

**FCC and IC Test report for parts
22.917, 24.238,27.53
RSS-Gen, RSS-130, RSS-132, RSS-133 RSS-139,
(Transmitter spurious emissions only)**



The RvA is signatory to ILAC - MRA



Product name : Gateway
Applicant : Cargotec Oyj
FCC ID : 2BGMHCE-IMX8-01
IC : N/A

Test report No. : P000320723 003 Ver 2.10

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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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.

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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	30-10-2024	First draft	RvB
v1.00	13-12-2024	Final release	RvB
V2.00	10-04-2025	FCC ID update	MHK
V2.10	22-05-2025	Section 1.3 FCC Id corrected and IC id to N/A	MHK

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Summary of Test results

FCC	ISED	Description	Section in report	Verdict
22.359 24.238 27.53	RSS-Gen RSS-130 RSS-132 RSS-133 RSS-139	Radiated spurious emissions	3.1	Pass

1 General Description

1.1 Applicant

Client name:	Cargotec Oyj
Address:	Porkkalankatu 5, Helsinki
Zip code:	00180
Telephone:	+358 207774000
E-mail:	seppo.laakkonen@cargotec.com
Contact name:	Mr. S. Laakkonen

1.2 Manufacturer

Manufacturer name:	Cargotec Oyj
Address:	Porkkalankatu 5, Helsinki
Zip code:	00180
Telephone:	+358 207774000
E-mail:	seppo.laakkonen@cargotec.com
Contact name:	Mr. S. Laakkonen

1.3 Tested Equipment Under Test (EUT)

Product name:	Gateway
Brand name:	Cargotec
FCC ID:	2BGMHCE-IMX8-01
IC:	N/A
Product description:	Gateway
Model(s):	CE-IMX08-1
Software version:	--
Hardware version:	--
Date of receipt:	25-06-2024
Tests started:	15-06-2024
Testing ended:	16-10-2024

1.4 Product specifications of Equipment under test

Tx Frequency:	WLAN: 2412 – 2462 MHz BLE: 2402 – 2480 MHz BT BR/EDR: 2402 – 2480 MHz LTE: bands 2/4/5/7/12/13/25/26/38/41 WCDMA: bands 2/4/5 GSM: bands 850/1900
Rx frequency:	WLAN: 2412 – 2462 MHz BLE: 2402 – 2480 MHz BT BR/EDR: 2402 – 2480 MHz LTE: bands 2/4/5/7/12/13/25/26/38/41 WCDMA: bands 2/4/5 GSM: bands 850/1900 GNSS: 1575.42 MHz
Occupied channel width:	WLAN: 20 MHz BLE: 1/2MHz BT BR/EDR: 1 MHz LTE: 1.4/3/5/10/15/20 MHz WCDMA: 5 MHz GSM: 0.2 MHz
Antenna type:	Smarteq Alldisc 710388
Antenna gain:	GSM/WCDMA/LTE: 3.25 dBi* WLAN/BLE/BT BR/BT EDR: 1.4 dBi*
Type of modulation:	According to WLAN/Bluetooth/LTE/GSM/WCDMA specs.
Emission designator	WLAN/BLE/BT BR/BT EDR: see FCC id: VPYLB1XK GSM/WCDMA/LTE: see FCC id: XMR201906ED21G

Disclaimer: The operating frequency bands are declared by the applicant

Note: antenna gain (dBi) = antenna gain(dBi) + cable loss (dB).(tested with 55cm cable length)

1.5 Environmental conditions

Normal test conditions:

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

1.6 Measurement standards

- ANSI C63.26:2015

1.7 Applicable standards

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

- FCC Part 22 Subpart C §22.359
- FCC Part 24 Subpart C §24.238
- FCC Part 27 Subpart C §27.53
- RSS-Gen Issue 5
- RSS-130 Issue 2
- RSS-132 Issue 3
- RSS-133 Issue 6, A1
- RSS-139 Issue 3

1.8 Observation and remarks

The EUT contains 2 pre-certified radio: 1. Murata LBEEE5CJ1XK-687 (WLAN/BLE/BT BR/ BT EDR)
2. Quectel EG21-G (GSM/WCDMA/LTE).

1.9 Modifications to the EUT (Equipment Under Test)

The applicant added some RF absorber sheets on some components to suppress Radiated emissions.
See internal photo module for details.

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. Telefication 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 : ing. R. van Barneveld

Review of test methods and report by:

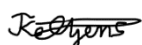
Name : ing. M.H.Khan

The above conclusions have been verified by the following signatory:

Date : 22-05-2025

Name : Ing T. Keltjens

Function : Test Engineer

Signature : 

2 Test configuration of the Equipment Under Test

2.1 Test mode

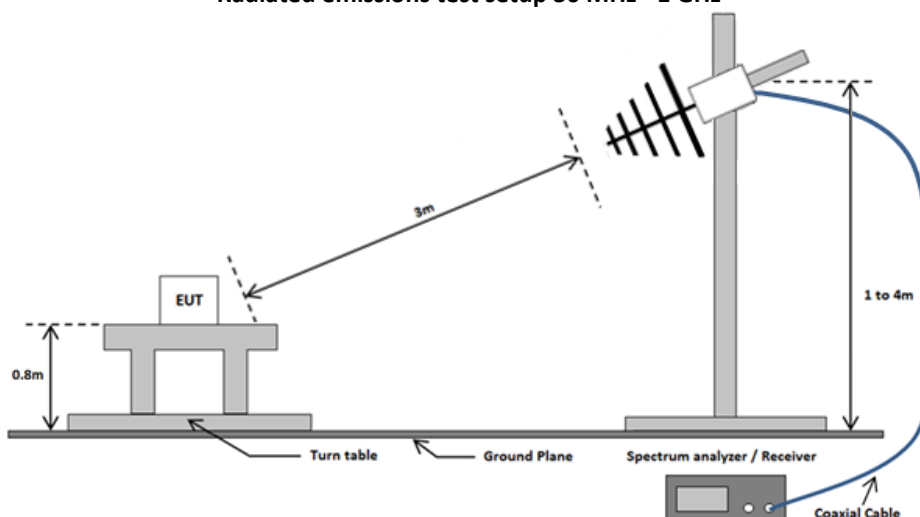
The equipment is configured to connect to a radio communication tester which keeps the transmitter continuously active and transmitting during testing.

Tested channels/bands

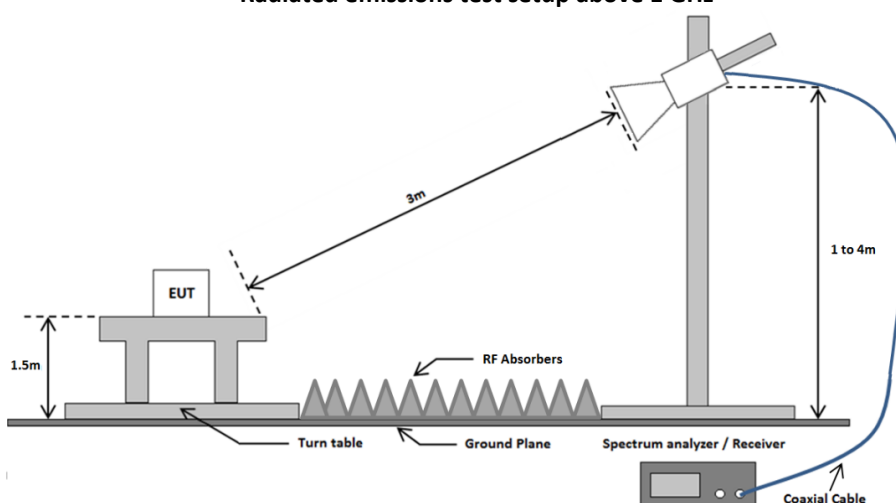
Technology	Band	Uplink Frequency range (MHz)
GSM	850	824.2 – 848.8
	1900	1850.2 – 1909.8
WCDMA	2	1850 – 1910
	5	824 – 849
LTE	2	1850 – 1910
	5	824 – 849

2.2 Test setups

Radiated emissions test setup 30 MHz - 1 GHz



Radiated emissions test setup above 1 GHz



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	ESR7	114605	11-2024	11-2025	3.1
Spectrum Analyzer	Rohde & Schwarz	FSV3044	114923	10-2023	10-2025	3.1
3.0 GHz HPF	Wainwright	WHK3.0/18G-10EF	114682	09-2024	09-2026	3.1
Biconical antenna + 6dB attenuator	EMCO	3109	107818	06-2022	06-2025	3.1
Biconical antenna + 6dB attenuator	Schwarzbeck + HP	VHA9103 + 8491A	114436	07-2024	07-2027	3.1
Logperiodic antenna	EMCO	3147	114385	02-2021	02-2026	3.1
Horn antenna	EMCO	3115	114607	01-2021	01-2025	3.1
Horn antenna	FLANN-MICROWAVE	20240-25	114518	NA*	NA*	3.1
Horn antenna	Scientific atlanta	12A-26	114487	NA*	NA*	3.1
Preamplifier 1-18 GHz	µComp Nordic	MCNA-40-0010800-25-10P	114771	08-2024	08-2025	3.1
Preamplifier 18-40 GHz	Schwarzbeck	BBV-9721	115026	06-2024	06-2025	3.1
Semi-Anechoic Chamber	ETS Lindgren	SAR	114624	03-2023	03-2026	3.1
Test software	Raditeq	Radimation Version 2023.2.3	--	--	--	3.1

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

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB

$P = 23 \text{ dBm} = 0.2 \text{ W}$

$$\text{limit} = 23 \text{ dBm} - [43 + 10 * \log_{10}(0.2)] \text{ dB} = -13 \text{ dBm}$$

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

30 MHz to 26.5 GHz: According to ANSI C63.26-2015 section 5.5.2

30 MHz to 1 GHz: IRN 026 – Method 1

1 GHz to 18 GHz: IRN 026 – Method 2

18 to 26.5 GHz: IRN 026 – Method 3

3.1.5 Measurement Uncertainty

Frequency range	Polarization	Uncertainty
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 Results of the radiated spurious emissions measurement

30 – 250 MHz

No peaks found within 20 dB of the limit.

250 – 1000 MHz

No peaks found within 20 dB of the limit.

1-18 GHz

GSM850

Frequency	Peak	Status	Angle	Height	Polarization	Average
1,803 GHz	55,2 dBμV/m	Pass	5 degrees	2,5 m	Vertical	49,1 dBμV/m
2,4 GHz	46,8 dBμV/m	Pass	32 degrees	1 m	Vertical	37,2 dBμV/m
2,706 GHz	56,5 dBμV/m	Pass	255 degrees	2 m	Vertical	51,3 dBμV/m
3,61 GHz	54,4 dBμV/m	Pass	103 degrees	2,5 m	Vertical	49,4 dBμV/m
5,414 GHz	50,2 dBμV/m	Pass	215 degrees	4 m	Vertical	39 dBμV/m
6,317 GHz	51,7 dBμV/m	Pass	107 degrees	3 m	Horizontal	42,9 dBμV/m

WCDMA band 5

Frequency	Peak	Status	Angle	Height	Polarization	Average
1,65 GHz	47,8 dBμV/m	Pass	224 degrees	1,5 m	Vertical	40,6 dBμV/m
2,477 GHz	44,7 dBμV/m	Pass	191 degrees	1,5 m	Vertical	34,6 dBμV/m
2,4 GHz	46,9 dBμV/m	Pass	34 degrees	3 m	Horizontal	36,7 dBμV/m

LTE band 2

Frequency	Peak	Status	Angle	Height	Polarization	Average
3,76 GHz	56,4 dBμV/m	Pass	184 degrees	2,5 m	Vertical	47,3 dBμV/m
5,643 GHz	51,5 dBμV/m	Pass	291 degrees	2,5 m	Vertical	43,5 dBμV/m
4,394 GHz	48,4 dBμV/m	Pass	257 degrees	4 m	Vertical	37,7 dBμV/m
3,138 GHz	44,4 dBμV/m	Pass	354 degrees	2 m	Vertical	34,5 dBμV/m

LTE band 5

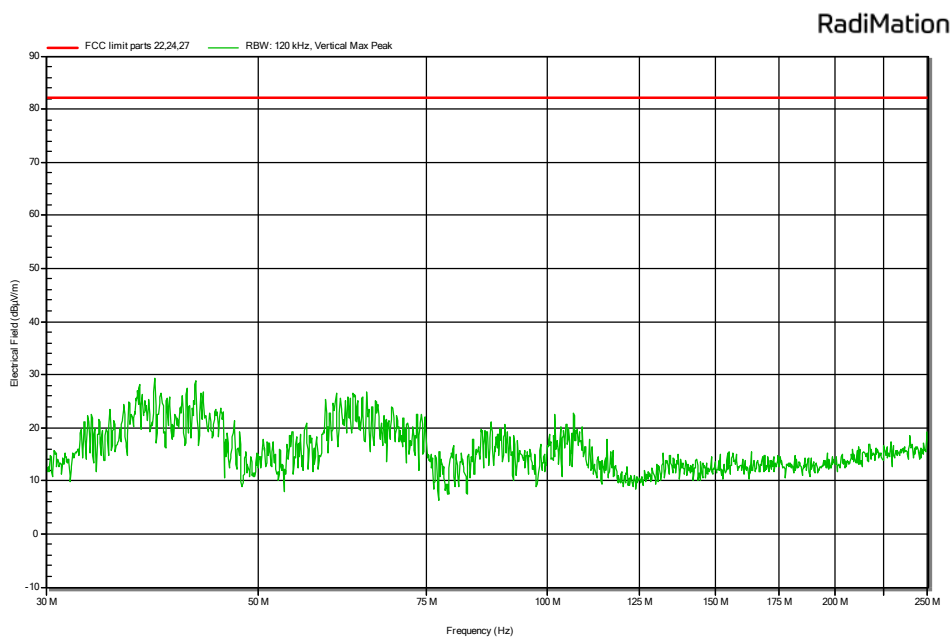
Frequency	Peak	Status	Angle	Height	Polarization	Average
1,672 GHz	41,5 dBμV/m	Pass	236 degrees	1,5 m	Vertical	32,9 dBμV/m
2,398 GHz	43,3 dBμV/m	Pass	319 degrees	3 m	Vertical	34,7 dBμV/m

18-26 GHz

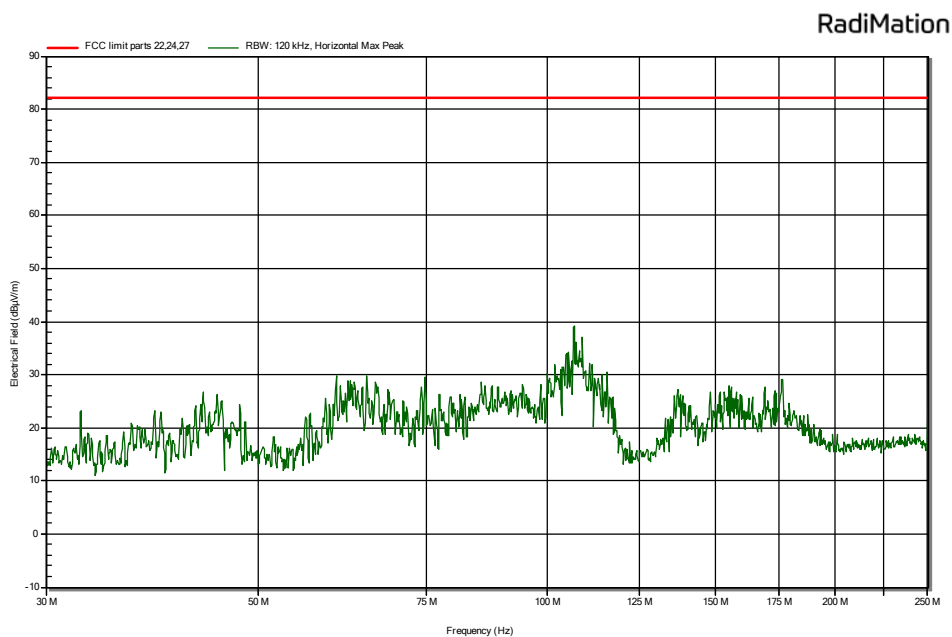
No peaks found within 20 dB of the limit.

3.1.7 Plots of the Radiated Spurious Emissions Measurement

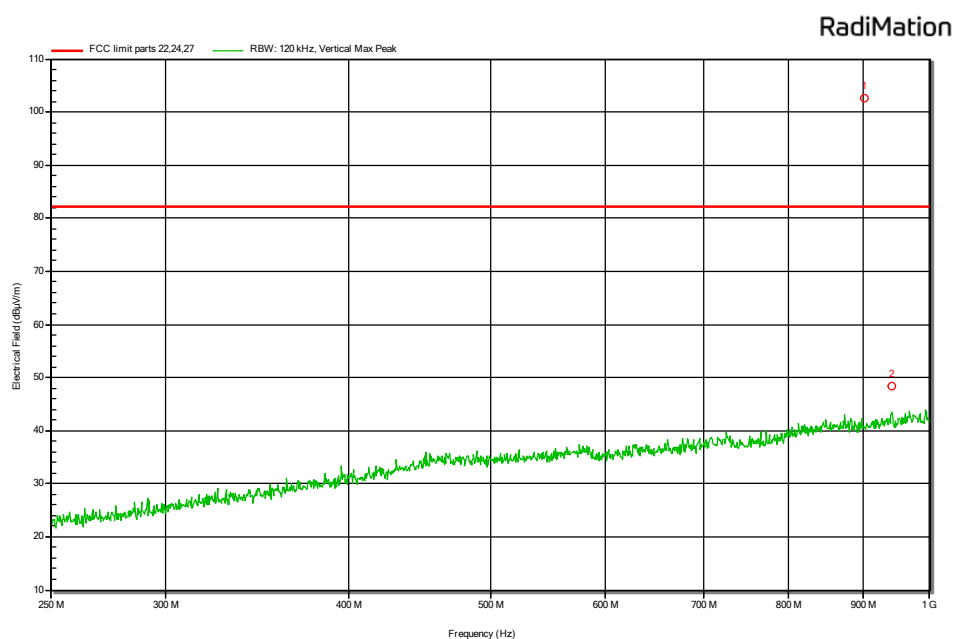
GSM 850



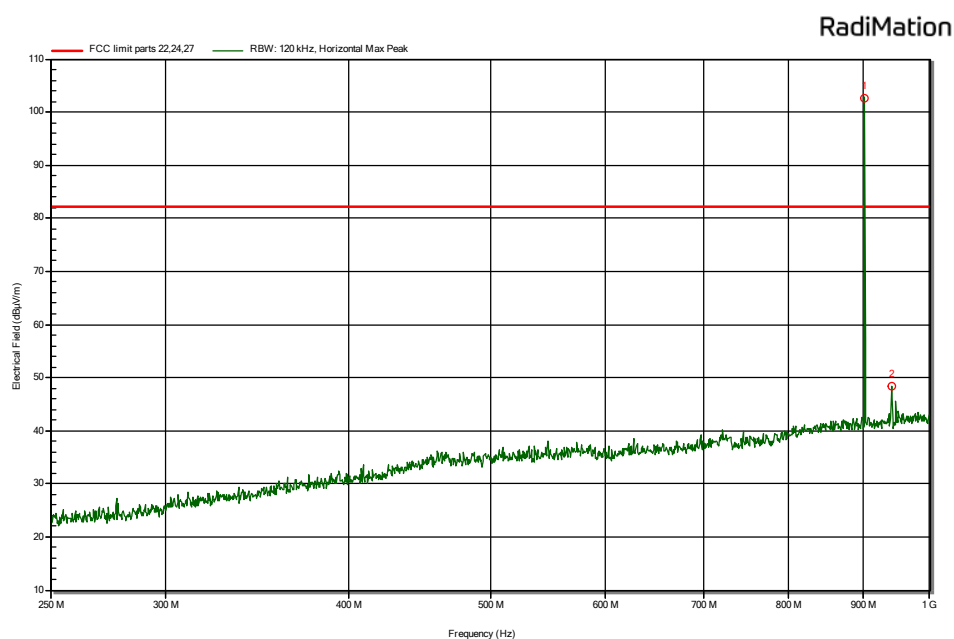
Radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz
(pre-scan peak values shown)



Radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz
(pre-scan peak values shown)



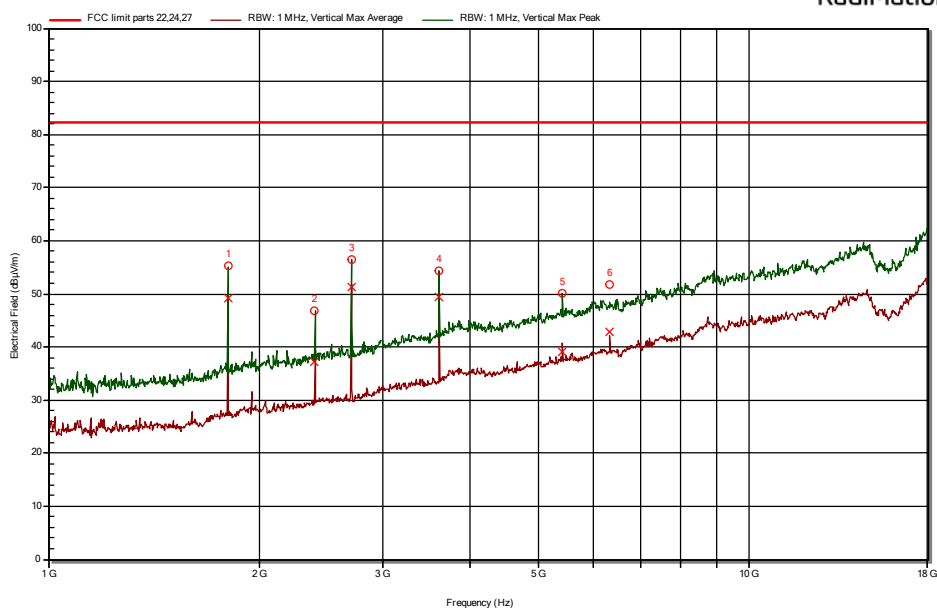
Radiated emissions of the EUT, Antenna vertical, in the range 250-1000 MHz
(pre-scan peak values shown)



Radiated emissions of the EUT, Antenna horizontal, in the range 250-1000 MHz
(pre-scan peak values shown)

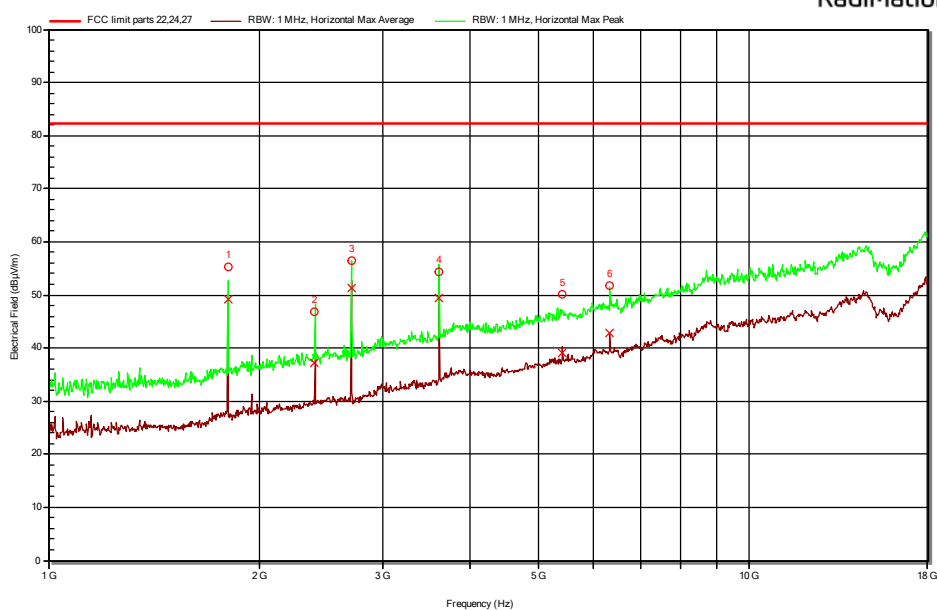
Note: peak seen in the plot is the transmission frequency and is not subject to the limit.

RadiMation



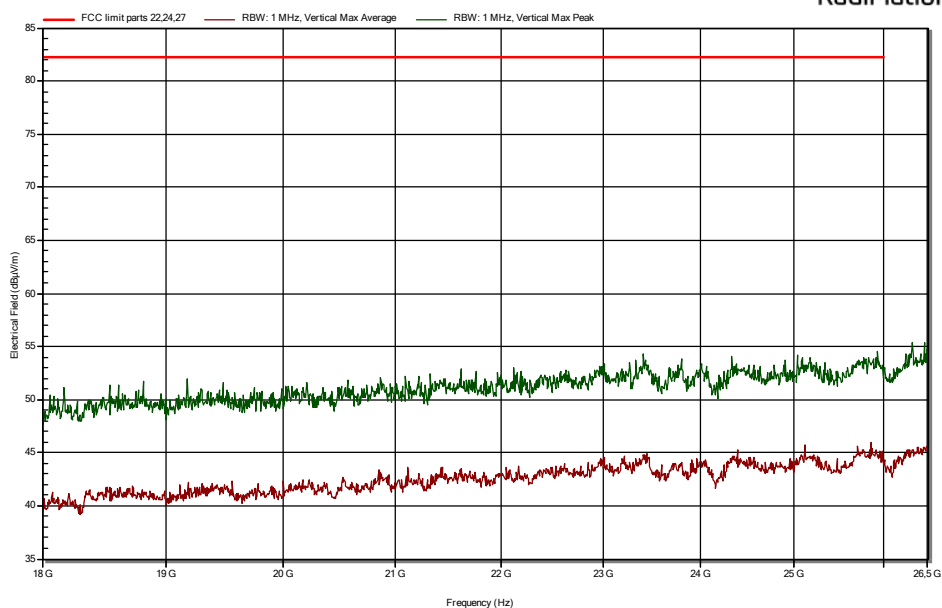
Radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



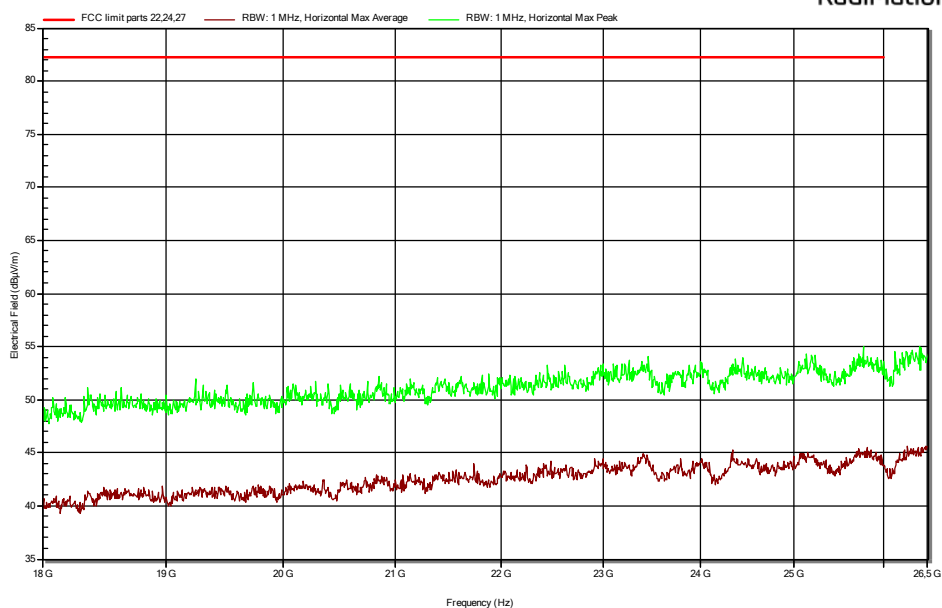
Radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



Radiated emissions of the EUT, Antenna vertical, in the range 18 – 26GHz
(peak and average values shown)

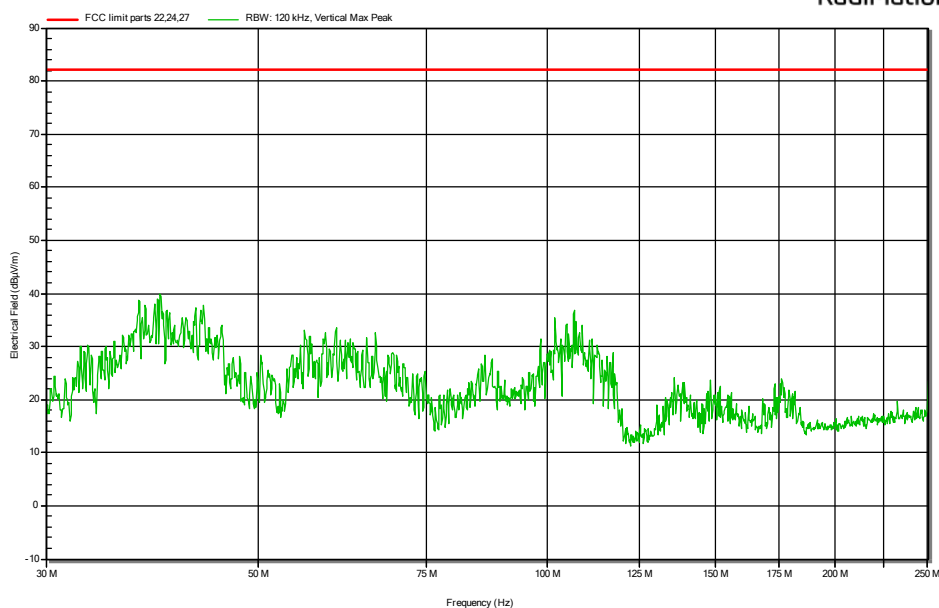
RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26GHz
(peak and average values shown)

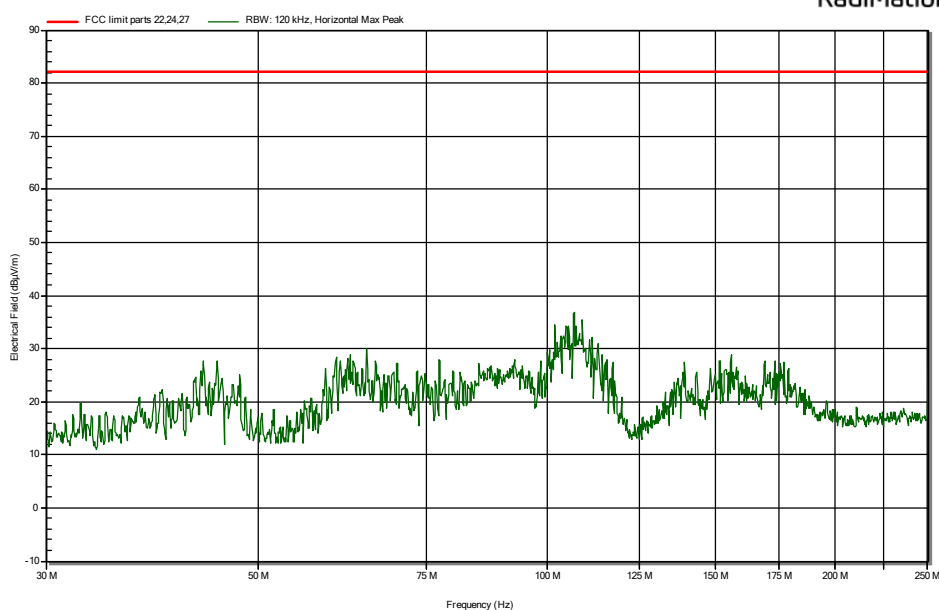
GSM1900

RadiMation

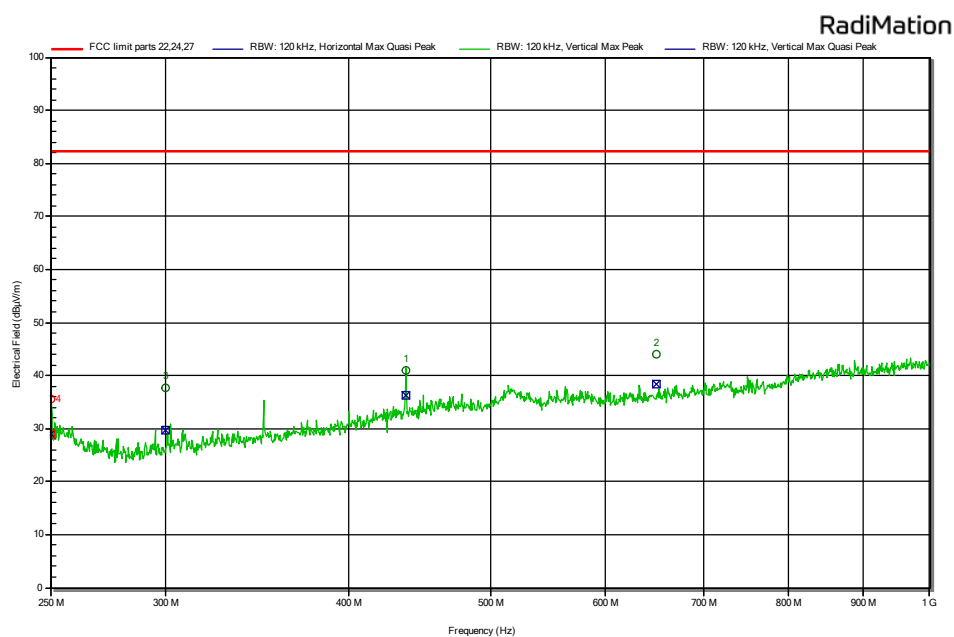


Radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz
(pre-scan peak values shown)

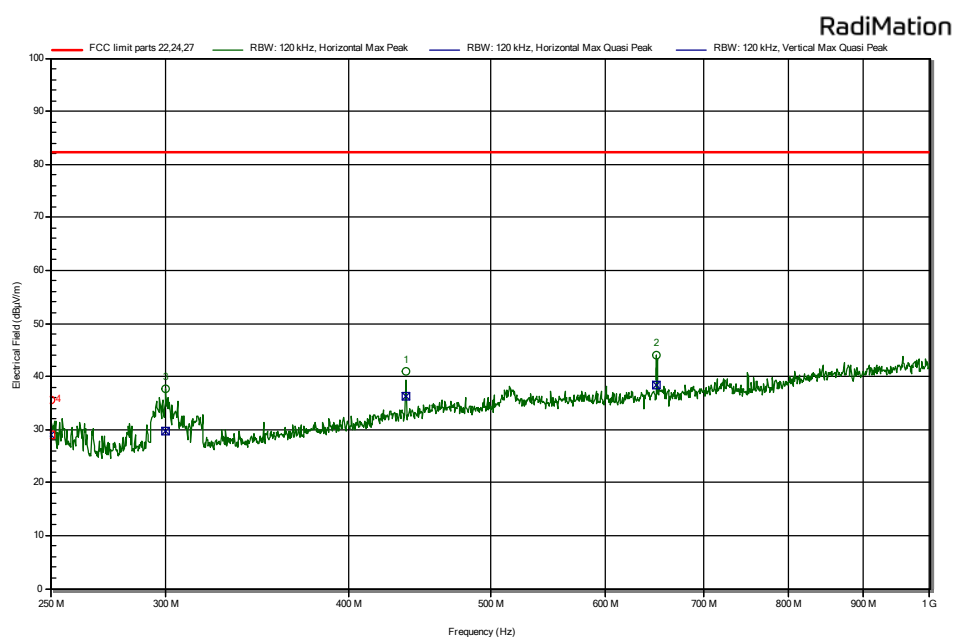
RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz
(pre-scan peak values shown)

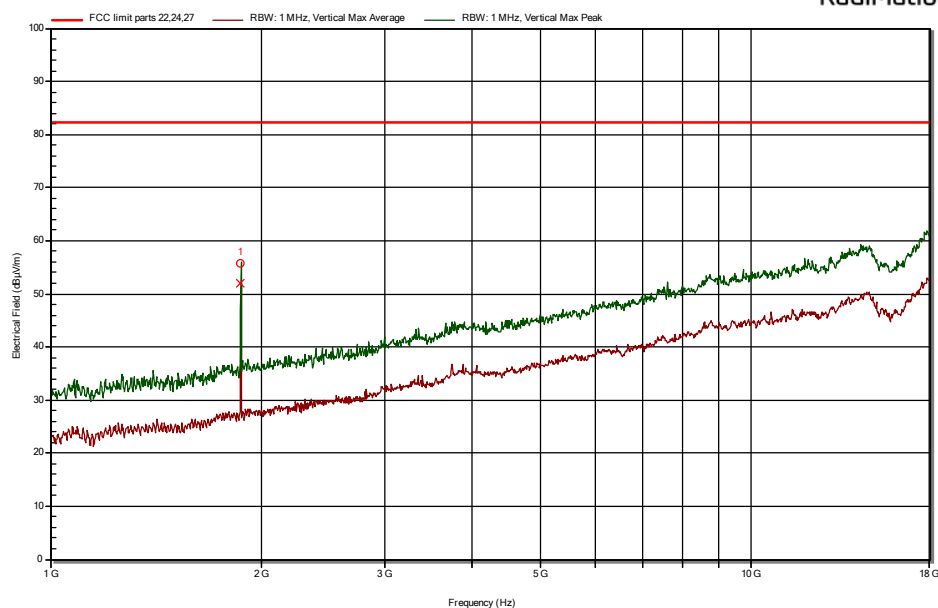


Radiated emissions of the EUT, Antenna vertical, in the range 250-1000 MHz
(pre-scan peak values shown)



Radiated emissions of the EUT, Antenna horizontal, in the range 250-1000 MHz
(pre-scan peak values shown)

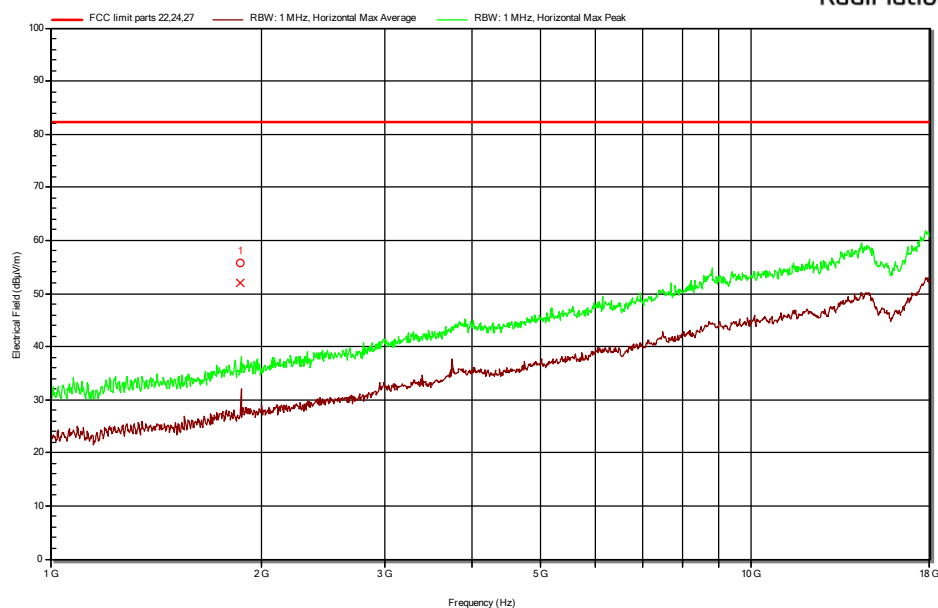
RadiMation



Radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz
(peak and average values shown)

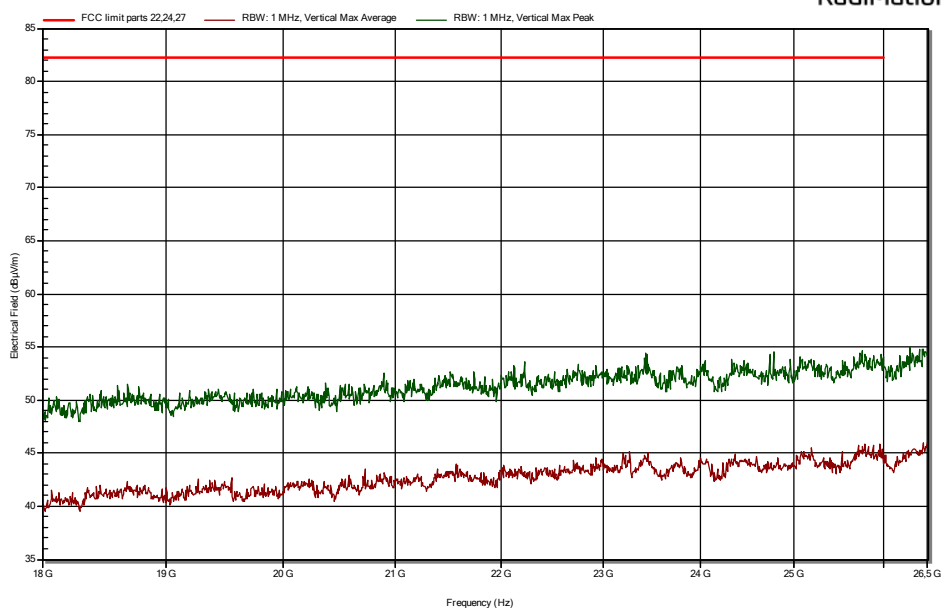
Note: peak seen in the plot is the transmission frequency and is not subject to the limit.

RadiMation



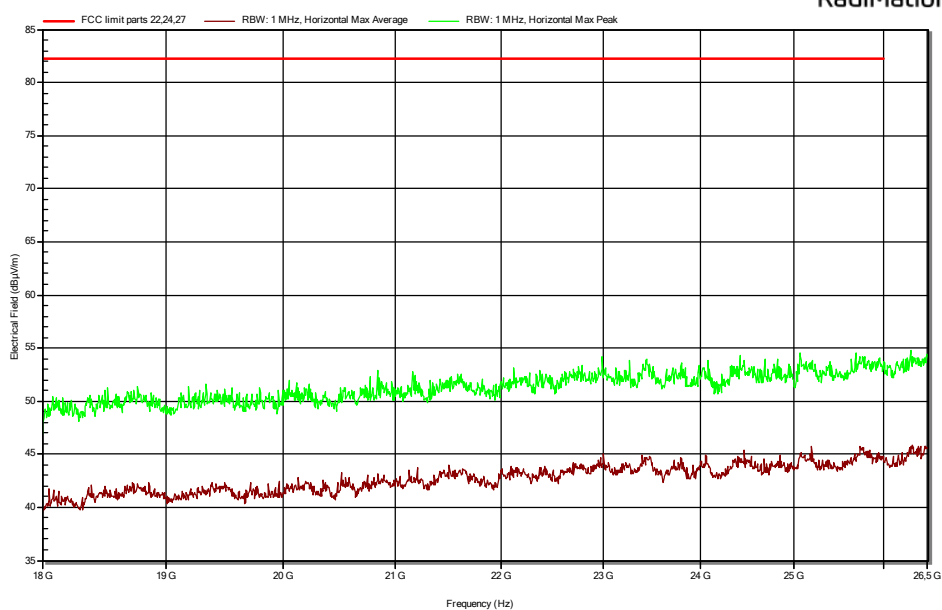
Radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



Radiated emissions of the EUT, Antenna vertical, in the range 18 – 26GHz
(peak and average values shown)

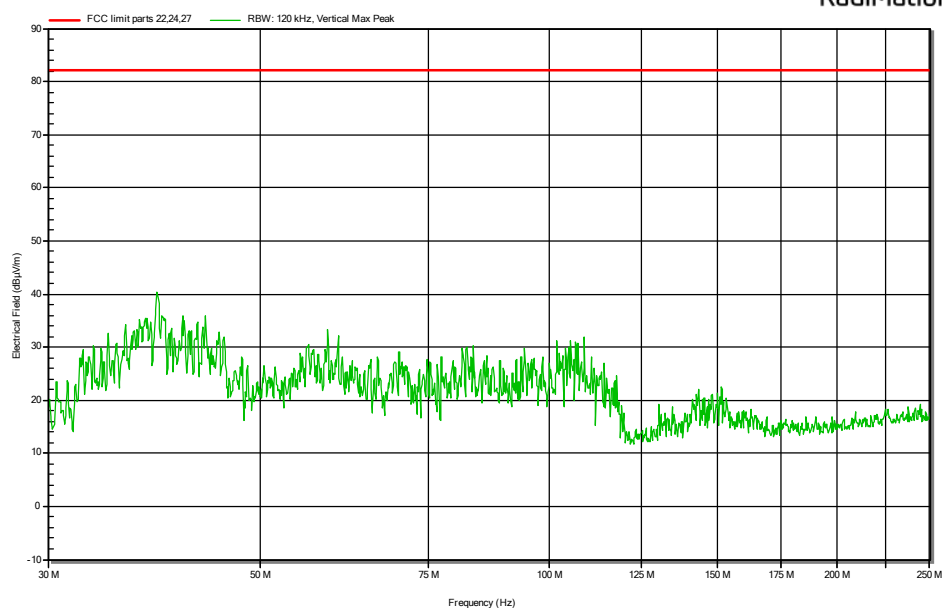
RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26GHz
(peak and average values shown)

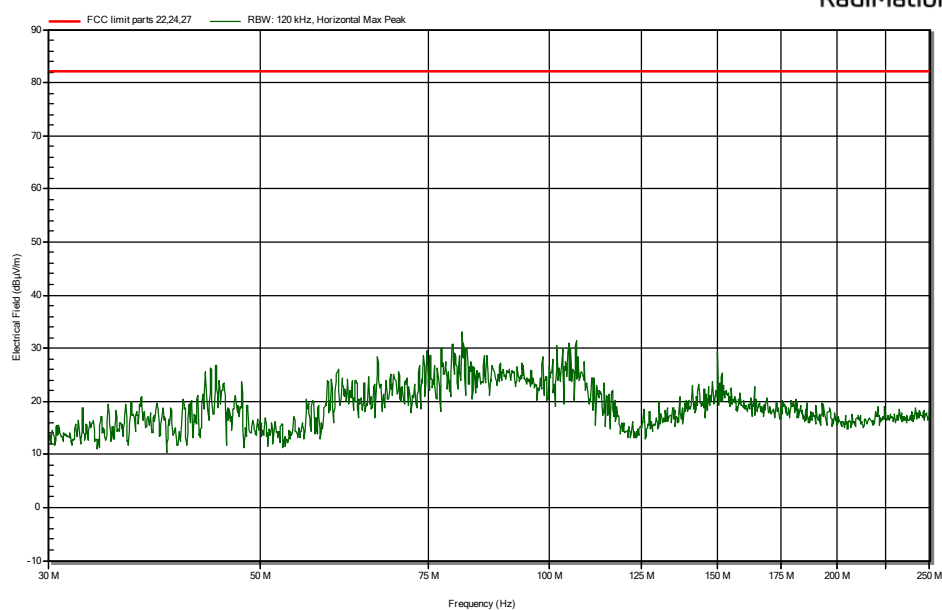
WCDMA band 2

RadiMation

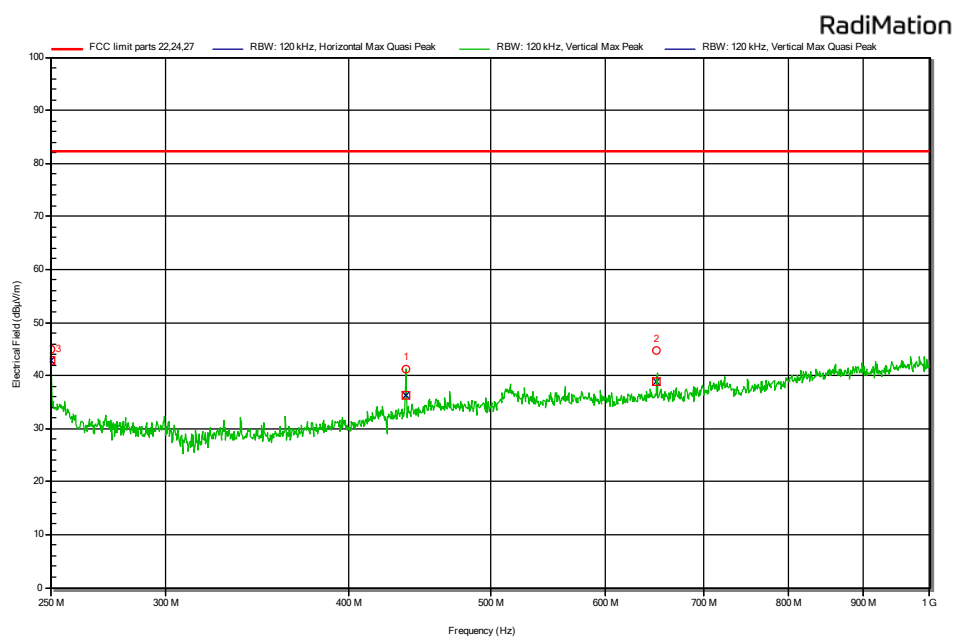


Radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz
(pre-scan peak values shown)

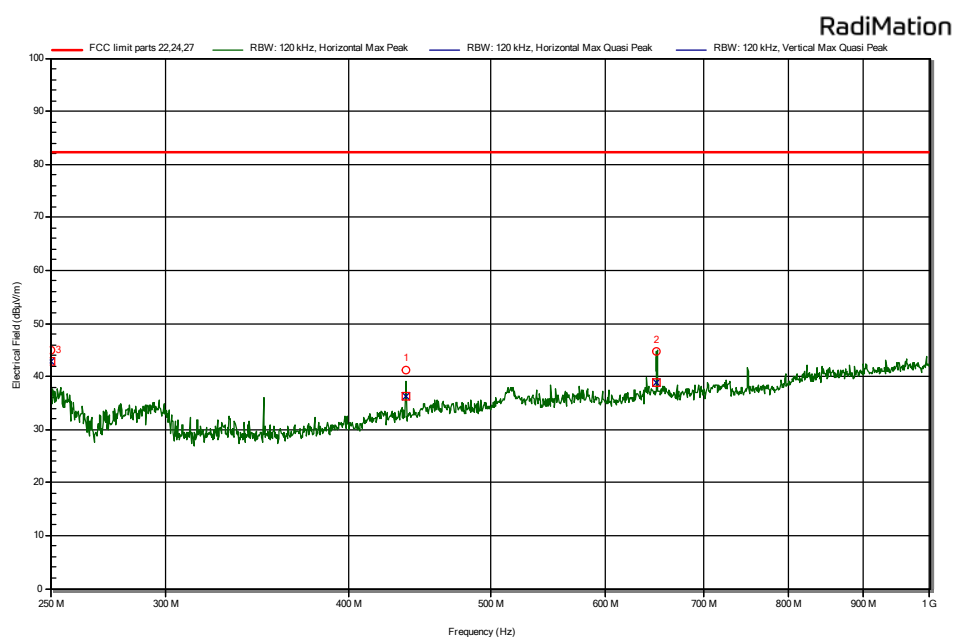
RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz
(pre-scan peak values shown)

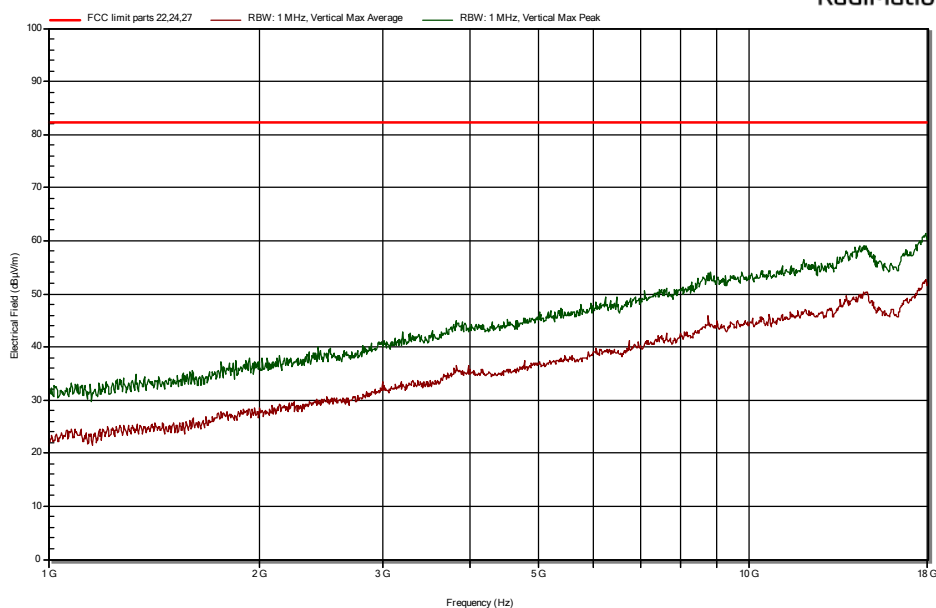


Radiated emissions of the EUT, Antenna vertical, in the range 250-1000 MHz
(pre-scan peak values shown)



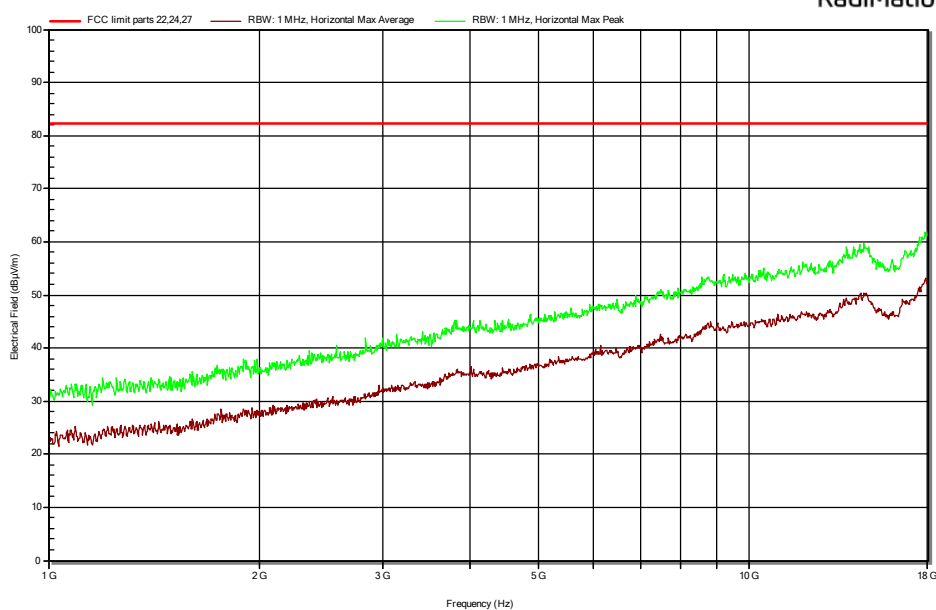
Radiated emissions of the EUT, Antenna horizontal, in the range 250-1000 MHz
(pre-scan peak values shown)

RadiMation



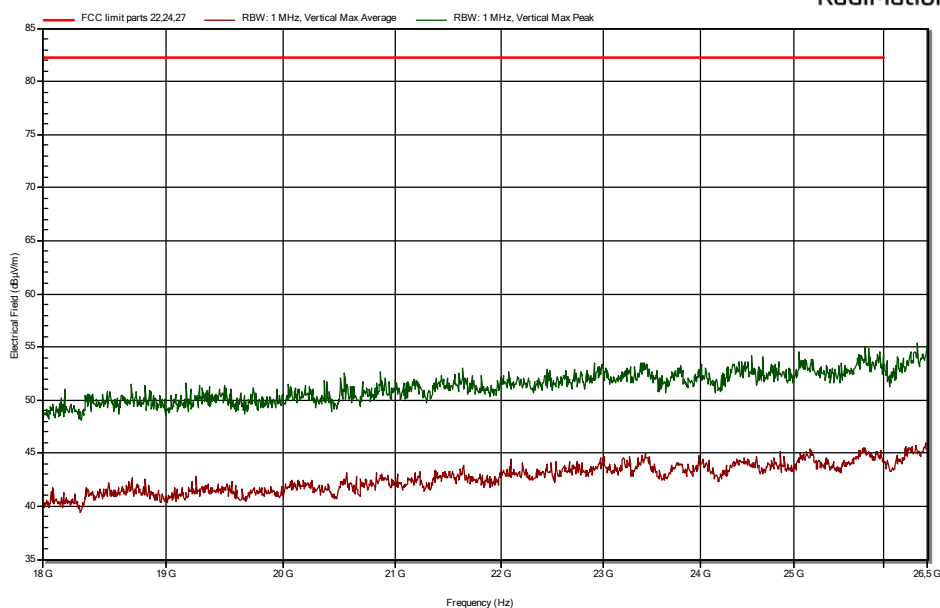
Radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



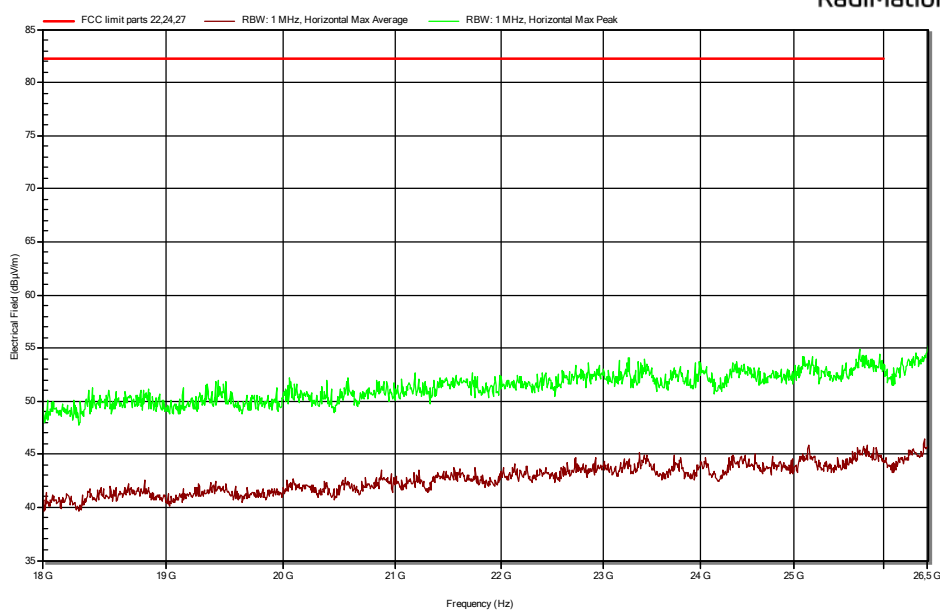
Radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



Radiated emissions of the EUT, Antenna vertical, in the range 18 – 26GHz
(peak and average values shown)

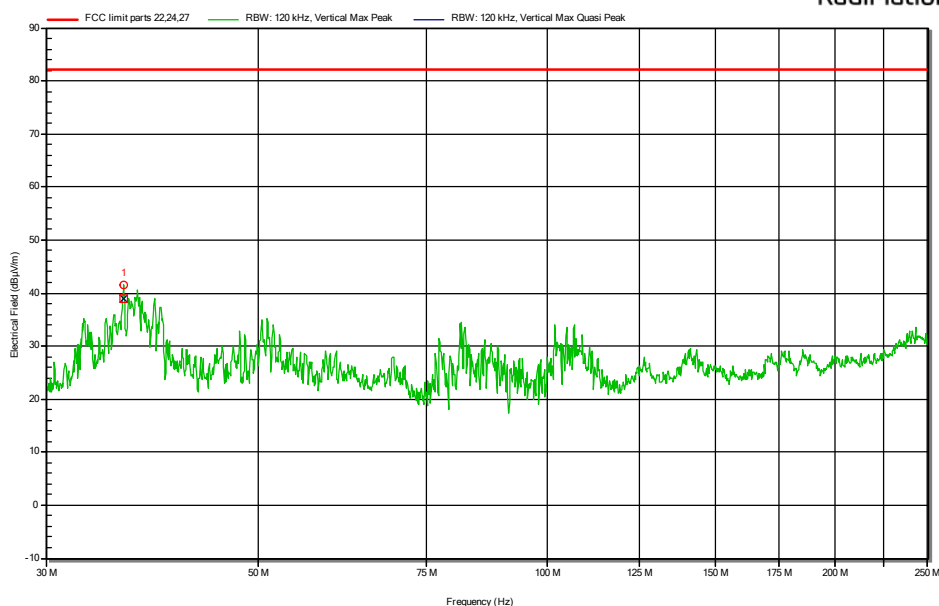
RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26GHz
(peak and average values shown)

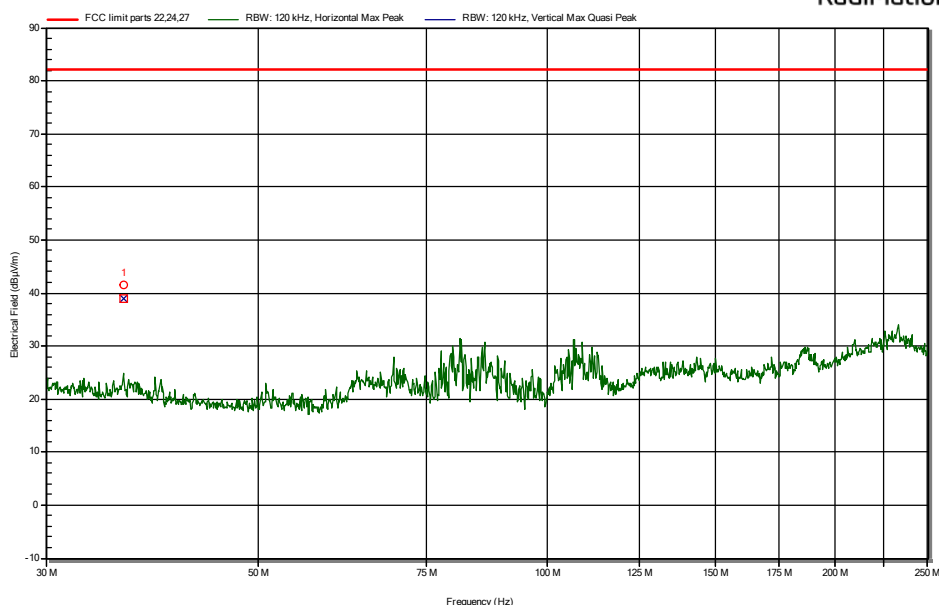
WCDMA band 5

RadiMation

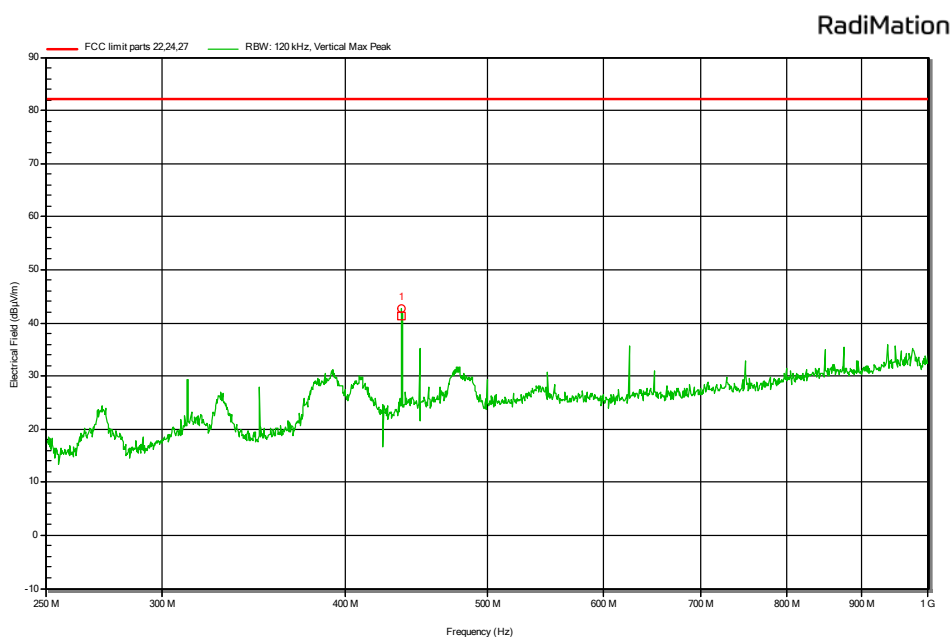


Radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz
(pre-scan peak values shown)

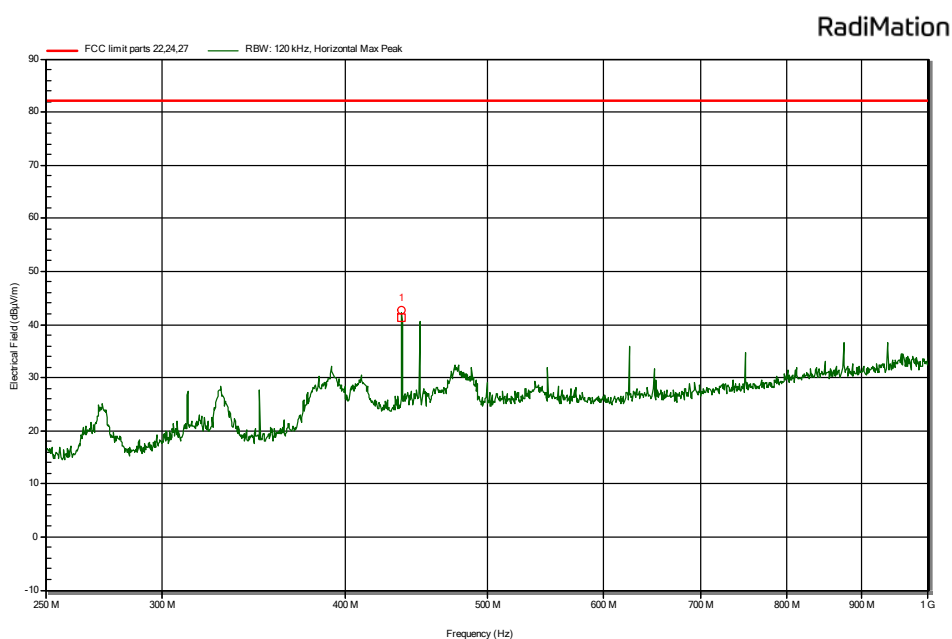
RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz
(pre-scan peak values shown)

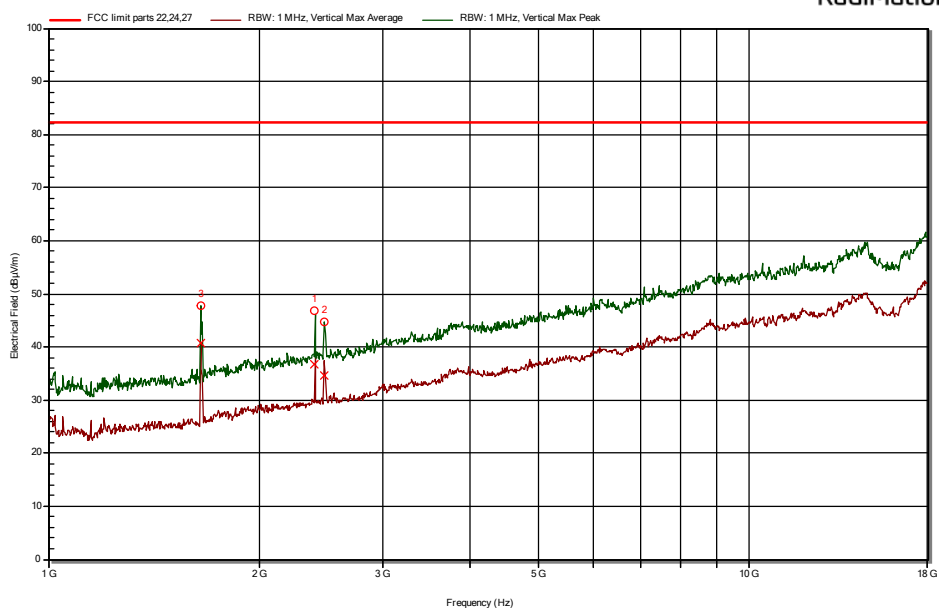


Radiated emissions of the EUT, Antenna vertical, in the range 250-1000 MHz
(pre-scan peak values shown)



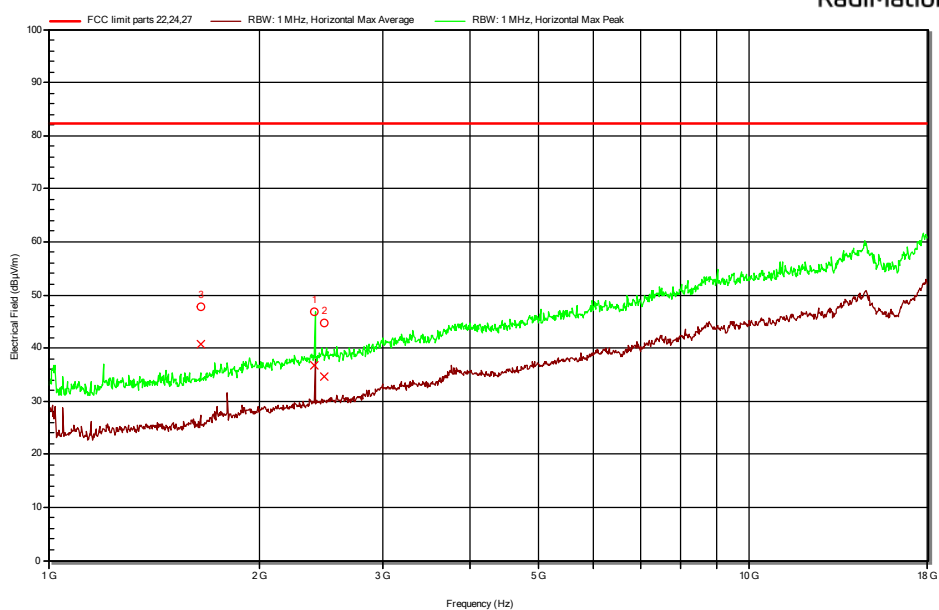
Radiated emissions of the EUT, Antenna horizontal, in the range 250-1000 MHz
(pre-scan peak values shown)

RadiMation



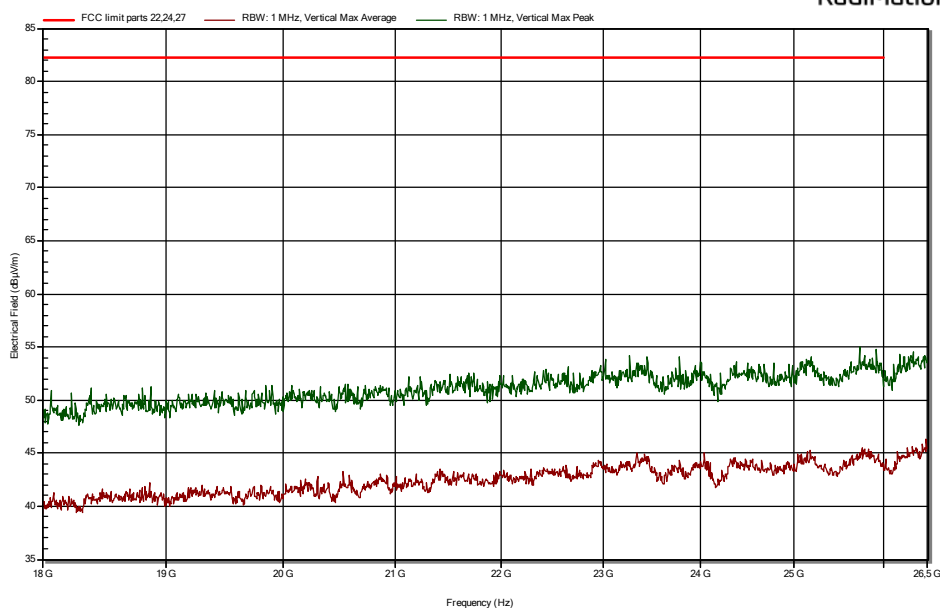
Radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



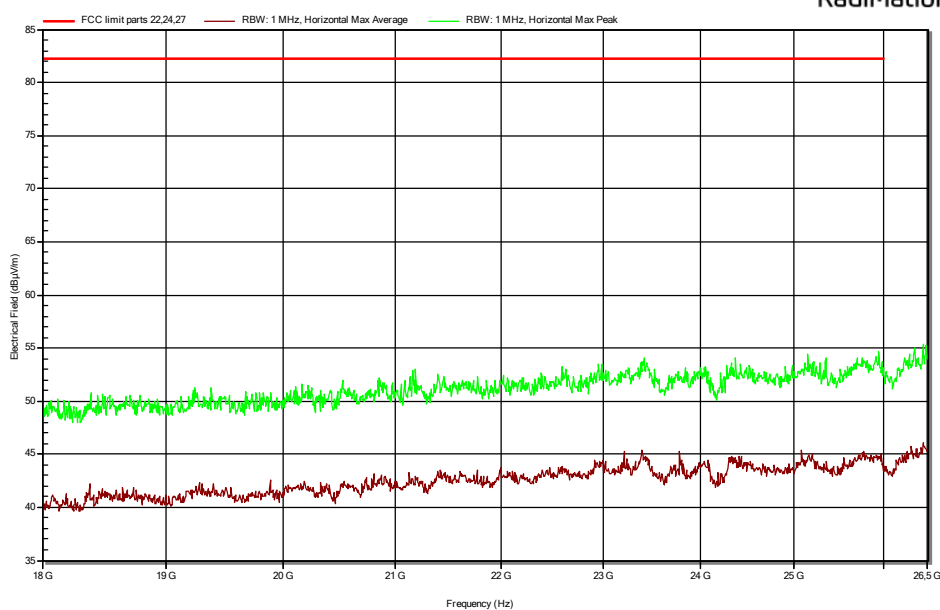
Radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



Radiated emissions of the EUT, Antenna vertical, in the range 18 – 26GHz
(peak and average values shown)

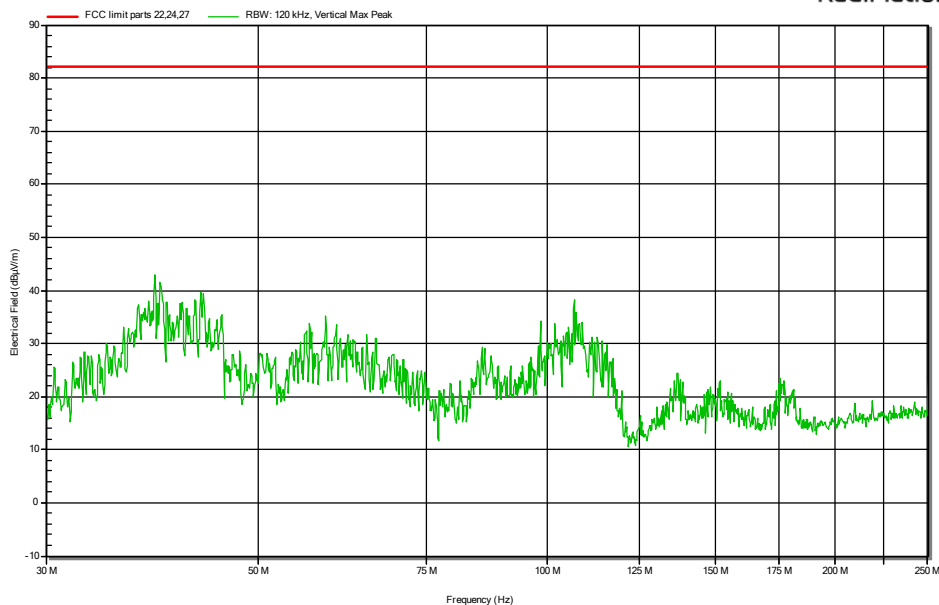
RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26GHz
(peak and average values shown)

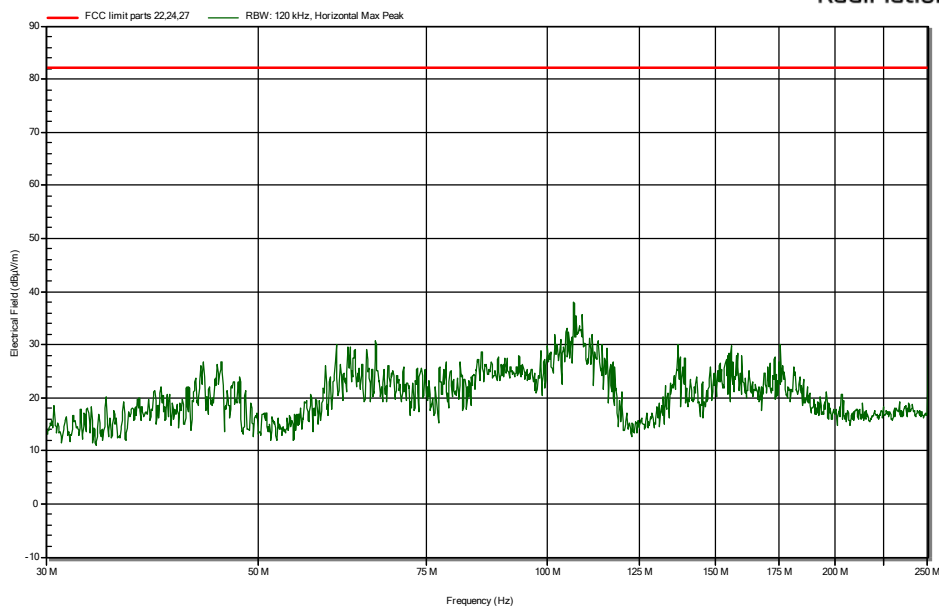
LTE band 2

RadiMation

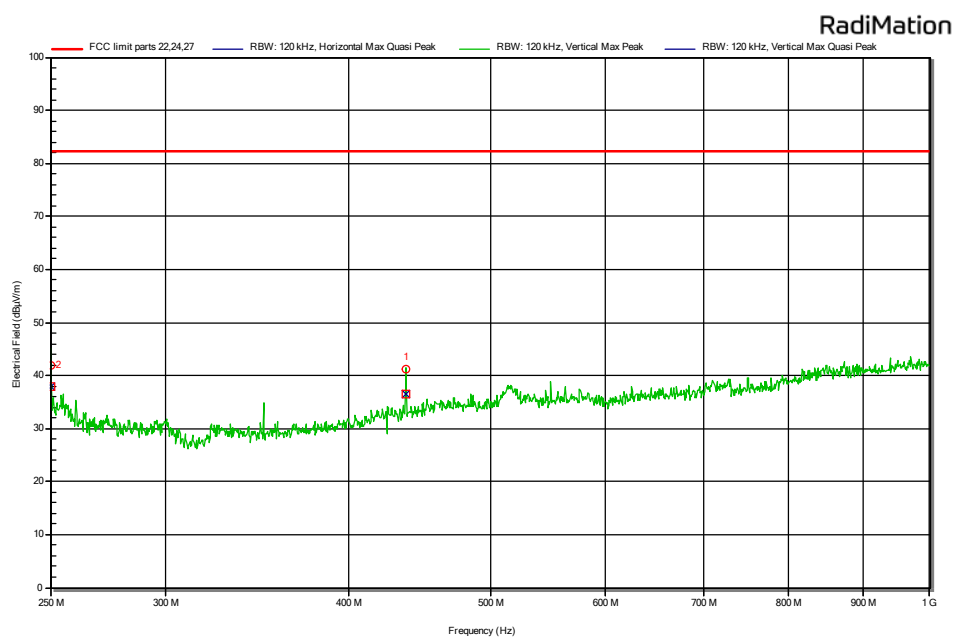


Radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz
(pre-scan peak values shown)

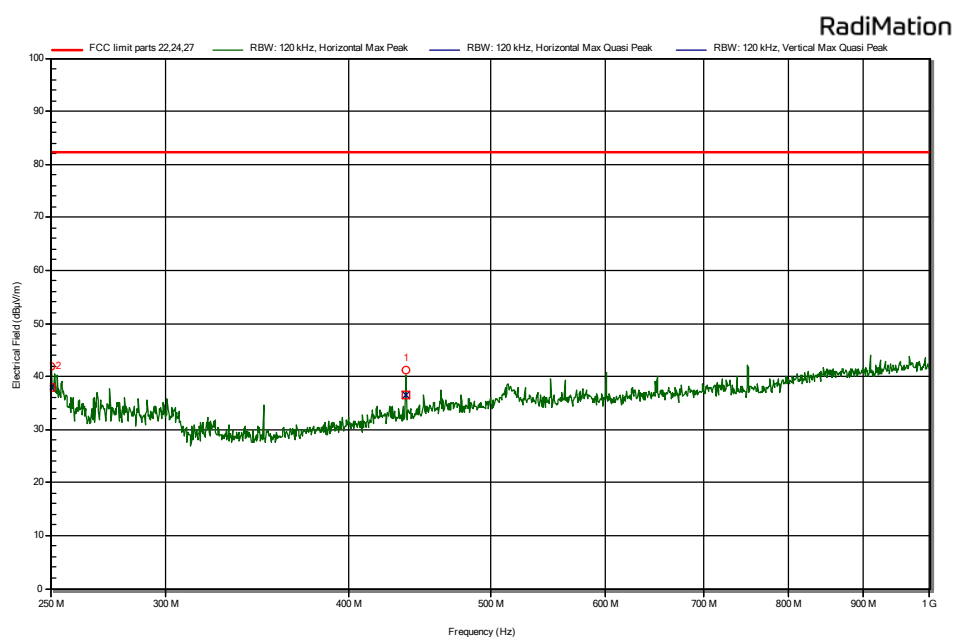
RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz
(pre-scan peak values shown)

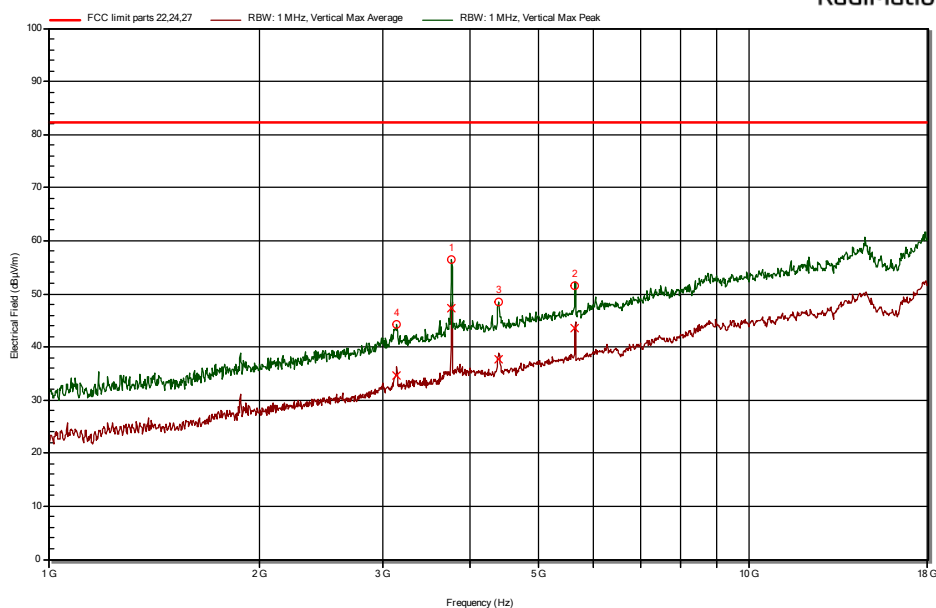


Radiated emissions of the EUT, Antenna vertical, in the range 250-1000 MHz
(pre-scan peak values shown)



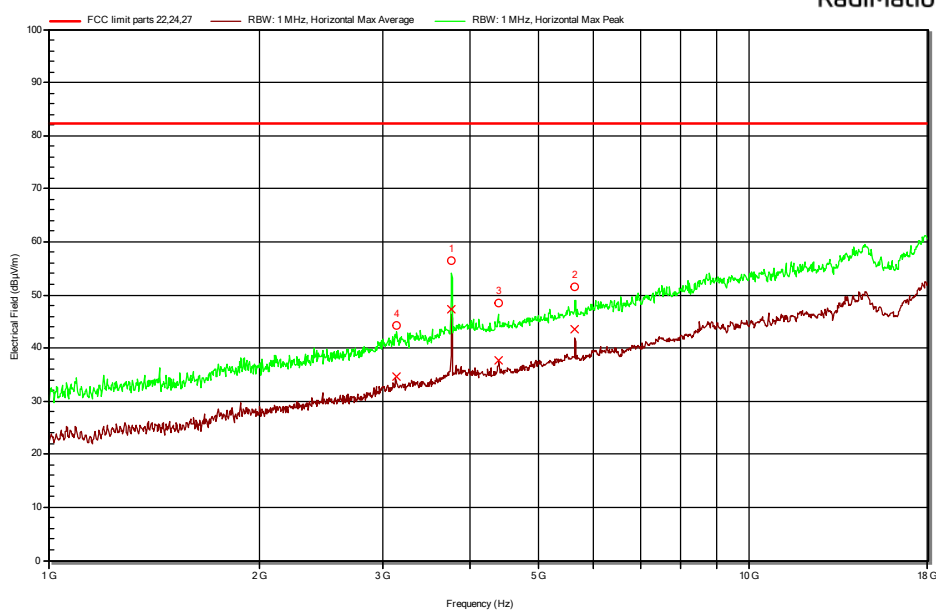
Radiated emissions of the EUT, Antenna horizontal, in the range 250-1000 MHz
(pre-scan peak values shown)

RadiMation



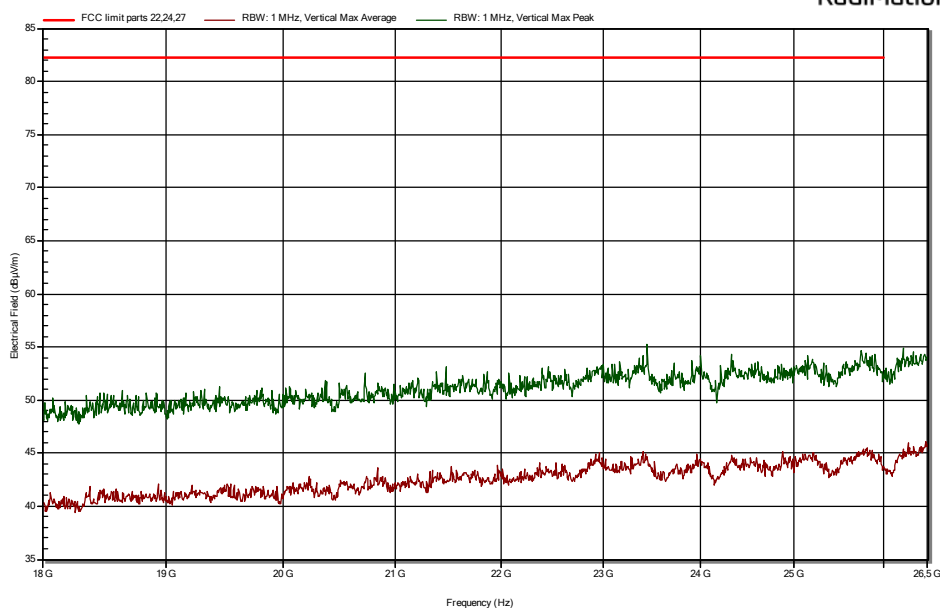
Radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



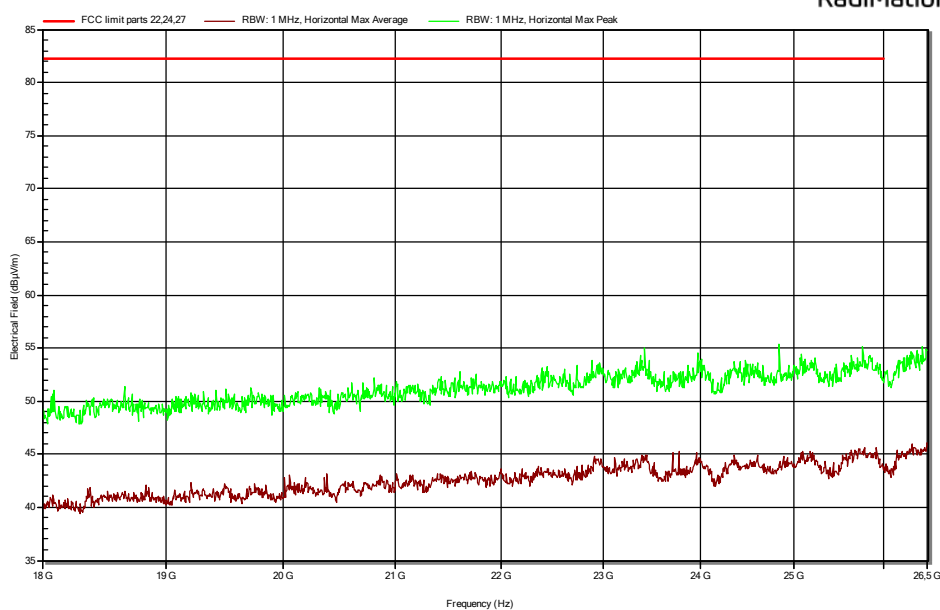
Radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



Radiated emissions of the EUT, Antenna vertical, in the range 18 – 26GHz
(peak and average values shown)

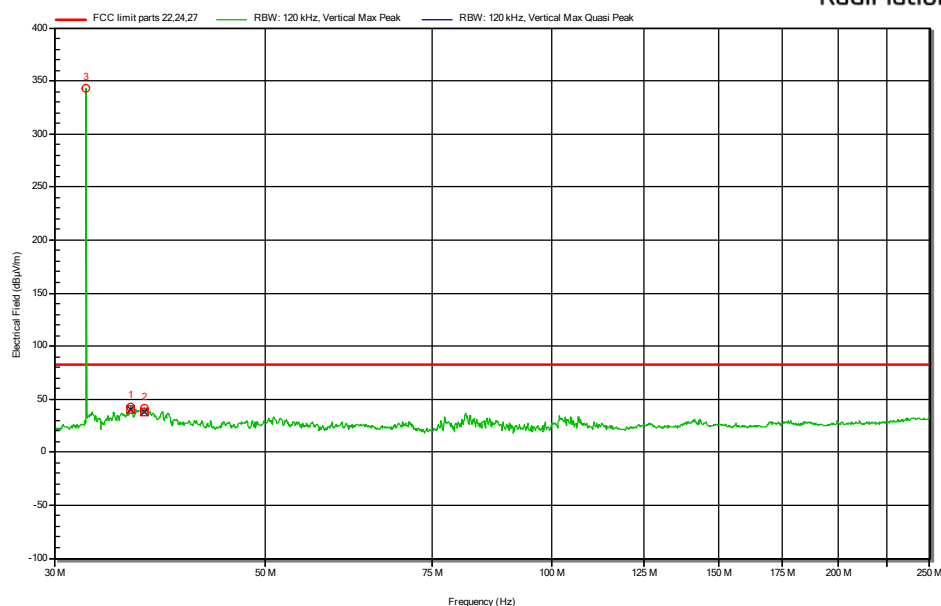
RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26GHz
(peak and average values shown)

LTE band 5

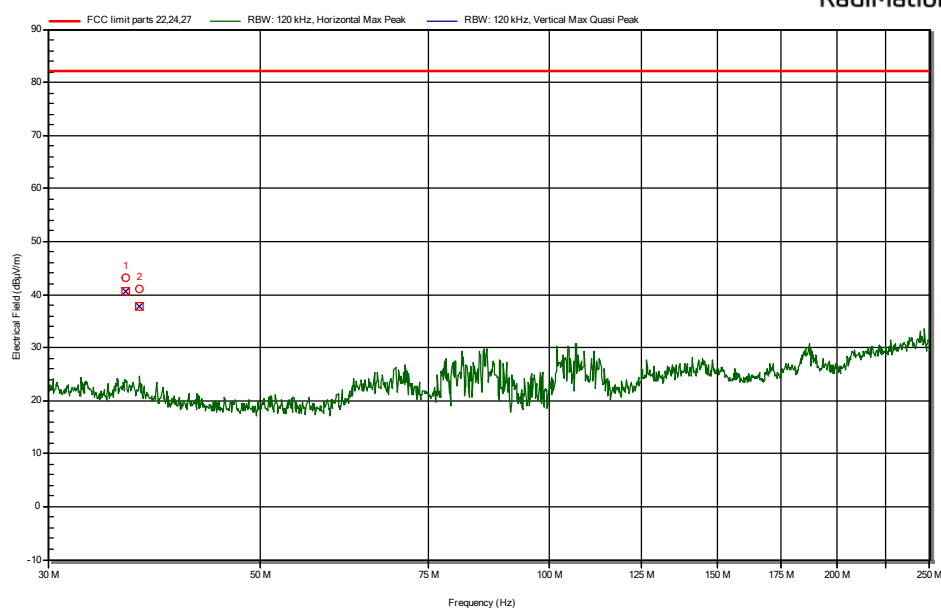
RadiMation



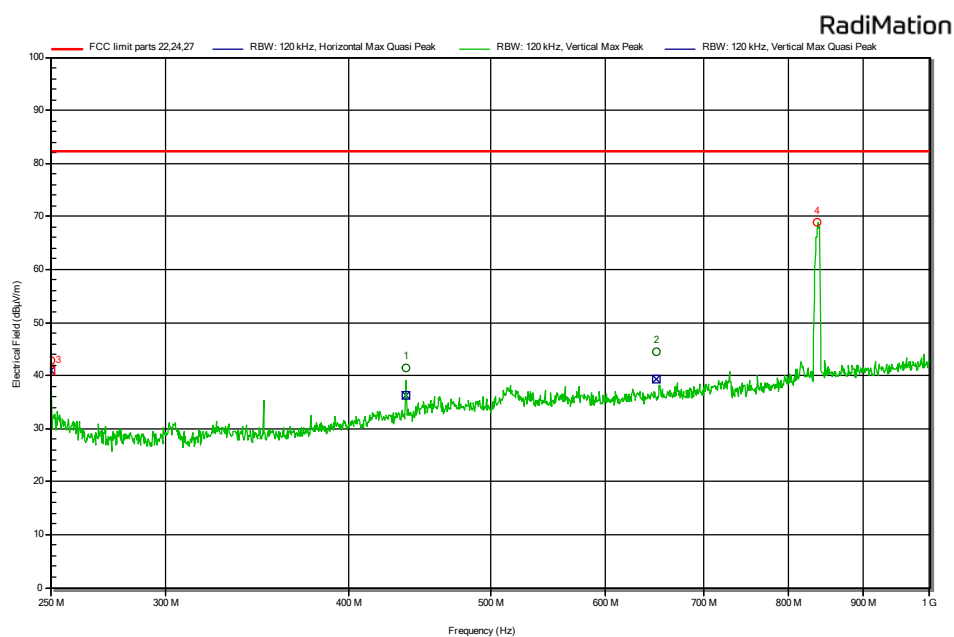
Radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz
(pre-scan peak values shown)

Note: the high peak is a test software issue, this peak is not generated for the EUT.

RadiMation

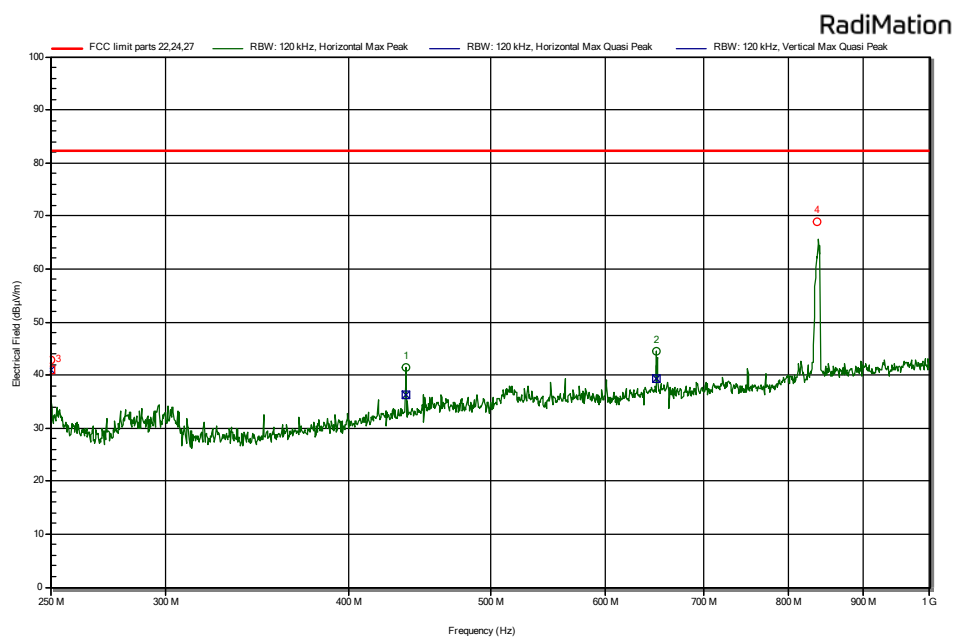


Radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz
(pre-scan peak values shown)



Radiated emissions of the EUT, Antenna vertical, in the range 250-1000 MHz
(pre-scan peak values shown)

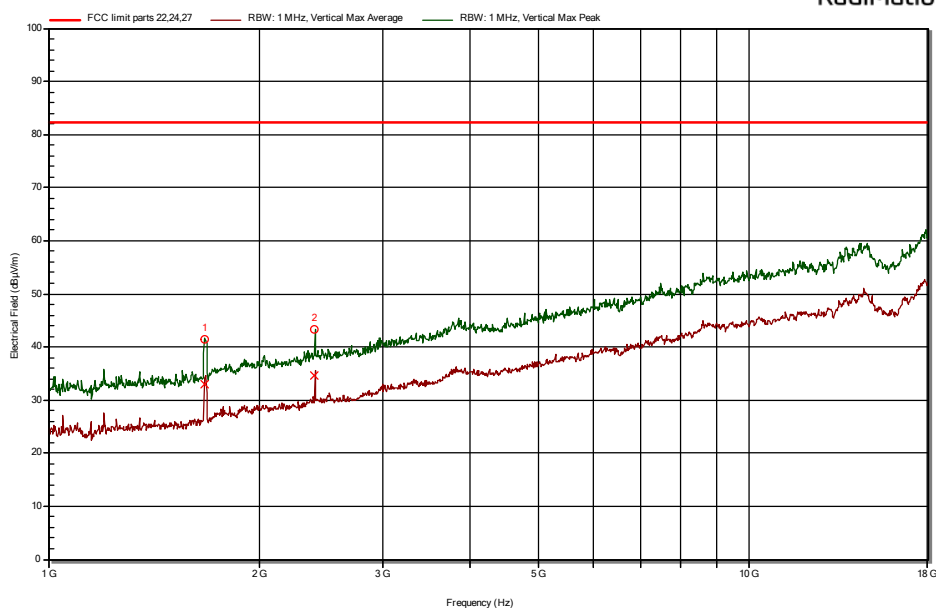
Note: peak seen in the plot is the transmission frequency and is not subject to the limit.



Radiated emissions of the EUT, Antenna horizontal, in the range 250-1000 MHz
(pre-scan peak values shown)

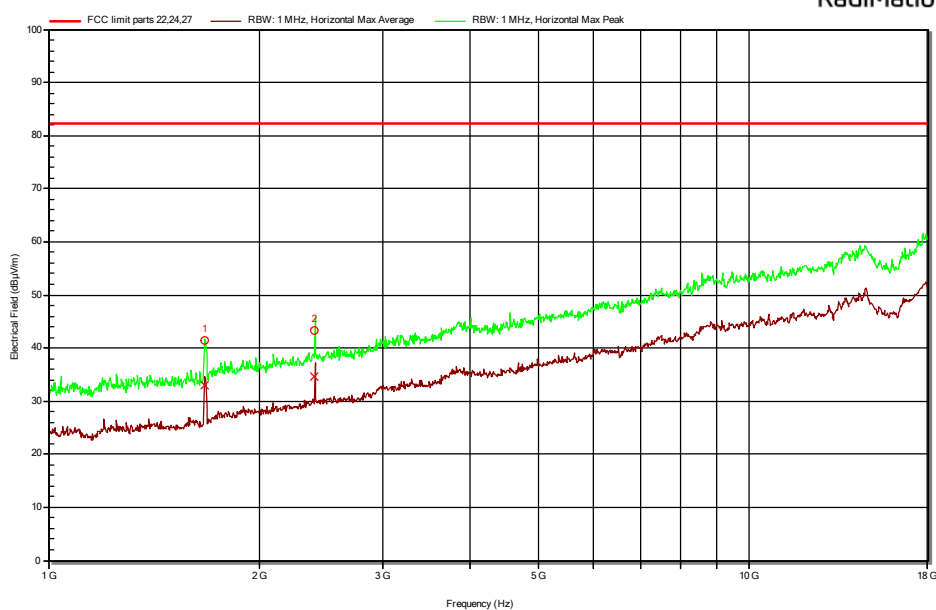
Note: peak seen in the plot is the transmission frequency and is not subject to the limit.

RadiMation



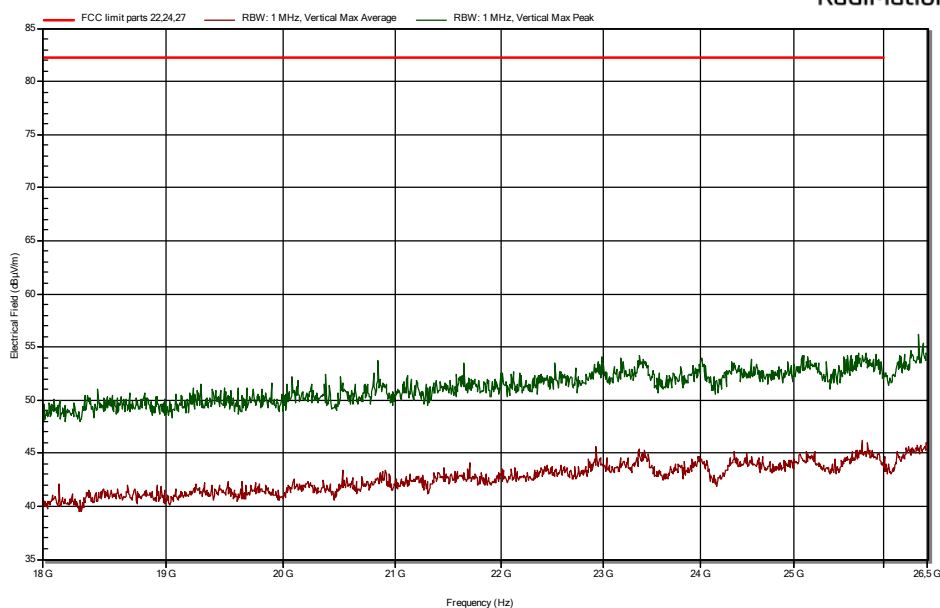
Radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



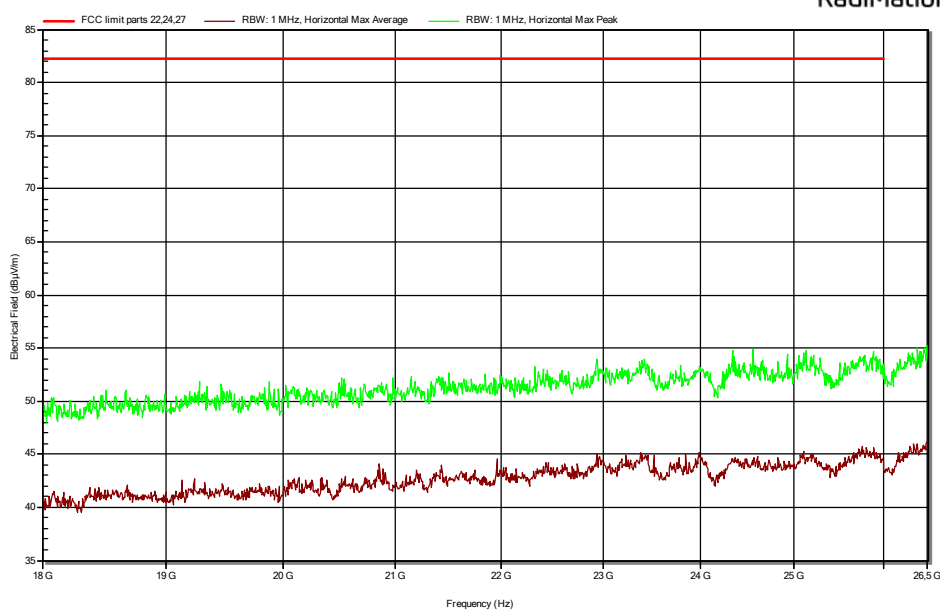
Radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz
(peak and average values shown)

RadiMation



Radiated emissions of the EUT, Antenna vertical, in the range 18 – 26GHz
(peak and average values shown)

RadiMation



Radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26GHz
(peak and average values shown)

4 Sample calculations

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

Conducted emission Measurement (see chapter 3.9):

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

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)
	Kiwa ID 114159 SN: 892785/004 Rohde & Schwarz ESH3-Z5	Kiwa ID 114160 SN: 5SM03153 Rohde & Schwarz ESH3-Z2	-	
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	300m to 3m and 30m to 3m correction	CL (dB)	Corr. (dB)
	114515 EMCO 6505 S/N:9112-2710		SAR cable	
0.009	18.49	104.956	0.7	-85.8
0.01	17.64	104.041	0.05	-86.4
0.02	13.23	98.02	0.07	-84.7
0.03	11.65	94.498	0.1	-82.7
0.04	10.97	91.999	0.1	-80.9
0.1	10.14	84.041	0.1	-73.8
0.2	10.01	78.02	0.1	-67.9
0.5	9.95	50.061	0.1	-40
1	9.91	44.041	0.2	-33.9
3	9.93	34.498	0.2	-24.4
5	9.93	30.061	0.3	-19.8
10	9.75	24.041	0.6	-13.7
15	9.29	20.519	0.9	-10.3
20	8.57	18.02	1	-8.5
25	7.55	16.082	0.7	-7.8
27	7.01	15.413	1.2	-7.2
30	6.03	14.498	1	-7.5

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)	Cable loss (dB)	Attenuator	Corr. (dB)
	ID: 107818 EMCO 3109	Id: 114928	ID:114525 Hewlett Packet	
30	13.5	1.8	6	21.3
100	9.2	2.7	6	17.9
150	12.6	3.2	6	21.8
200	13.6	3.6	6	23.2
250	15.2	4.3	6	25.5

Frequency (MHz)	AF (dB/m)	Cable loss (dB)	Corr. (dB)
	ID: 114385 EMCO LPDA	Id: 114928	
250	11.8	4.3	16.1
300	13	5.1	18.1
350	14.2	5.8	20.0
400	15.6	7.3	22.9
450	17.1	7.9	25.0
500	17.3	8.0	25.3
550	17.7	8.0	25.7
600	18.4	7.7	26.1
650	19.2	7.5	26.7
700	19.7	7.7	27.4
750	20.3	7.9	28.2
800	21.4	8.2	29.6
850	22.0	8.7	30.7
900	22.1	8.9	31.0
950	22.6	9.2	31.8
1000	22.5	9.6	32.1

Frequency (MHz)	AF (dB/m)	Gain (dB)	Cable loss (dB)	Corr. (dB)
	114607 Emco 3115 SN: 9412-4377	114690 µComp Nordic MCNA-40-0010800-25-10P	114691	
1000	23.6	45.1	2.1	-19.4
2000	27.1	44.7	3.3	-14.3
3000	30.5	44.2	4.2	-9.5
4000	32.7	43.5	4.9	-5.9
5000	33.2	43.1	5.6	-4.3
6000	34.6	43.0	6.3	-2.1
7000	35.2	42.9	6.4	-1.3
8000	37.0	43.3	7.2	0.9
9000	38.1	43.3	7.9	2.7
10000	38.2	43.0	8.2	3.4
11000	38.3	42.9	8.7	4.1
12000	39.1	42.6	9.0	5.5
13000	39.2	43.6	9.8	5.4
14000	41.1	44.3	9.7	6.5
15000	40.2	44.4	10.4	6.2
16000	37.5	44.3	10.8	4.0
17000	41.1	44.5	11.4	8.0
18000	44.0	44.9	11.4	10.5

Frequency (MHz)	AF (dB/m)	Gain (dB)	Cable loss (dB)	Corr. (dB)
	Kiwa ID: 114518 Flann 20240-25 SN: 163703	Kiwa ID: Schwarzbeck BBV 9721	114691	
18000	31.3	34.5	11.4	8.2
19000	31.5	34.9	11.2	7.8
20000	31.7	34.1	11.6	9.2
21000	31.9	33.6	12.1	10.4
22000	32.1	33.6	12.4	10.9
23000	32.2	33.3	13.6	12.5
24000	32.3	32.3	13.5	13.5
25000	32.4	33.0	13.4	12.8
26000	32.5	32.9	13.7	13.3

Frequency (MHz)	AF (dB/m)	Gain (dB)	Cable loss (dB)	Corr. (dB)
	Kiwa ID: 114487 Scientific Atlanta	Kiwa ID: Schwarzbeck BBV 9721	114691	
26000	35.3	32.9	13.7	16.1
27000	35.4	32.6	14.9	17.7
28000	35.6	32.6	14.4	17.4
29000	35.9	32.9	14.6	17.6
30000	36.2	32.7	15.2	18.7
31000	36.1	32.9	14.9	18.1
32000	36.0	33.8	16.7	18.9
33000	36.2	34.8	16.8	18.2
34000	36.3	35.5	15.9	16.7
35000	36.4	35.5	17.5	18.4
36000	36.5	34.6	17.9	19.8
37000	36.6	33.6	18.2	21.2
38000	36.8	32.5	17.7	22.0
39000	37.0	32.1	17.7	22.6
40000	37.2	29.9	19.0	26.3

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