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The Netherlands
Chamber of Commerce
51565536
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telefication

FCC and IC Test report for parts 15.207, 15.209, 15.247, RSS-247, RSS-Gen

Product name	: GATEWAY
Applicant	: in lite
FCC ID	: 2AU26-SMARTBRIDGE
IC	: 25679-SMARTBRIDGE

Test report No. : 210301319 03 Ver 2.10

Laboratory information

Accreditation

Telefication 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 L021 and is granted on 30 November 1990 by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie).

Telefication 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.

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The Industry Canada company number for Telefication is: 4173A. The CABID is NL0001.

Telefication 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 Telefication Netherlands.

Testing Location

Test Site	Kiwa Telefication BV
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	08-03-2022	First draft	PS
v1.00	14-04-2022	First issue	PS
v2.00	25-05-2022	Second issue: • Antenna under test explained in section 1.8; • In sections 3.1.4 & 3.7.4 wrong test standard corrected; • Section 3.7 7 completed with average values on Neutral wire.	PS
V2.10	08-06-2022	• In section 3.7.4 test standard corrected	PS

Table of Contents

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 (a)	RSS-247 5.2(a)	6 dB bandwidth	3.2	Pass
--	RSS-Gen 6.7	99% bandwidth	3.3	Pass
15.247 (b)	RSS-247 5.4 (d)	RF output power	3.4	Pass
15.247 (e)	RSS-247 5.2 (b)	Power spectral density	3.5	Pass
15.247 (d)	RSS-247 5.5	Band edge	3.6	Pass
15.207 (c)	RSS-Gen 8.8	Conducted spurious emissions on AC mains	3.7	Pass

1 General Description

1.1 Applicant

Client name:	in-lite design bv
Address:	Stephensonweg 18
Zip code:	4207 HB Gorinchem
Telephone:	+31 18 46 88 760
E-mail:	wilbrand.menzo@in-lite.nl
Contact name:	Wilbrand Menzo

1.2 Manufacturer

Manufacturer name:	in-lite design bv
Address:	Stephensonweg 18
Zip code:	4207 HB Gorinchem
Telephone:	+31 18 46 88 760
E-mail:	wilbrand.menzo@in-lite.nl
Contact name:	Wilbrand Menzo

1.3 Tested Equipment Under Test (EUT)

Product name:	GATEWAY
Brand name:	in-lite
FCC ID:	2AU26-SMARTBRIDGE
IC:	25679-SMARTBRIDGE
Product type:	2.4 GHz wireless data transmission equipment
Model(s):	SMART-BRIDGE
Batch and/or serial No.	--
Software version:	--
Hardware version:	--
Date of receipt	18-11-2021
Tests started:	06-12-2021
Testing ended:	15-02-2022

1.4 Product specifications of Equipment under test

TX Frequency range (MHz):	2400 – 2483.5
RX frequency range (MHz):	2400 – 2483.5
Antenna type:	PIFA (2x)
Antenna gain (dBi):	-0.63 (max)
Type of modulation:	GFSK
Receiver category:	2

1.5 Environmental conditions

Test date	06-01-2022	15-02-2022
Ambient temperature	20.6 °C	21.6 °C
Humidity	29.5 %	33.3 %

1.6 Measurement standards

- ANSI C63.10:2013

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
- RSS-Gen Issue 5
- RSS-247 Issue 2

1.8 Observation and remarks

The EUT is a wall mount device and is therefore tested in vertical position.
The EUT uses two the same antennas, one horizontal polarized and the other vertical.
So only the vertical antenna was tested.

1.9 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 conducted tests are performed by:

Name : ing P.A. Suringa

Review of test methods and report by:

Name : P. van Wanrooij, BASc

The above conclusions have been verified by the following signatory:

Date : 09-06-2022

Name : Raoul Tolud, MSc

Function : Test Engineer

Signature :

2 Test configuration of the Equipment Under Test

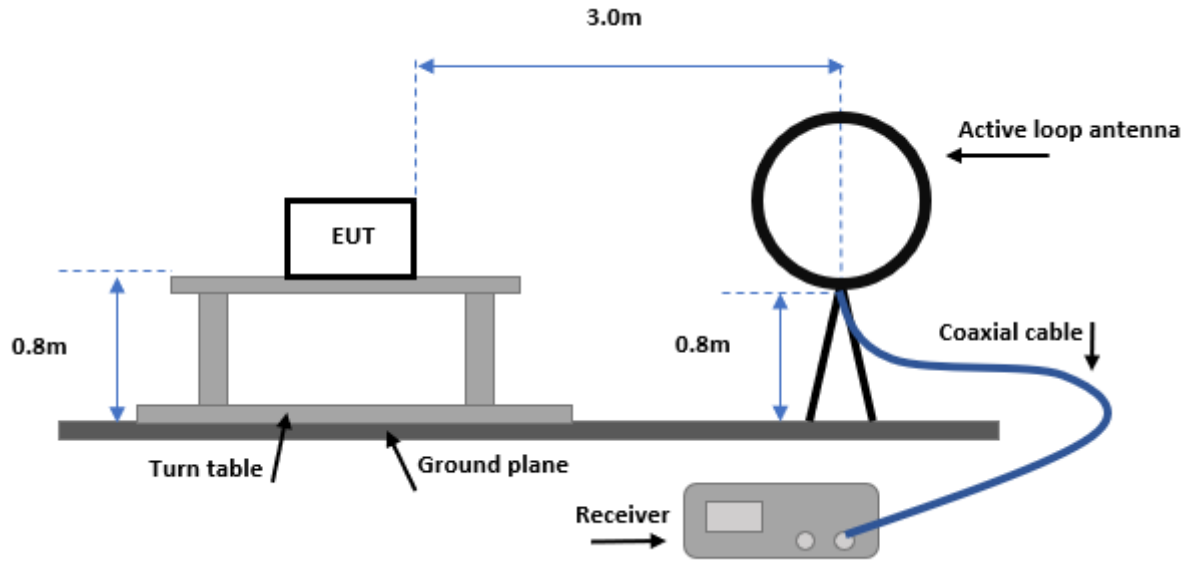
2.1 Test mode

The applicant provided test mode firmware to set the EUT to transmit or receive continuously.
The applicant provided a sample with RF connectors instead of antennas for conducted testing.

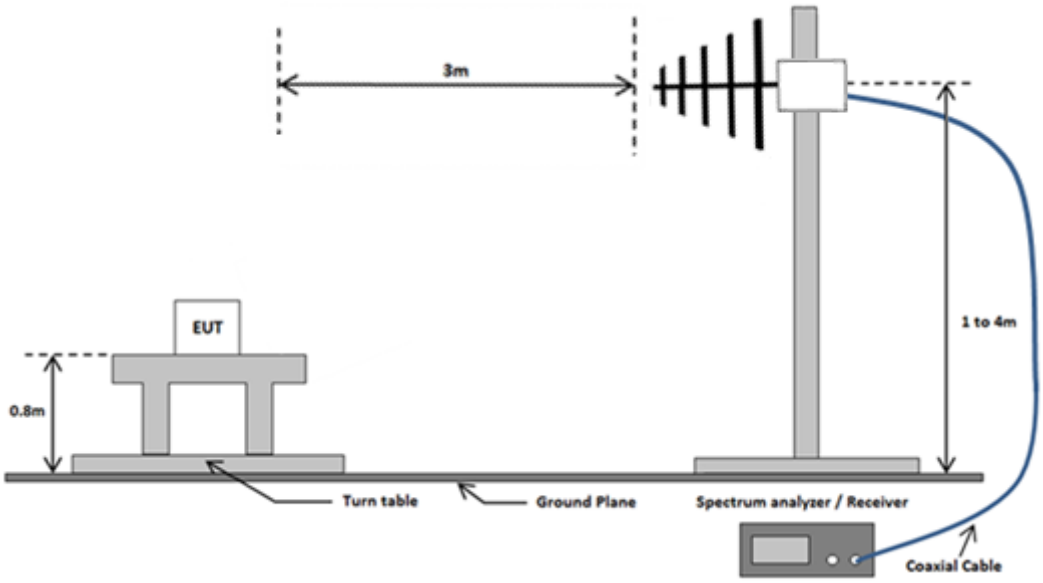
Technology	Tested channels	Frequency (MHz)
2.4 GHz proprietary	37	2402
	17	2440
	39	2480

2.2 Test setups

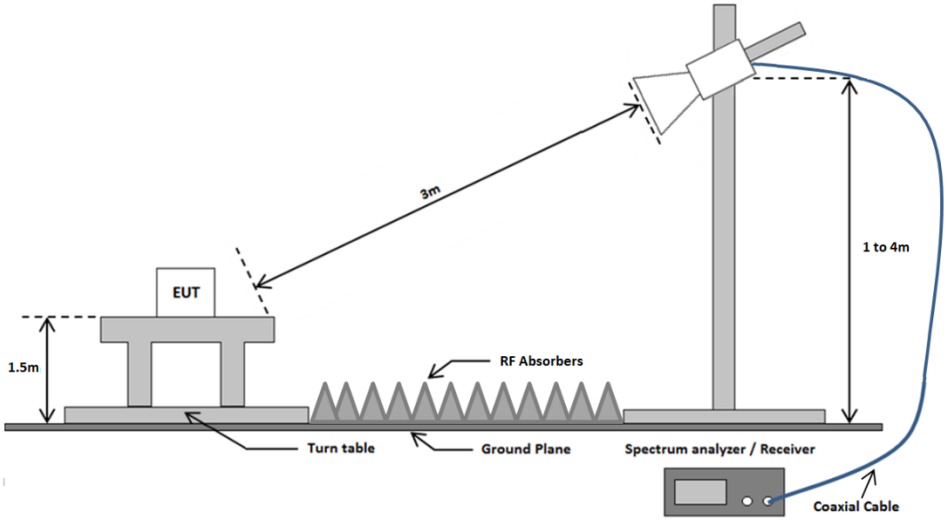
Radiated emissions test setup 9 kHz – 30 MHz



Radiated emissions test setup 30 MHz - 1 GHz

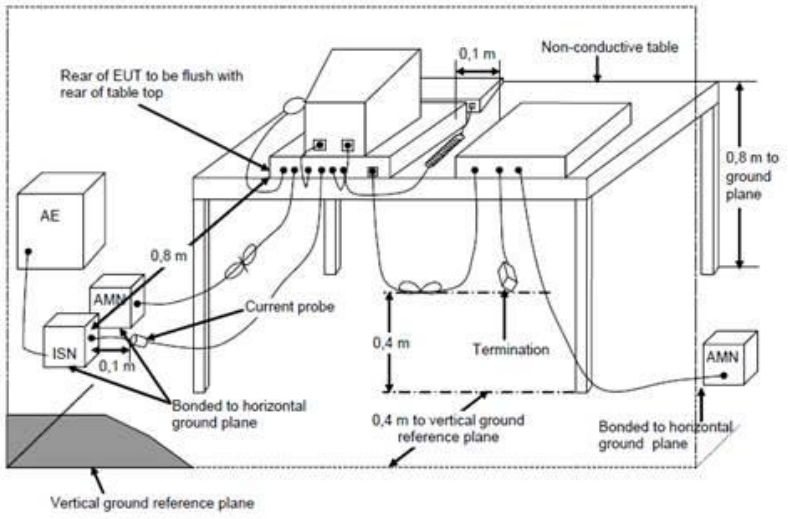


Radiated emissions test setup above 1 GHz



Conducted emissions test setup

Emissions test at AC mains



2.3 Equipment used in the test configuration

Description	Manufacturer	Model	ID	Used at Par.	Cal. date	Cal due date
EMI Receiver	Rohde & Schwarz	ESCI	114161	3.2, 3.6, 3.7	2021/02	2022/02
EMI Receiver	Rohde & Schwarz	ESR7	114534	3.1	2022/02	2023/01
Spectrum analyzer	Rohde & Schwarz	FSP40	TE11125	3.1	2020/03	2022/03
Spectrum Analyzer	Rohde & Schwarz	FSV40	114527	3.3, 3.4, 3.5	2021/01	2022/01
3.0 GHz HPF	Wainwright	WHK3.0/18G-10EF	114682	3.1	N.A.	N.A.
Active loop antenna	EMCO	6502	114515	3.1	2022/02	2024/01
Bilog antenna	Chase	CBL6112A	114516	3.1	2021/03	2024/03
Horn antenna	EMCO	3115	114607	3.1	2021/01	2024/01
Preamplifier 1-18 GHz	µComp Nordic	MCNA-40-0010800-25-10P	114690	3.1	N.A.	N.A.
Standard gain horn antenna	FLANN-MICROWAVE	20240-25	114518	3.1	N.A.	N.A.
Preamplifier 18-26 GHz	Miteq	JS4-18004000-33-8P	114693	3.1	N.A.	N.A.
Test software	DARE	Radimation Version 2021.1.9	--	3.1	--	--
Two line V-network	Rohde & Schwarz	ENV216	TE11176	3.7	2021/07	2023/07
AC source	Chroma	612601	TE02001	3.1, 3.7	2022/01	2023/03

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

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 3m measurement 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, sections 6.3, 6.4
30 MHz to 26.5 GHz: According to ANSI C63.10-2013, sections 11.11, 11.12

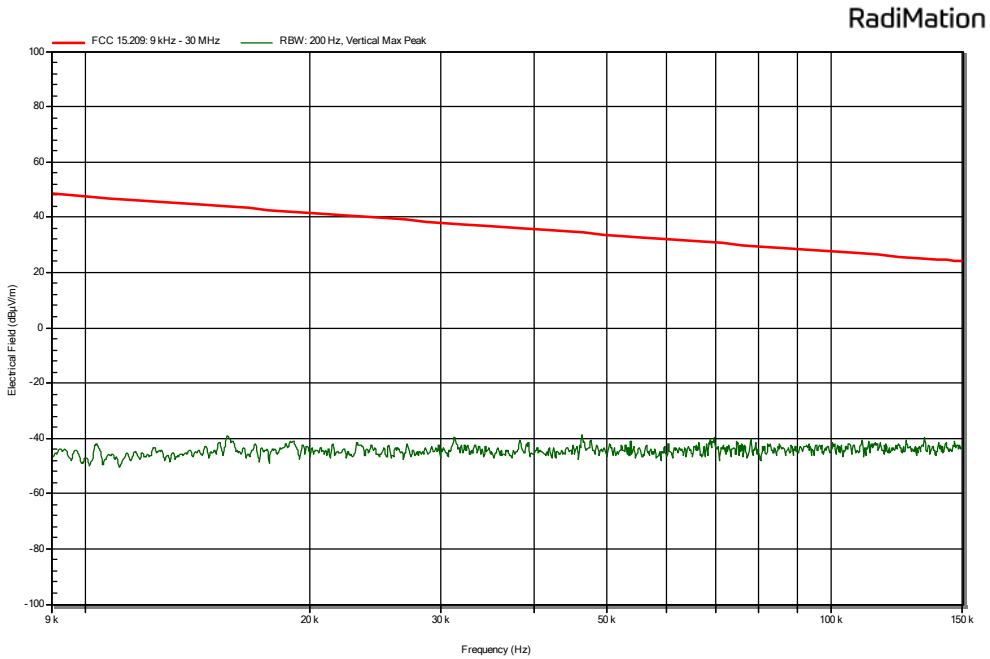
9 kHz to 30 MHz: IRN 026 – Method 10
30 MHz to 1 GHz: IRN 026 – Method 1
1 GHz to 18 GHz: IRN 026 – Method 2
18 to 26.5 GHz: IRN 026 – Method 3

3.1.5 Measurement Uncertainty

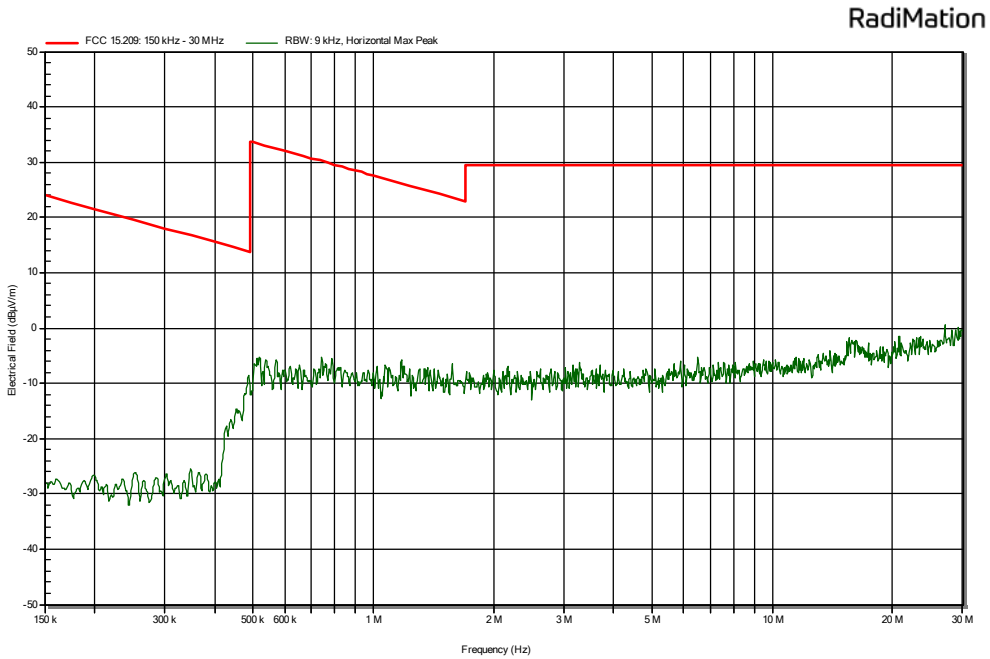
Frequency range	Polarization	Uncertainty
9 kHz – 30 MHz	--	±1.6 dB
30 – 200 MHz	Horizontal	±4.5 dB
	Vertical	±5.4 dB
200 -1000 MHz	Horizontal	±3.6 dB
	Vertical	±4.6 dB
1 – 18 GHz	Horizontal	±5.7 dB
	Vertical	±5.7 dB
18 – 26.5 GHz	Horizontal	±4.9 dB
	Vertical	±4.9 dB

3.1.6 Plots of the Radiated Spurious Emissions Measurement

9 – 150 kHz



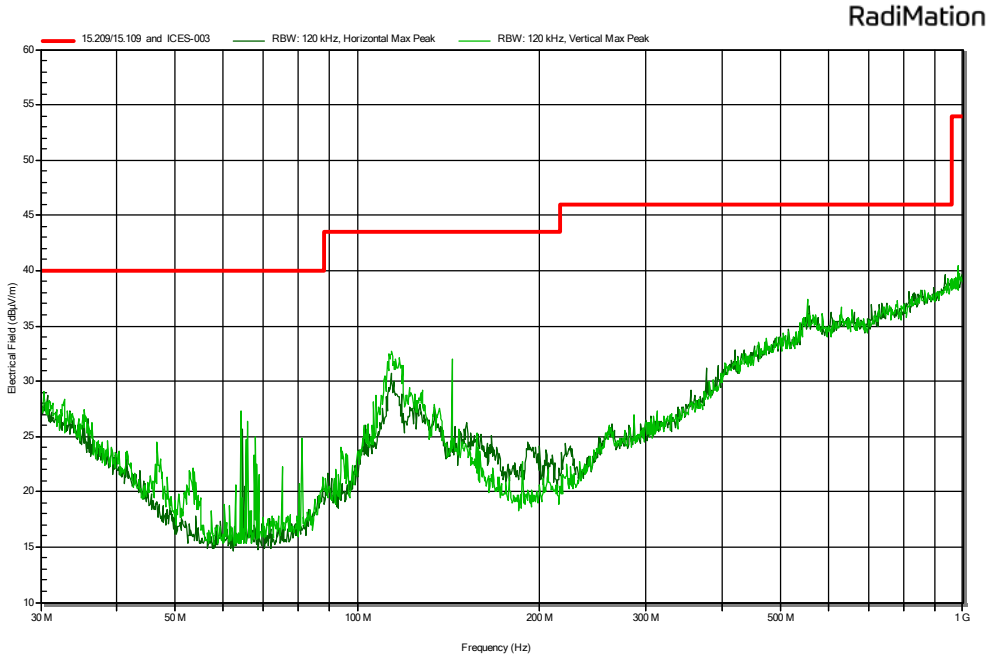
150 kHz – 30 MHz



30 -1000 MHz

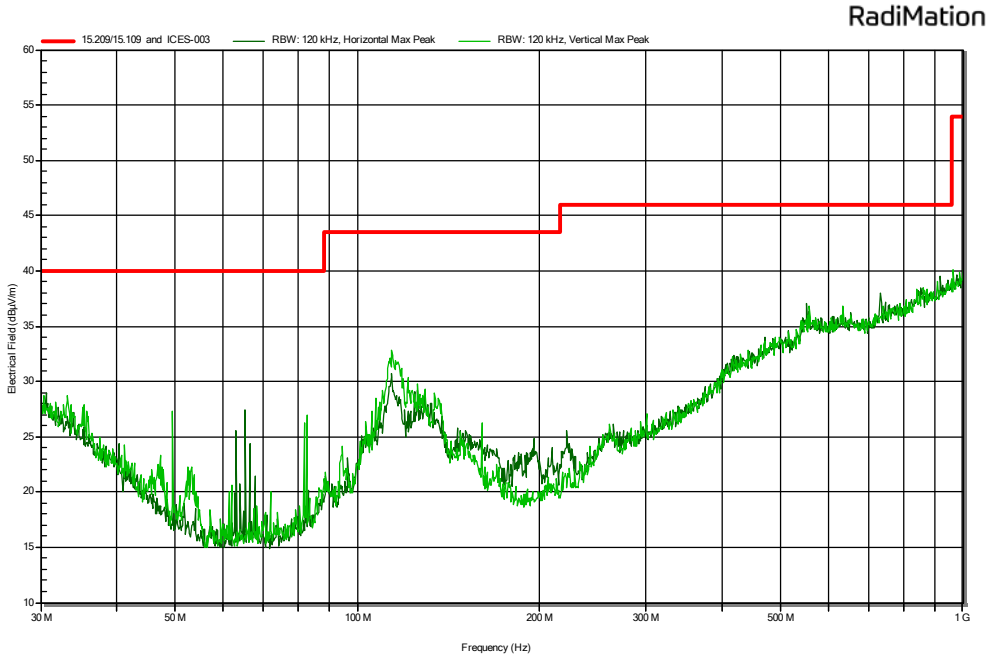
Ch 37

Both polarizations



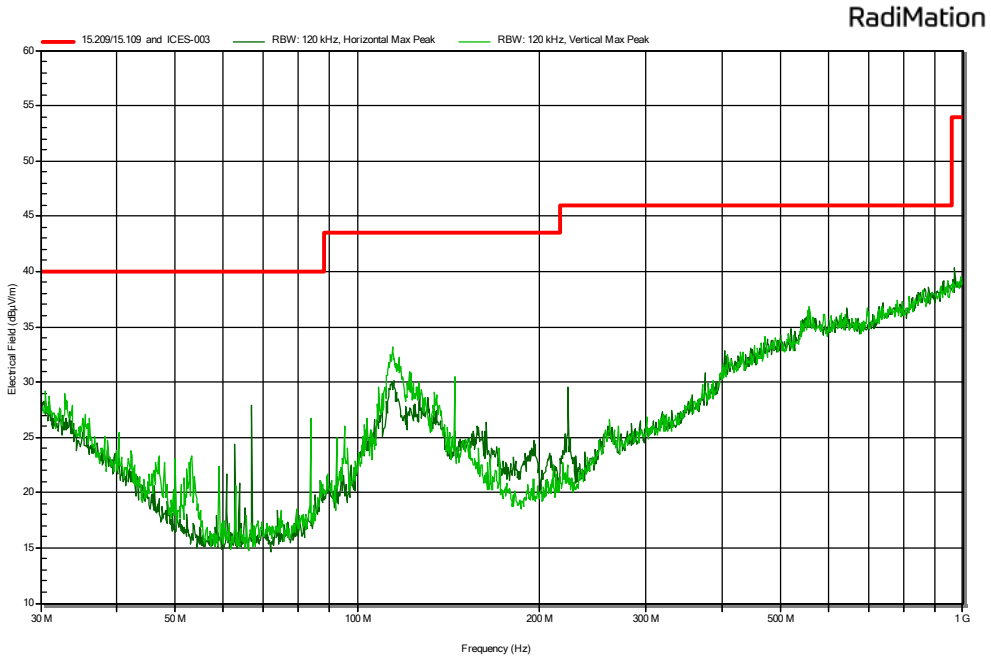
Ch 17

Both polarizations



Ch 39

Both polarizations



Peak emissions tables

Ch 37

Frequency	Peak	Quasi Peak Limit	Status	Height	Polarization
143,34 MHz	32 dBµV/m	43,5 dBµV/m	Pass	1 m	Vertical
64,14 MHz	27,3 dBµV/m	40 dBµV/m	Pass	2 m	Vertical

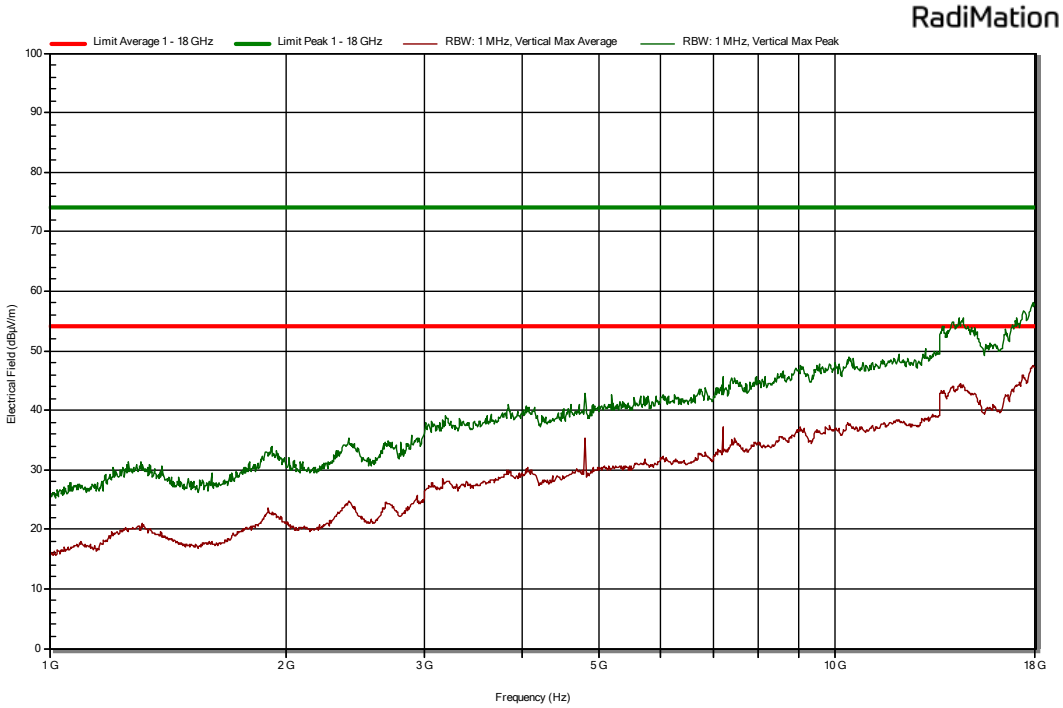
Ch 17

Frequency	Peak	Quasi Peak Limit	Status	Height	Polarization
49,5 MHz	27,3 dBµV/m	40 dBµV/m	Pass	1,5 m	Vertical
65,34 MHz	27,5 dBµV/m	40 dBµV/m	Pass	2 m	Horizontal
82,44 MHz	26,9 dBµV/m	40 dBµV/m	Pass	2,5 m	Vertical
113,94 MHz	32,9 dBµV/m	43,5 dBµV/m	Pass	1 m	Vertical

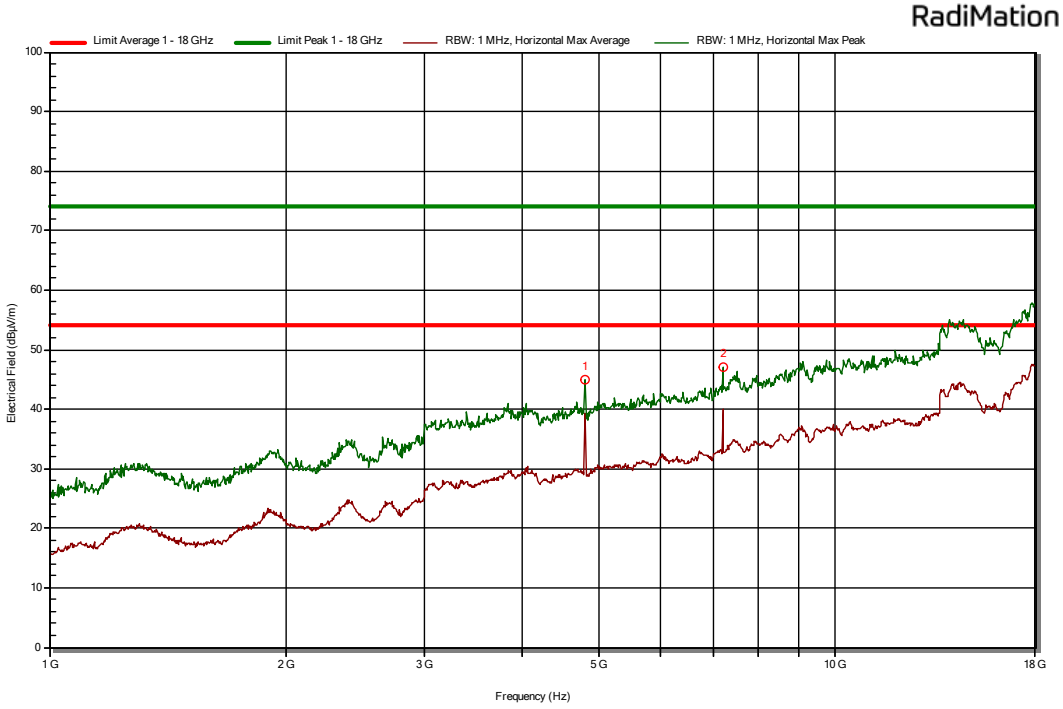
1 - 18 GHz

Ch 37

Vertical polarization



Horizontal polarization

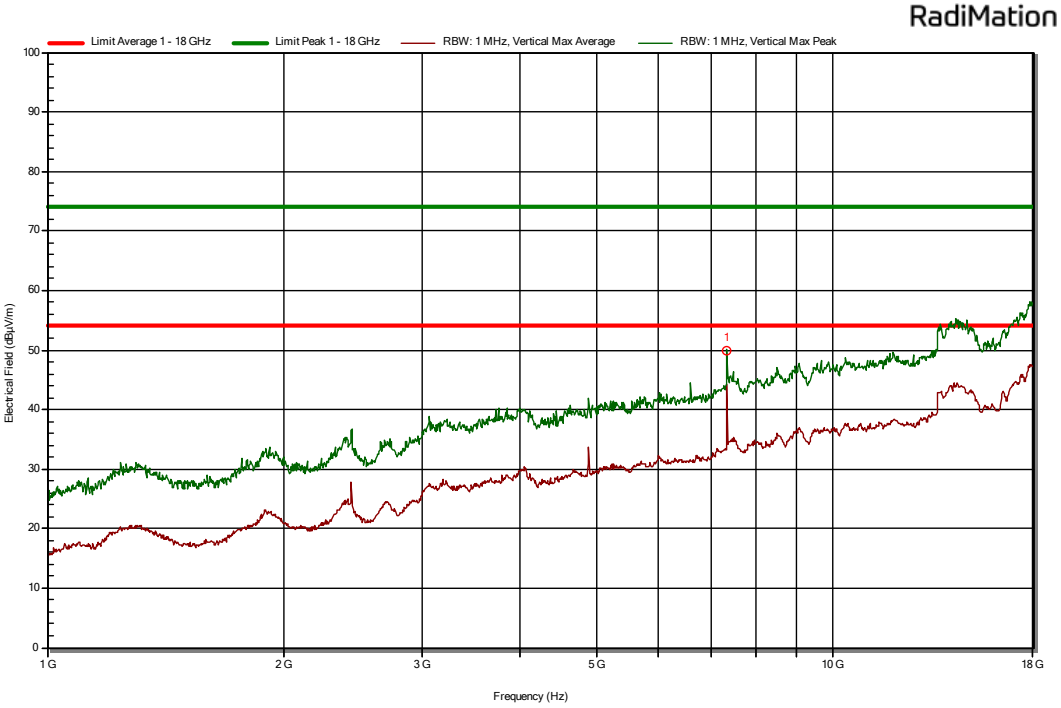


Peak emissions table

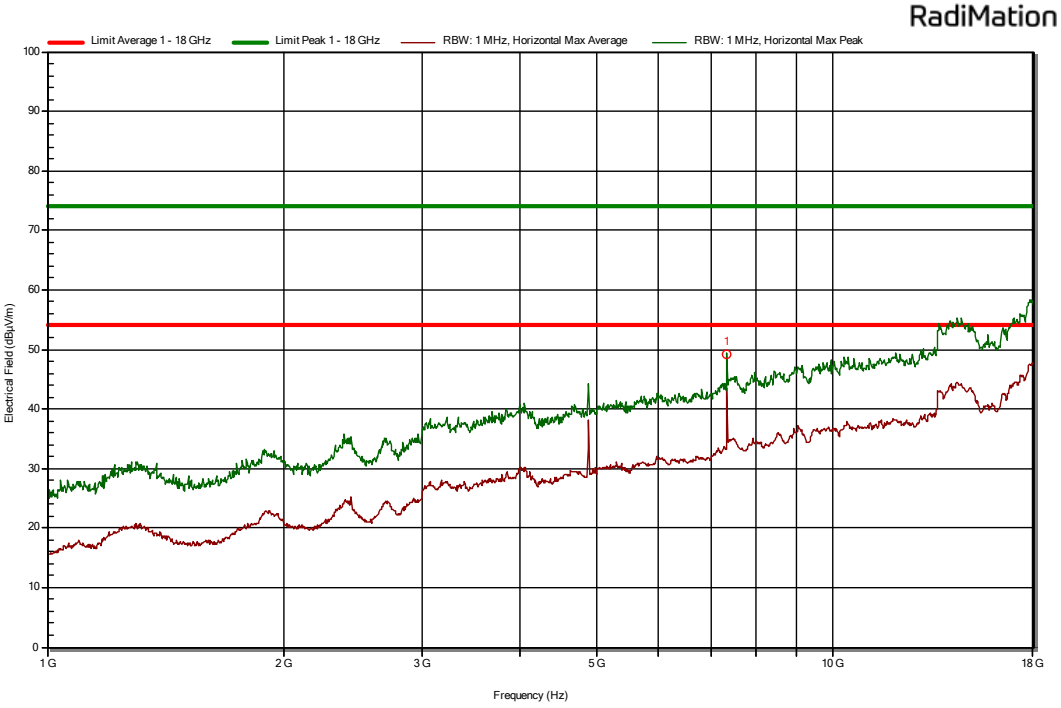
Frequency	Peak	Peak Limit	Average	Average Limit	Height	Polarization
4,804 GHz	45 dBµV/m	74 dBµV/m	39,4 dBµV/m	54 dBµV/m	1 m	Horizontal
7,205 GHz	47 dBµV/m	74 dBµV/m	40 dBµV/m	54 dBµV/m	1 m	Horizontal

Ch 17

Vertical polarization



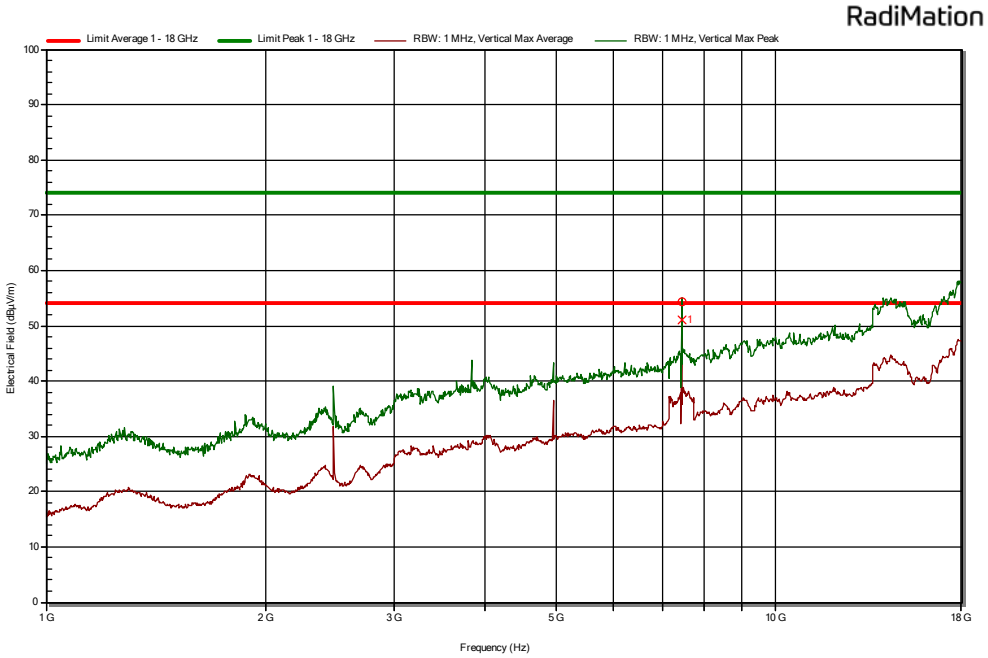
Horizontal polarization



Peak emissions table

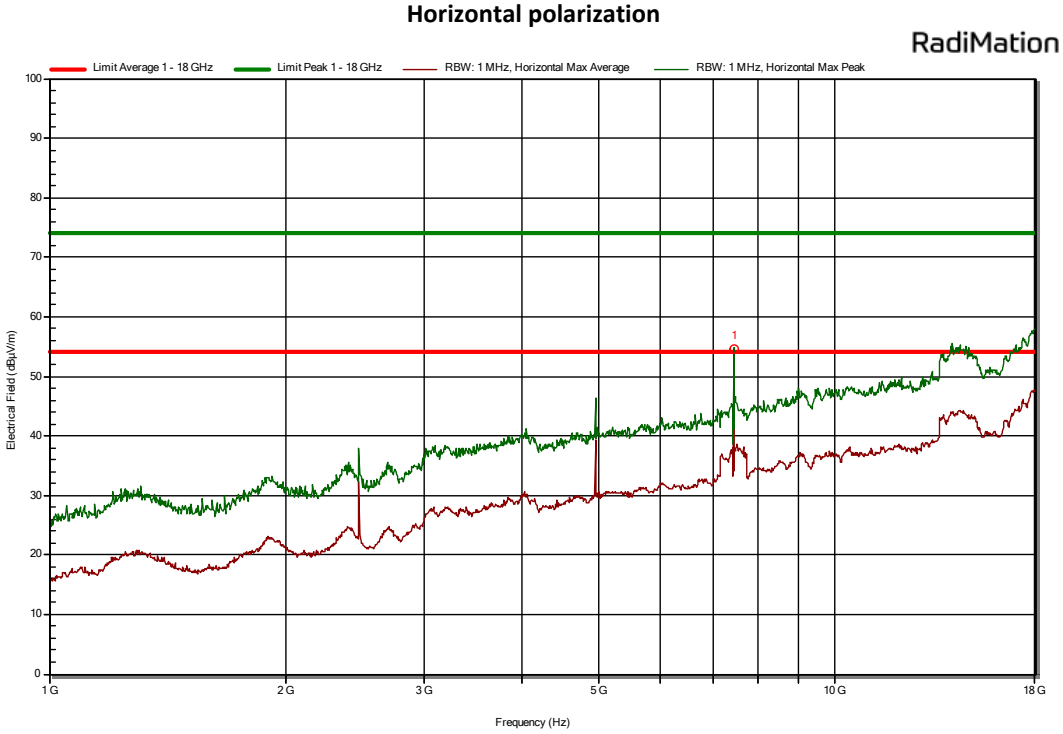
Frequency	Peak	Peak Limit	Average	Average Limit	Height	Polarization
7,32 GHz	49,1 dBµV/m	74 dBµV/m	43,4 dBµV/m	54 dBµV/m	1,5 m	Horizontal
4,88 GHz	44,4 dBµV/m	74 dBµV/m	38,2 dBµV/m	54 dBµV/m	1 m	Horizontal

Ch 39
Vertical polarization



Frequency	Peak	Peak Limit	Average	Average Limit	Status	Height
7,44 GHz	54,5 dBµV/m	74 dBµV/m	51,0 dBµV/m	54 dBµV/m	Pass	1 m

Horizontal polarization

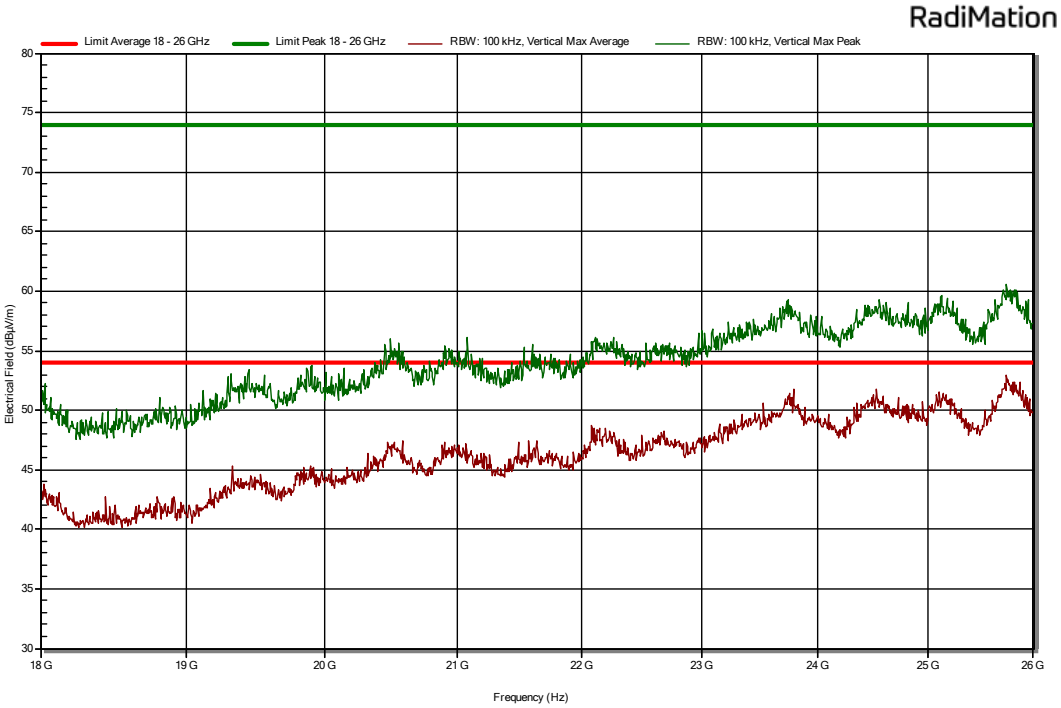


Frequency	Peak	Peak Limit	Average	Average Limit	Status	Height
7,44 GHz	54,6 dBµV/m	74 dBµV/m	51,7 dBµV/m	54 dBµV/m	Pass	2 m

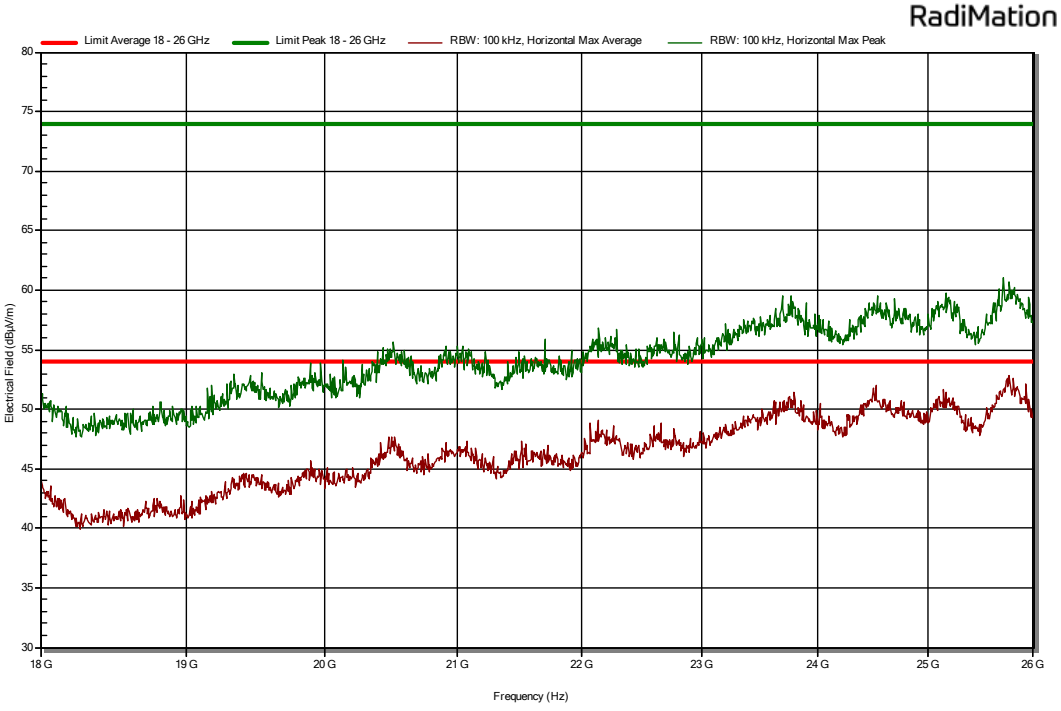
18- 26 GHz

Ch 37

Vertical polarization

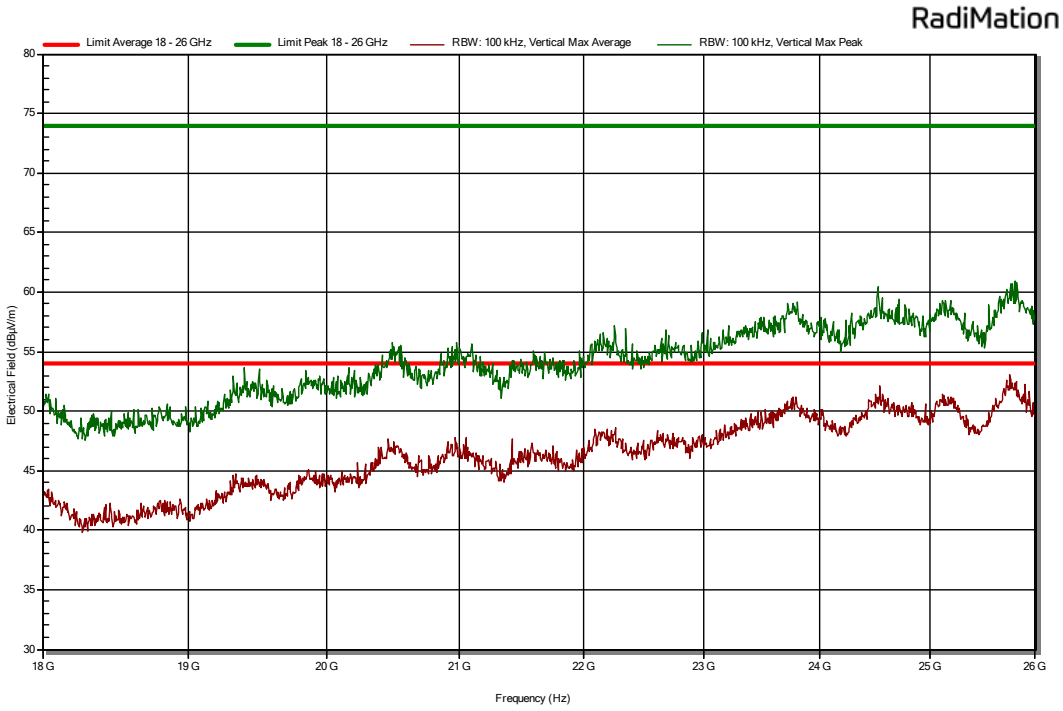


Horizontal polarization

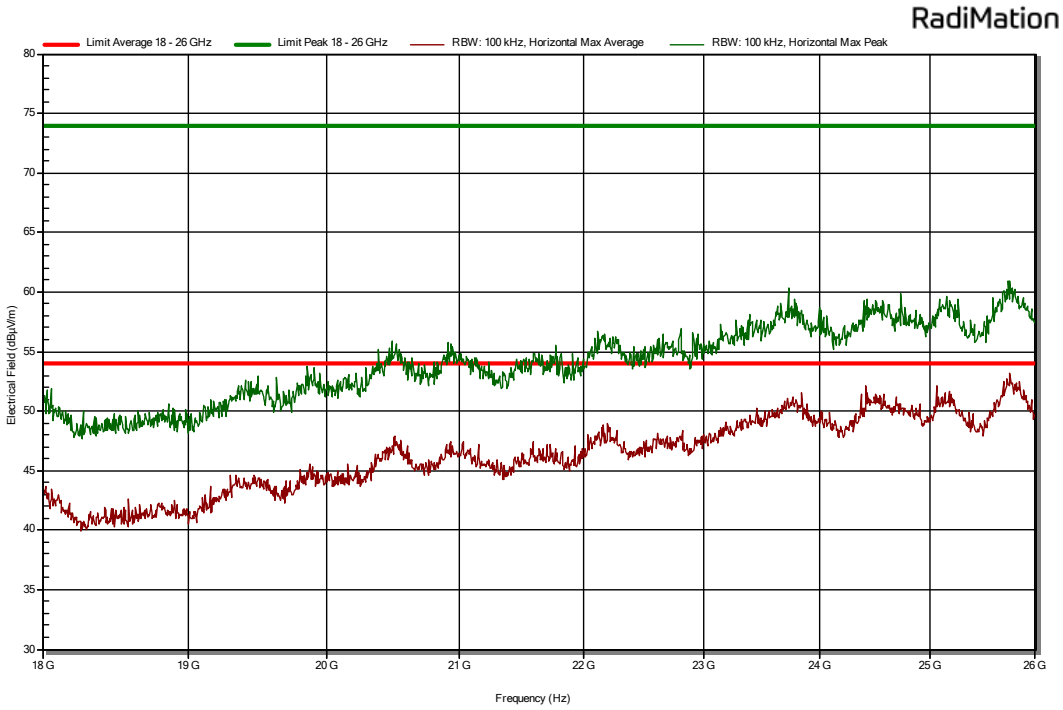


Ch 17

Vertical polarization

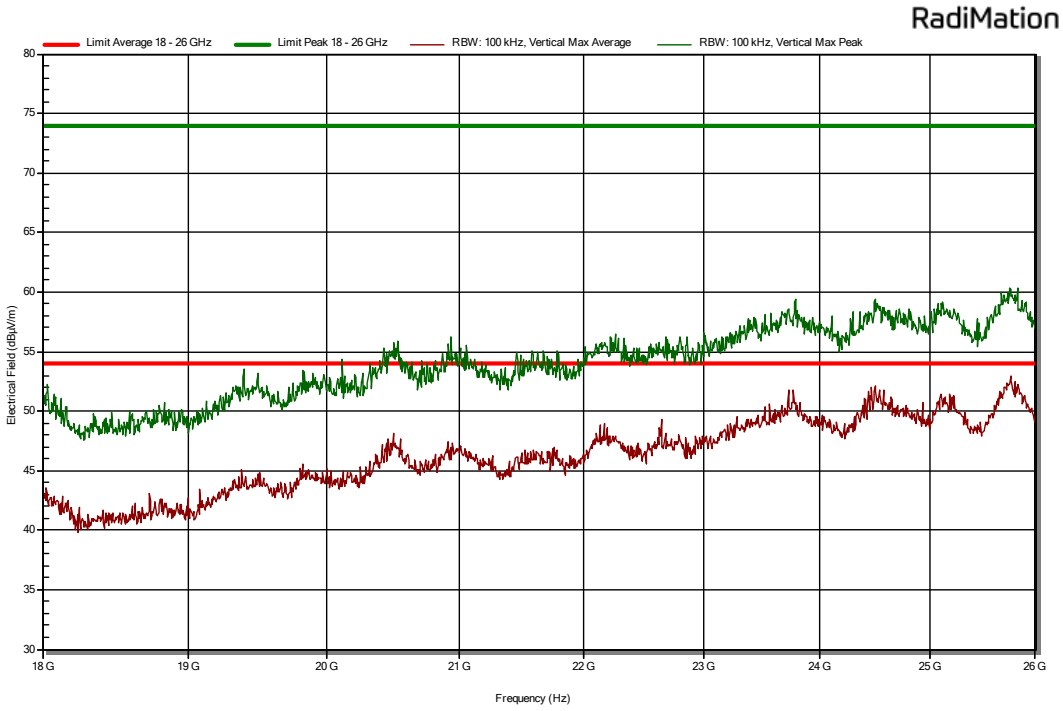


Horizontal polarization

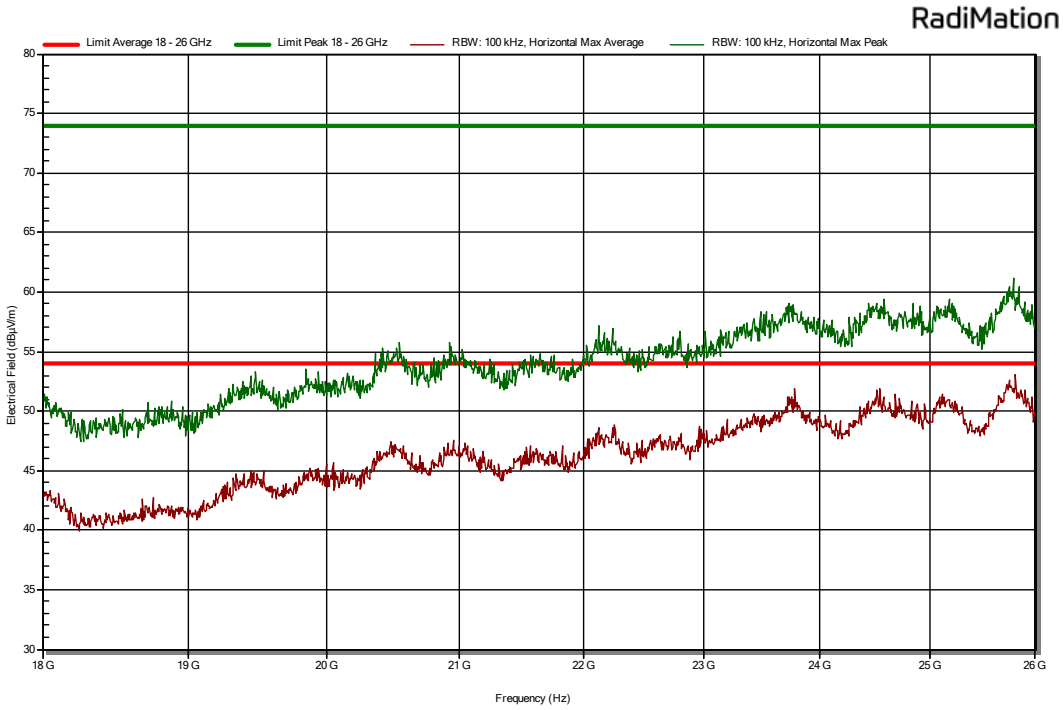


Ch 39

Vertical polarization



Horizontal polarization



3.2 6dB bandwidth Measurement

3.2.1 Limit

The minimum 6 dB Bandwidth shall be at least 500 kHz.

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

Tests according to ANSI C63.10
IRN 017 - Occupied bandwidth (Hz) Method 4 – DTS Bandwidth.

3.2.5 Test Results of the 6 dB bandwidth Measurement

Technology Std.	Channel	Frequency (MHz)	Data rate	6dB bandwidth (kHz)
2.4 GHz proprietary	37	2402	1 Mbps	702
	17	2440	1 Mbps	672
	39	2480	1 Mbps	708
Uncertainty	± 36.2 kHz			

3.3 99% Occupied Bandwidth

3.3.1 Limit

According to RSS-Gen 6.7

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

IRN 017 - Occupied bandwidth (Hz) Method 1 – XX % power bandwidth.

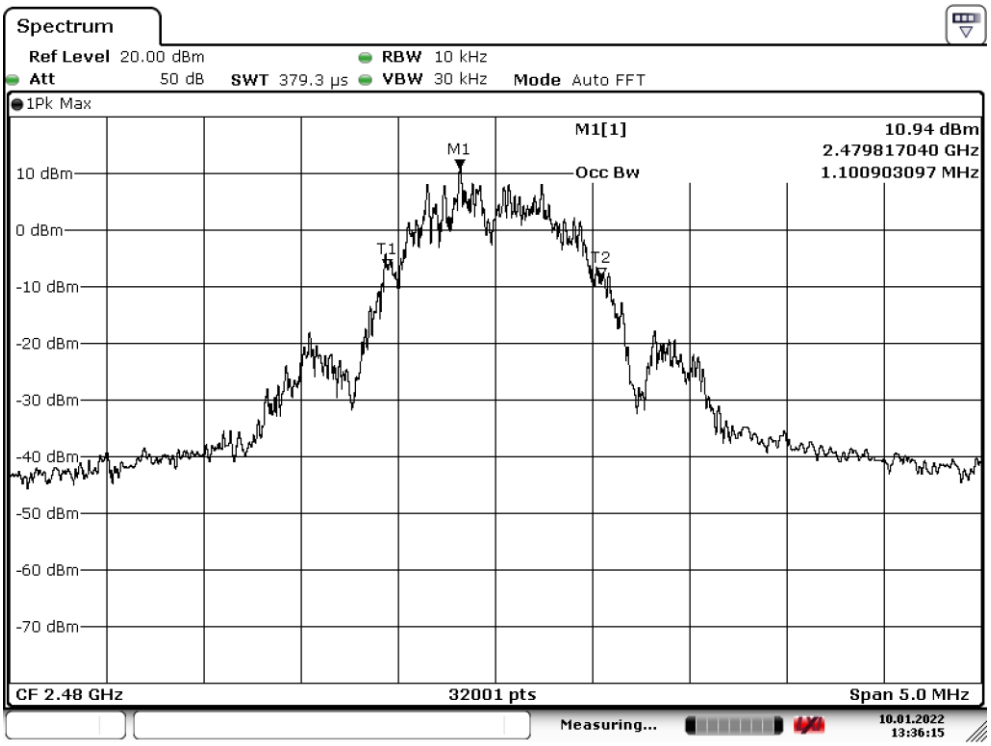
1. Set the centre frequency to the nominal EUT channel centre frequency
2. Set span = 1.5 times to 0.5 times the Occupied Bandwidth
3. Set VBW ≥ 3x RBW
4. Video averaging is not permitted. Where practical, detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

3.3.5 Test results of the 99% occupied bandwidth measurement

Technology Std.	Channel	Frequency (MHz)	Data rate	99% bandwidth (kHz)
2.4 GHz proprietary	37	2402	1 Mbps	1065
	39	2480	1 Mbps	1101
Uncertainty	± 12 kHz			

3.3.6 Plots of the 99% occupied bandwidth measurement

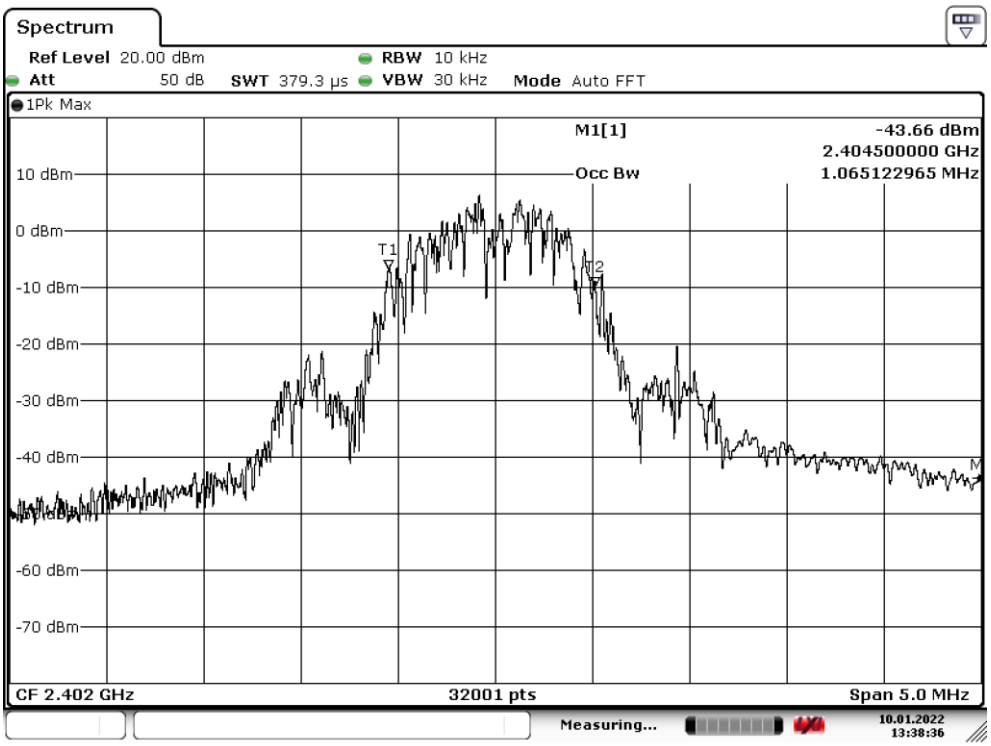
Channel 39



Ble, channel: 19 : 6 dB BW Measurement

Date: 10.JAN.2022 13:36:15

Channel 37



Ble, channel: 19 : 6 dB BW Measurement

Date: 10.JAN.2022 13:38:36

3.4 Output Power Measurement

3.4.1 Limit

For systems using digital modulation in the 2400-2483.5 MHz, the limit for the peak output power is 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.

3.4.2 Measurement instruments

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

3.4.3 Test setup

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

3.4.4 Test procedure

According to ANSI C63.10-2013, Clause 11.9.1.1

3.4.5 Test results of Output Power Measurement

Peak method

Technology Std.	Channel	Frequency (MHz)	Data rate	Peak output power (dBm)
2.4 GHz proprietary	37	2402	1 Mbps	15.94
	17	2440	1 Mbps	16.54
	39	2480	1 Mbps	16.82
Uncertainty	±0.71 dB			

3.5 Power Spectral Density

3.5.1 Limit

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band at any time interval of continuous transmission.

3.5.2 Measurement instruments

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

3.5.3 Test setup

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

3.5.4 Test procedure

The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05.

IRN 030 - Spectral power density (W per n.Hz) - Method 5 – Peak method PKPSD (PSD in 3 kHz band)

3.5.5 Test results of Power Spectral Density Measurement

Peak Power spectral density

Technology Std.	Channel	Frequency (MHz)	Data rate	PSD (dBm/3 kHz)
2.4 GHz proprietary	37	2402	1 Mbps	0.98
	17	2440	1 Mbps	0.80
	39	2480	1 Mbps	0.48
Uncertainty	±2 dB			

3.6 Band edge Measurement

3.6.1 Limit

Band edge:
At the edge of the authorized band the RF power shall be at least 20 dB down.

3.6.2 Measurement instruments

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

3.6.3 Test setup

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

3.6.4 Test procedure

The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05, sections 11.3 and 12.1. IRN 026 - Radiated electrical disturbance (V per m) Method 6 – Radiated electrical disturbance at the Authorized band edge.

3.6.5 Test results

Band edge	Frequency (MHz)	Attenuation (dB)	Margin w.r.t. limit (dB)
Lower	2400	38.0	18
Higher	2483.5	41.6	21.6

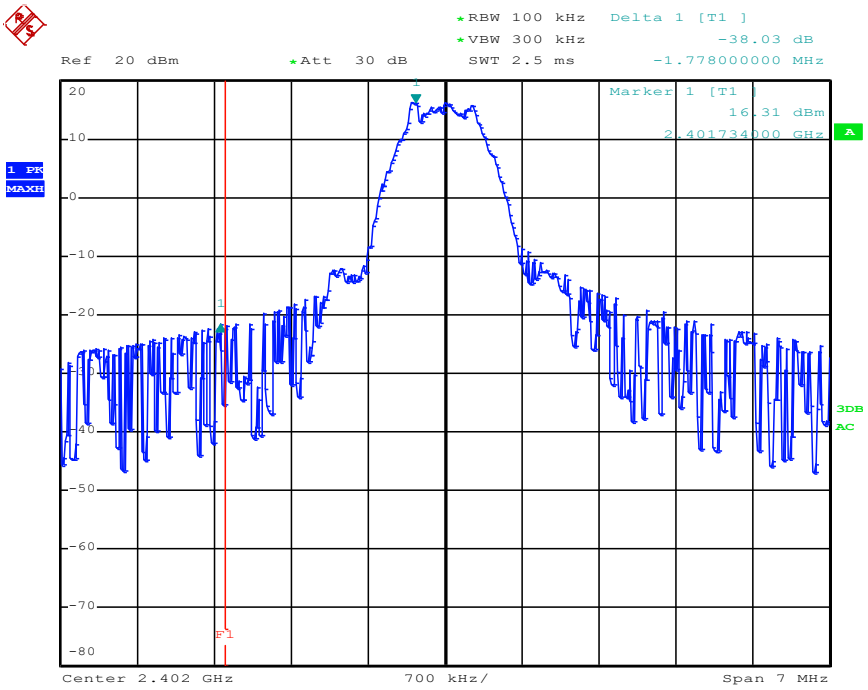
3.6.6 Measurement Uncertainty

± 5.7 dB.

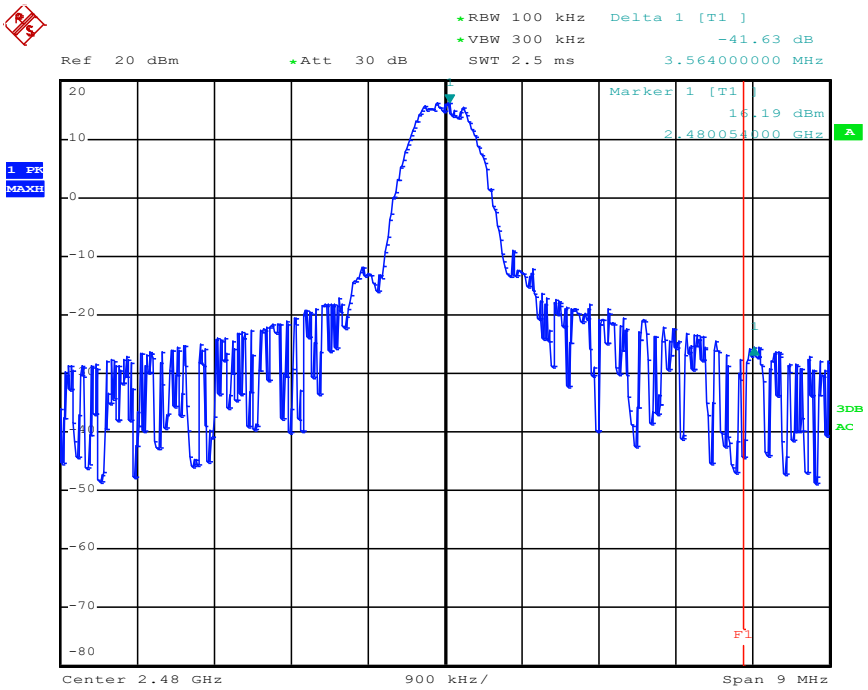
3.6.7 Plots of the Band edge Measurements

See next page

BLE Lower band edge (Channel 1)



BLE Upper band edge (Channel 39)



3.7 Conducted emissions

3.7.1 Limit

According to 15.207 (c)

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.

3.7.2 Measurement instruments

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

3.7.3 Test setup

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

3.7.4 Test procedure

According to ANSI C63.10: 2013, section 6.2
IRN 029 – Method 1

3.7.5 Test results and plots of the AC mains conducted measurement

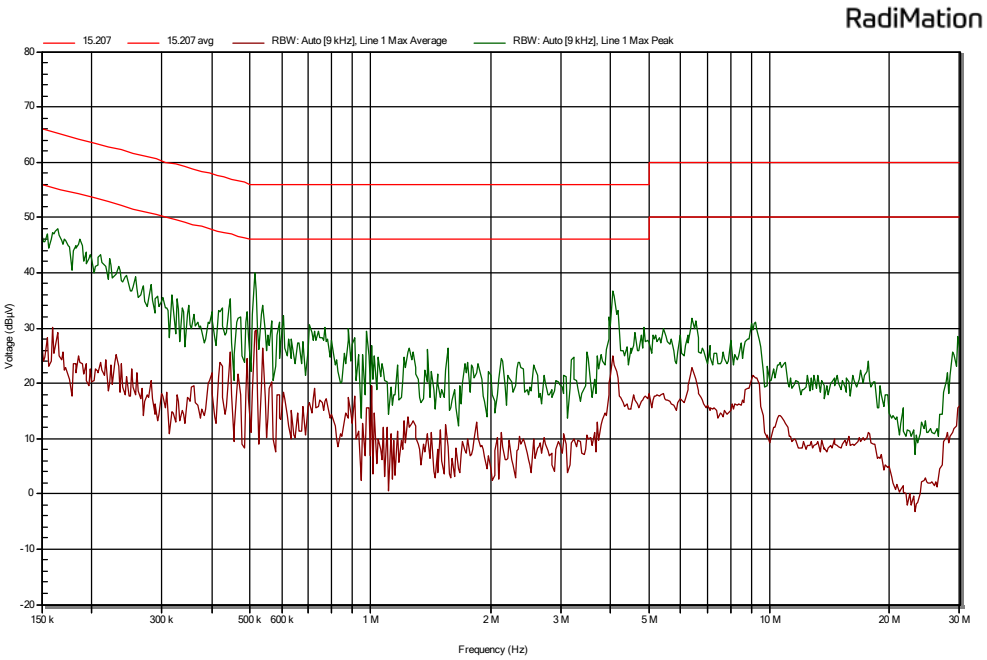
See next page.

3.7.6 Measurement uncertainty

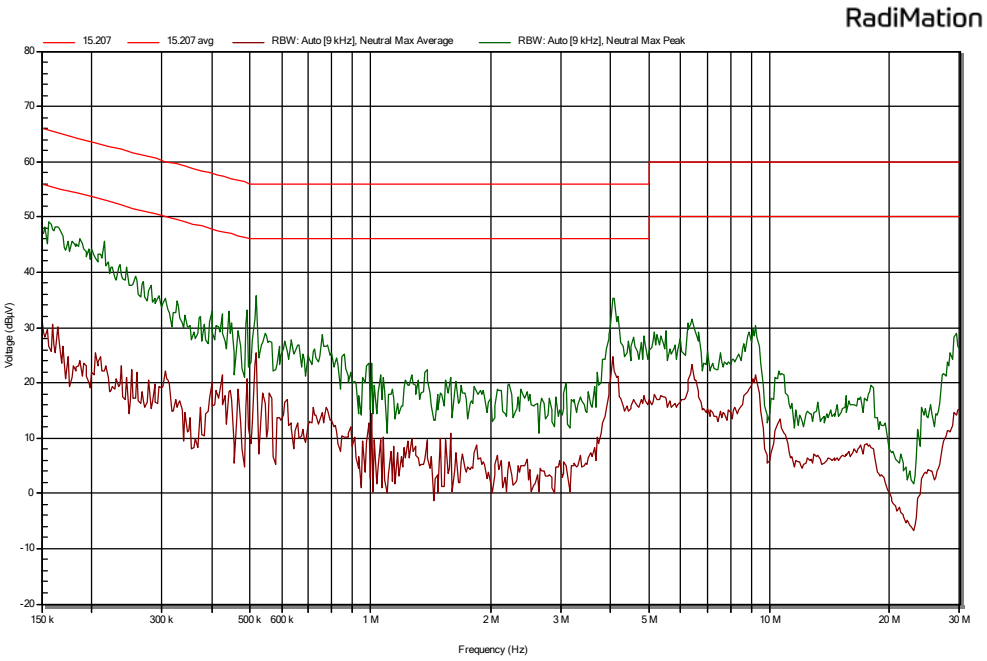
+/- 3.6 dB

3.7.7 Plots of the AC mains conducted spurious measurement

Phase



Neutral



Peak average emissions table (Phase)

Frequency	Average	Average Limit	Status
510,059 kHz	29,4 dBµV	46 dBµV	Pass
4,041 MHz	24,9 dBµV	46 dBµV	Pass
881,649 kHz	17,5 dBµV	46 dBµV	Pass
973,889 kHz	15,7 dBµV	46 dBµV	Pass
164,053 kHz	29,1 dBµV	55,3 dBµV	Pass
536,077 kHz	26,4 dBµV	46 dBµV	Pass

Note: quasi peak values are below the average limit

Peak average emissions table (Neutral)

Frequency	Average	Average Limit	Status
515,159 kHz	25,5 dBµV	46 dBµV	Pass
4,081 MHz	22,2 dBµV	46 dBµV	Pass
1,003 MHz	14,5 dBµV	46 dBµV	Pass
156,091 kHz	26,7 dBµV	55,7 dBµV	Pass
490,156 kHz	20,7 dBµV	46,2 dBµV	Pass
6,386 MHz	23,4 dBµV	50 dBµV	Pass

Note: quasi peak values are below the average limit

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)** **TE 00967** **Chase CBL6112A** **SN: 2308**	**Cable loss (dB)** **Id: SAR cable**	**Corr. (dB)**
30	18,6	0,68	19,28
100	10,7	1,15	11,85
150	10,6	1,41	12,01
200	9,3	1,63	10,93
250	12,6	1,93	14,53
300	13,3	2,12	15,42
350	14,6	2,2	16,8
400	15,5	2,29	17,79
450	16,9	2,53	19,43
500	17,5	2,67	20,17
550	18,4	2,9	21,3
600	18,8	3,02	21,82
650	19,2	3,09	22,29
700	19	3,22	22,22
750	19,8	3,56	23,36
800	19,7	3,69	23,39
900	20,4	3,81	24,21
950	20,8	3,91	24,71
1000	21,2	4,3	25,5

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

----------End of report----------