m	3 m	Horizontal

1-18GHz BLE low channel

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Distance	Polarization
1	3.755 GHz	38.6 dBµV/m	74 dBµV/m	30.3 dBµV/m	54 dBµV/m	Pass	158 degrees	3.7 m	3 m	Vertical
2	13.88 GHz	56.4 dBµV/m	74 dBµV/m	47.4 dBµV/m	54 dBµV/m	Pass	29 degrees	1.2 m	3 m	Vertical
3	7.166 GHz	45.3 dBµV/m	74 dBµV/m	36.7 dBµV/m	54 dBµV/m	Pass	51 degrees	4 m	3 m	Horizontal

1-18GHz BLE mid channel

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Distance	Polarization
1	3.328 GHz	37.2 dBµV/m	74 dBµV/m	27.8 dBµV/m	54 dBµV/m	Pass	211 degrees	3.3 m	3 m	Vertical
2	6.155 GHz	42.4 dBµV/m	74 dBµV/m	33.2 dBµV/m	54 dBµV/m	Pass	178 degrees	2.5 m	3 m	Vertical
3	11.858 GHz	49.8 dBµV/m	74 dBµV/m	40.8 dBµV/m	54 dBµV/m	Pass	217 degrees	1.3 m	3 m	Horizontal

1-18GHz BLE high channel

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Distance	Polarization
1	3.326 GHz	37.3 dBµV/m	74 dBµV/m	28.3 dBµV/m	54 dBµV/m	Pass	274 degrees	3 m	3 m	Vertical
2	6.166 GHz	42.6 dBµV/m	74 dBµV/m	33 dBµV/m	54 dBµV/m	Pass	334 degrees	3.8 m	3 m	Horizontal
3	10.183 GHz	47.7 dBµV/m	74 dBµV/m	38.6 dBµV/m	54 dBµV/m	Pass	181 degrees	2.7 m	3 m	Vertical

1-18GHz WIFI low channel

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Distance	Polarization
1	3.847 GHz	39.2 dBµV/m	74 dBµV/m	30.2 dBµV/m	54 dBµV/m	Pass	79 degrees	1 m	3 m	Horizontal
2	5.537 GHz	40.6 dBµV/m	74 dBµV/m	31.4 dBµV/m	54 dBµV/m	Pass	89 degrees	3.3 m	3 m	Horizontal
3	10.403 GHz	49 dBµV/m	74 dBµV/m	39.2 dBµV/m	54 dBµV/m	Pass	238 degrees	2.3 m	3 m	Vertical

1-18GHz WIFI mid channel

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Distance	Polarization
1	3.747 GHz	38.8 dBµV/m	74 dBµV/m	29.5 dBµV/m	54 dBµV/m	Pass	280 degrees	1.7 m	3 m	Vertical
2	9.066 GHz	47.3 dBµV/m	74 dBµV/m	38.2 dBµV/m	54 dBµV/m	Pass	208 degrees	2.3 m	3 m	Vertical

18-26 GHz BLEI low channel

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Distance	Polarization
1	21.114 GHz	53.3 dBµV/m	74 dBµV/m	44.9 dBµV/m	54 dBµV/m	Pass	258 degrees	1.8 m	3 m	Horizontal
2	22.487 GHz	54.7 dBµV/m	74 dBµV/m	45.5 dBµV/m	54 dBµV/m	Pass	138 degrees	3.4 m	3 m	Horizontal
3	24.412 GHz	56.6 dBµV/m	74 dBµV/m	48.1 dBµV/m	54 dBµV/m	Pass	139 degrees	2.35 m	3 m	Horizontal

18-26 GHz WIFI low channel

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Distance	Polarization
1	20.777 GHz	53 dBµV/m	74 dBµV/m	43.7 dBµV/m	54 dBµV/m	Pass	332 degrees	3.2 m	3 m	Horizontal
2	22.576 GHz	54.7 dBµV/m	74 dBµV/m	46.1 dBµV/m	54 dBµV/m	Pass	269 degrees	3.15 m	3 m	Vertical
3	24.347 GHz	57.1 dBµV/m	74 dBµV/m	48 dBµV/m	54 dBµV/m	Pass	1 degrees	2.15 m	3 m	Vertical

18-26 GHz WIFI mid channel

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Distance	Polarization
1	21.434 GHz	54 dBµV/m	74 dBµV/m	45 dBµV/m	54 dBµV/m	Pass	239 degrees	1.75 m	3 m	Horizontal
2	23.449 GHz	56.1 dBµV/m	74 dBµV/m	47.1 dBµV/m	54 dBµV/m	Pass	354 degrees	1.45 m	3 m	Horizontal

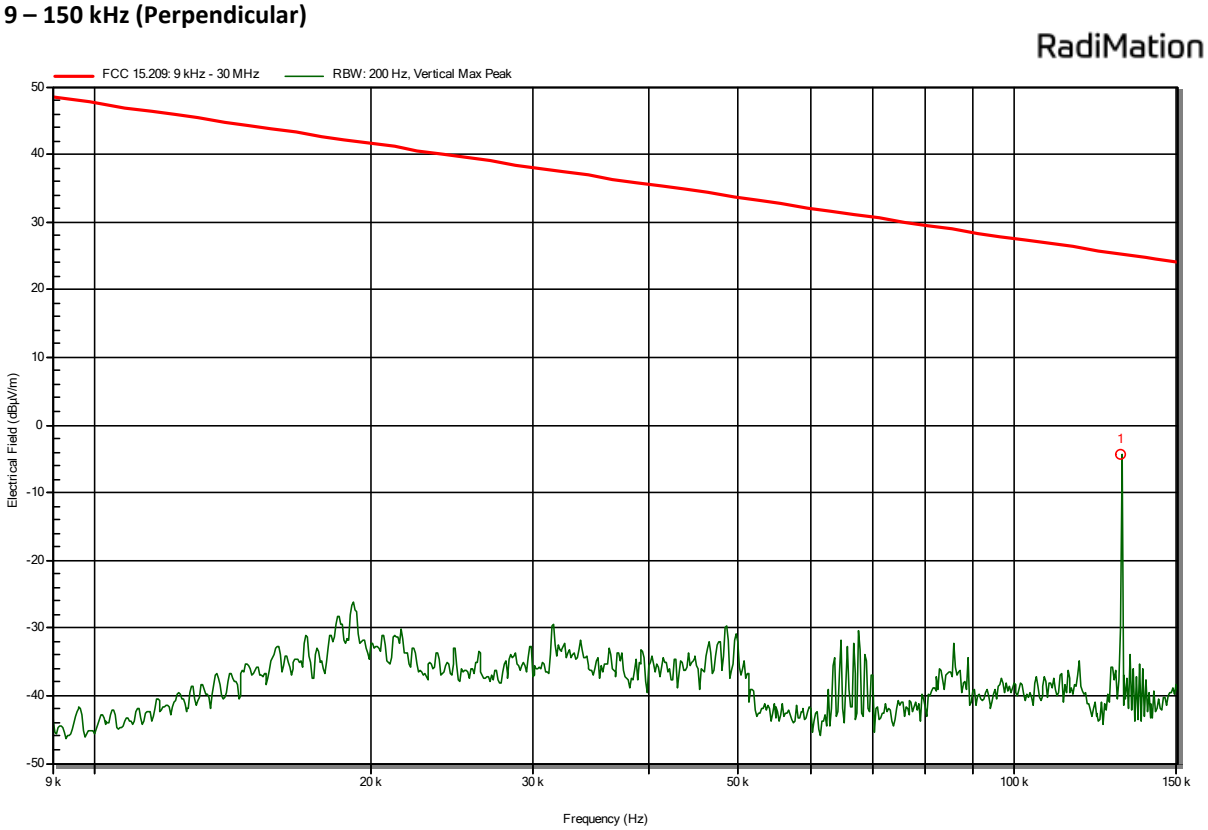
18-26 GHz WIFI high channel

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Distance	Polarization
1	20.708 GHz	52.4 dBµV/m	74 dBµV/m	43.7 dBµV/m	54 dBµV/m	Pass	13 degrees	2.3 m	3 m	Vertical
2	22.623 GHz	54.7 dBµV/m	74 dBµV/m	46.1 dBµV/m	54 dBµV/m	Pass	54 degrees	1.6 m	3 m	Vertical
3	24.55 GHz	57.4 dBµV/m	74 dBµV/m	49 dBµV/m	54 dBµV/m	Pass	124 degrees	1.5 m	3 m	Vertical

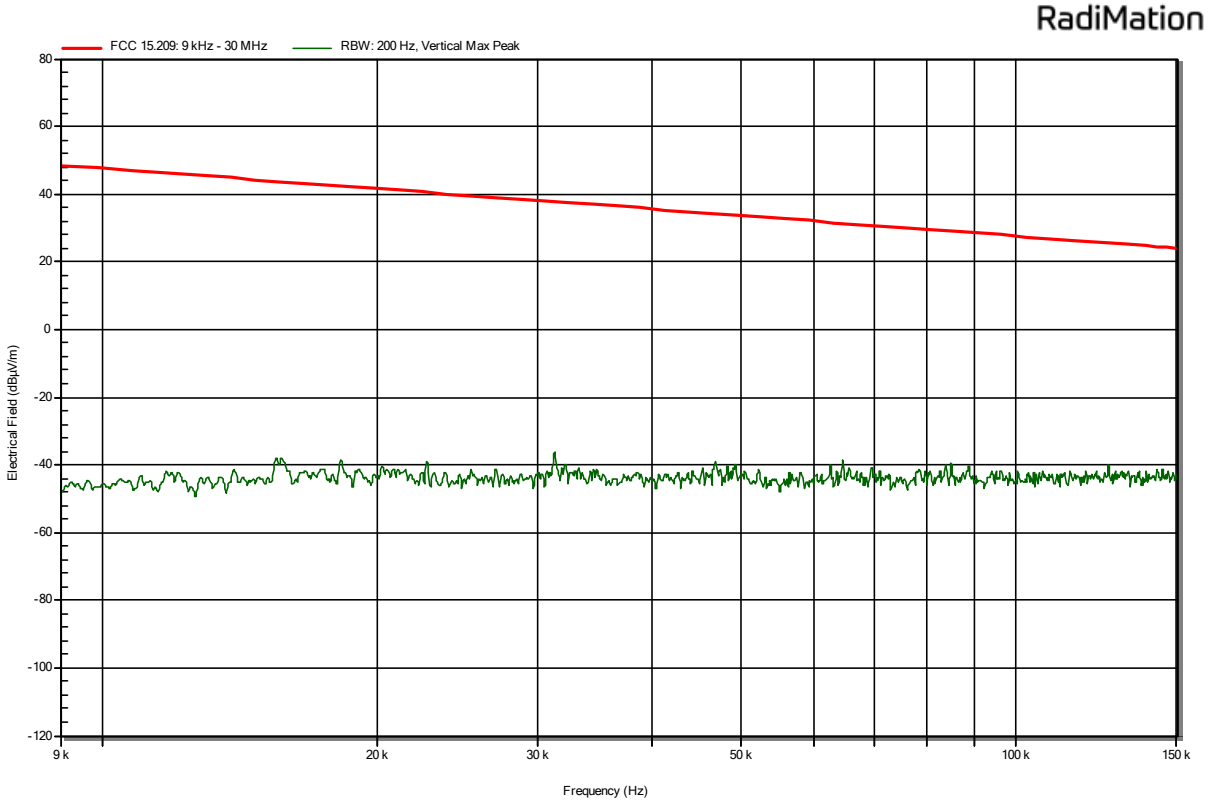
The results of the radiated emission tests are depicted in the table above. A selection of plots is provided on the next pages

3.2.1 Plots of the Radiated Spurious Emissions Measurement

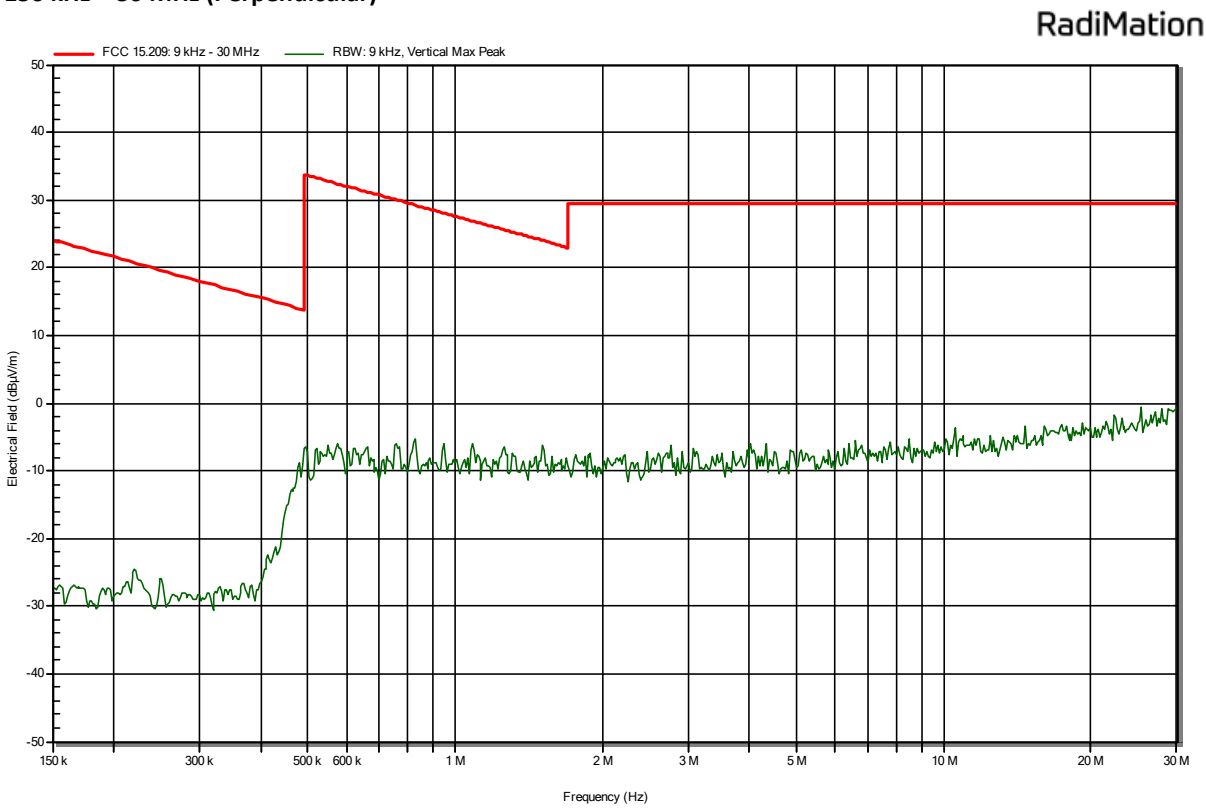
9 – 150 kHz (Perpendicular)



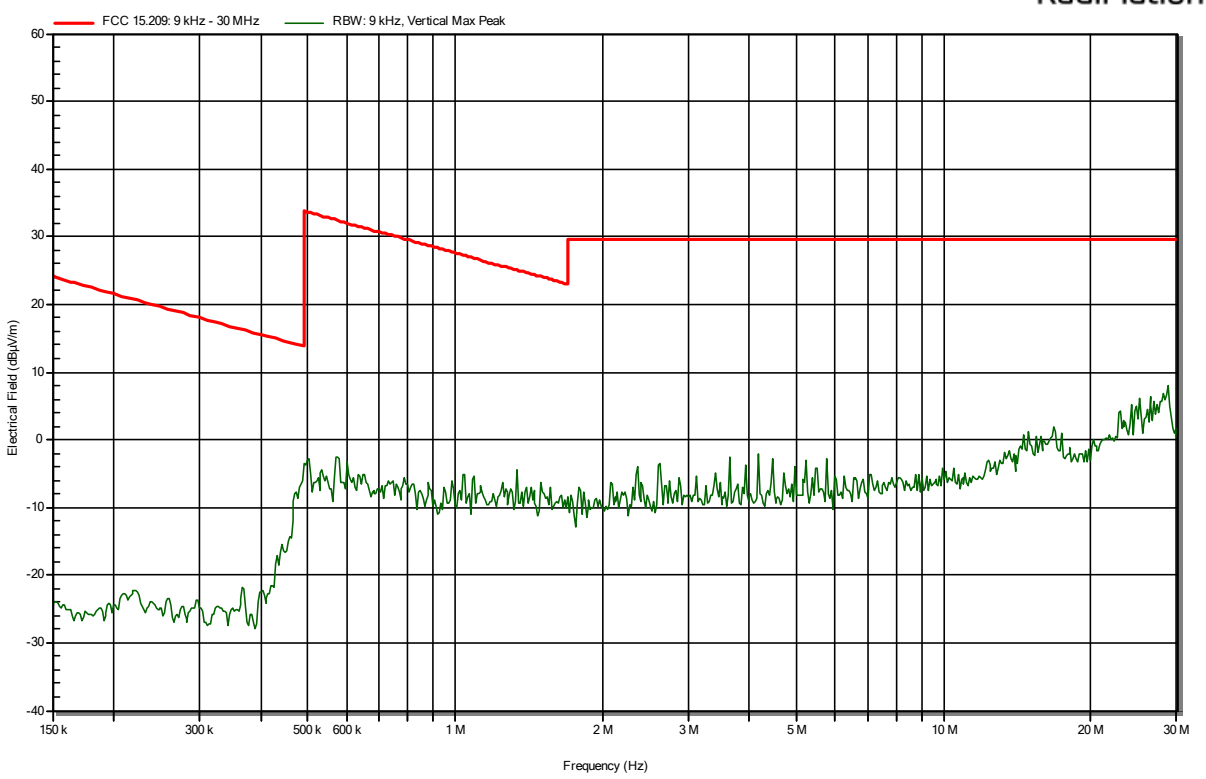
9 – 150 kHz (Orthogonal)



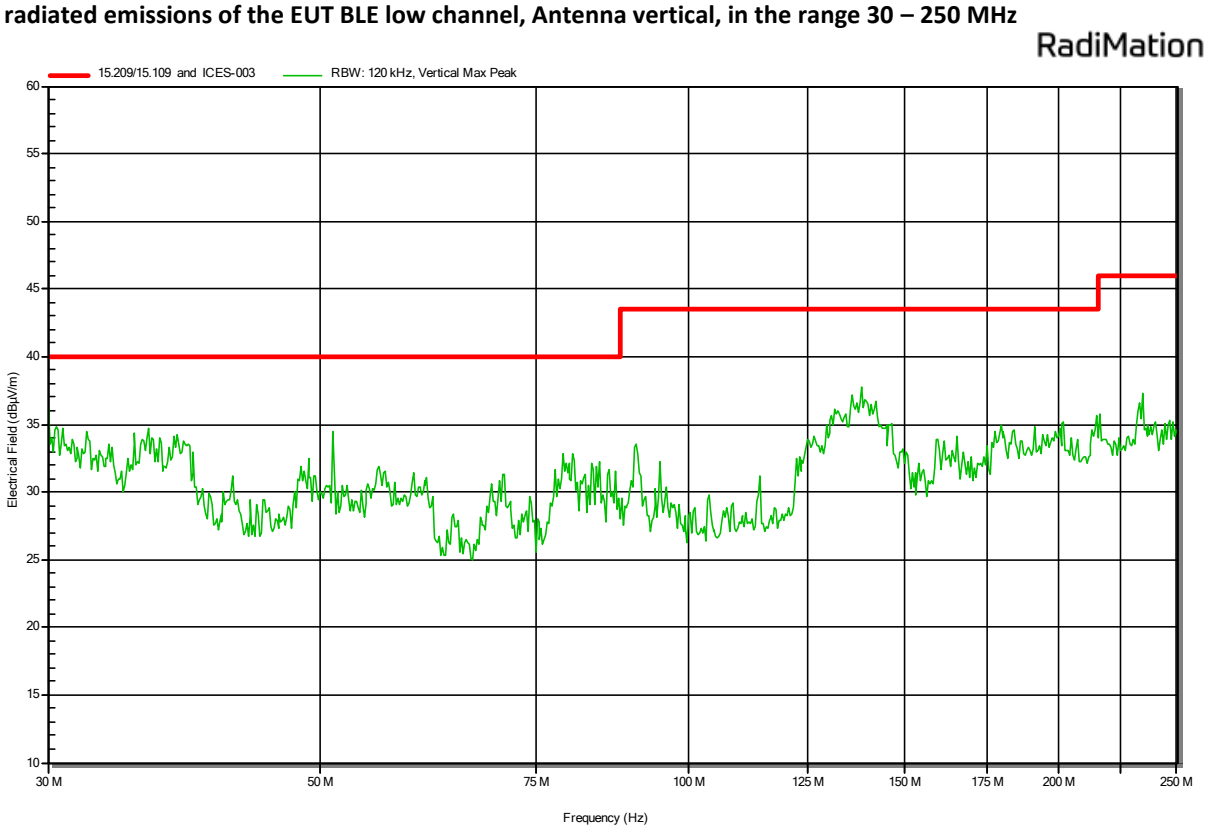
150 kHz – 30 MHz (Perpendicular)



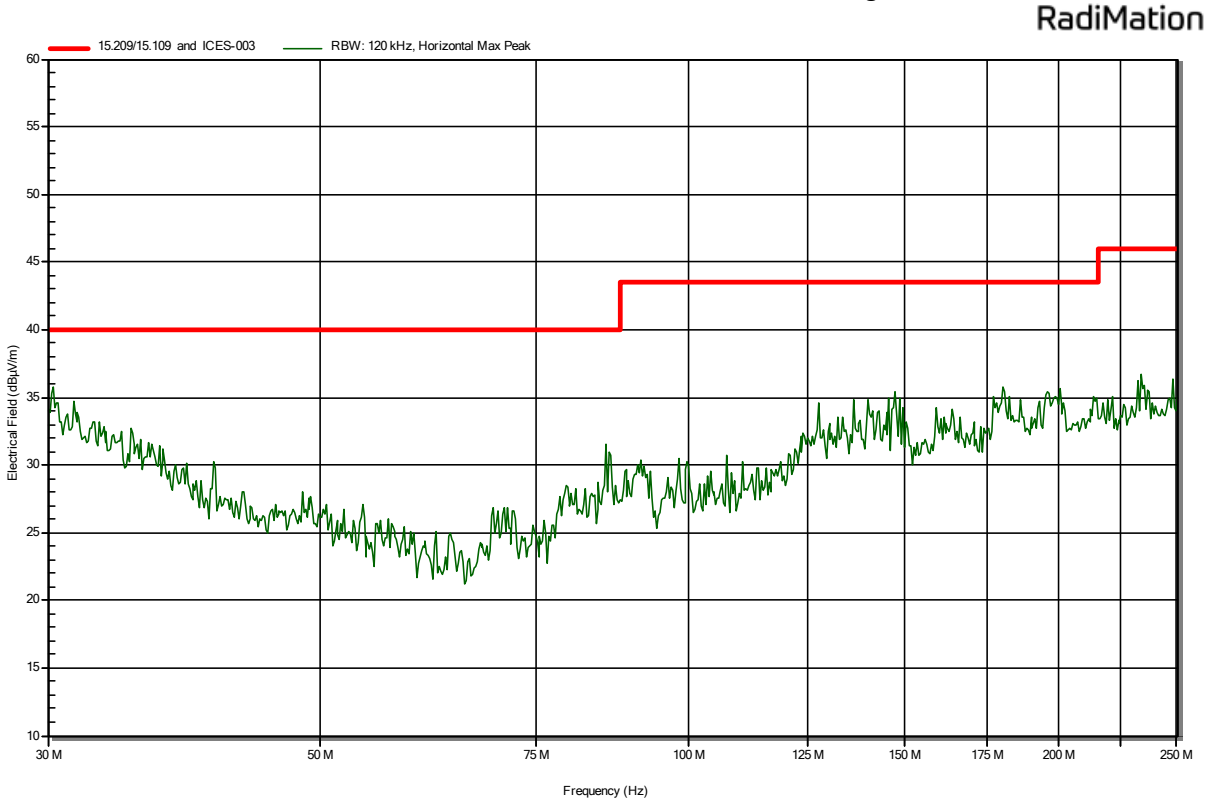
150 kHz – 30 MHz (Orthogonal)



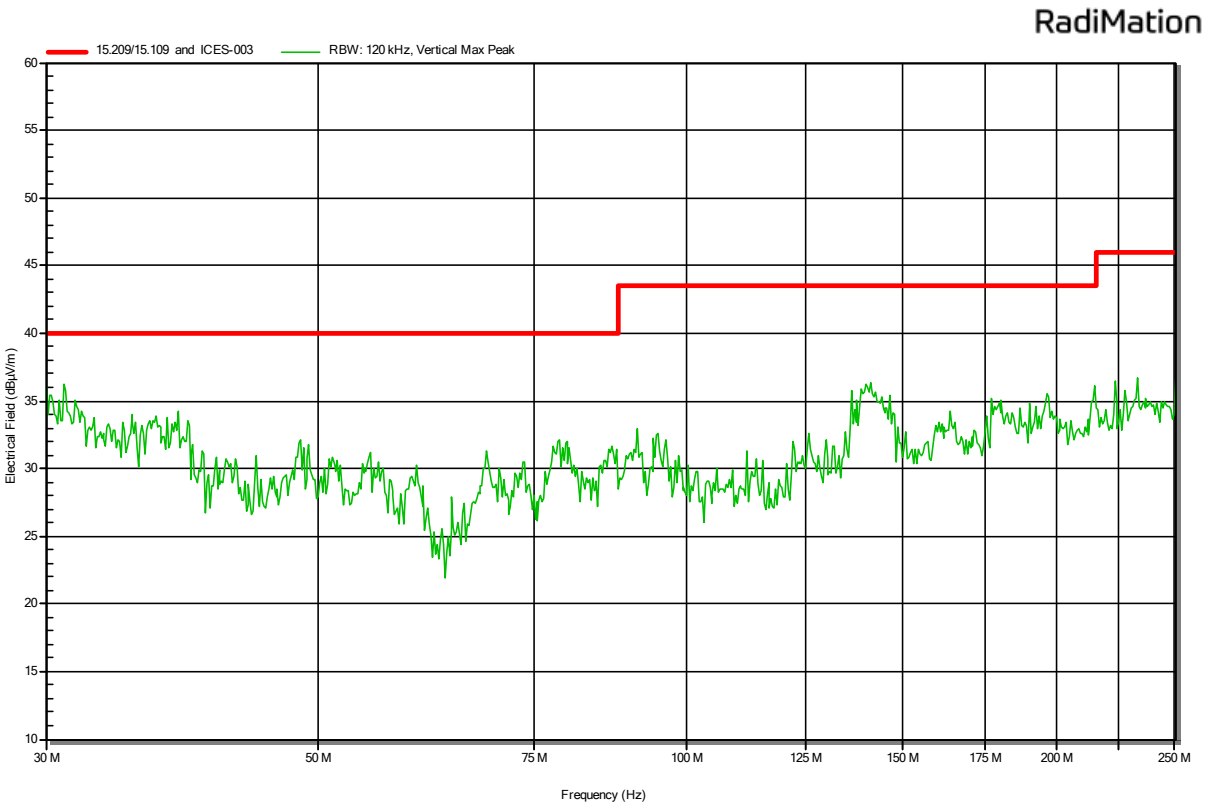
radiated emissions of the EUT BLE low channel, Antenna vertical, in the range 30 – 250 MHz



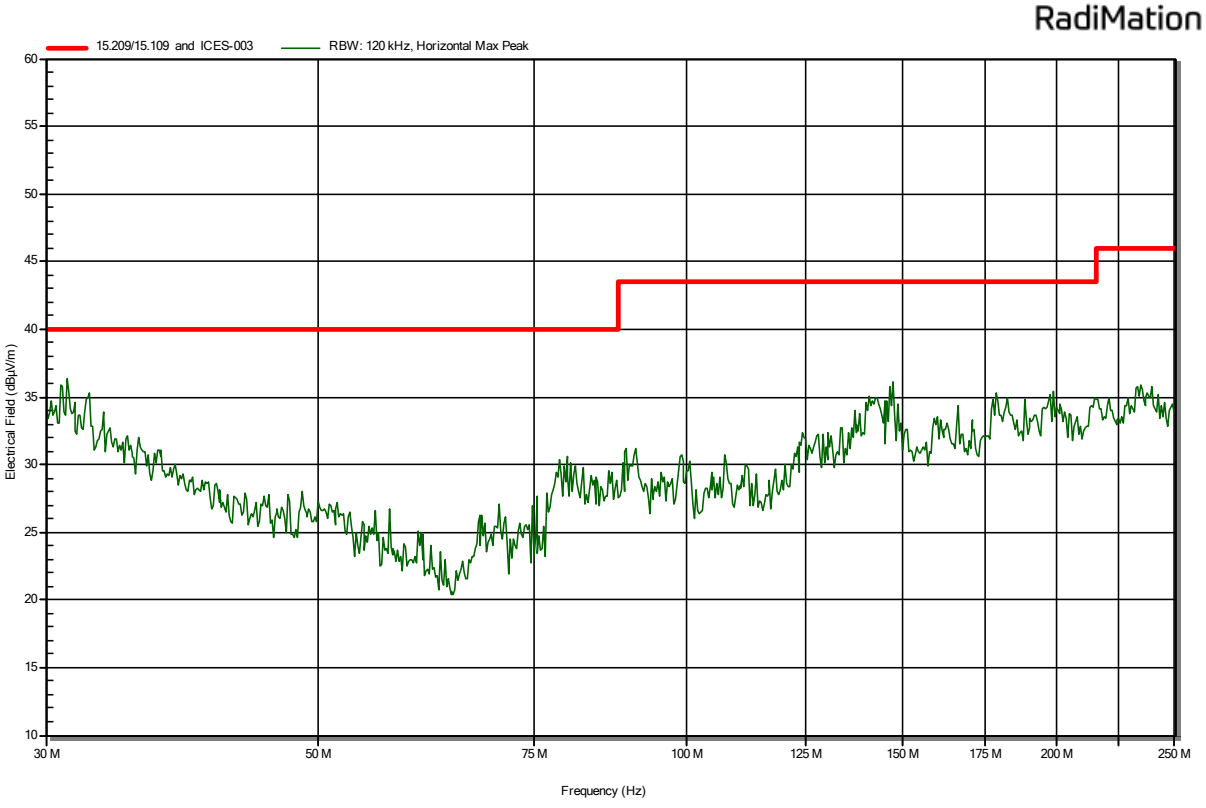
radiated emissions of the EUT BLE low channel, Antenna horizontal, in the range 30 – 250 MHz



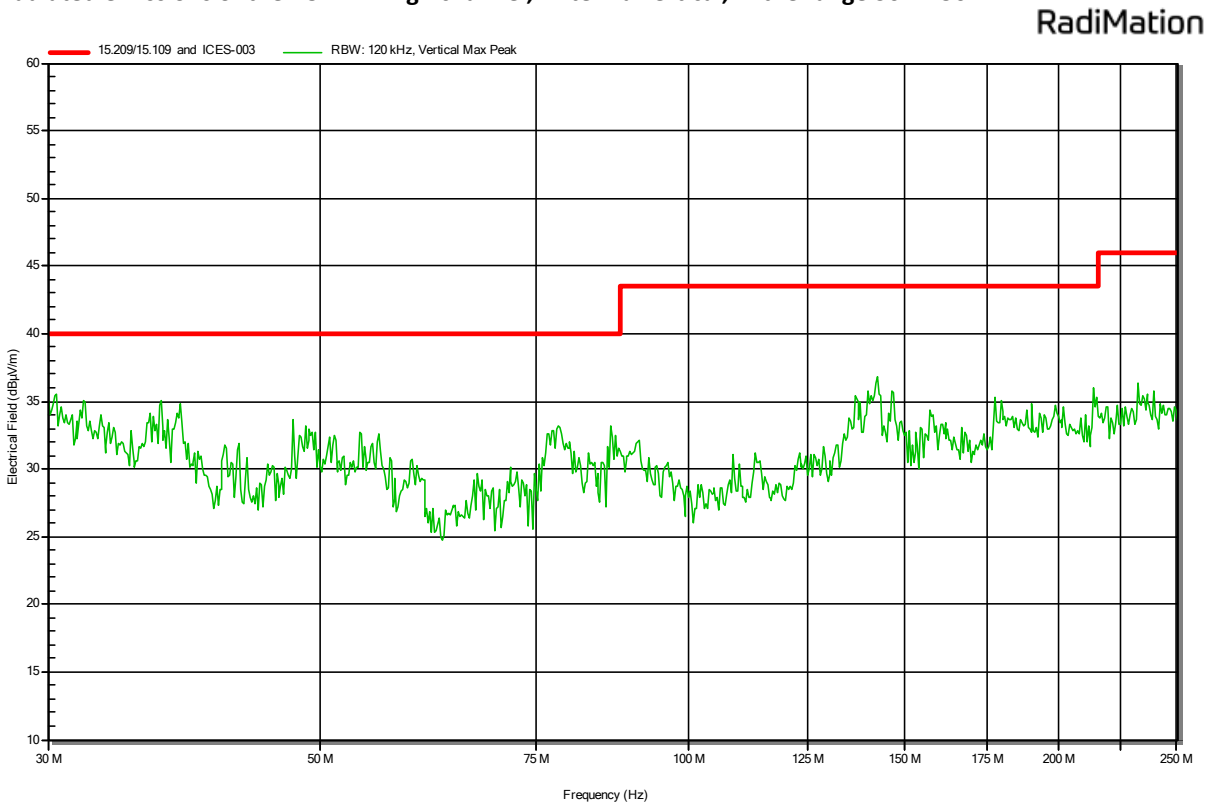
radiated emissions of the EUT BLE mid channel, Antenna vertical, in the range 30 – 250 MHz



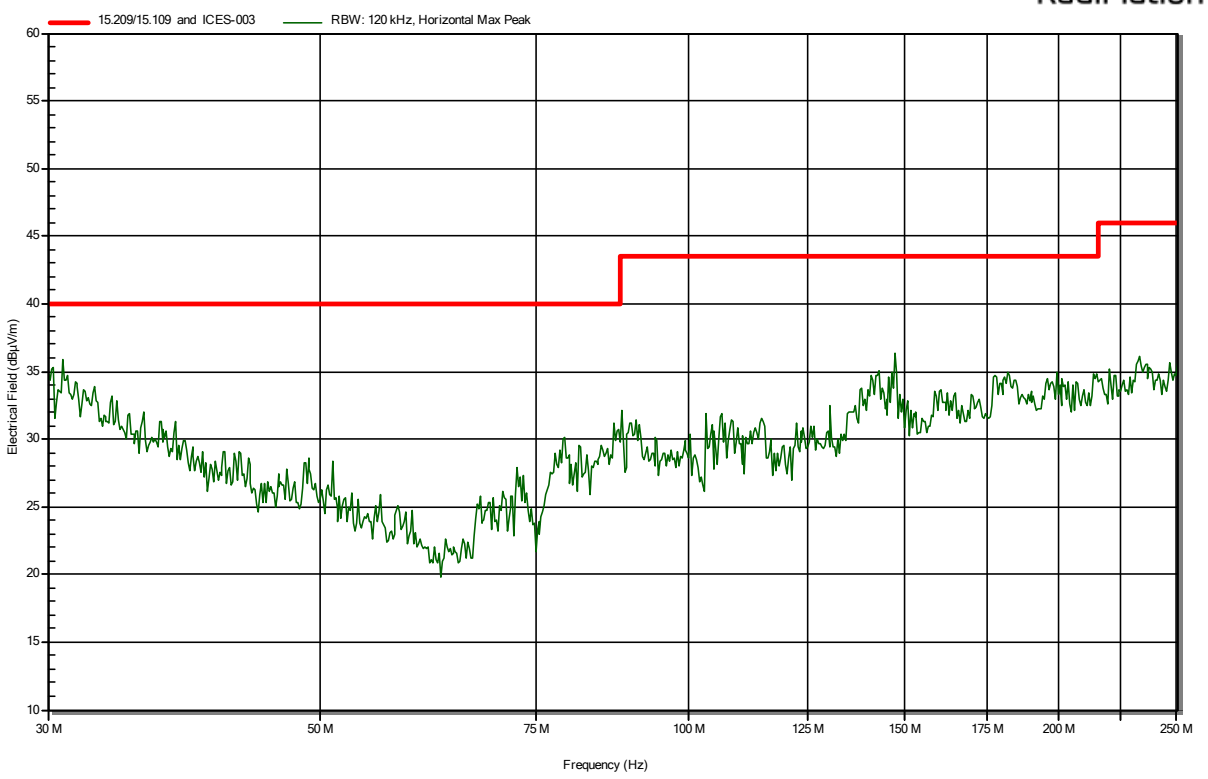
radiated emissions of the EUT BLE mid channel, Antenna horizontal, in the range 30 – 250 MHz



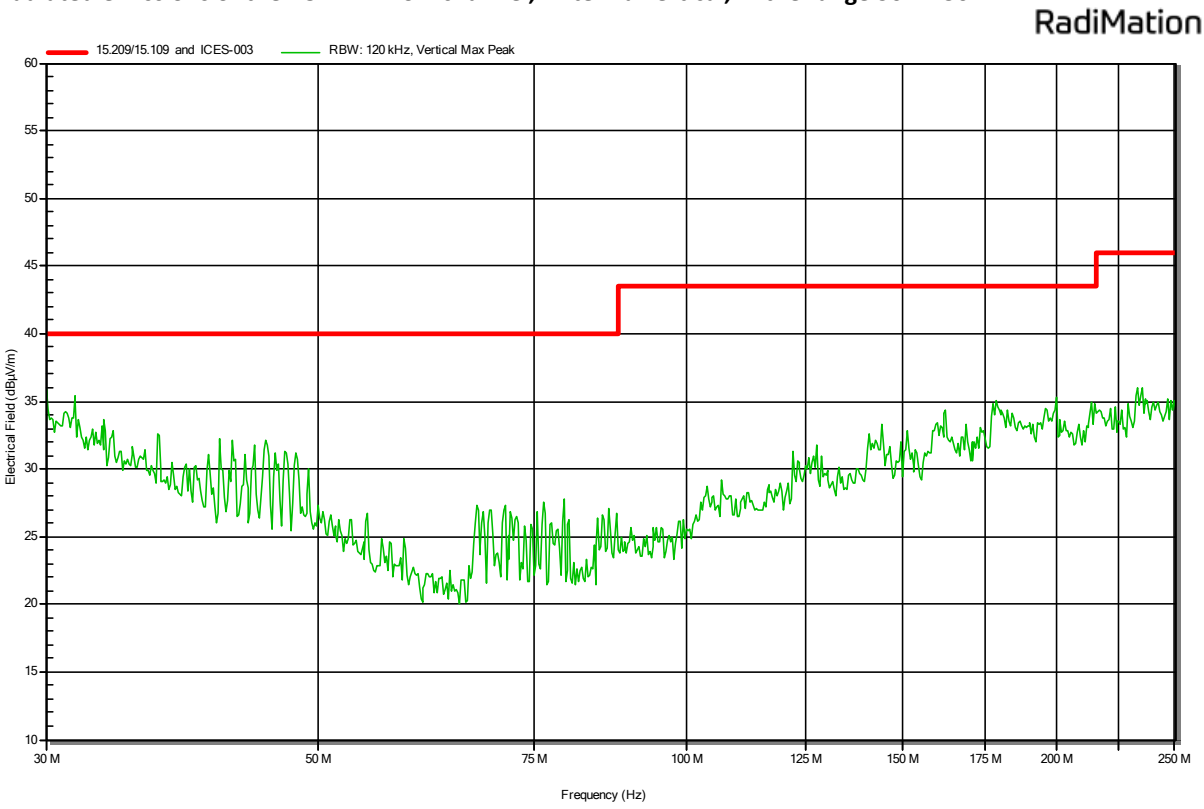
radiated emissions of the EUT BLE high channel, Antenna vertical, in the range 30 – 250 MHz



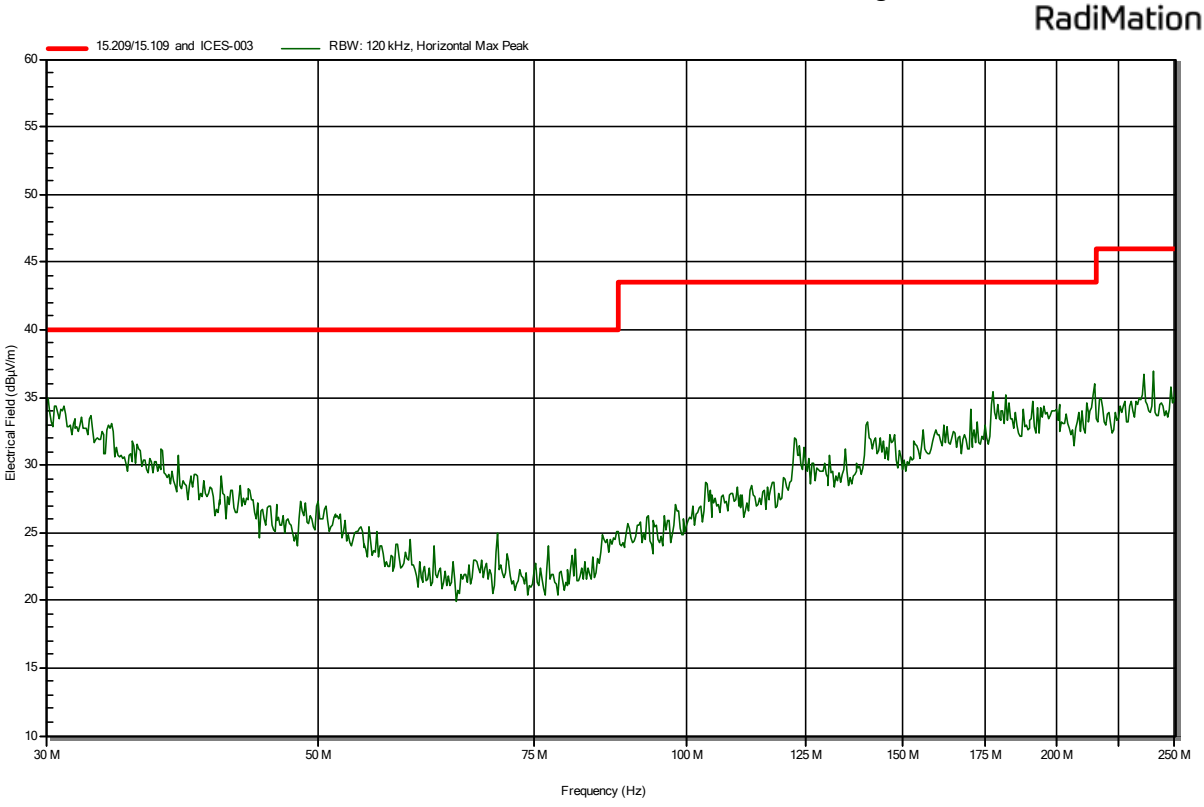
radiated emissions of the EUT BLE high channel, Antenna horizontal, in the range 30 – 250 MHz



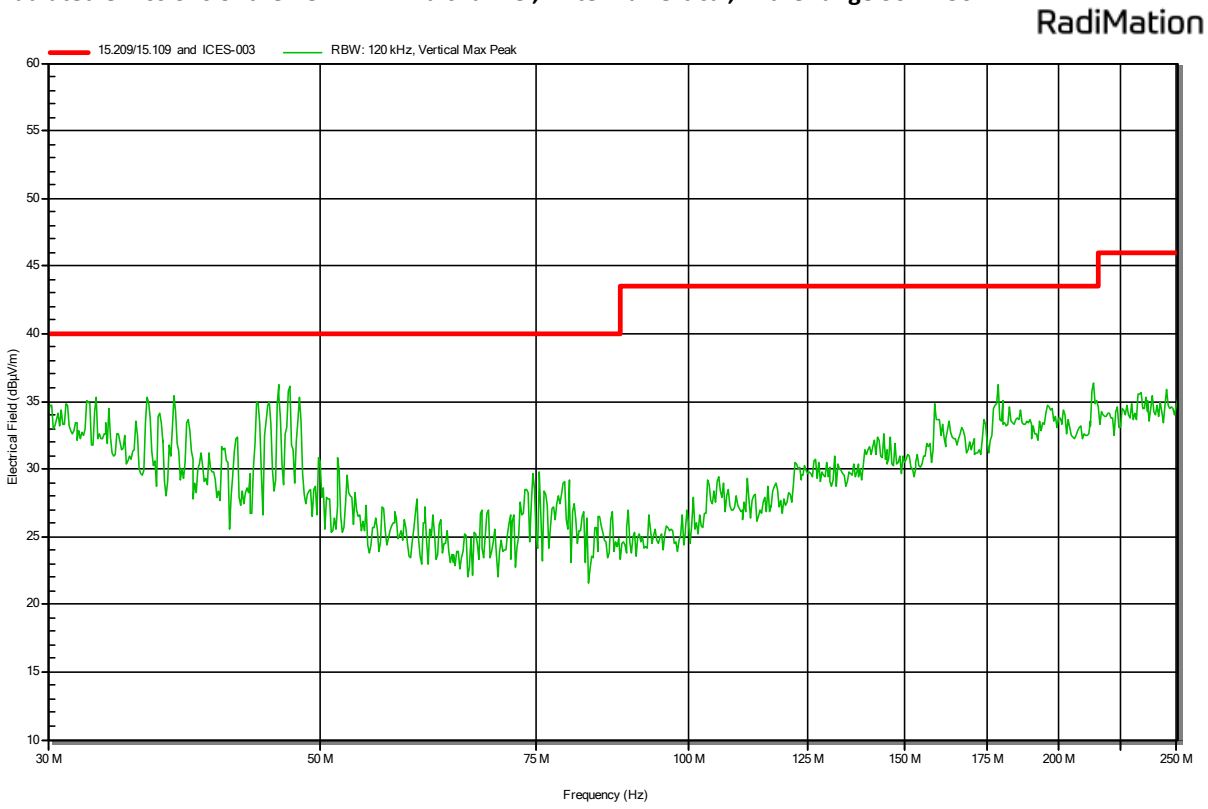
radiated emissions of the EUT WIFI low channel, Antenna vertical, in the range 30 – 250 MHz



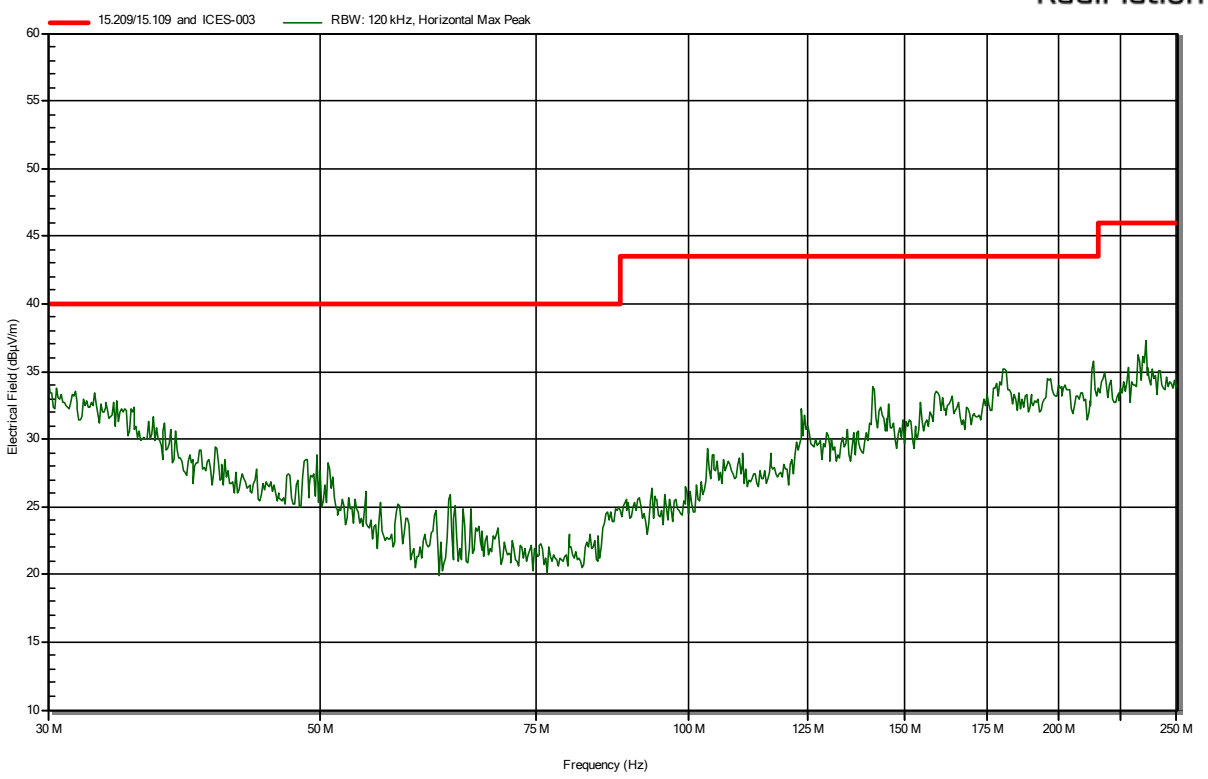
radiated emissions of the EUT WIFI low channel, Antenna horizontal, in the range 30 – 250 MHz



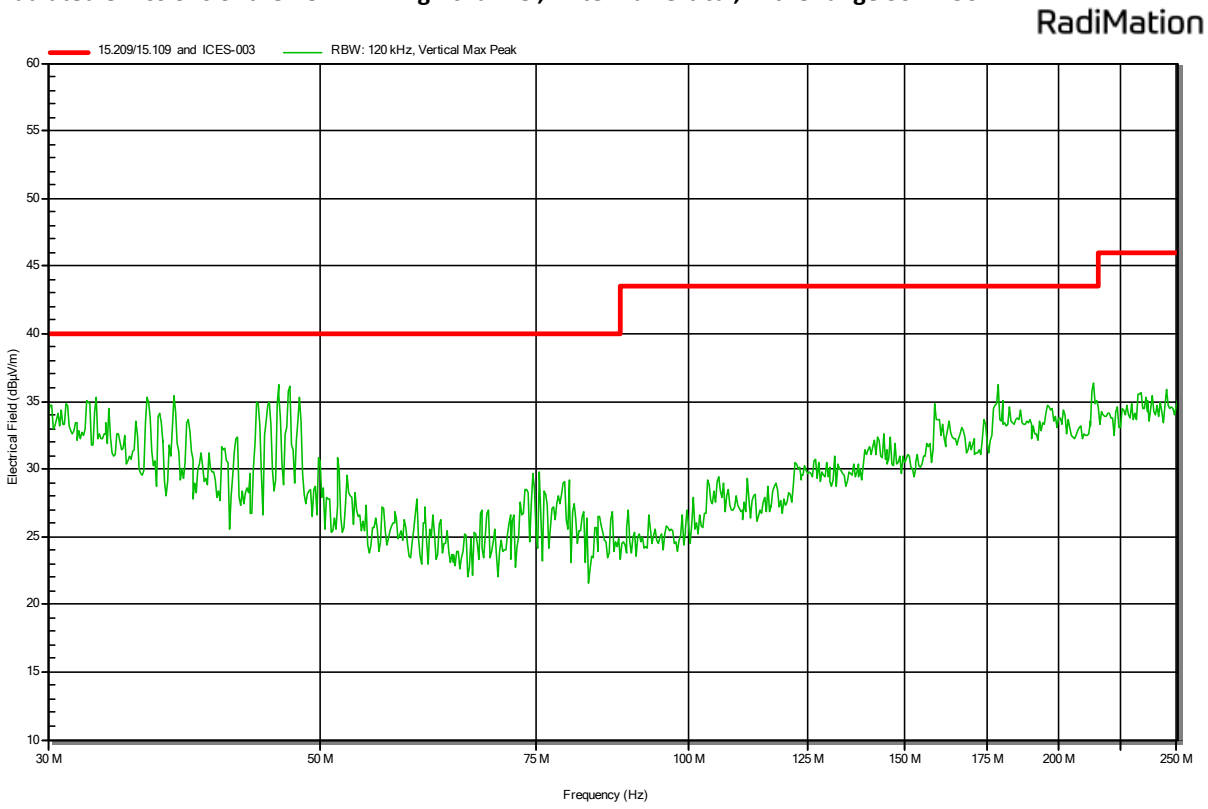
radiated emissions of the EUT WIFI mid channel, Antenna vertical, in the range 30 – 250 MHz



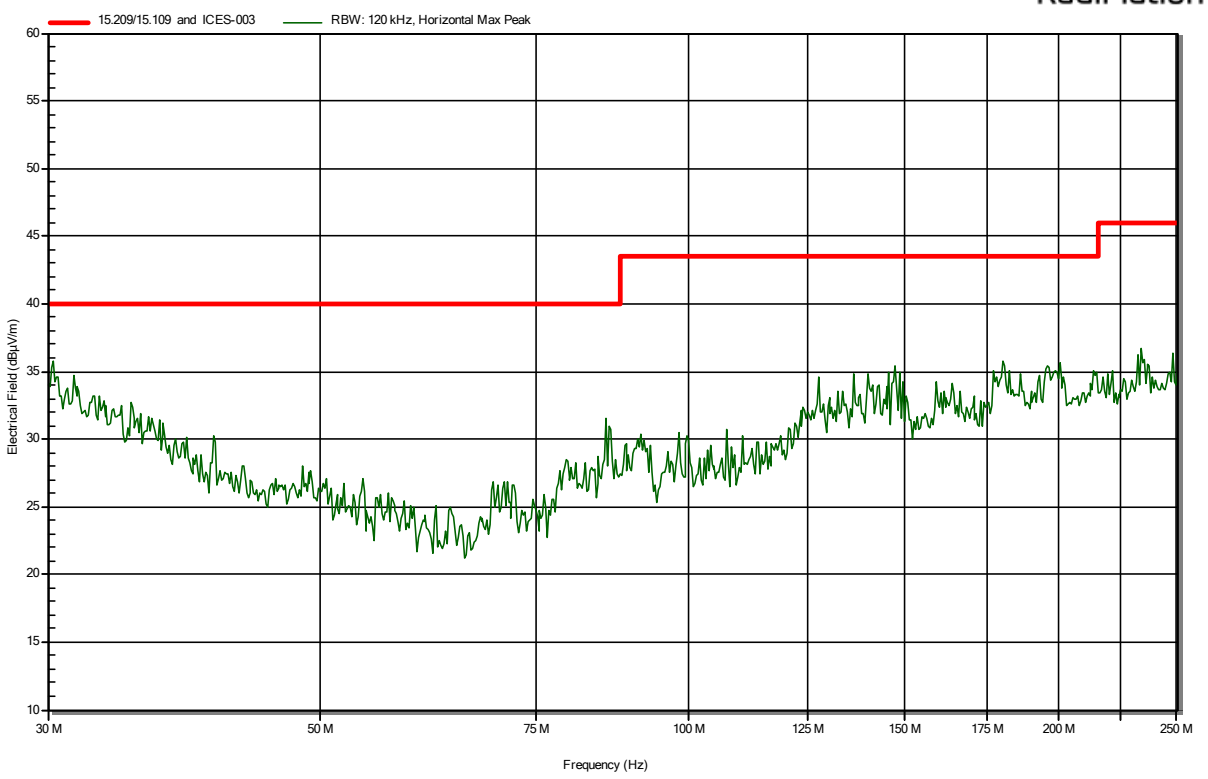
radiated emissions of the EUT WIFI mid channel, Antenna horizontal, in the range 30 – 250 MHz



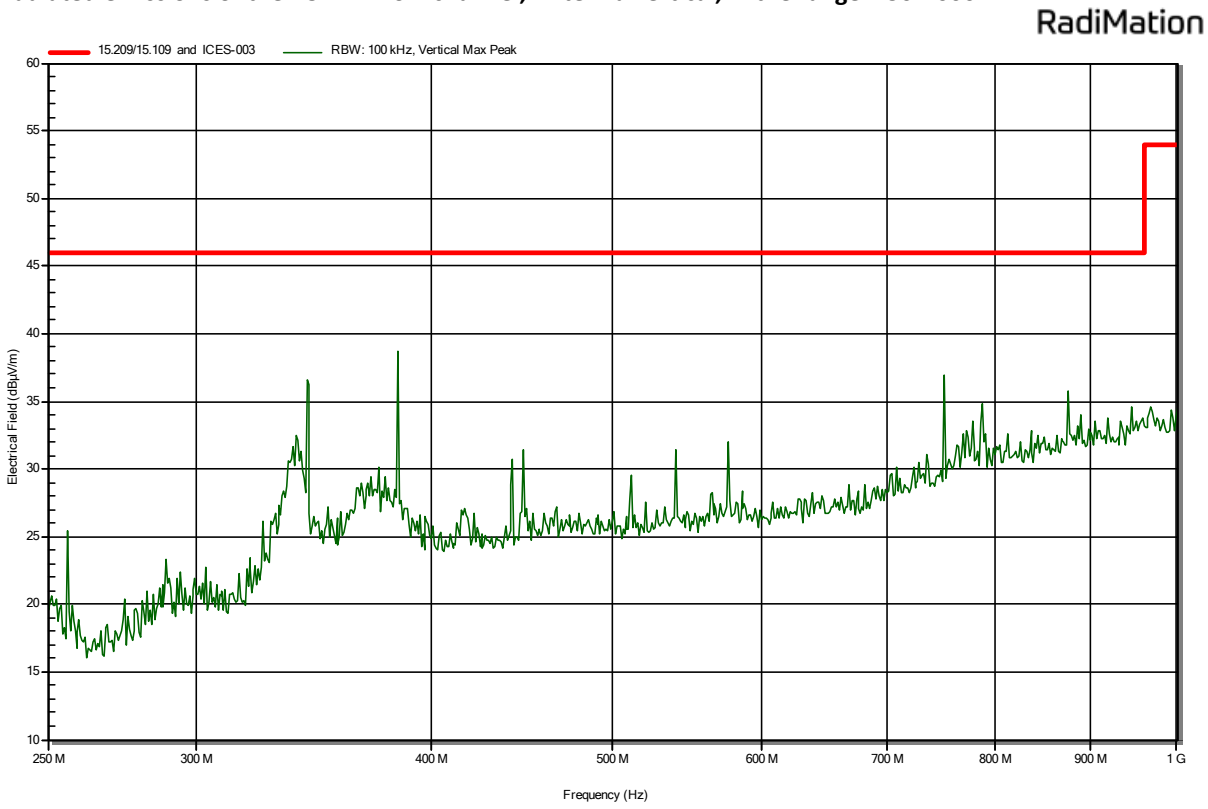
radiated emissions of the EUT WIFI high channel, Antenna vertical, in the range 30 – 250 MHz



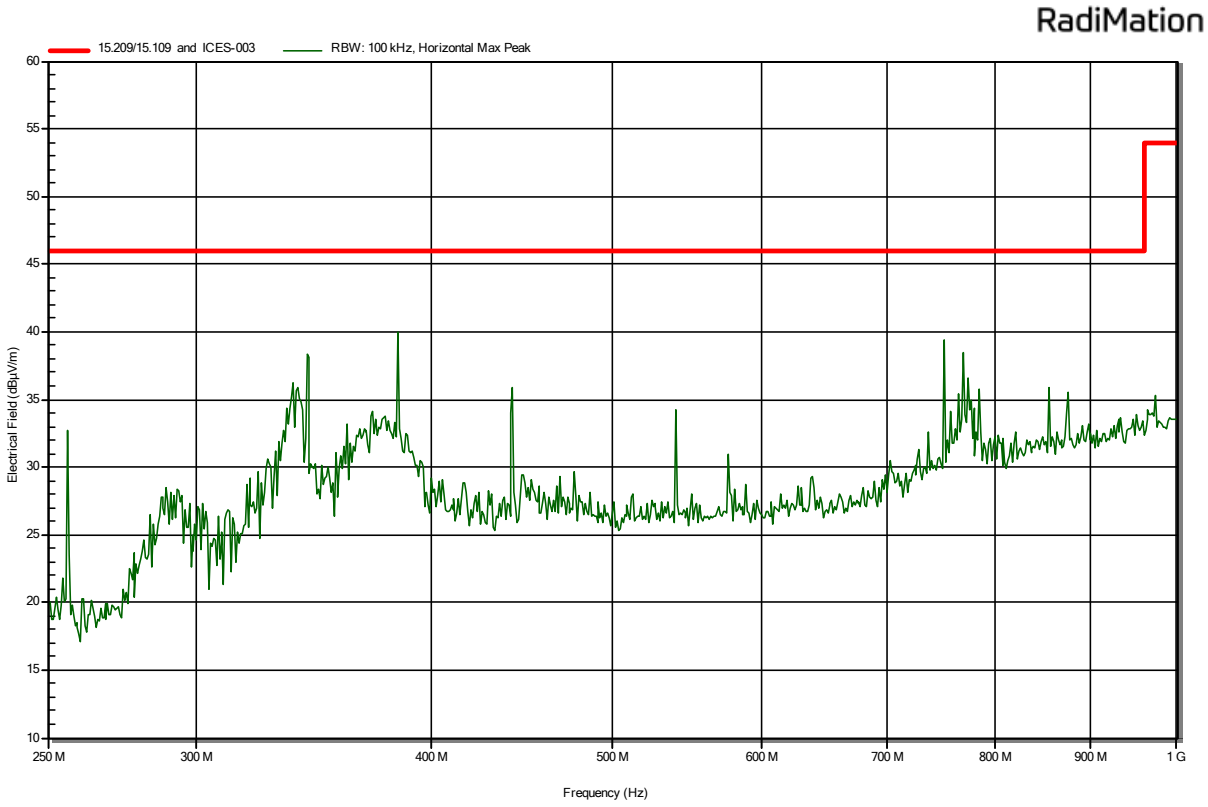
radiated emissions of the EUT WIFI high channel, Antenna horizontal, in the range 30 – 250 MHz



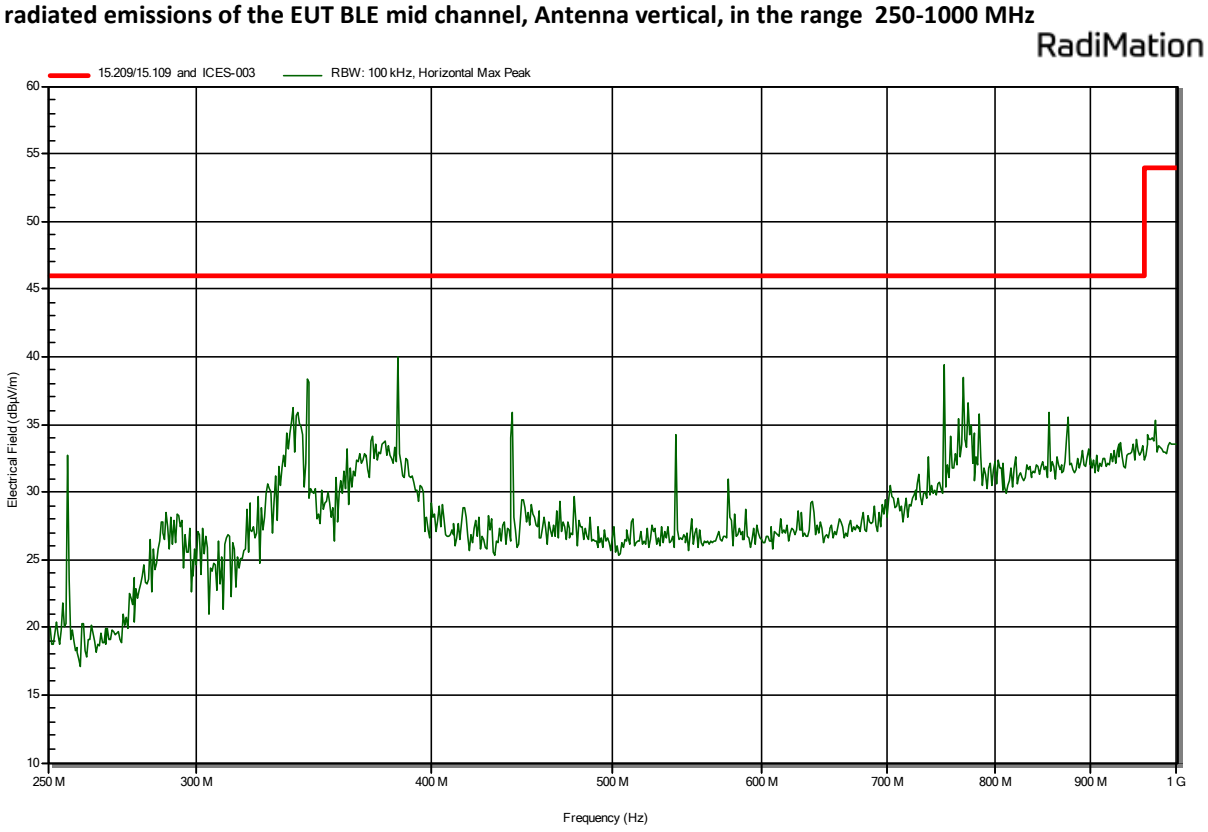
radiated emissions of the EUT BLE low channel, Antenna vertical, in the range 250-1000 MHz



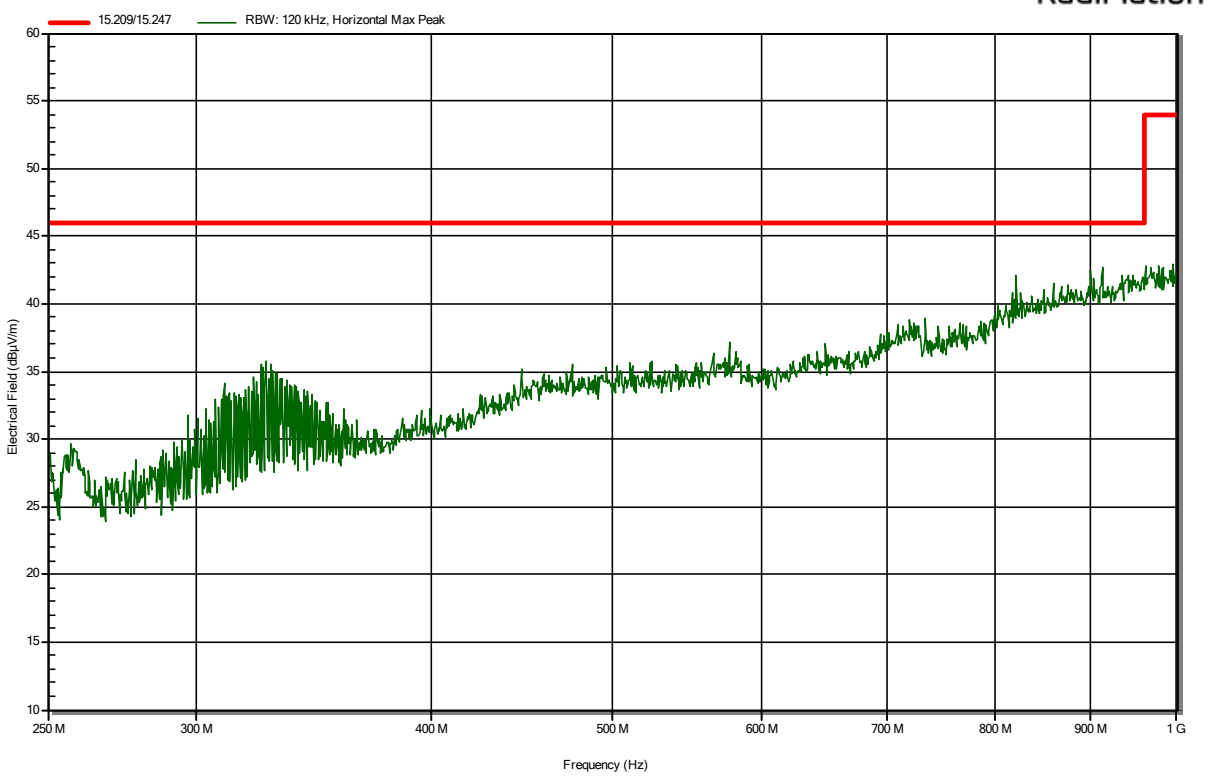
radiated emissions of the EUT BLE low channel, Antenna horizontal, in the range 250-1000 MHz



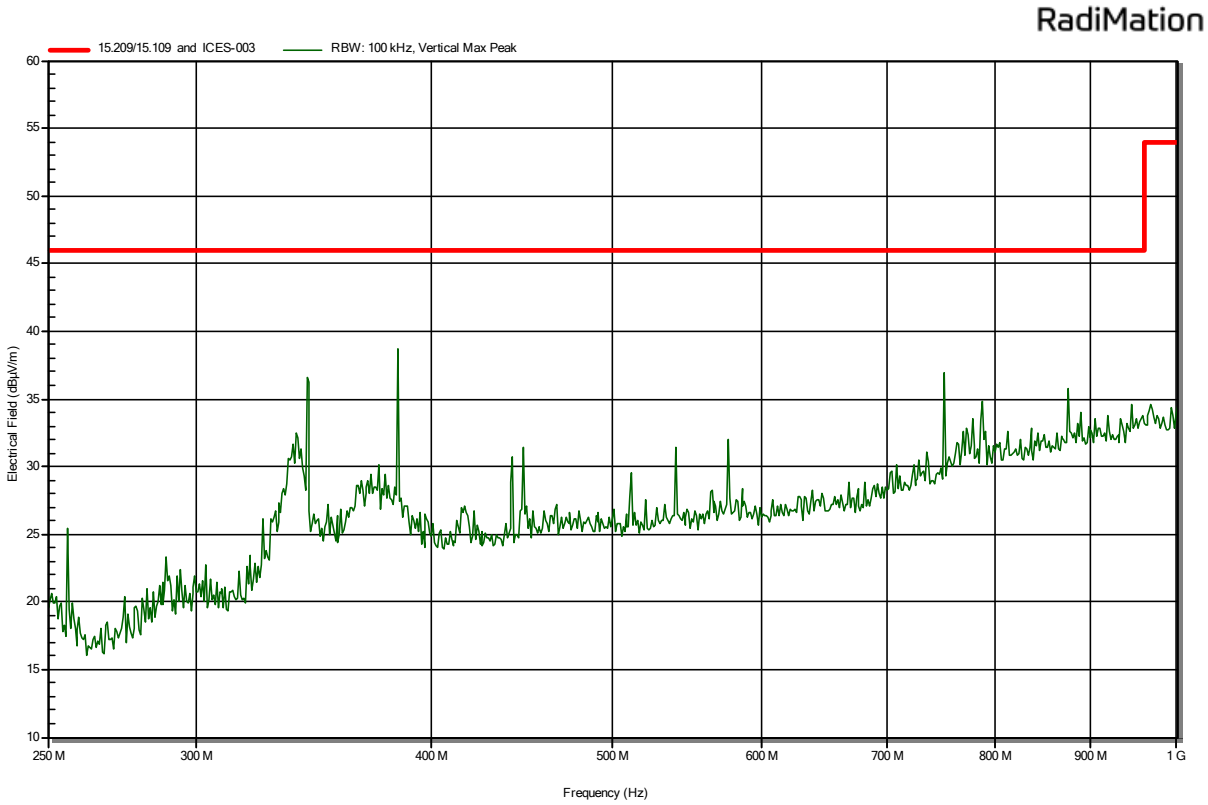
radiated emissions of the EUT BLE mid channel, Antenna vertical, in the range 250-1000 MHz



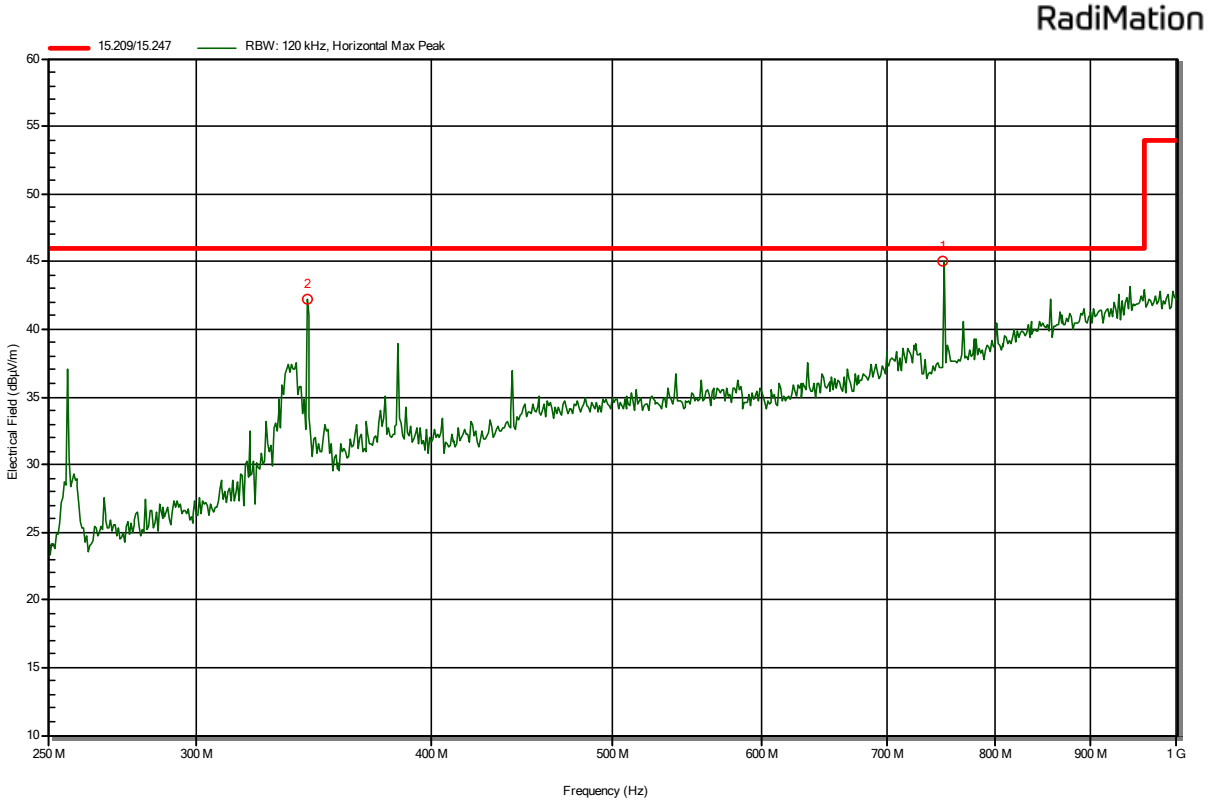
radiated emissions of the EUT BLE mid channel, Antenna horizontal, in the range 250-1000 MHz



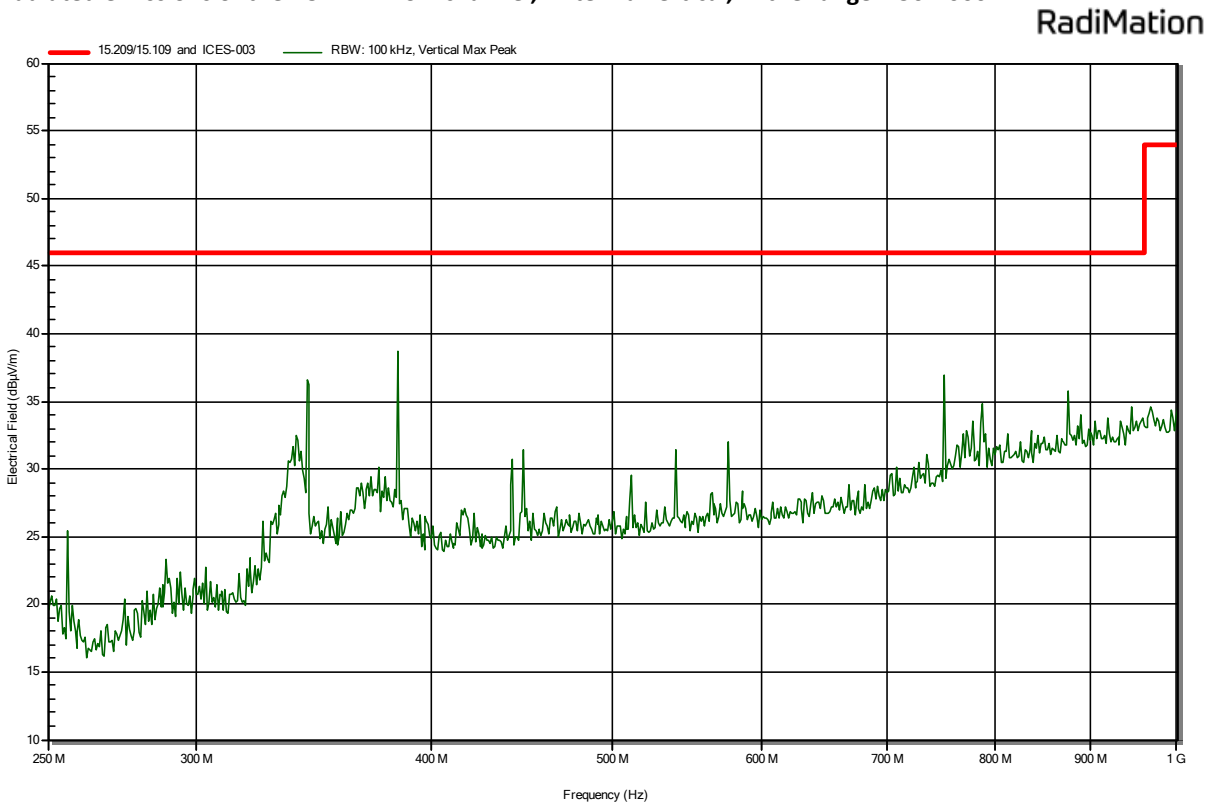
radiated emissions of the EUT BLE high channel, Antenna vertical, in the range 250-1000 MHz



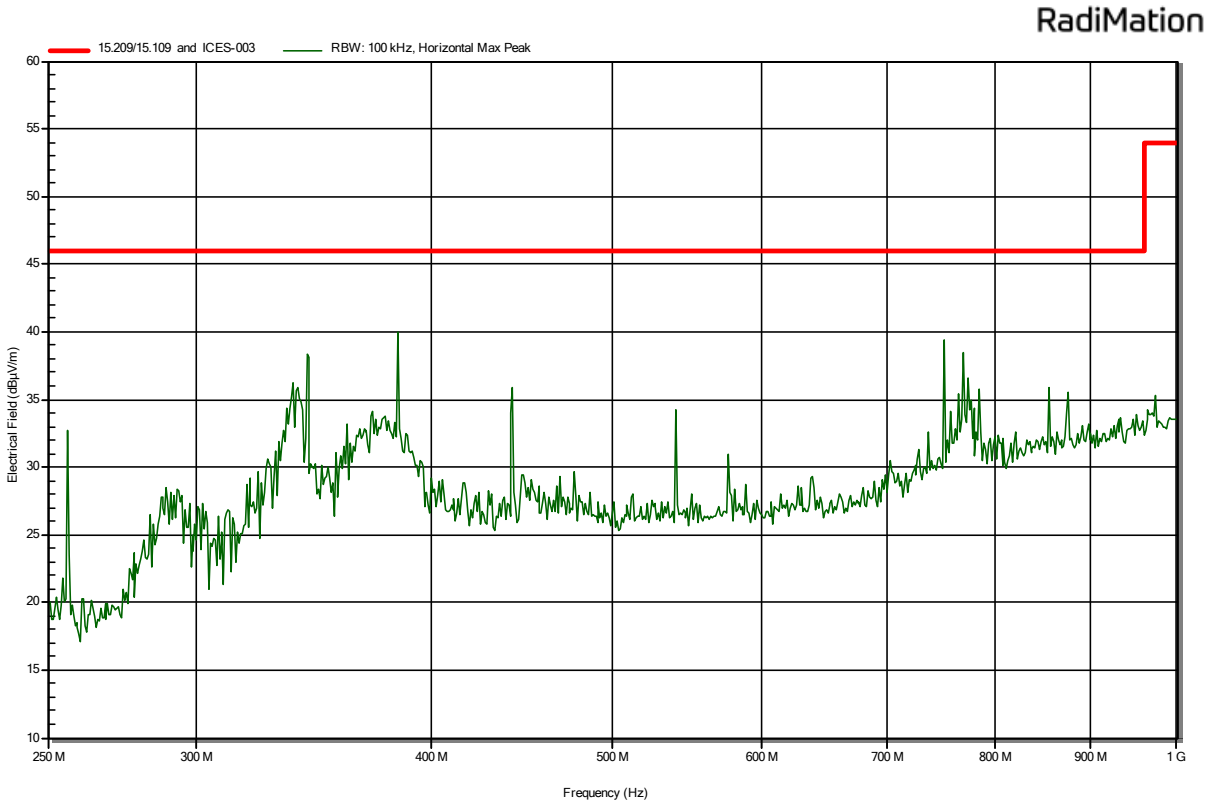
radiated emissions of the EUT BLE high channel, Antenna horizontal, in the range 250-1000 MHz



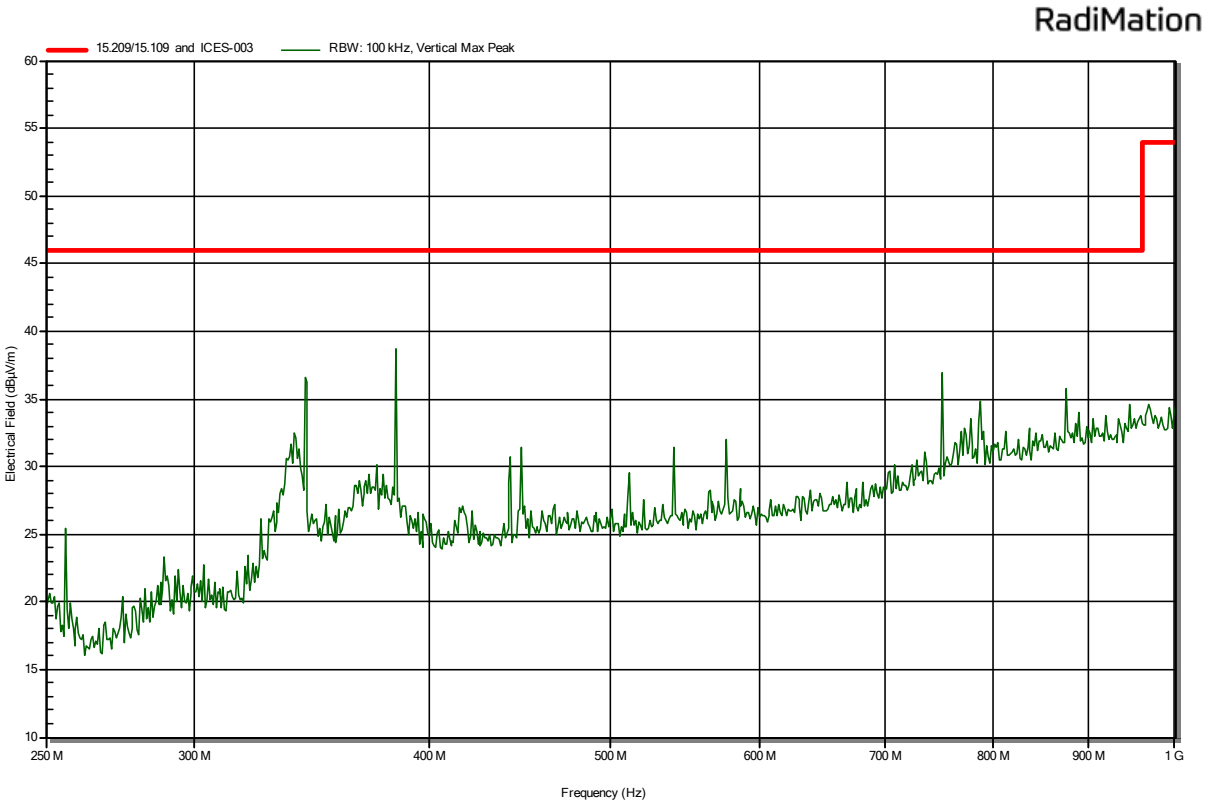
radiated emissions of the EUT WIFI low channel, Antenna vertical, in the range 250-1000 MHz



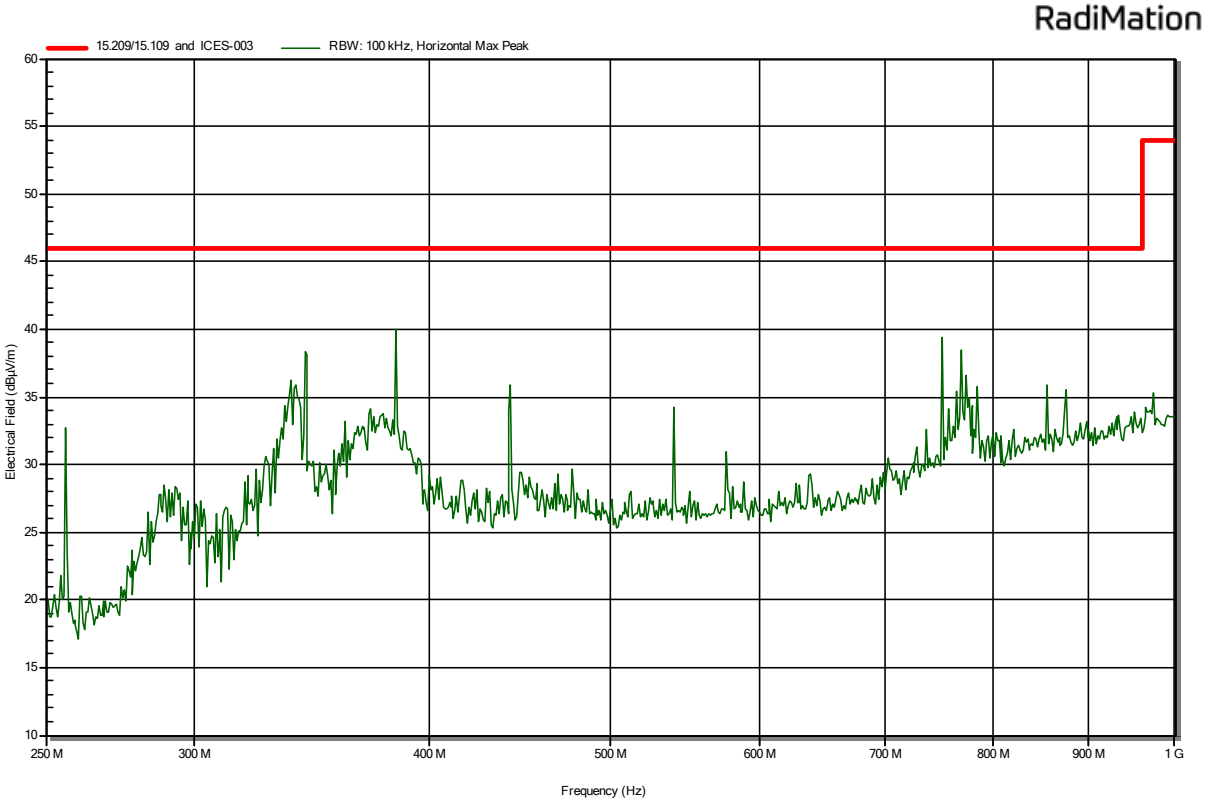
radiated emissions of the EUT WIFI low channel, Antenna horizontal, in the range 250-1000 MHz



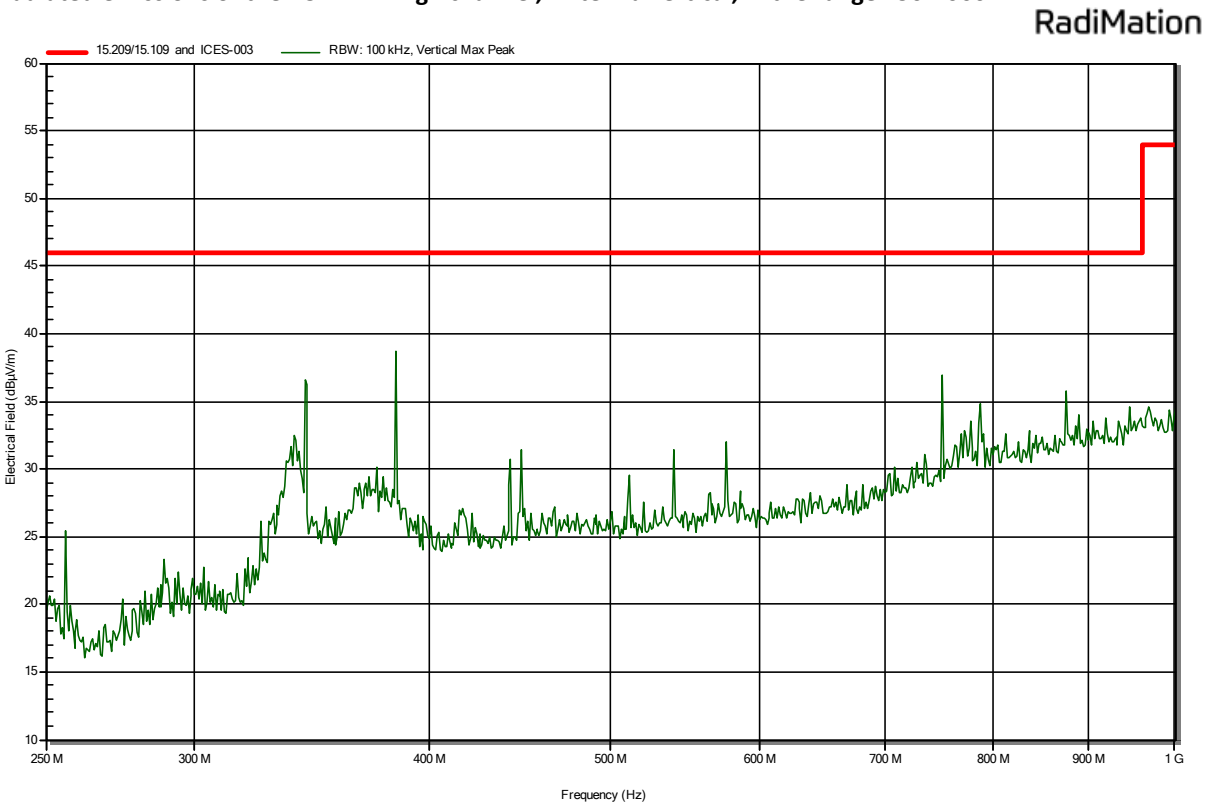
radiated emissions of the EUT WIFI mid channel, Antenna vertical, in the range 250-1000 MHz



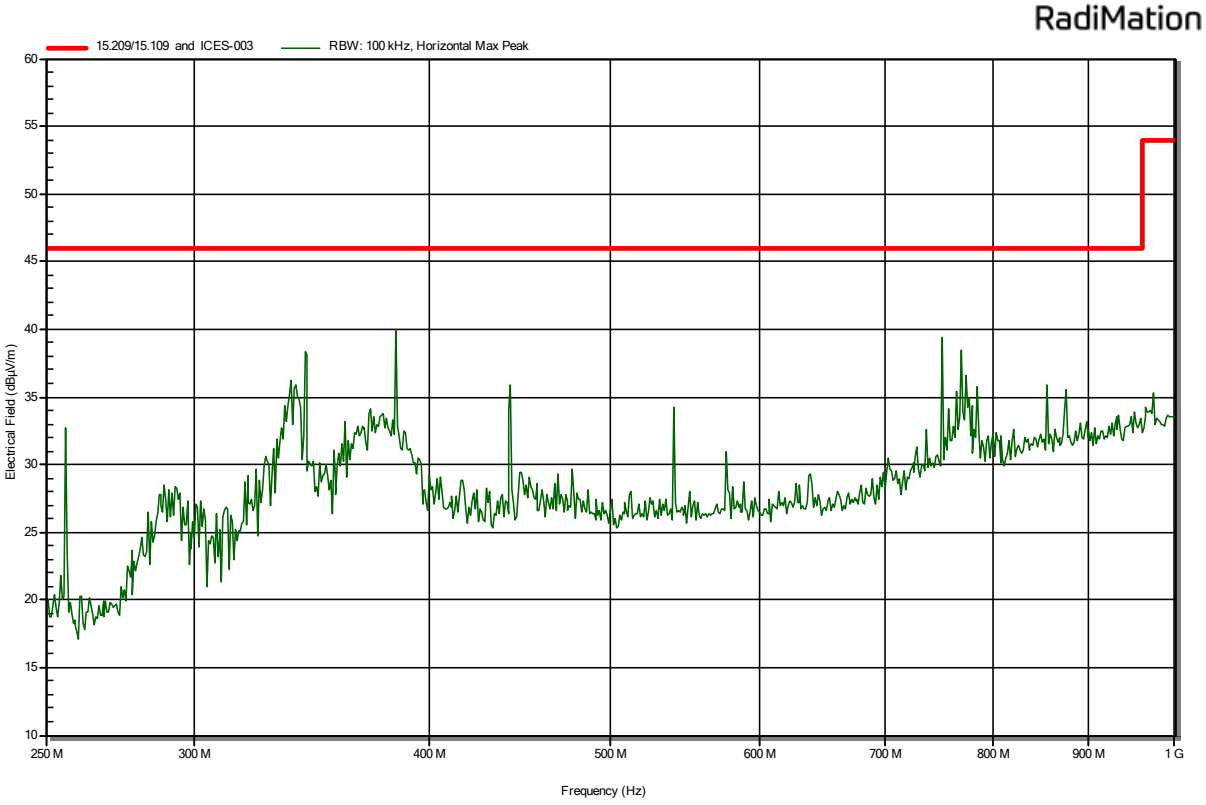
radiated emissions of the EUT WIFI mid channel, Antenna horizontal, in the range 250-1000 MHz



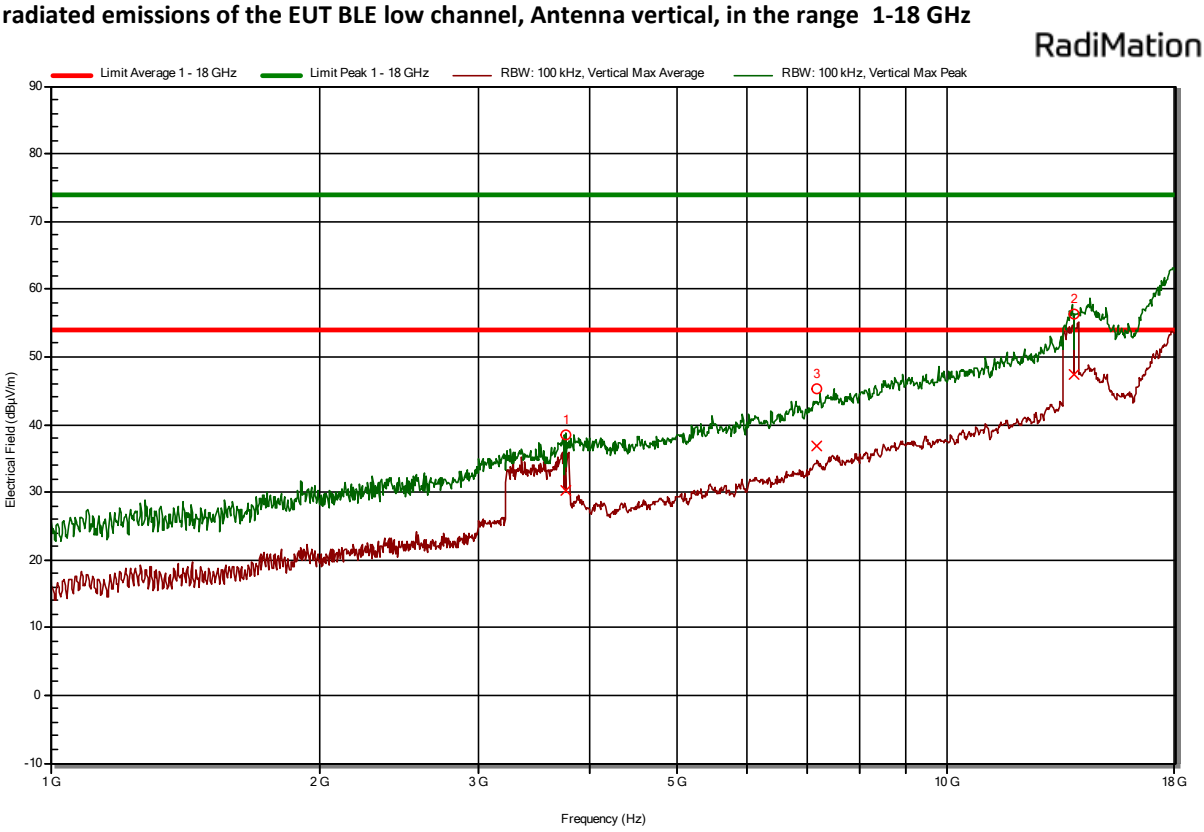
radiated emissions of the EUT WIFI high channel, Antenna vertical, in the range 250-1000 MHz



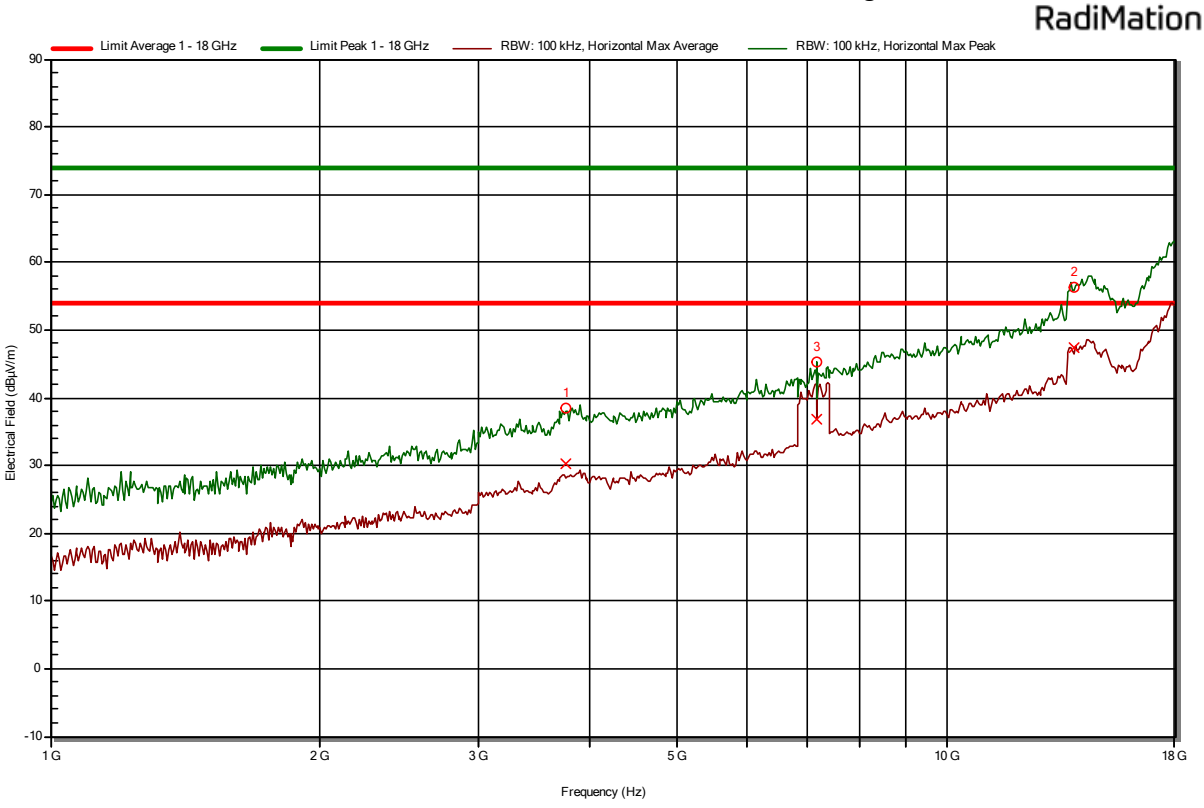
radiated emissions of the EUT WIF high channel, Antenna horizontal, in the range 250-1000 MHz



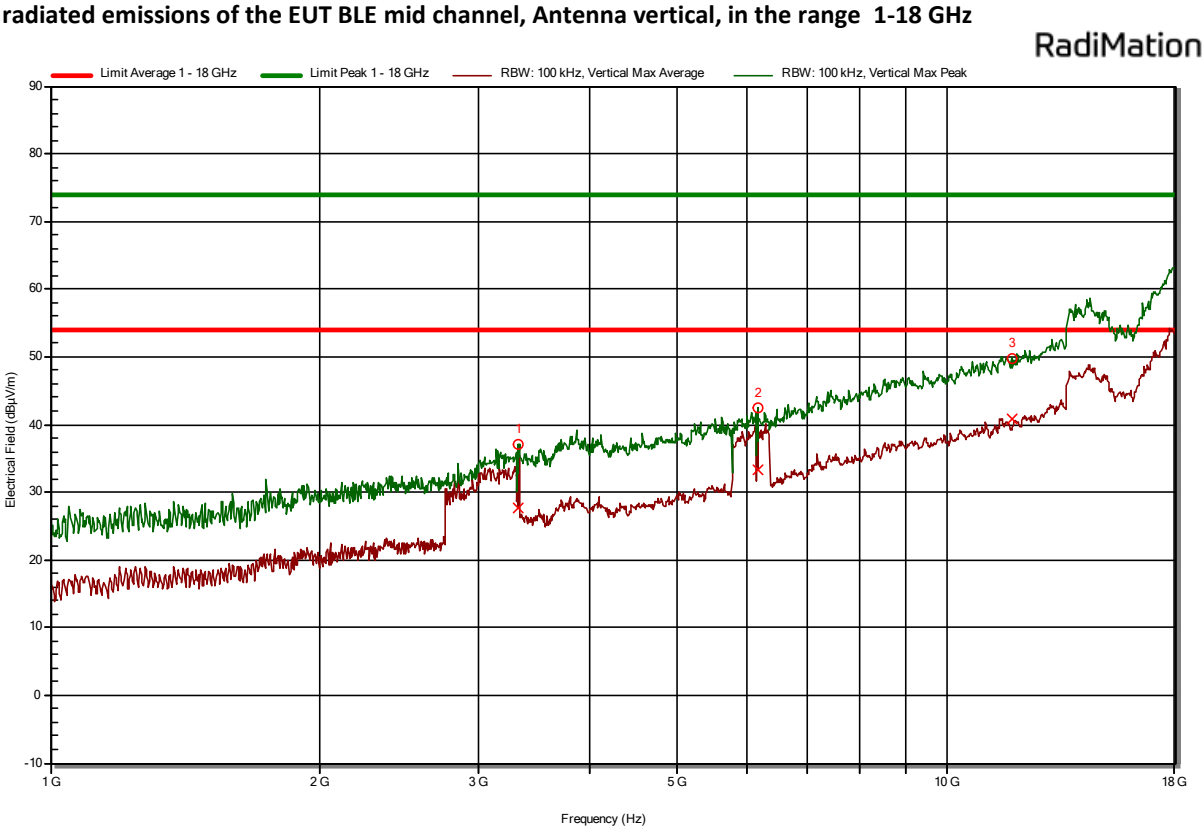
radiated emissions of the EUT BLE low channel, Antenna vertical, in the range 1-18 GHz



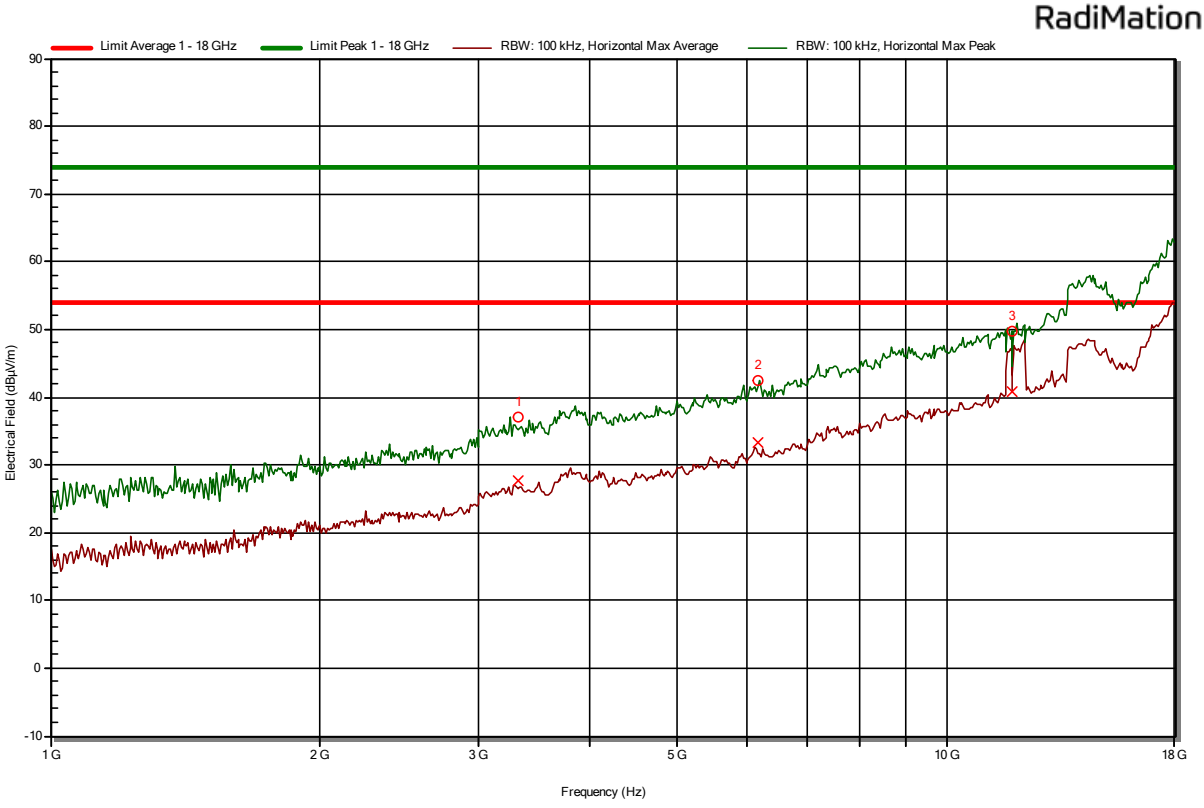
radiated emissions of the EUT BLE low channel, Antenna horizontal, in the range 1-18 GHz



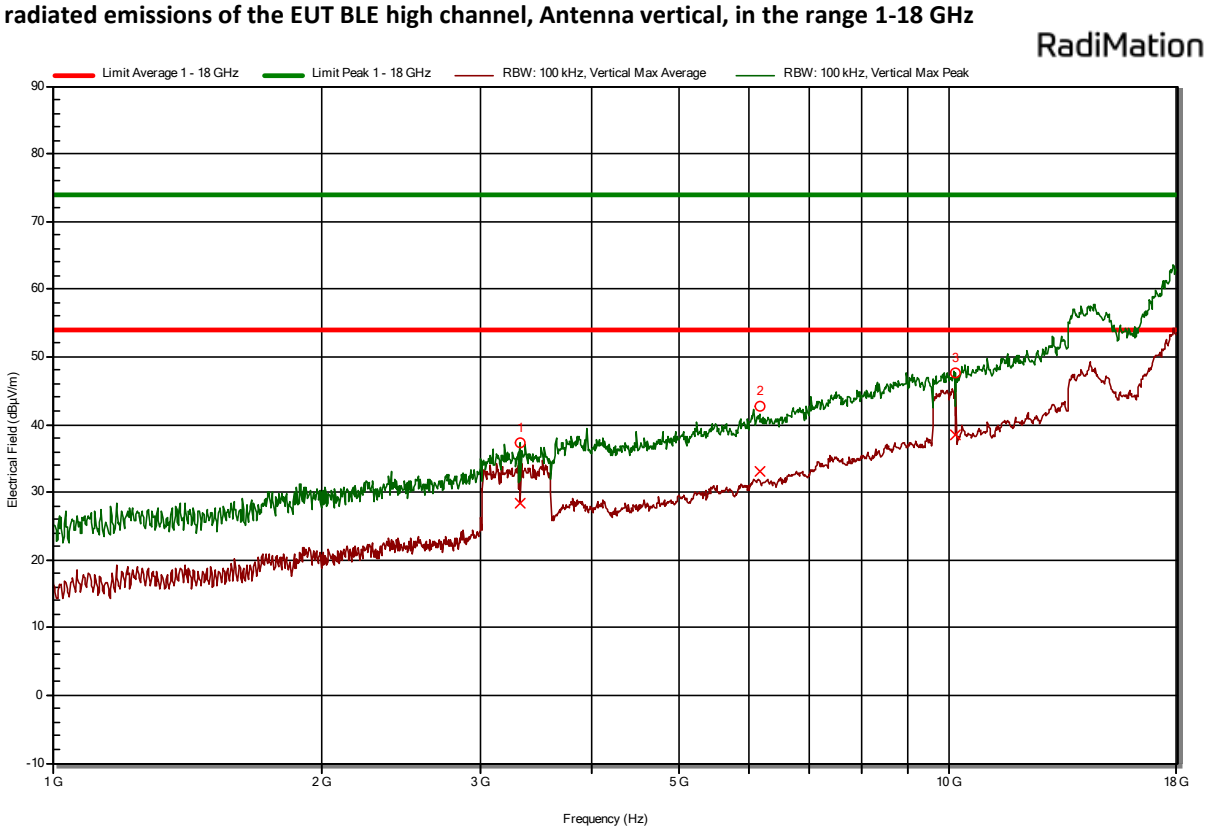
radiated emissions of the EUT BLE mid channel, Antenna vertical, in the range 1-18 GHz



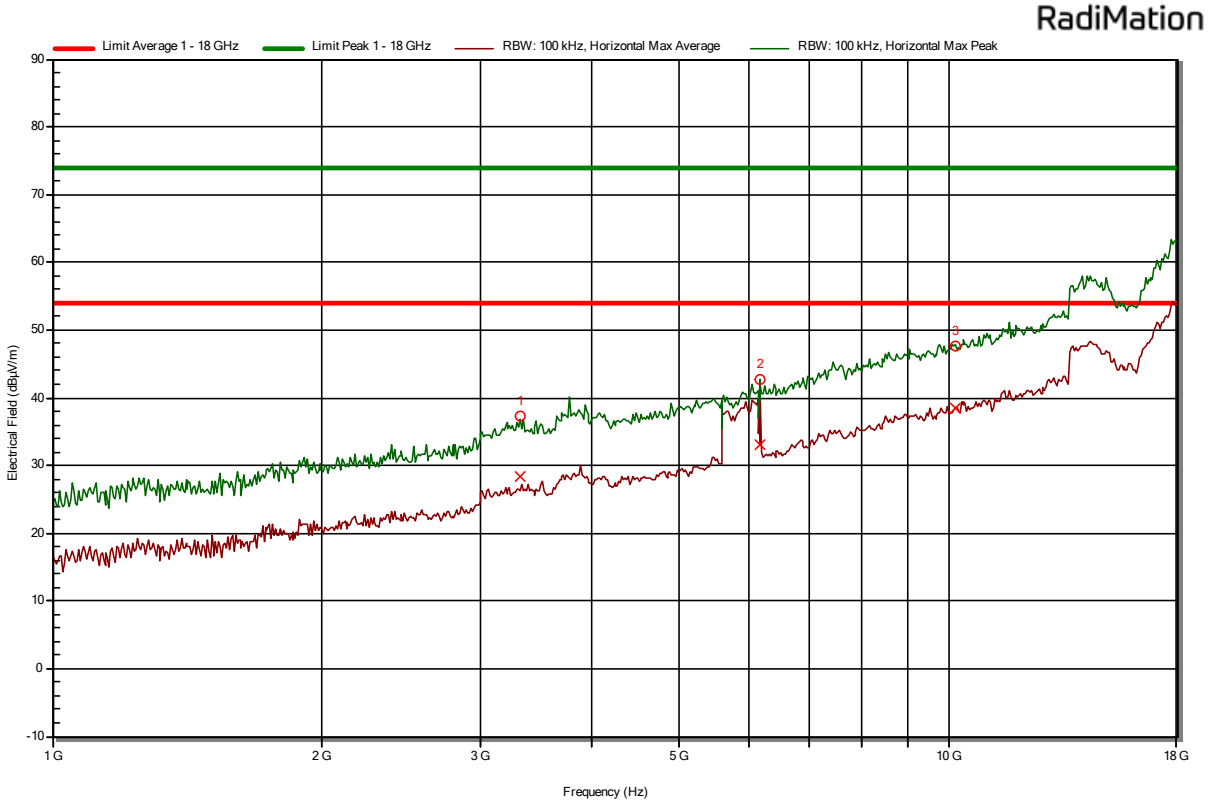
radiated emissions of the EUT BLE mid channel, Antenna horizontal, in the range 1-18 GHz



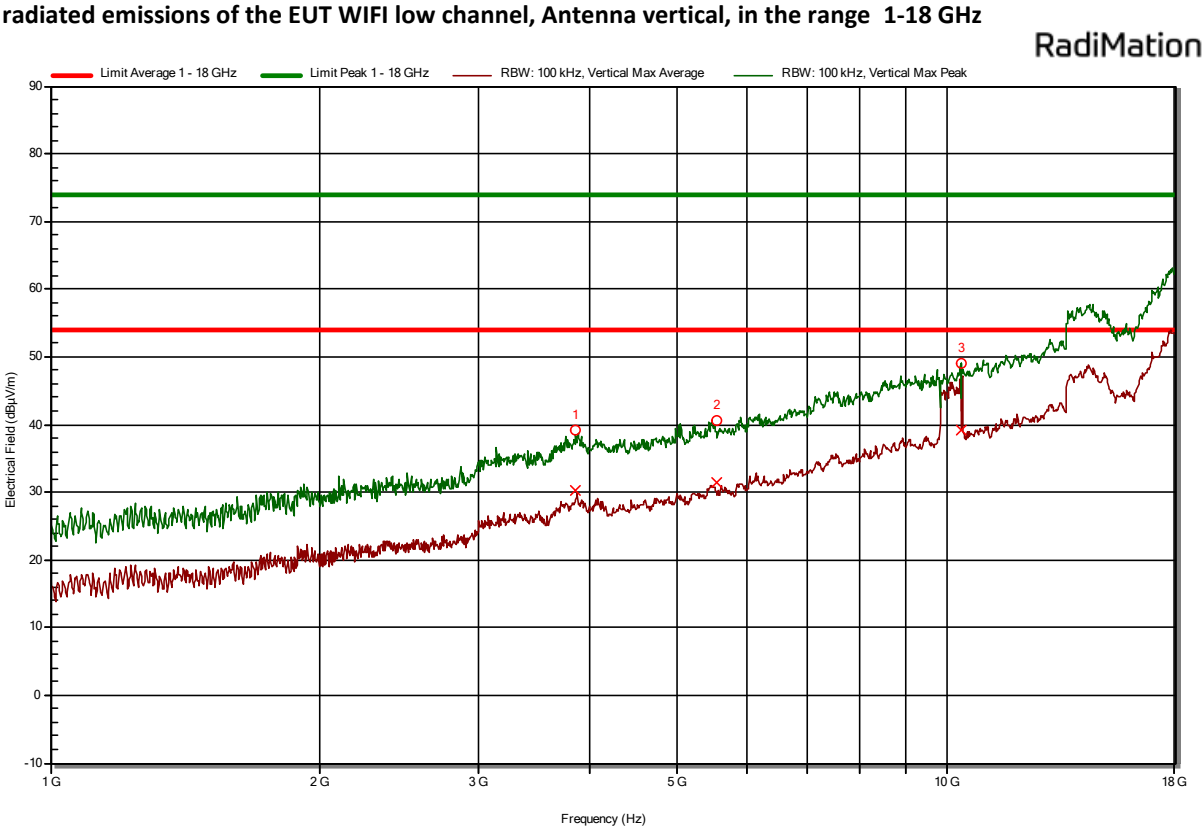
radiated emissions of the EUT BLE high channel, Antenna vertical, in the range 1-18 GHz



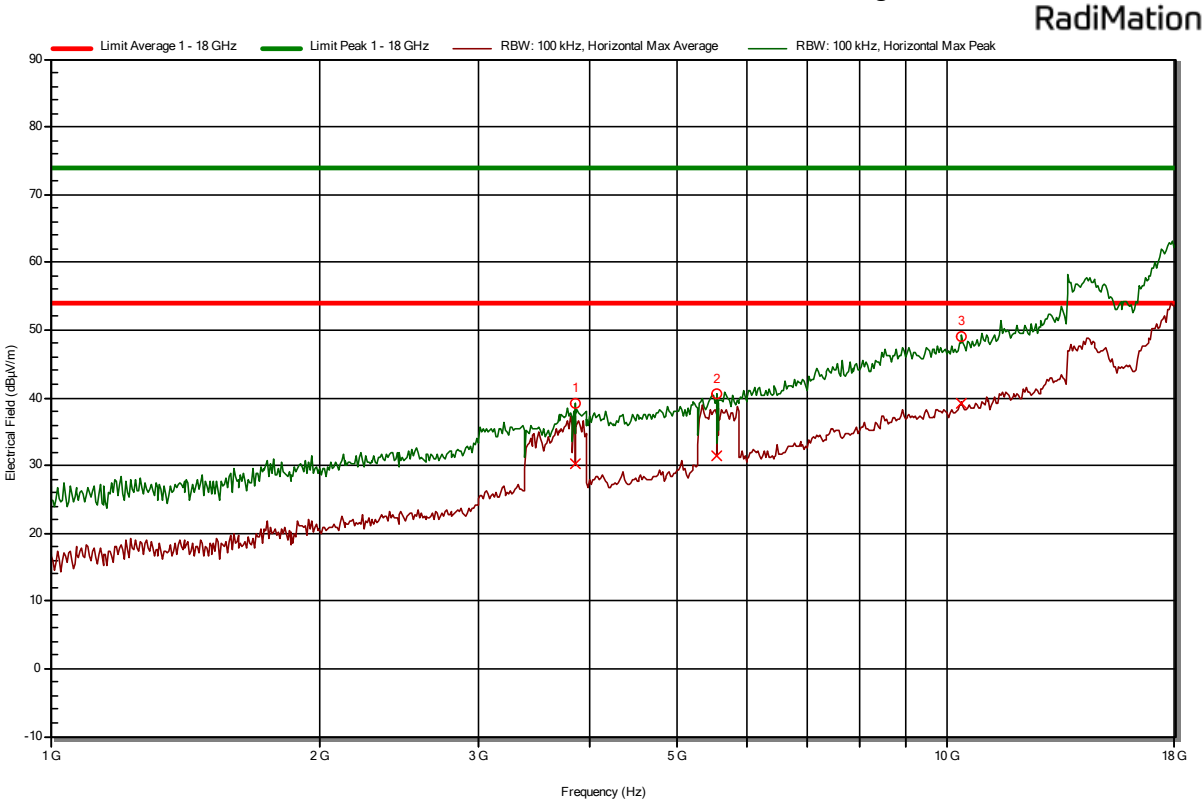
radiated emissions of the EUT BLE high channel, Antenna horizontal, in the range 1-18 GHz



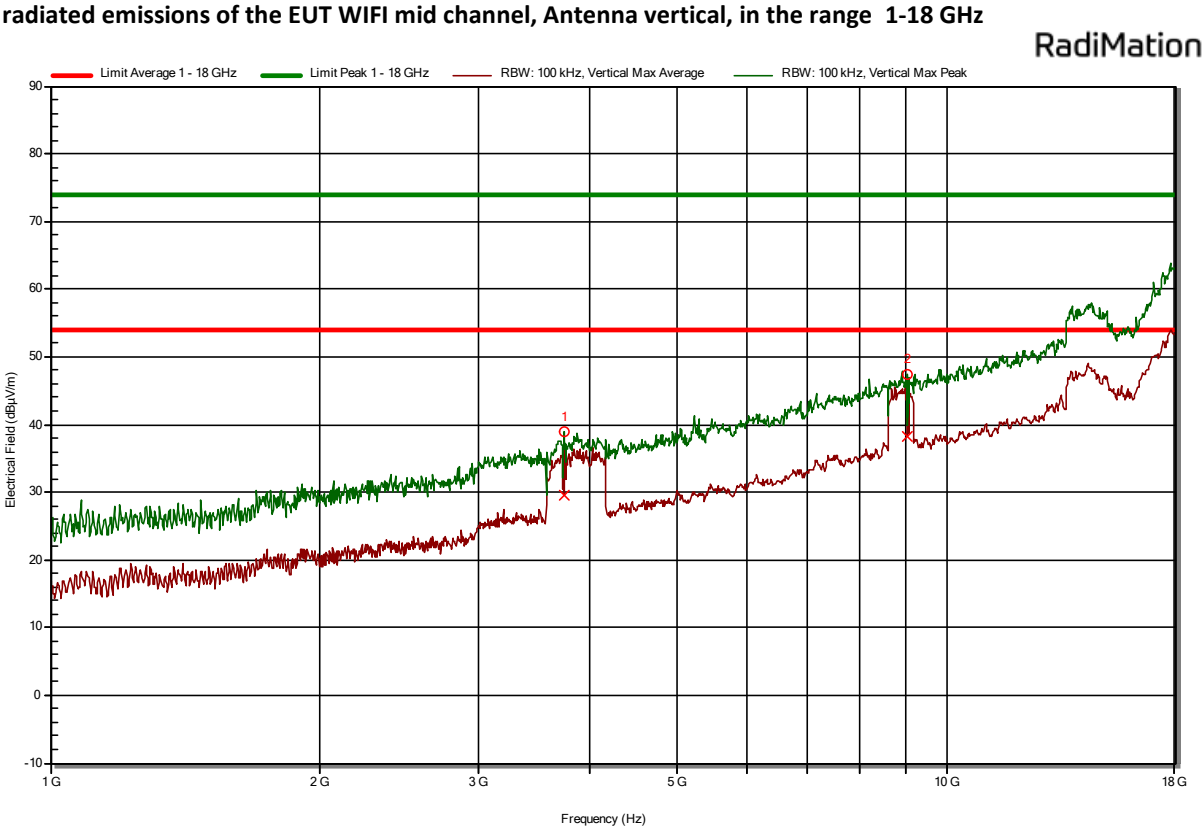
radiated emissions of the EUT WIFI low channel, Antenna vertical, in the range 1-18 GHz



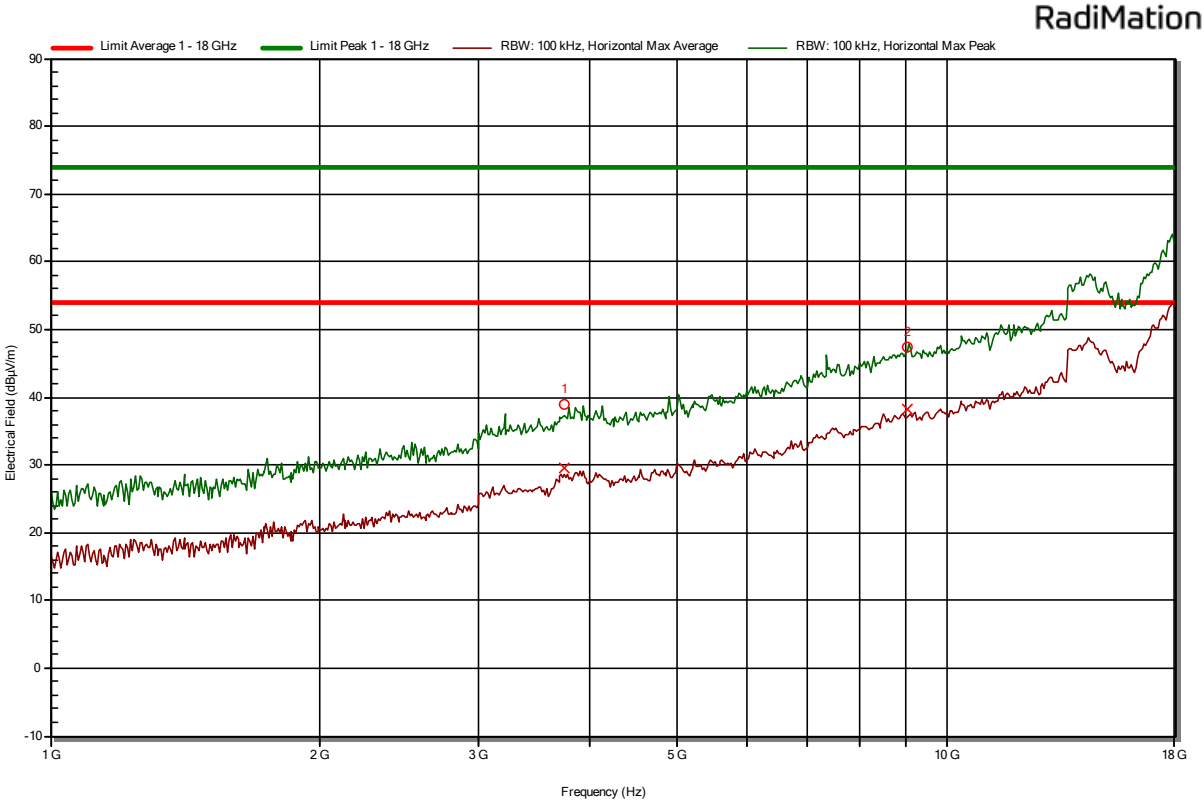
radiated emissions of the EUT WIFI low channel, Antenna horizontal, in the range 1-18 GHz



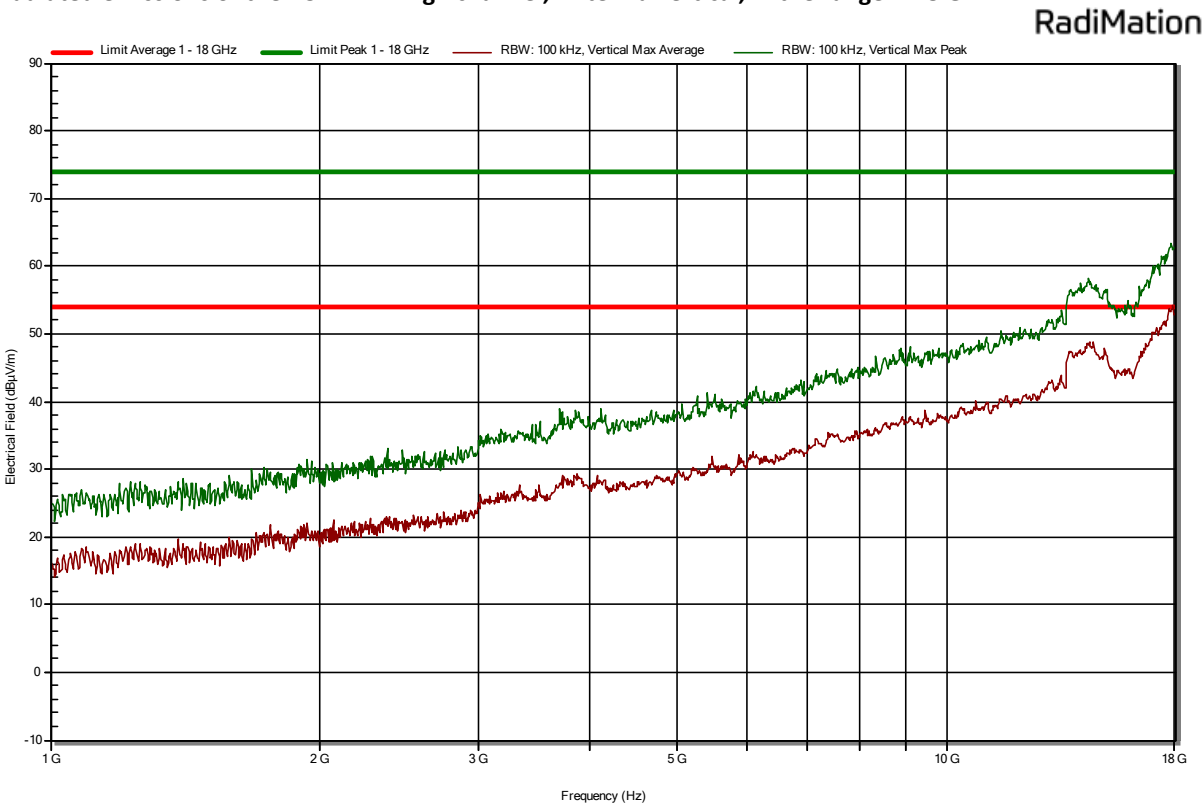
radiated emissions of the EUT WIFI mid channel, Antenna vertical, in the range 1-18 GHz



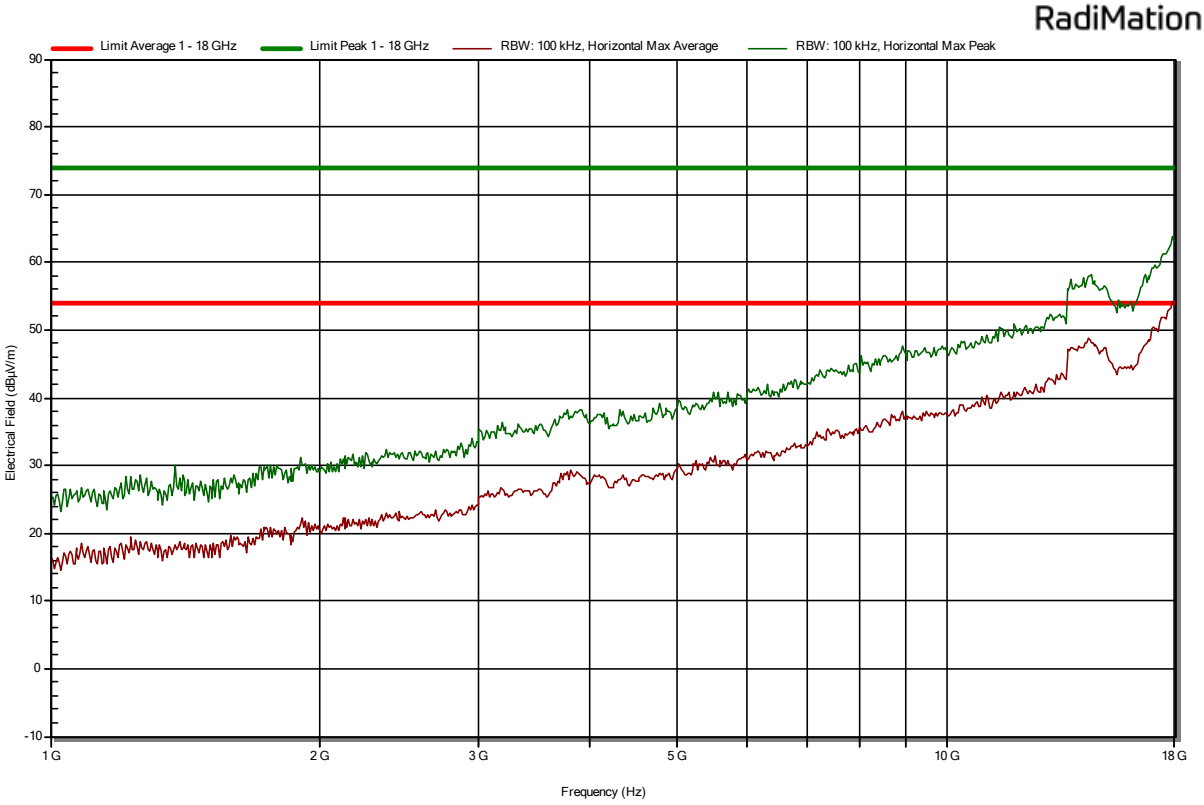
radiated emissions of the EUT WIFI mid channel, Antenna horizontal, in the range 1-18 GHz



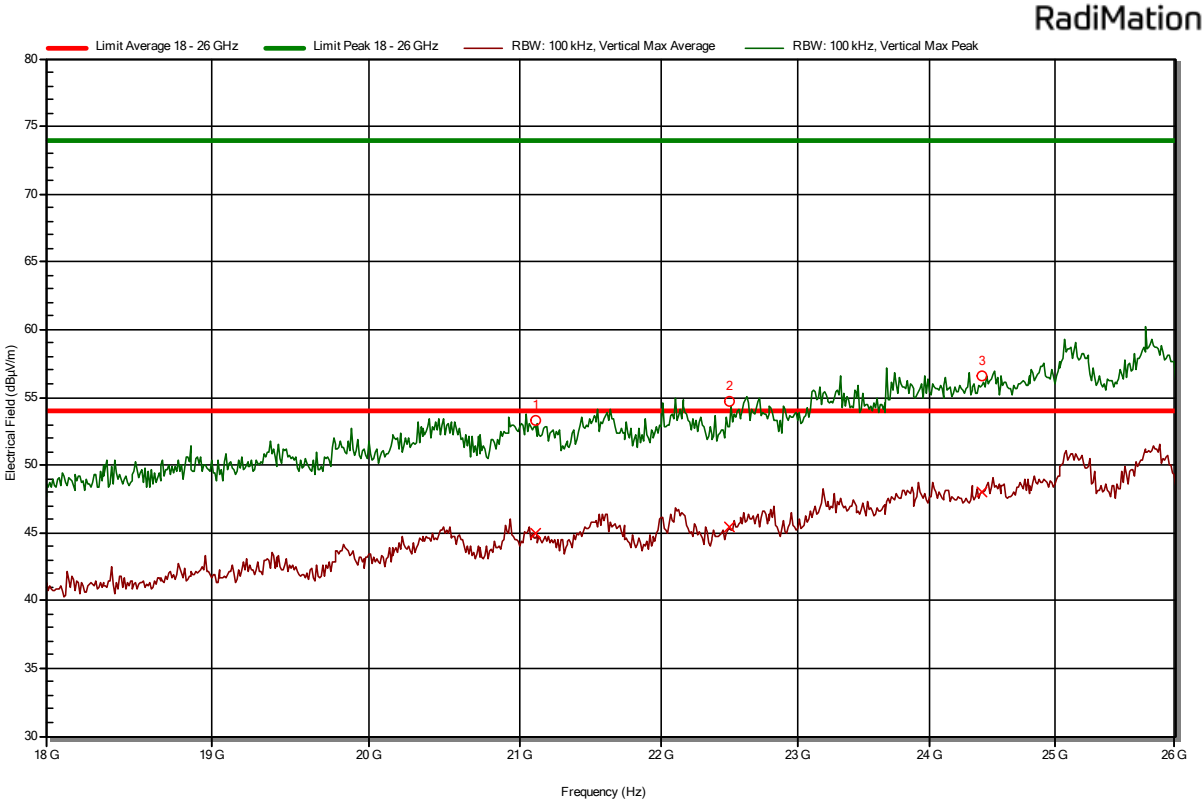
radiated emissions of the EUT WIIFI high channel, Antenna vertical, in the range 1-18 GHz



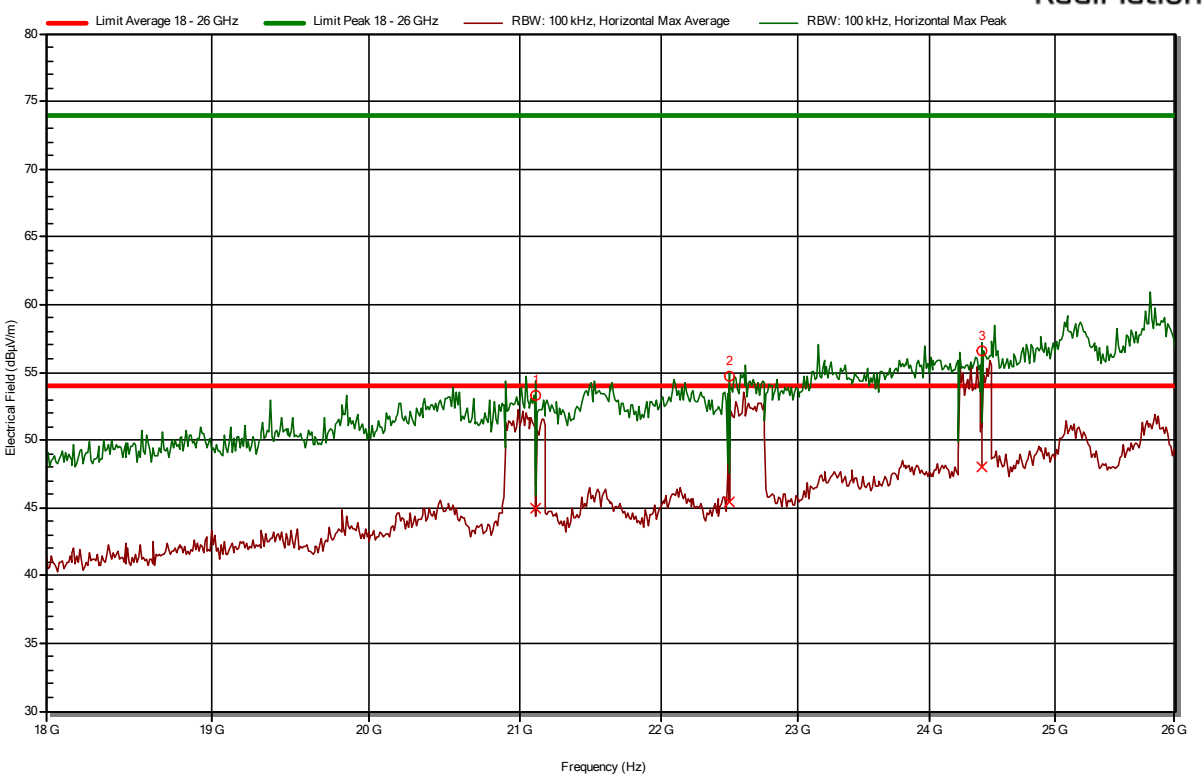
radiated emissions of the EUT WIFI high channel, Antenna horizontal, in the range 1-18 GHz



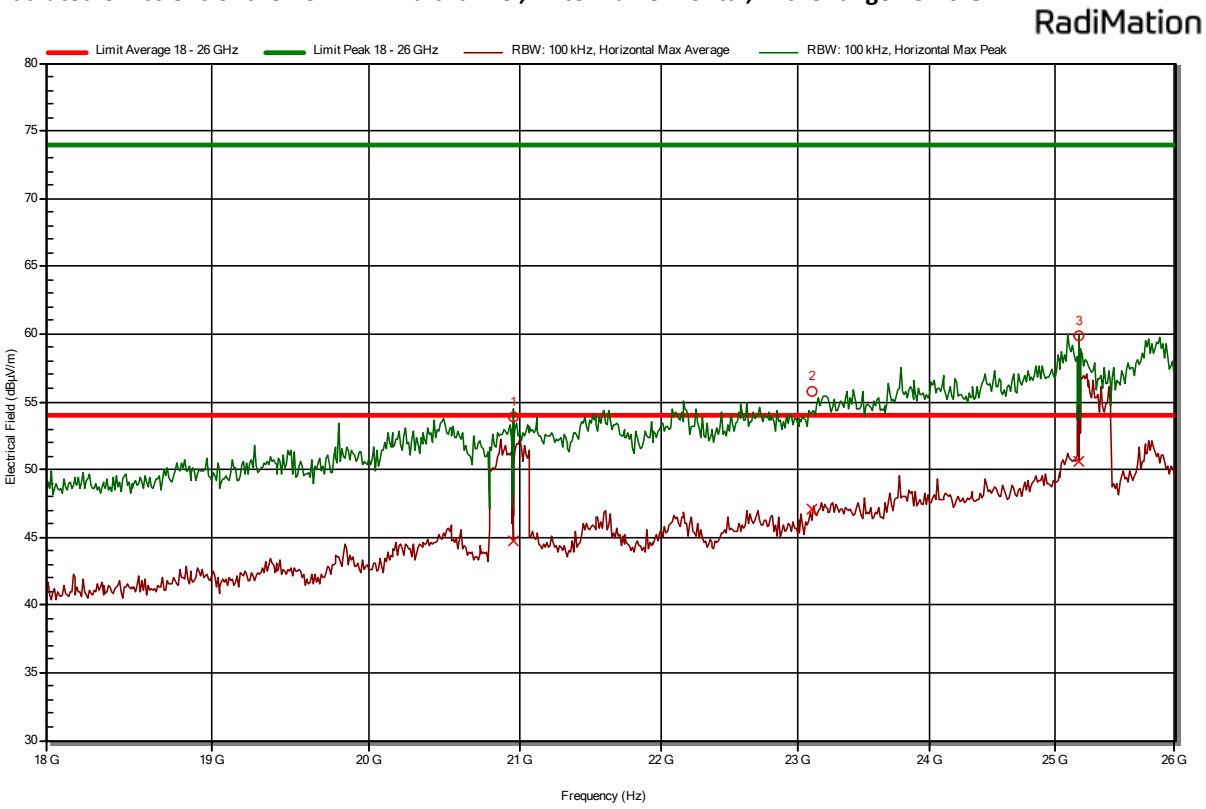
radiated emissions of the EUT BLE low channel, Antenna vertical, in the range 18-26 GHz



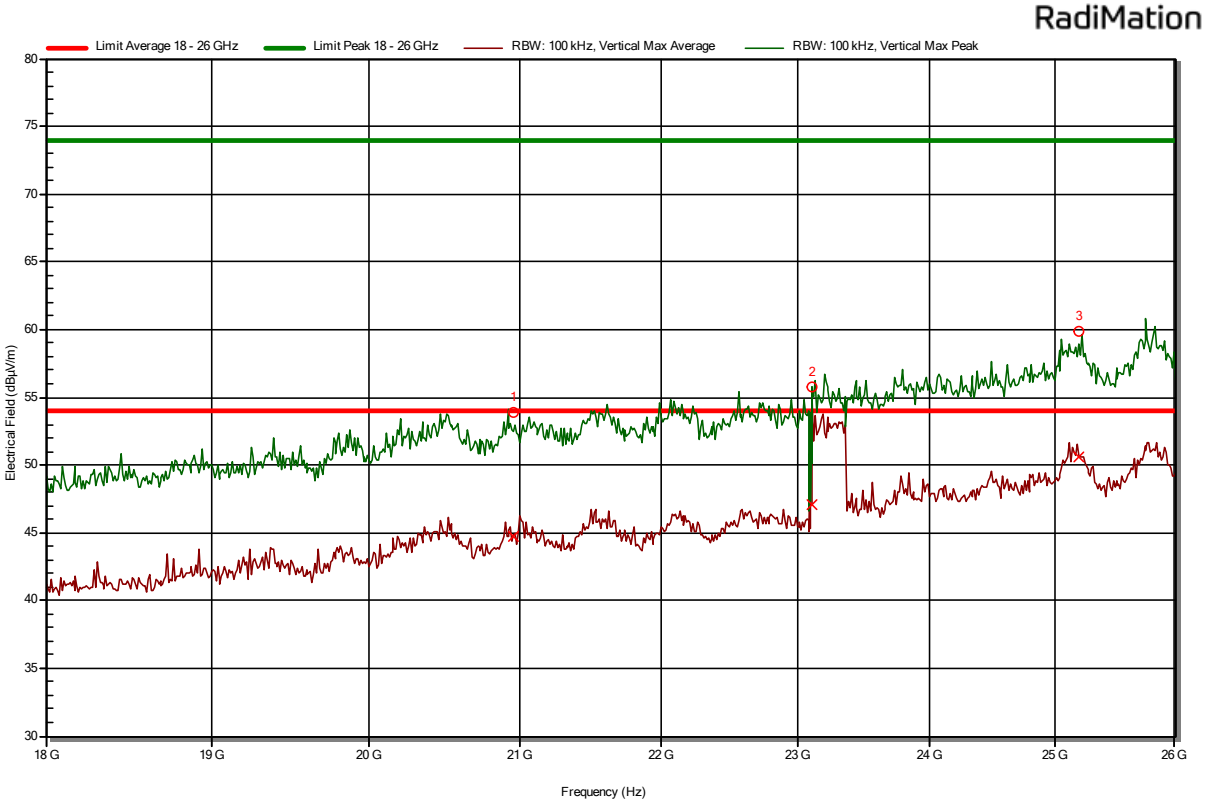
radiated emissions of the EUT BLE low channel, Antenna horizontal, in the range 18-26 GHz



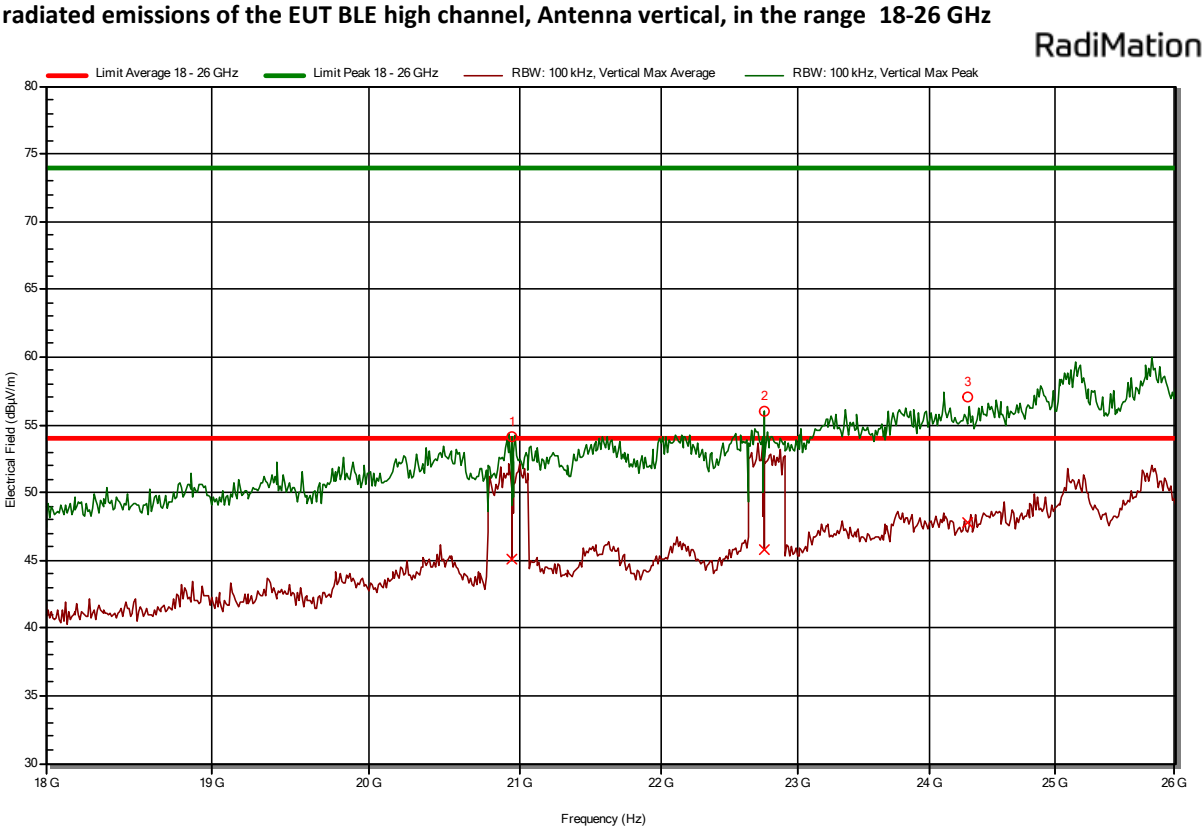
radiated emissions of the EUT BLE mid channel, Antenna horizontal, in the range 18-26 GHz



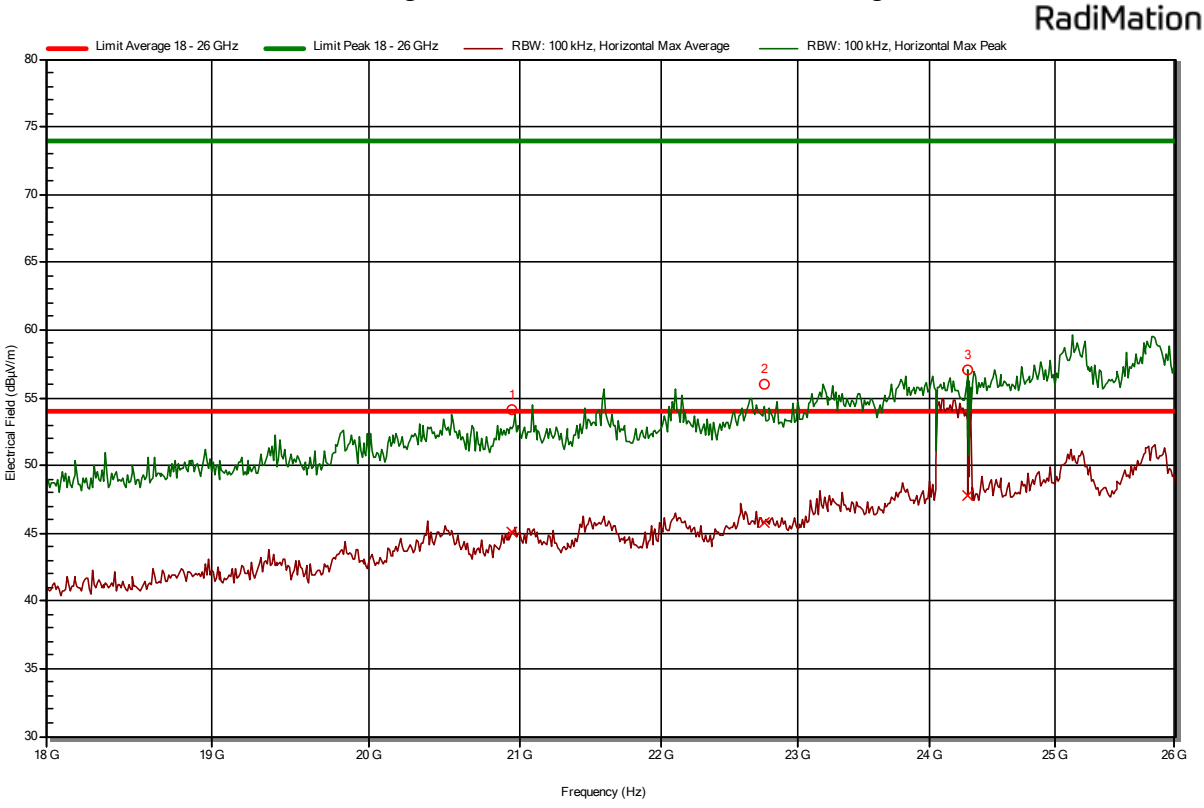
radiated emissions of the EUT BLE mid channel, Antenna vertical, in the range 18-26 GHz



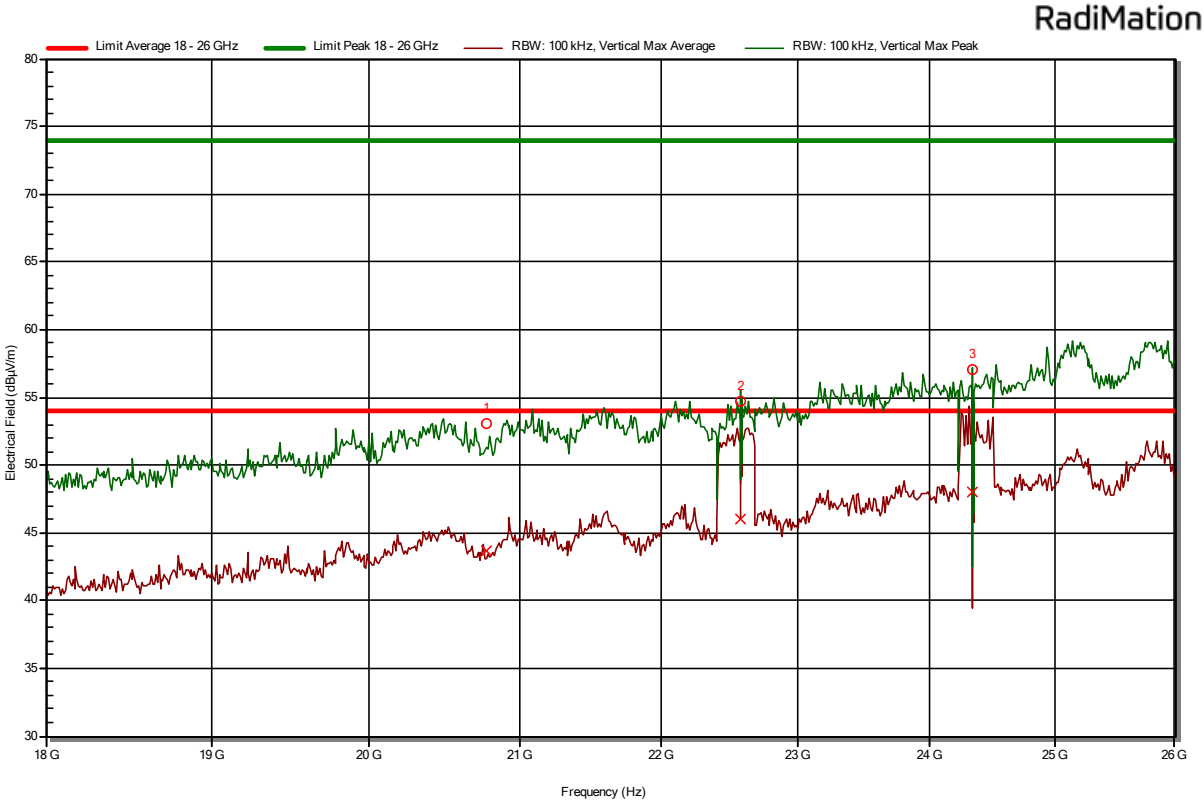
radiated emissions of the EUT BLE high channel, Antenna vertical, in the range 18-26 GHz



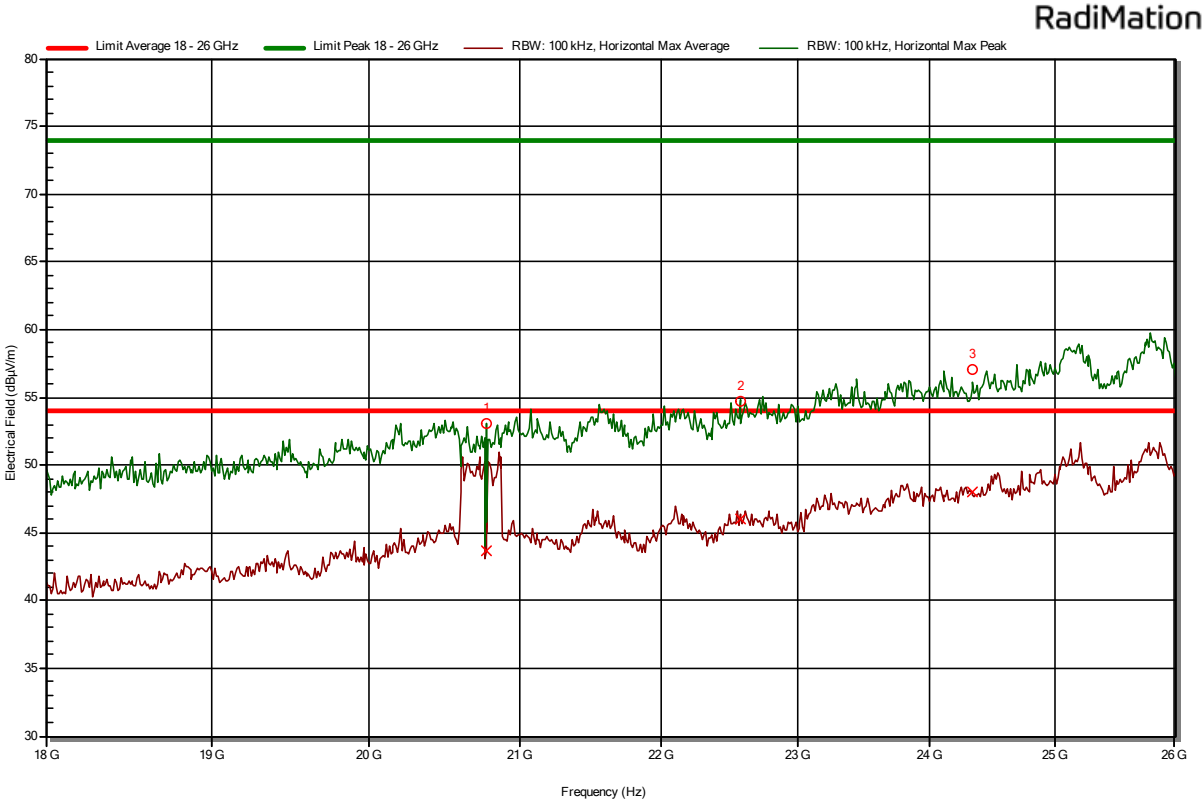
radiated emissions of the EUT BLE high channel, Antenna horizontal, in the range 18-26 GHz



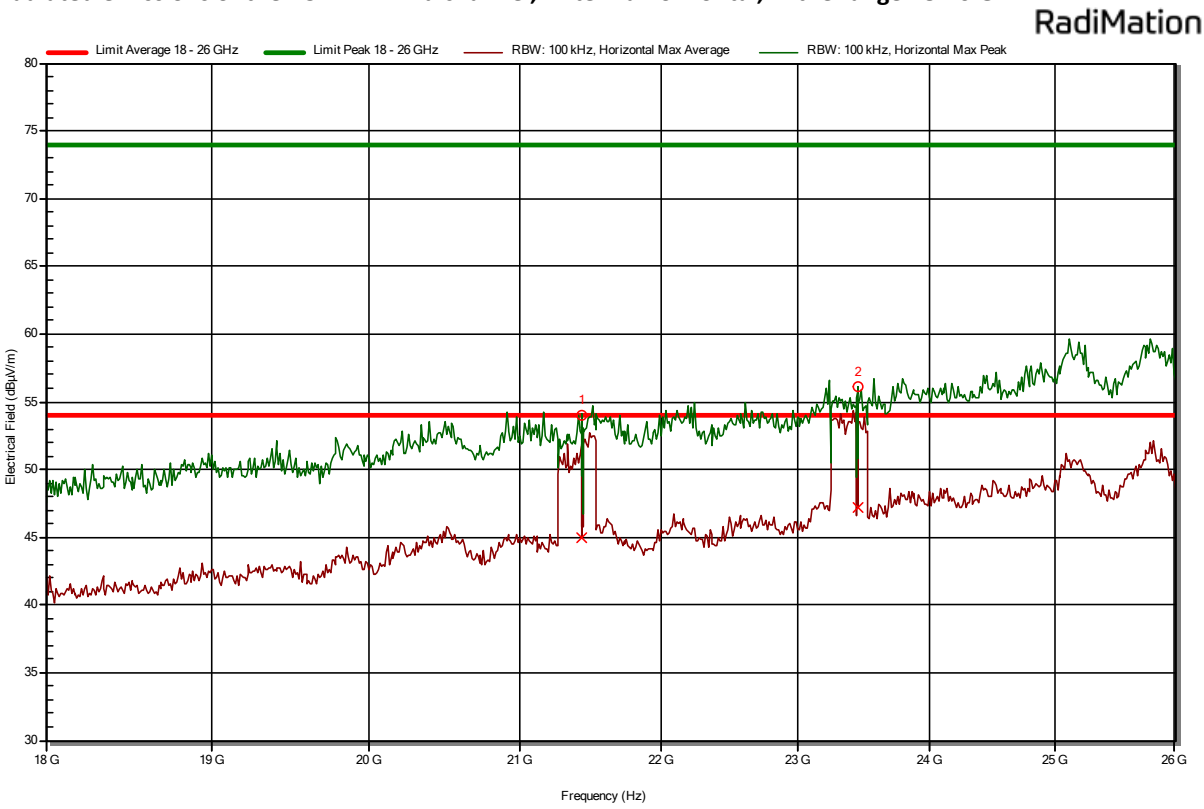
radiated emissions of the EUT WIFI low channel, Antenna vertical, in the range 18-26 GHz



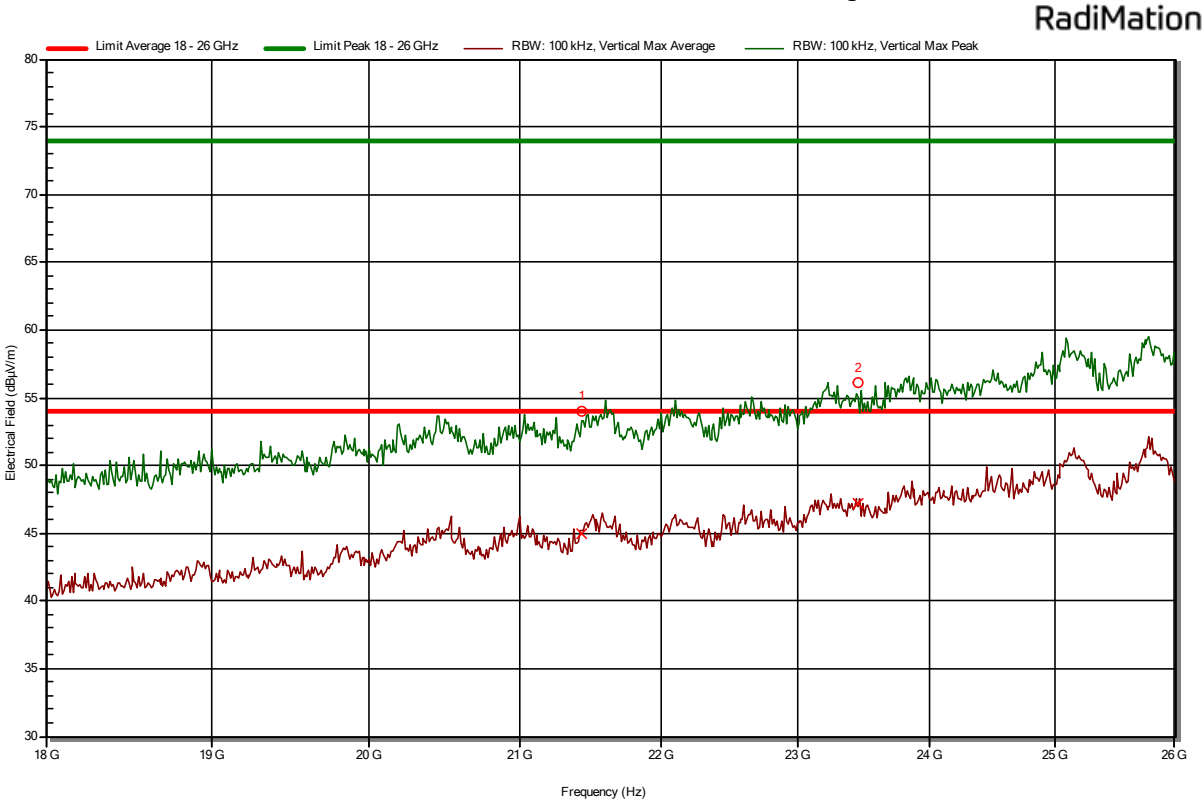
radiated emissions of the EUT WIFI low channel, Antenna horizontal, in the range 18-26 GHz



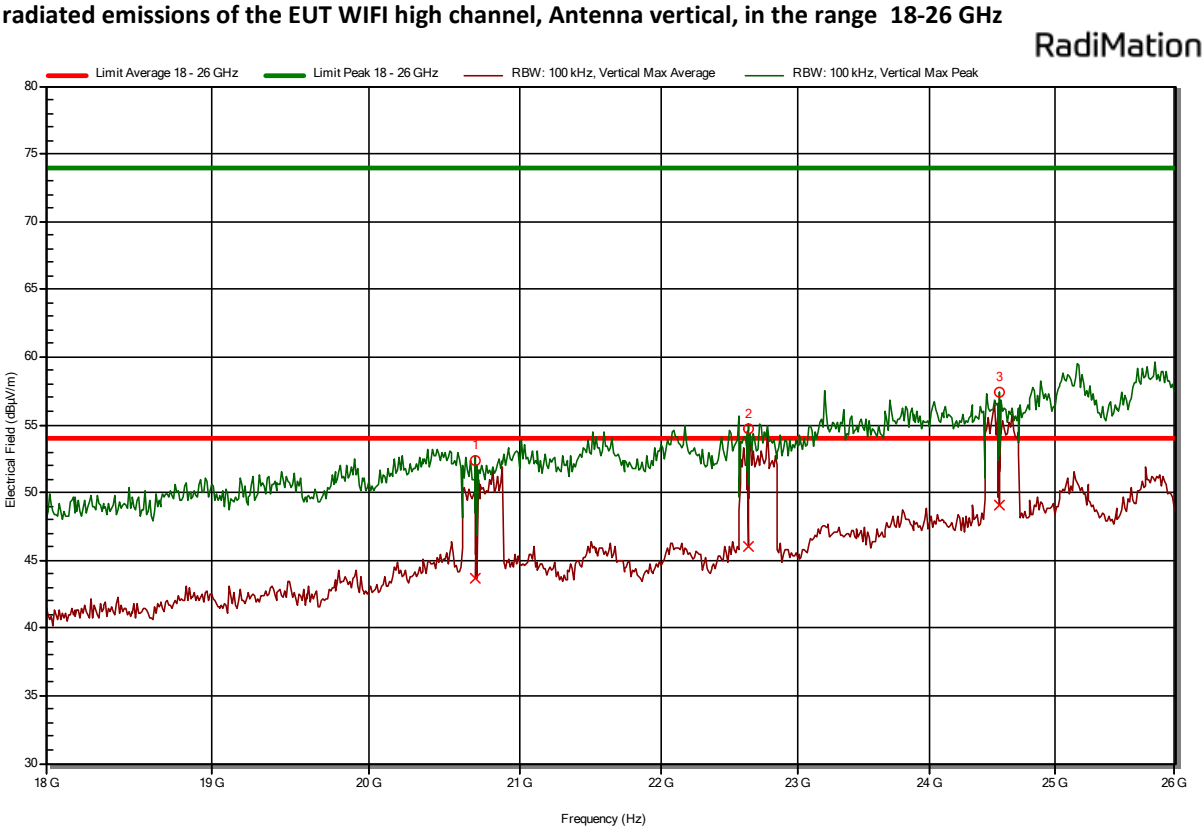
radiated emissions of the EUT WIFI mid channel, Antenna horizontal, in the range 18-26 GHz



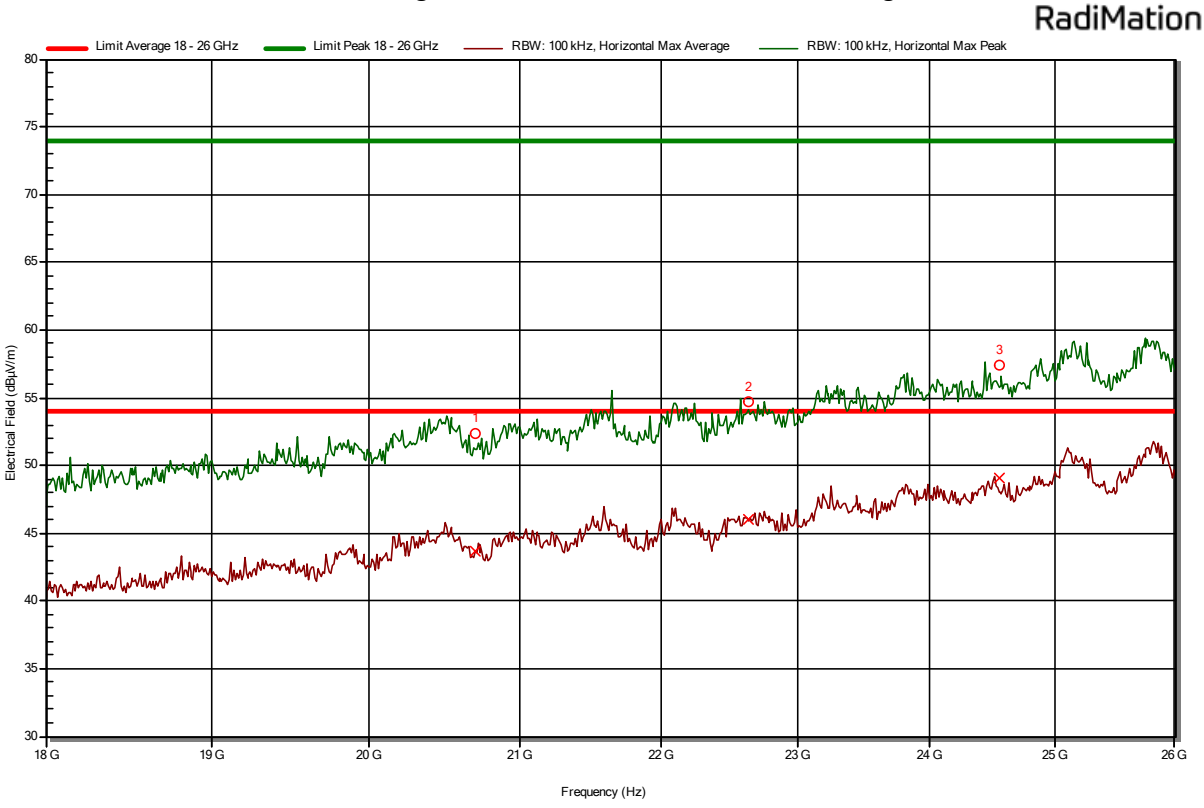
radiated emissions of the EUT WIFI mid channel, Antenna vertical, in the range 18-26 GHz



radiated emissions of the EUT WIFI high channel, Antenna vertical, in the range 18-26 GHz



radiated emissions of the EUT WIFI high channel, Antenna horizontal, in the range 18-26 GHz



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 µH/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 (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 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 C63.10-2013 Section 6.2
IRN 439 – Method 1

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

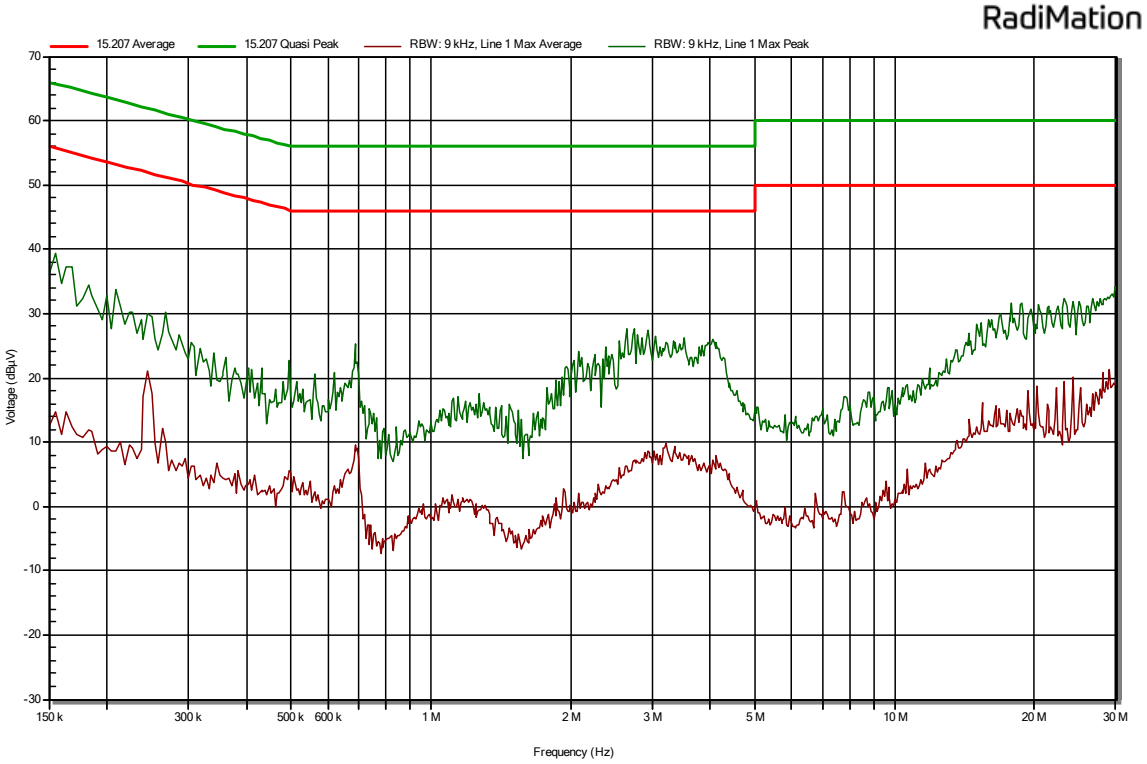
See next page.

3.3.6 Measurement uncertainty

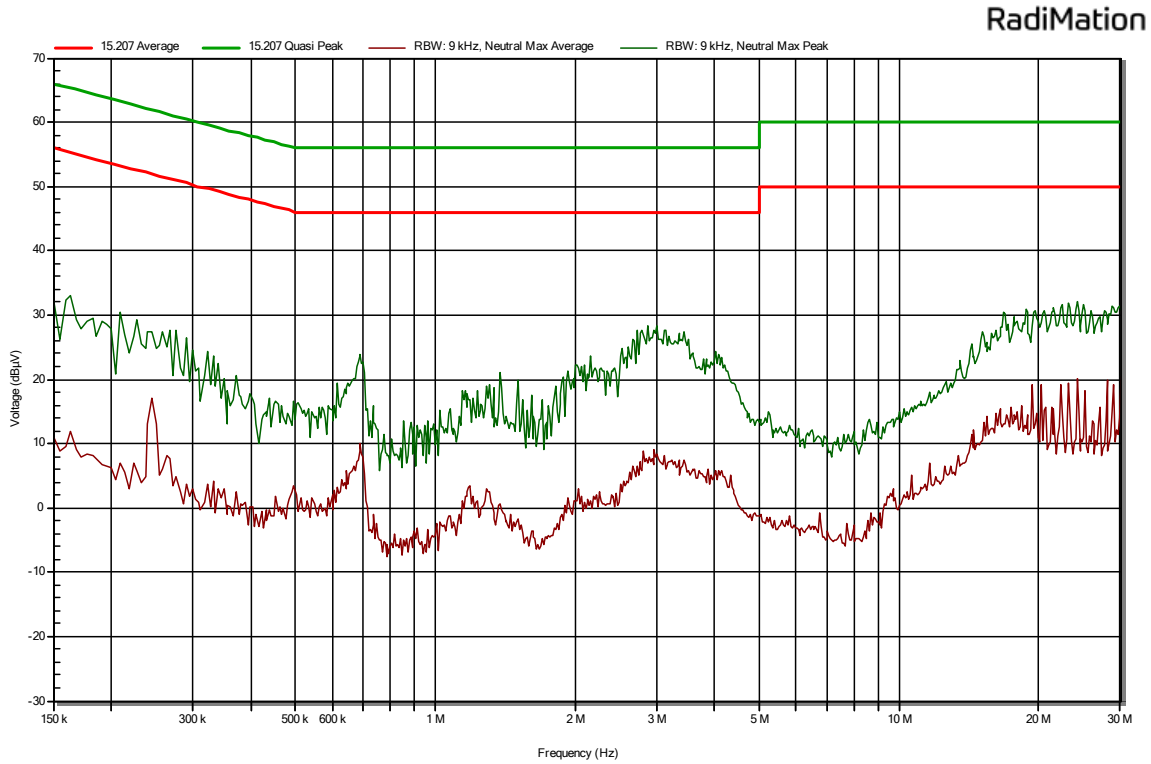
+/- 3.6 dB

3.3.7 Plots of the AC mains conducted spurious measurement

Phase



Neutral



4 Sample calculations

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

Conducted emission Measurement:

U_{lisn} (dBµV) = U (dBµV) + 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:

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

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) 114515 EMCO 6505 S/N:9112-2710	CL (dB) SAR cable	Corr. (dB)
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 (dBµV/m) = U(dBµV) + AF (dB/m) + 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: 109683** **Chase CBL6112B** **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) TE 00531 Emco 3115 SN: 9412-4377	Gain (dB) TE 11132 Miteq JS4-18004000-30-8P-A1	Cable loss (dB) TE 01315	Corr. (dB)
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) TE 00818 Flann 20240-25 SN: 163703	Gain (dB) TE 11131 Miteq JS4-18004000-30-8P-A1	Cable loss (dB) TE 01315	Corr. (dB)
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

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