Test report for

47 CFR Part 15 Subpart C

RSS-247, RSS-Gen

The RvA is signatory to ILAC - MRA

Product name	: Simcenter SCADAS Recorder
Applicant	: Siemens Industry Software Netherlands BV
FCC ID	: 2AF88-SCR2E1
IC	: 28364-SCR2E1

Test report No. : P000393365 002 Ver 2.0

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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The Industry Canada company number for Kiwa Nederland B.V. is: 4173A. The CABID is NL0001.

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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
v0.5	21-06-2024	First draft	PvW
v1.0	06-08-2024	Initial release	PvW
V2.0	21-08-2024	Added reference to variants	PvW

Table of Contents

Summary of Test results

FCC	ISED	Description	Section in report	Verdict
15.247(d) 15.225(d) 15.209 (a)	RSS-Gen 8.9	Radiated spurious emissions	3.1	Pass
15.205 (a)	RSS Gen 8.10	Spurious emissions in the restricted bands	3.1	Pass
15.247 (b)	RSS-247 5.4 (d)	RF output power	3.2	Pass
15.207 (c)	RSS-Gen 8.8	AC power-line conducted emissions	3.3	Pass

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

1 General Description

1.1 Applicant

Client name:	Siemens Industry Software Netherlands BV
Address:	Weidehek 53, Breda, the Netherlands
Zip code:	4824 AT
Telephone:	076 5736363
E-mail:	Tom.schrijer@siemens.com
Contact name:	Mr. Tom Schrijer

1.2 Manufacturer

Manufacturer name:	Siemens Industry Software Netherlands BV
Address:	Weidehek 53, Breda, the Netherlands
Zip code:	4824 AT
Telephone:	076 5736363
E-mail:	Tom.schrijer@siemens.com
Contact name:	Mr. Tom Schrijer

1.3 Tested Equipment Under Test (EUT)

Product name:	Simcenter SCADAS Recorder
Brand name:	Siemens Industry Software BV
FCC ID:	2AF88-SCR2E1
IC:	28364-SCR2E1
Product description:	Data acquisition system
Model(s):	SCR2E09 SCR2E01 SCR2E02 SCR2E05
Batch and/or serial No.	29170717
Software version:	--
Hardware version:	--
Date of receipt:	29-03-2017
Tests started:	16-04-2024
Testing ended:	19-07-2024

1.3.1 Auxiliary items

AUX1

Product name:	Power supply for EUT
Brand name:	MeanWell
Product type:	AC/DC supply
Model(s):	GST160A24-R7B
Batch and/or serial No.	SC265Y2917
Remarks:	Connects to EUT

AUX2

Product name:	Notebook
Brand name:	HP
Product type:	Probook
Model(s):	--
Batch and/or serial No.	--
Remarks:	Used to program memory stick with test mode firmware

1.4 Product specifications of Equipment under test

Tx Frequency:	802.11b/g/n: 2400 – 2483.5 MHz 802.11n/a/ac: 5150 – 5250 MHz
Rx frequency:	802.11b/g/n: 2400 – 2483.5 MHz 802.11n/a/ac: 5150 – 5250 MHz
Occupied channel width:	20 MHz, 40 MHz, 80 MHz
Antenna type:	802.11b/g/n: Monopole antenna 802.11n/a/ac: Monopole antenna
Antenna gain:	2400 – 2483.5 MHz: +1.5 dBi 5150 – 5250 MHz: +2.1 dBi
Type of modulation:	CCK, GFSK, OFDM, 16-QAM, 32-QAM, 64-QAM
Emission designator:	--

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
- RSS-Gen Issue 5
- RSS-247 Issue 3

1.8 Observation and remarks

The EUT had loads representative of normal loads on one port of each type of ports.
The EUT is tested in normal use orientation.

1.9 Modifications to the EUT (Equipment Under Test)

The manufacturer replaced the rechargeable batteries of the EUT since these were expired.
The manufacturer added a ferrite on the AC cable of the AC/DC adapter in order to reduce AC conducted emissions.

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 : P. van Wanrooij, BASc and ing. L.F. Diaz, under supervision of P. van Wanrooij and R. van Barneveld

Review of test methods and report by:

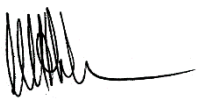
Name : ing. Maaz H. Khan

The above conclusions have been verified by the following signatory:

Date : 22-08-2024

Name : ing. M.H. Khan

Function : Test Engineer

Signature : 

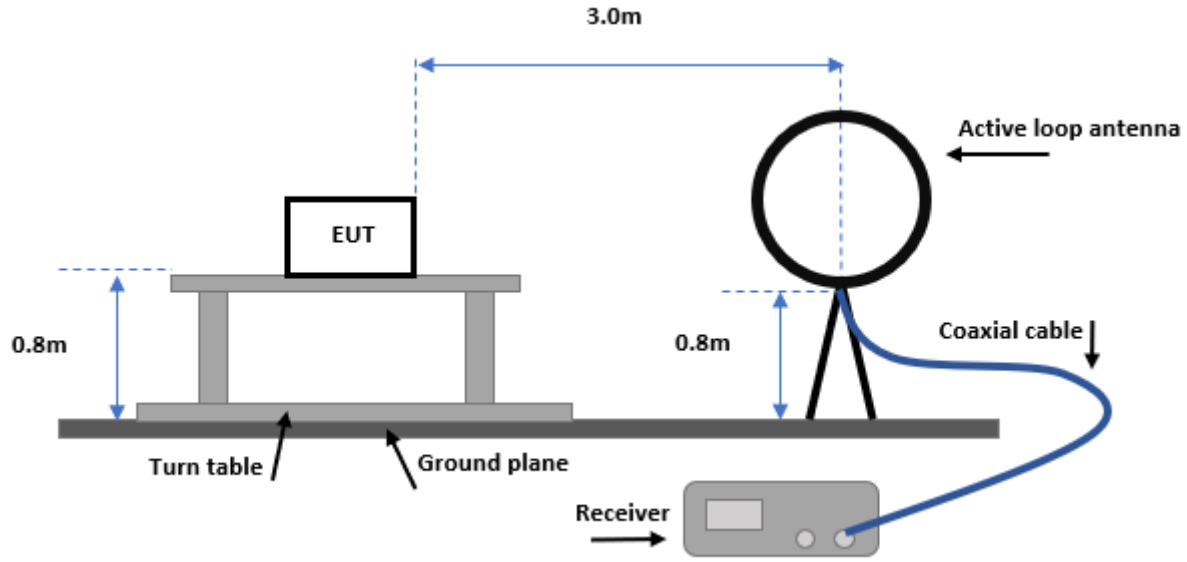
2 Test configuration of the Equipment Under Test

2.1 Test mode

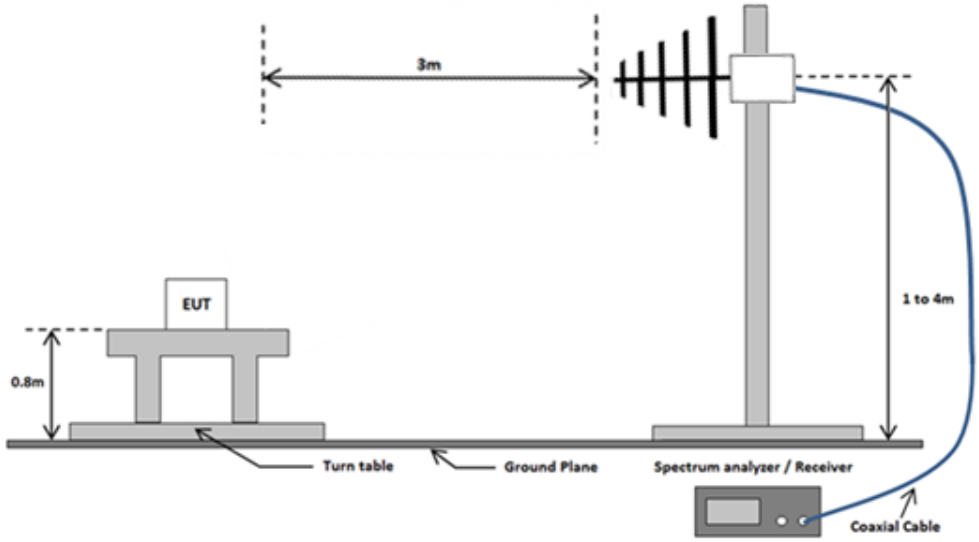
The manufacturer provided test mode scripts which launched the EUT in a continuous transmit state. The script could be modified to set the modulation, bandwidth, power and operating frequency of the transmitter.

2.2 Test setups

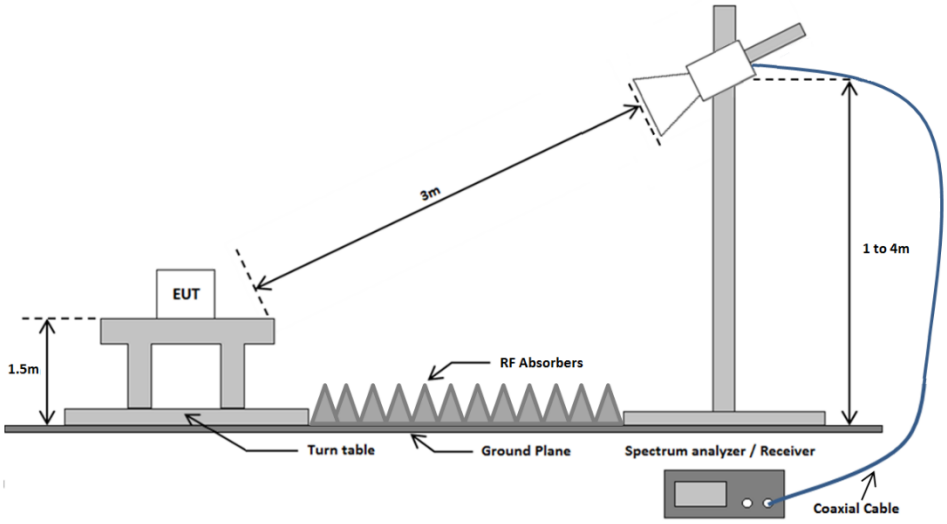
Radiated emissions test setup 9 kHz – 30 MHz



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

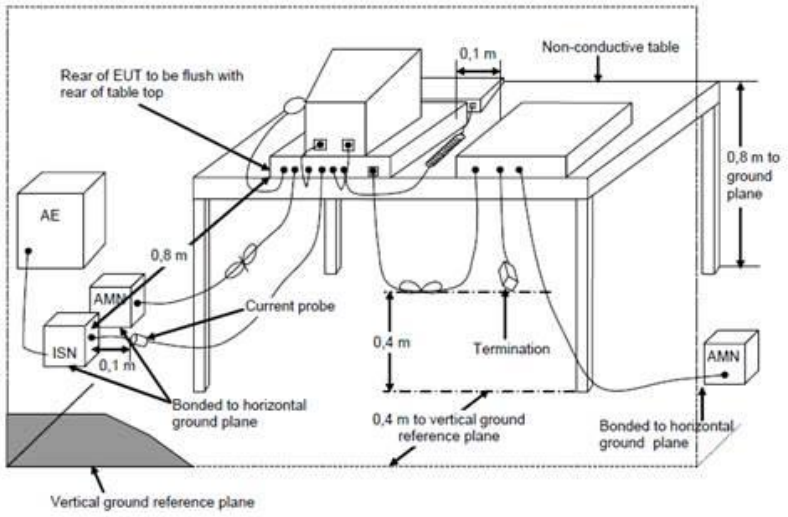


Figure 1. EUT and auxiliary setup

List of used cables					
Number	**Function**	**From**	**To**	**Length**	**Remarks**
1	AC Power	mains 120Vac 60 Hz	AUX1	< 3m	Has a Würth click ferrite (model 742 758 15) on the cable
2	24 Vdc power	AUX1	EUT	< 3m	-
3	Ethernet	Communication board	AUX2	5m	Shielded cable
4	Signal cable	--	V8E	<3m	--
5	Signal cable	--	VC8E	<3m	--
6	Signal cable	--	VD8E	<3m	--
7	Signal cable	--	V24	<3m	2 cables connected to V24
8	Signal cable	Resistor	VB8-II	<3m	2 cables connected to VB8-II
9	Signal cable	--	Communication board	<3 m	Connected to port T1
10	Signal cable	--	Communication board	<3 m	Connected to port T2
11	Signal cable	--	Communication board	<3 m	Connected to port OUT
12	Signal cable	--	Communication board	<3 m	Connected to port CAN
13	Antenna cable	GPS input	GPS antenna	5m	--
14	Signal cable	--	FR4	<3m	--
15	Signal cable	--	WFI2	<3m	Connected to port 1
16	Signal cable	--	WFI2	<3m	Connected to port CLK
17	Signal cable	--	WFI2	<3m	Connected to port TRG
18	Signal cable	Resistor	VB8-III-RT	<3m	2 cables connected to VB8-III-RT

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	114870	09-2022	09-2024	3.1, 3.3
Spectrum Analyzer	Rohde & Schwarz	FSV3044	114923	10-2023	10-2025	3.1
Spectrum analyzer	Rohde & Schwarz	FSV3044	115043	02-2022	02-2025	3.2
3.0 GHz HPF	Wainwright	WHK3.0/18G-10EF	114682	09-2021	09-2024	3.1
Biconical antenna + 6dB attenuator	EMCO	3146	107818	06-2022	06-2025	3.1
Logperiodic antenna	EMCO	3147	114385	02-2021	02-2026	3.1
Horn antenna	EMCO	3115	114607	01-2021	07-2024	3.1
Horn antenna	FLANN-MICROWAVE	20240-25	114518	NA*	NA*	3.1
Horn antenna	Scientific atlanta	12A-26	11487	NA*	NA*	
Preamplifier 1-18 GHz	µComp Nordic	MCNA-40-0010800-25-10P	114690	08-2024	08-2025	3.1
Preamplifier 18-40 GHz	Schwarzbeck	BBV-9721	115026	06-2024	06-2025	3.1
Test software	Raditeq	Radimation Version 2023.2.3	--	--	--	3.1, 3.3
Semi-Anechoic Chamber	ETS Lindgren	SAR	114624	03-2023	03-2026	3.1
LISN /Two line V-network	Rohde & Schwarz	ENV 216	114379	11-2023	11-2025	3.3

*Note: Standard gain horn antennas do not need calibration
NA= Not Applicable

2.4 Sample calculations

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

3 Test results

3.1 Radiated spurious emissions

3.1.1 Limit

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

Frequency (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance(m)
0.009 – 0.490	2400/F(kHz)	20*{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 GHz: IRN 441– Method 3

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

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

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

3.1.5 Measurement Uncertainty

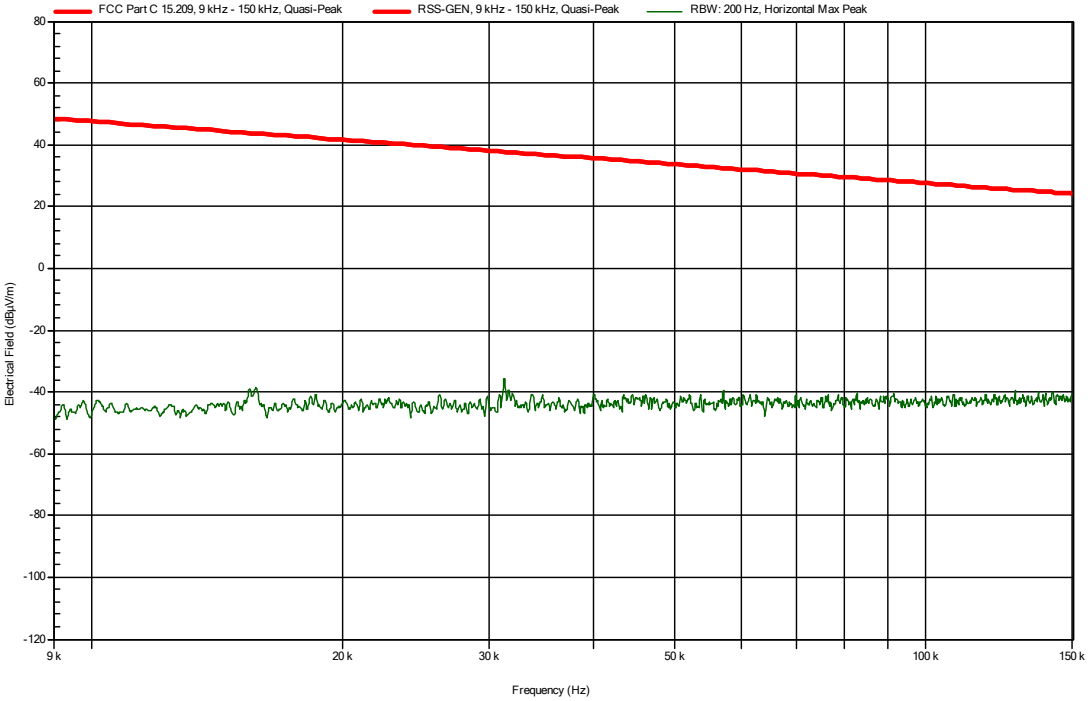
Frequency range	Polarization	Uncertainty
9 kHz – 30 MHz	--	±1.6 dB
30 – 200 MHz	Horizontal	±4.5 dB
	Vertical	±5.4 dB
200 -1000 MHz	Horizontal	±3.6 dB
	Vertical	±4.6 dB
1 – 18 GHz	Horizontal	±5.7 dB
	Vertical	±5.7 dB
18 – 26.5 GHz	Horizontal	±4.9 dB
	Vertical	±4.9 dB

3.1.6 Test results

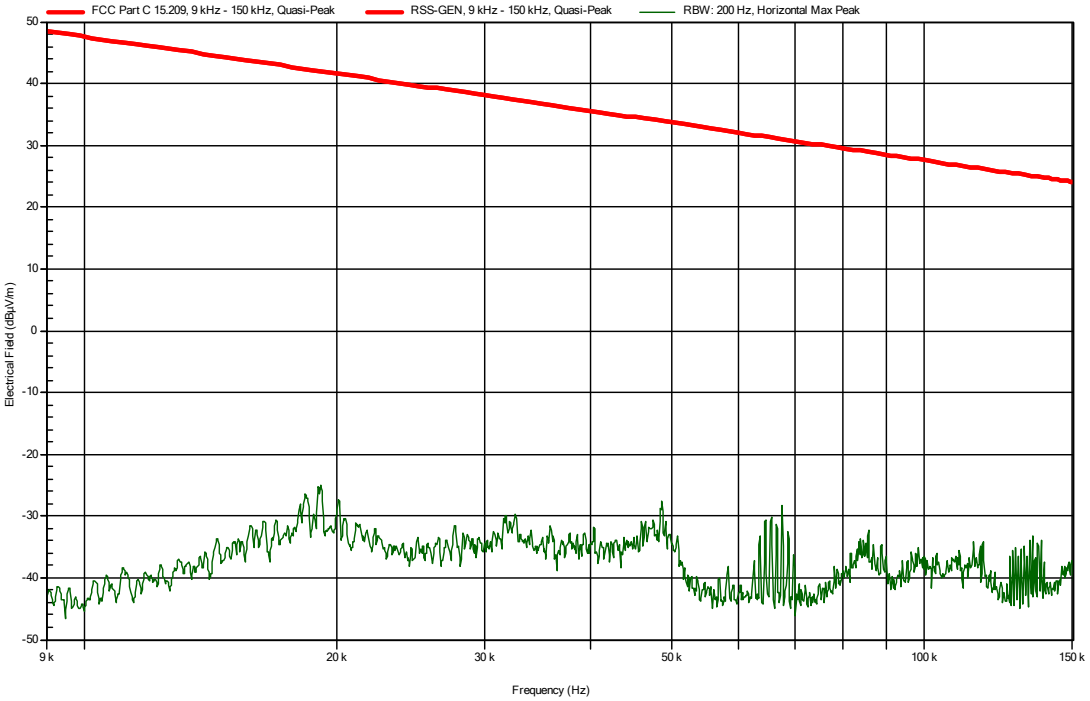
Frequency	Peak	Quasi-Peak	Quasi-Peak Limit	Polarization	Height	Status	Channel
109,047 MHz	36,2 dBµV/m	31 dBµV/m	43,5 dBµV/m	Vertical	1 m	Pass	1
133,588 MHz	28 dBµV/m	19,5 dBµV/m	43,5 dBµV/m	Vertical	1 m	Pass	1
45,722 MHz	36,1 dBµV/m	31,2 dBµV/m	40 dBµV/m	Vertical	1 m	Pass	11
340,786 MHz	46,4 dBµV/m	45 dBµV/m	46 dBµV/m	Horizontal	1 m	Pass	1
375,004 MHz	42,5 dBµV/m	39,4 dBµV/m	46 dBµV/m	Horizontal	1 m	Pass	1
829,939 MHz	42 dBµV/m	30,4 dBµV/m	46 dBµV/m	Vertical	1,2 m	Pass	1
749,97 MHz	43,5 dBµV/m	37,2 dBµV/m	46 dBµV/m	Horizontal	1 m	Pass	1
375,004 MHz	43,1 dBµV/m	40,2 dBµV/m	46 dBµV/m	Horizontal	1 m	Pass	6
437,532 MHz	41,5 dBµV/m	36,8 dBµV/m	46 dBµV/m	Horizontal	3,3 m	Pass	6
499,977 MHz	43,2 dBµV/m	38,7 dBµV/m	46 dBµV/m	Horizontal	1 m	Pass	6
565,074 MHz	41,8 dBµV/m	35,3 dBµV/m	46 dBµV/m	Horizontal	1,2 m	Pass	6
717,882 MHz	42,9 dBµV/m	35,1 dBµV/m	46 dBµV/m	Horizontal	2,2 m	Pass	6
499,992 MHz	45 dBµV/m	41,2 dBµV/m	46 dBµV/m	Horizontal	1 m	Pass	11
375,004 MHz	44,2 dBµV/m	41,8 dBµV/m	46 dBµV/m	Horizontal	1 m	Pass	11

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

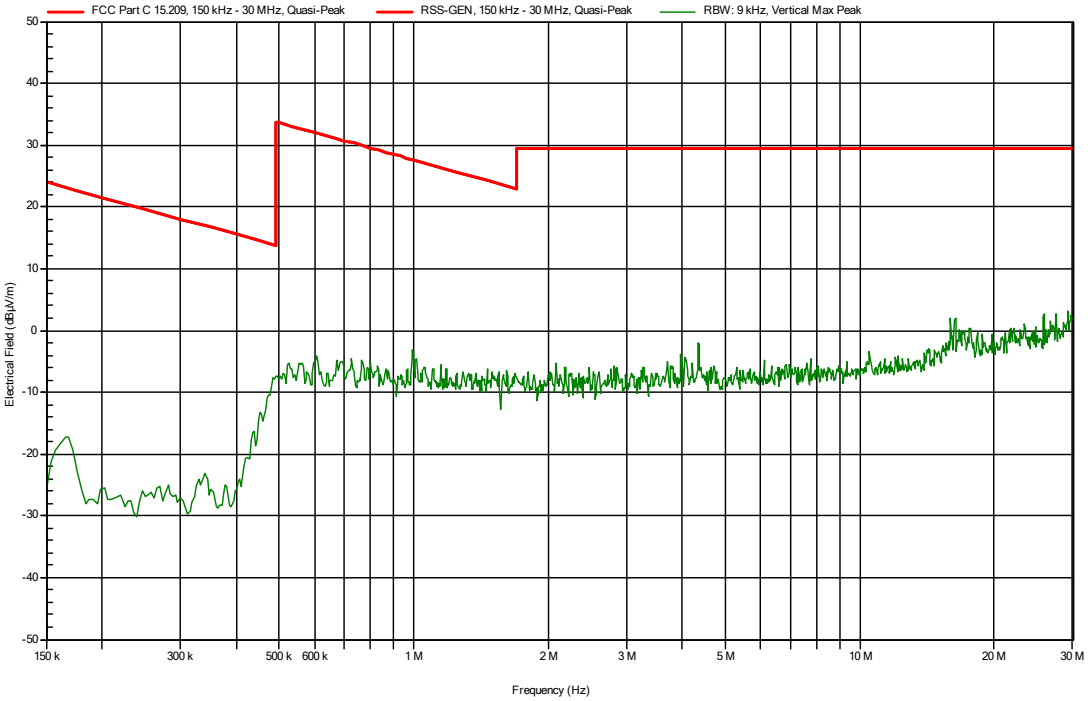
3.1.7 Plots of the Radiated Spurious Emissions Measurement



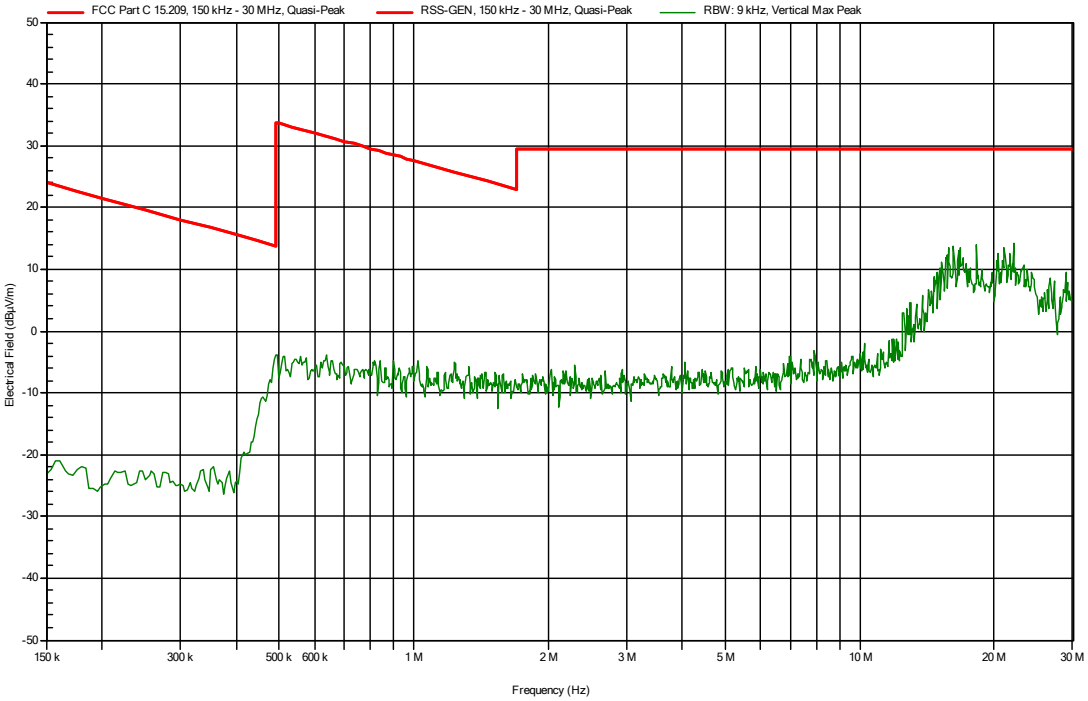
Plot 1a: radiated emissions of the EUT, Antenna perpendicular, in the range 9 – 150KHz
(pre-scan peak values shown)



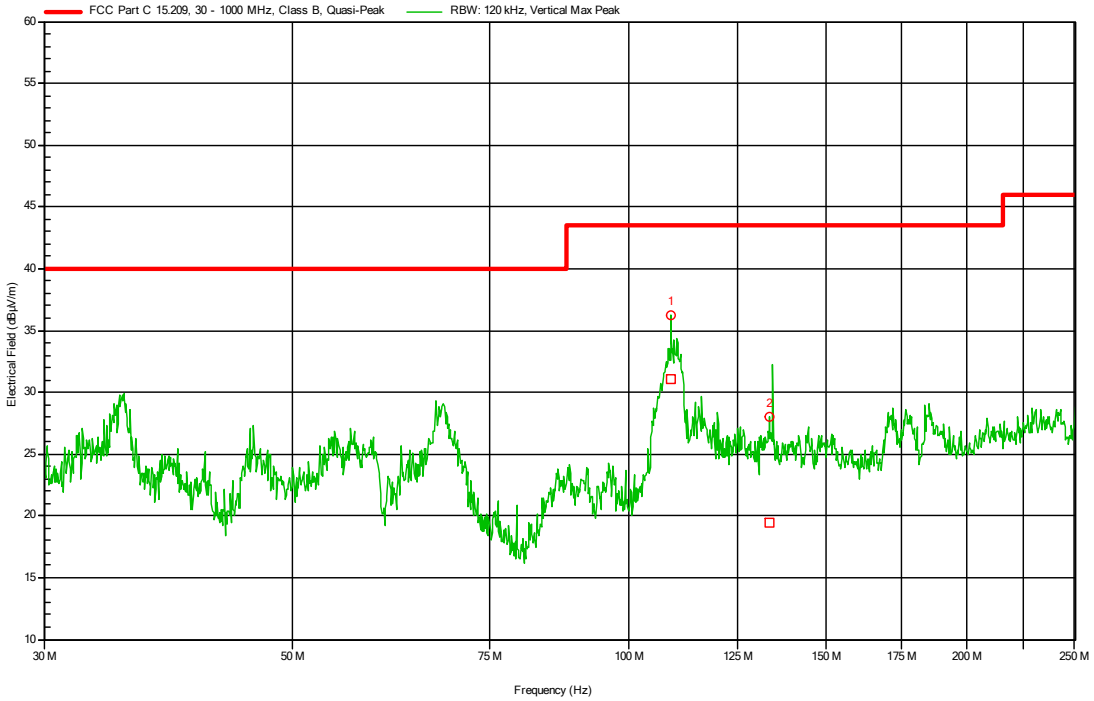
Plot 1b: radiated emissions of the EUT, Antenna parallel, in the range 9 – 150KHz
(pre-scan peak values shown)



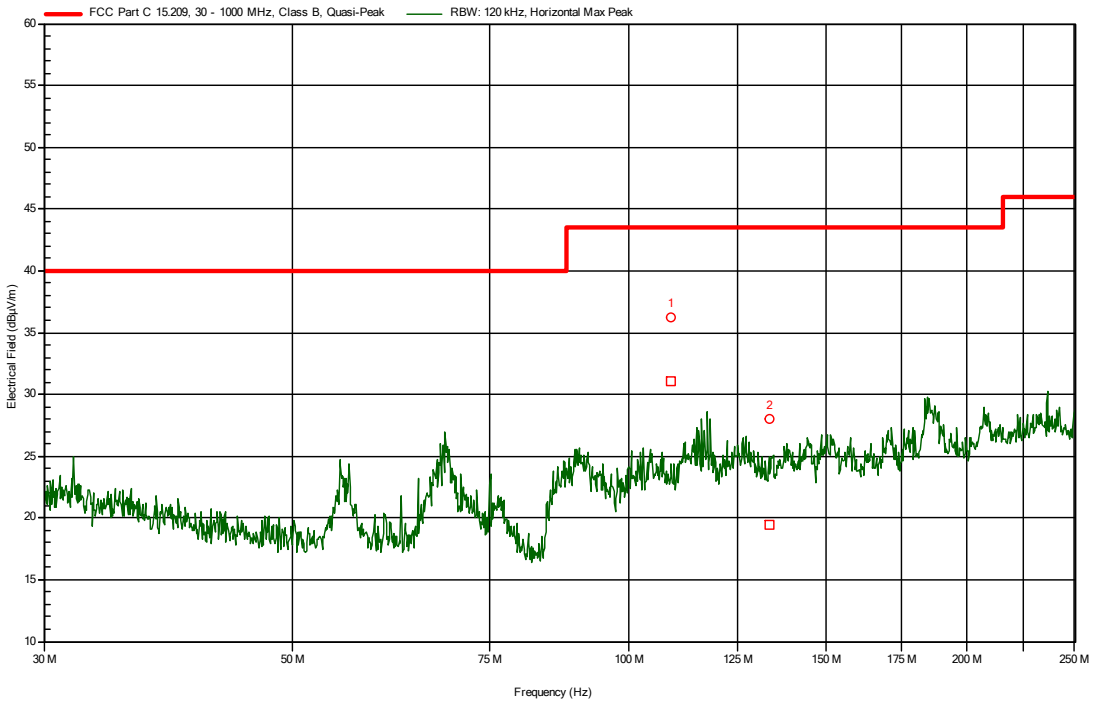
Plot 2a: radiated emissions of the EUT, Antenna perpendicular, in the range 150KHz-30 MHz (pre-scan peak values shown)



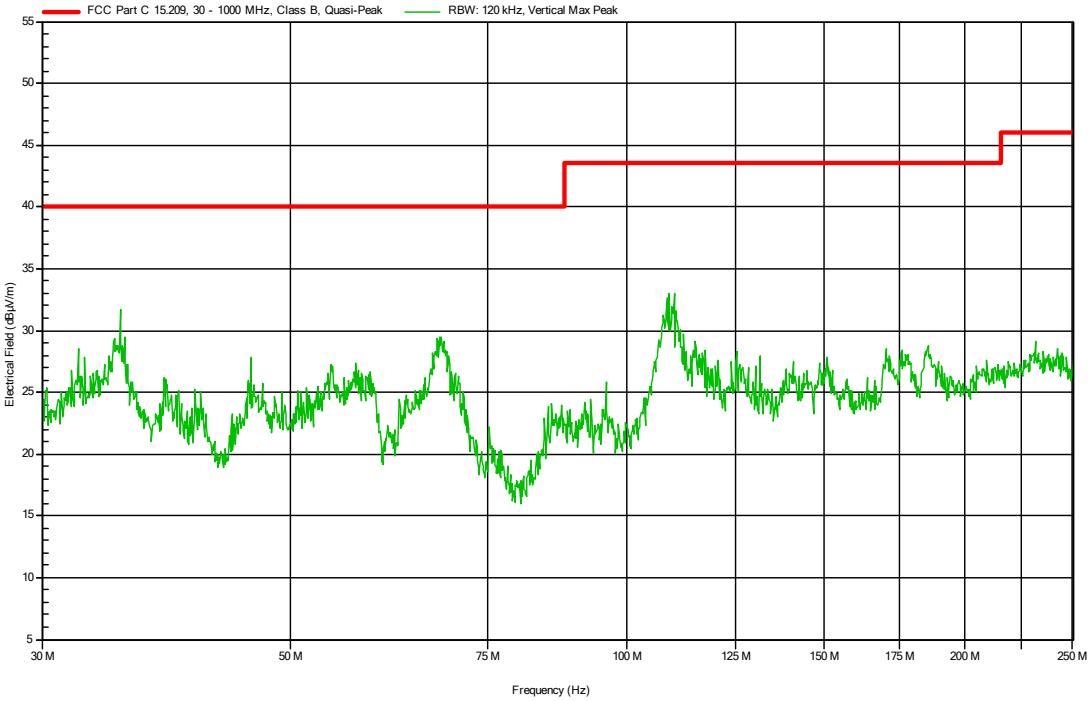
Plot 2b: radiated emissions of the EUT, Antenna parallel, in the range 150KHz-30 MHz (pre-scan peak values shown)



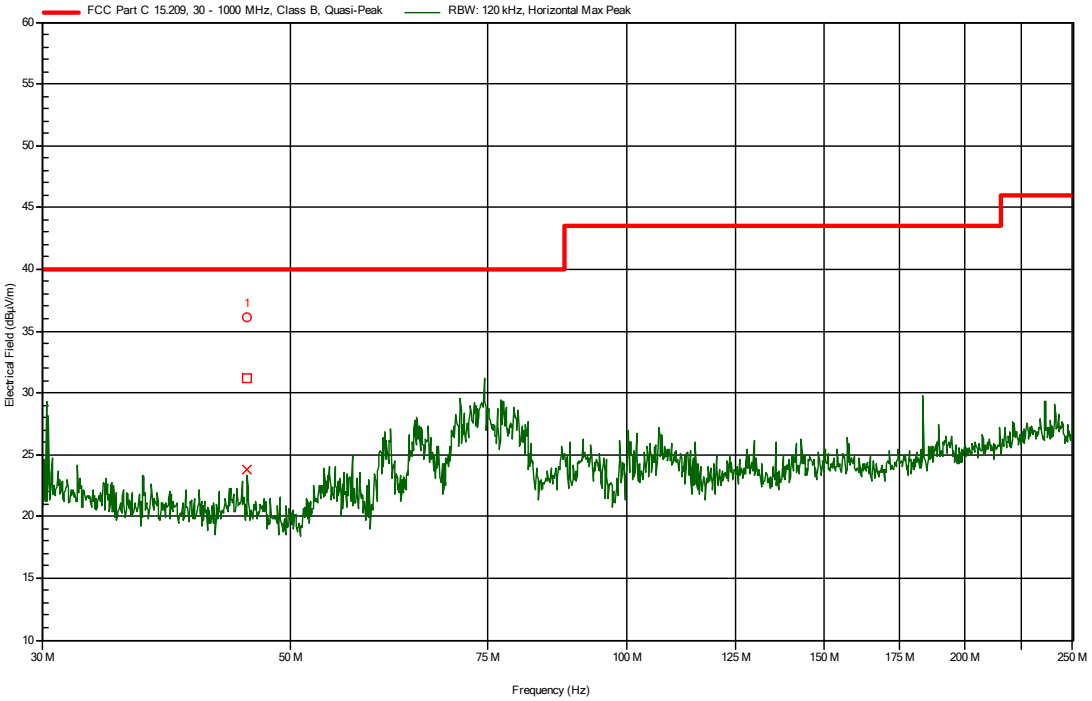
Plot 3a: radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz
(pre-scan peak values shown)
Low channel



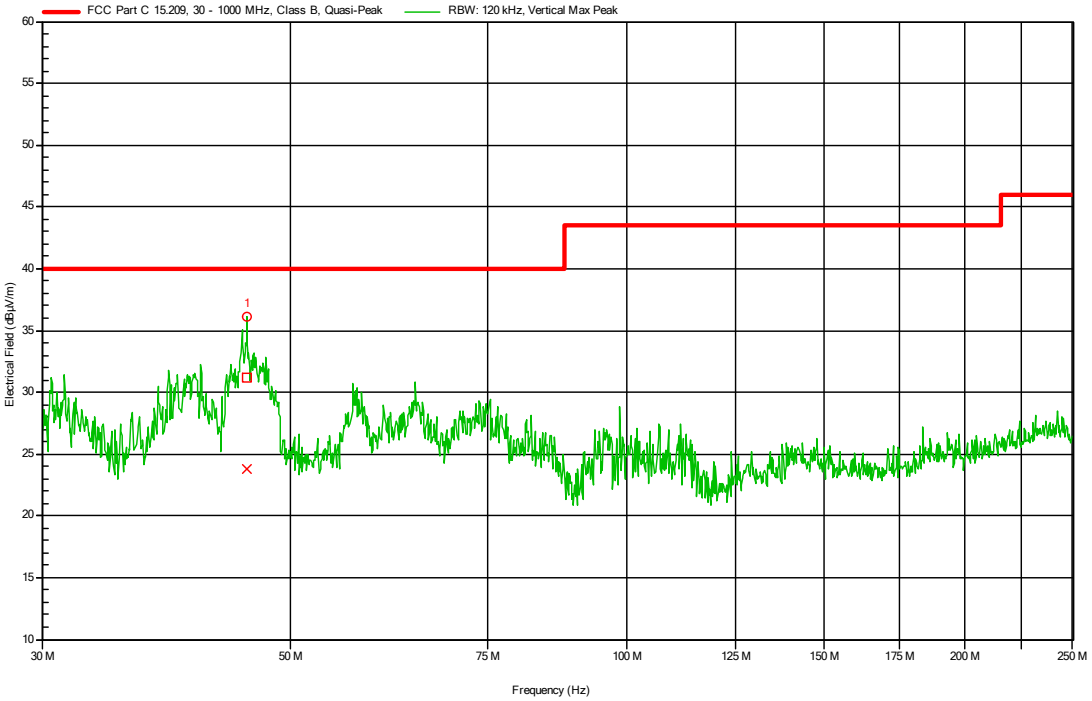
Plot 3b: radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz
(pre-scan peak values shown)
Low channel



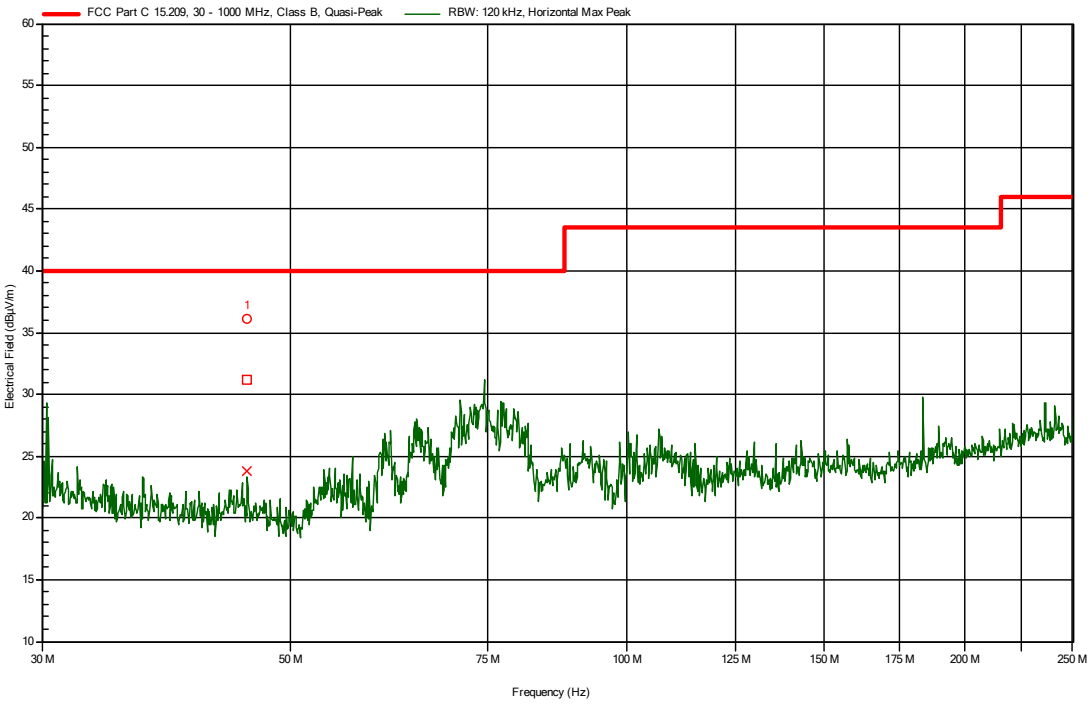
Plot 3c: radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz
(pre-scan peak values shown)
Middle channel



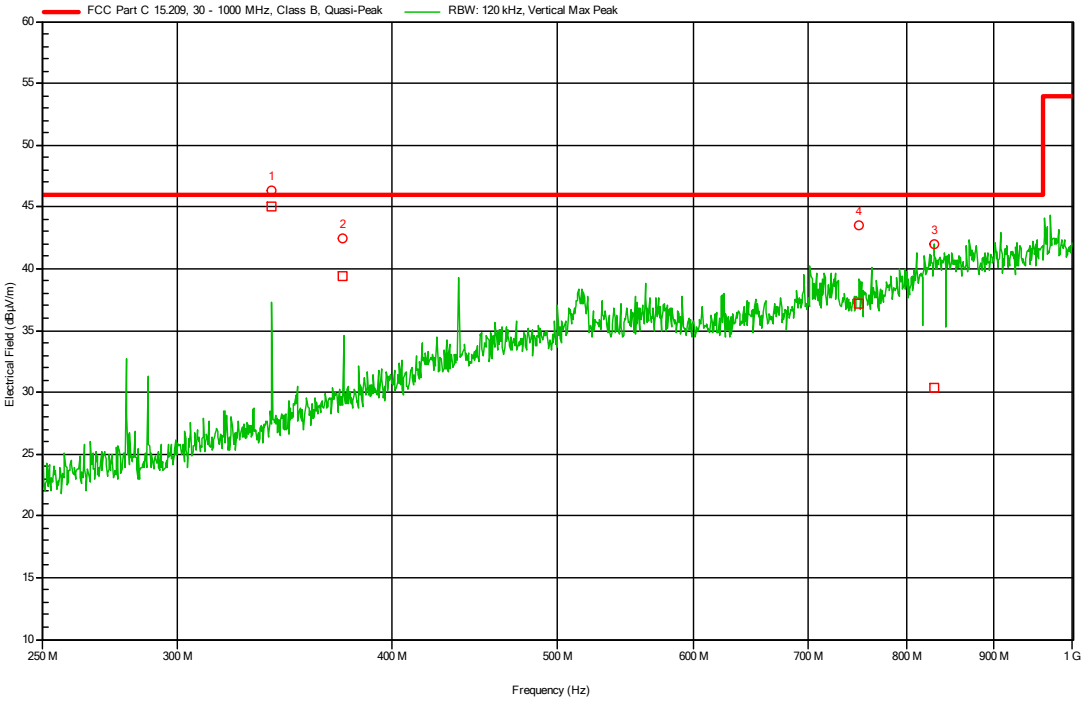
Plot 3d: radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz
(pre-scan peak values shown)
Middle channel



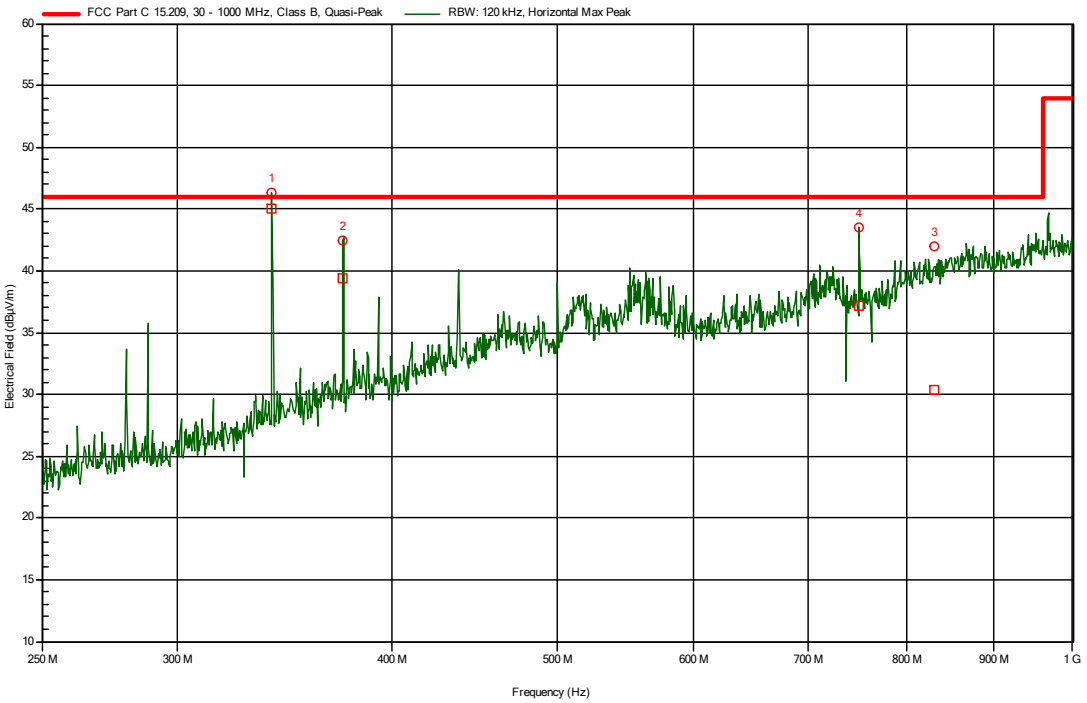
Plot 3e: radiated emissions of the EUT, Antenna vertical, in the range 30 – 250 MHz
(pre-scan peak values shown)
High channel



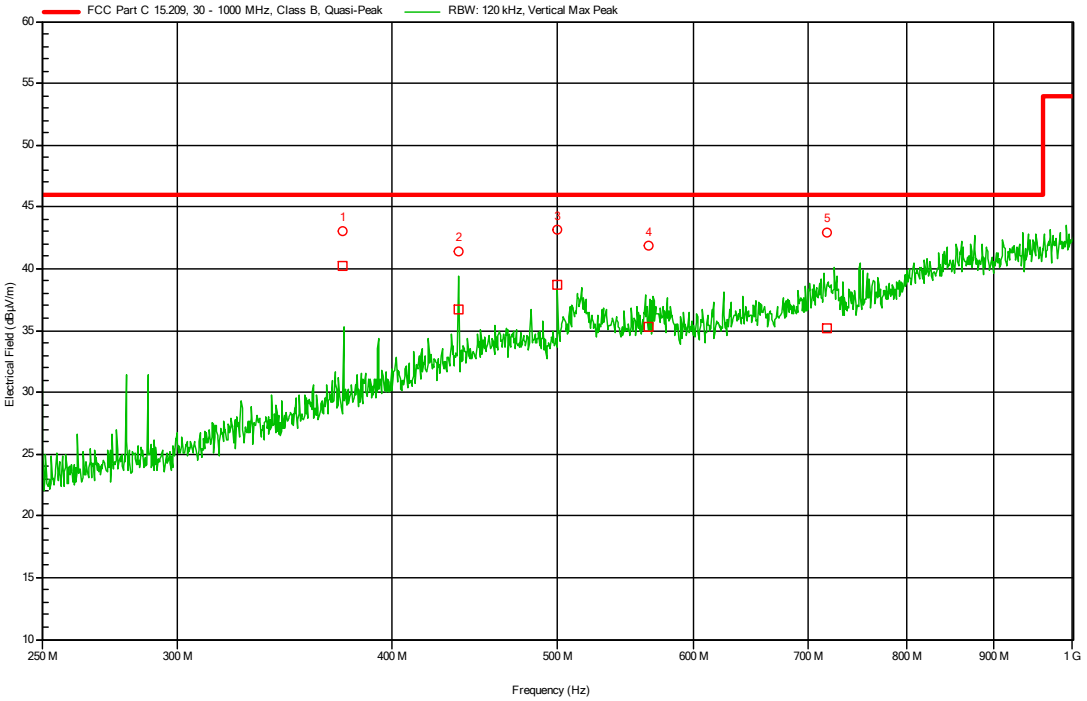
Plot 3f: radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz
(pre-scan peak values shown)
High channel



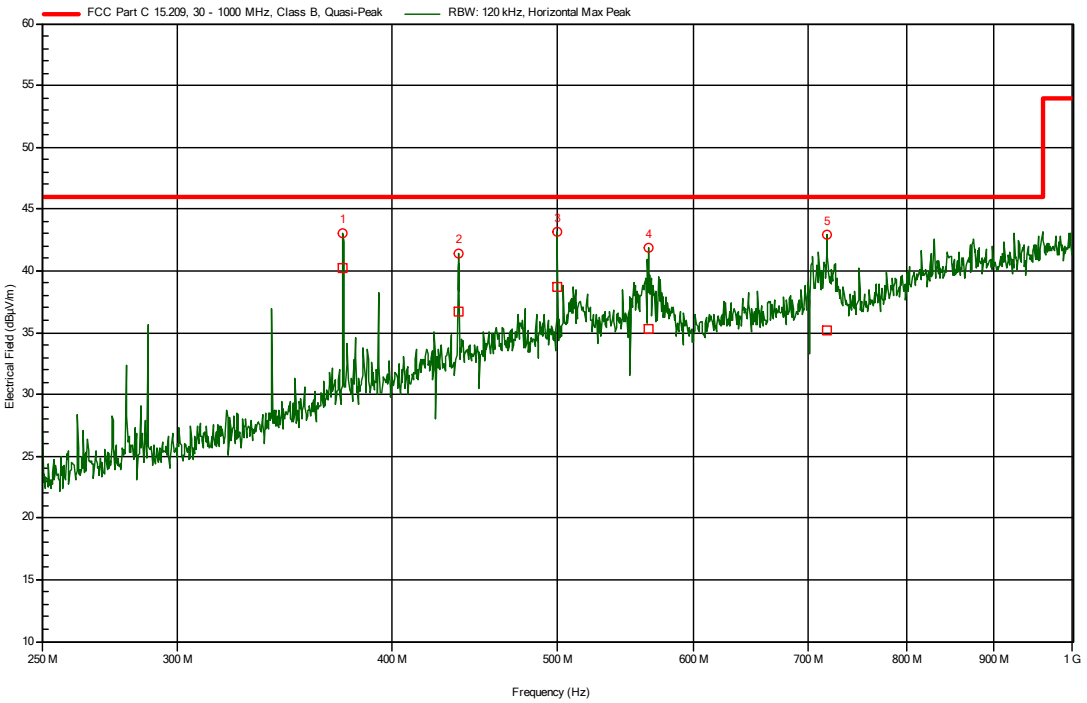
Plot 4a: radiated emissions of the EUT, Antenna vertical, in the range 250-1000 MHz
(pre-scan peak values shown)
Low channel



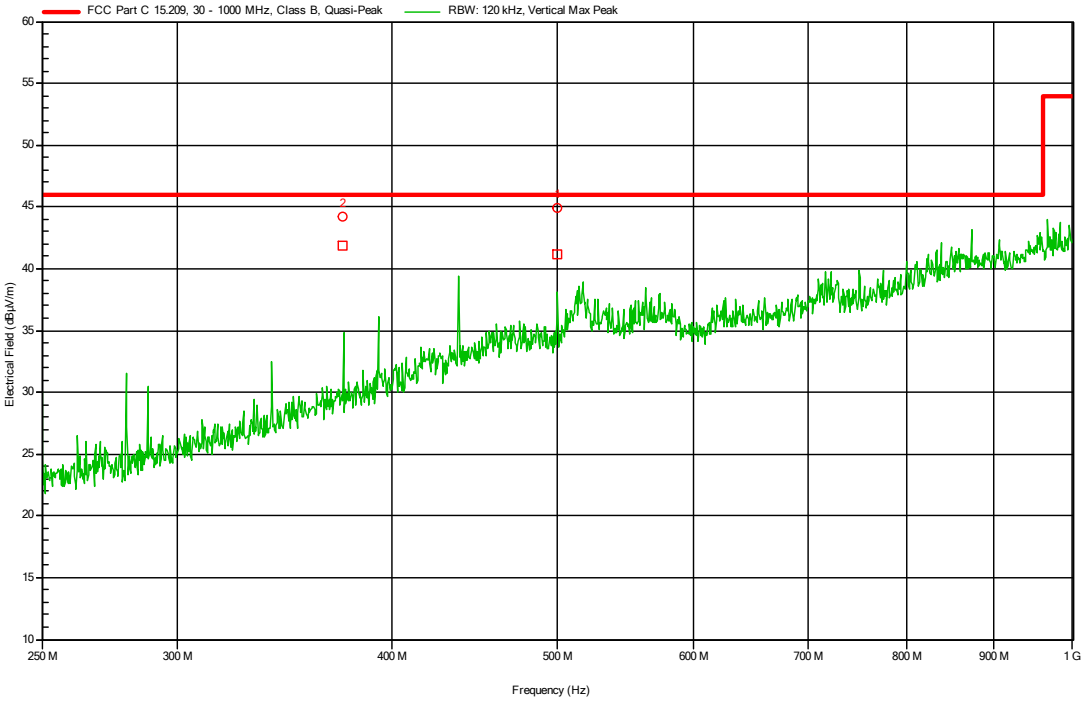
Plot 4b: radiated emissions of the EUT, Antenna horizontal, in the range 250-1000 MHz
(pre-scan peak values shown)
Low channel



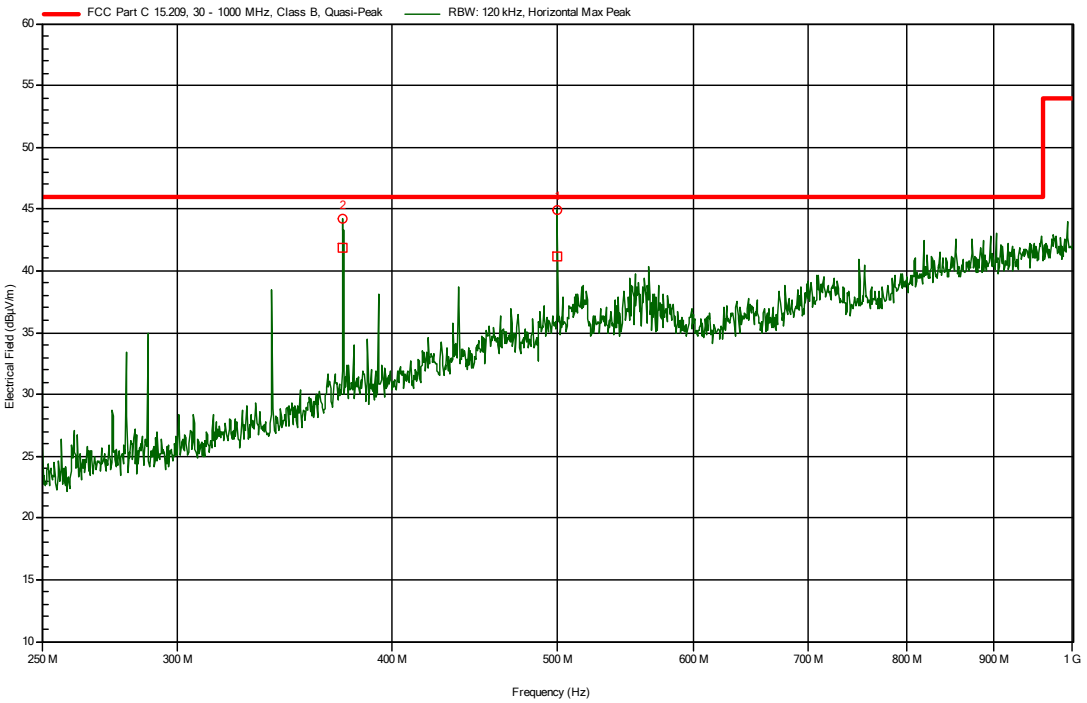
Plot 4c: radiated emissions of the EUT, Antenna vertical, in the range 250-1000 MHz
(pre-scan peak values shown)
Middle channel



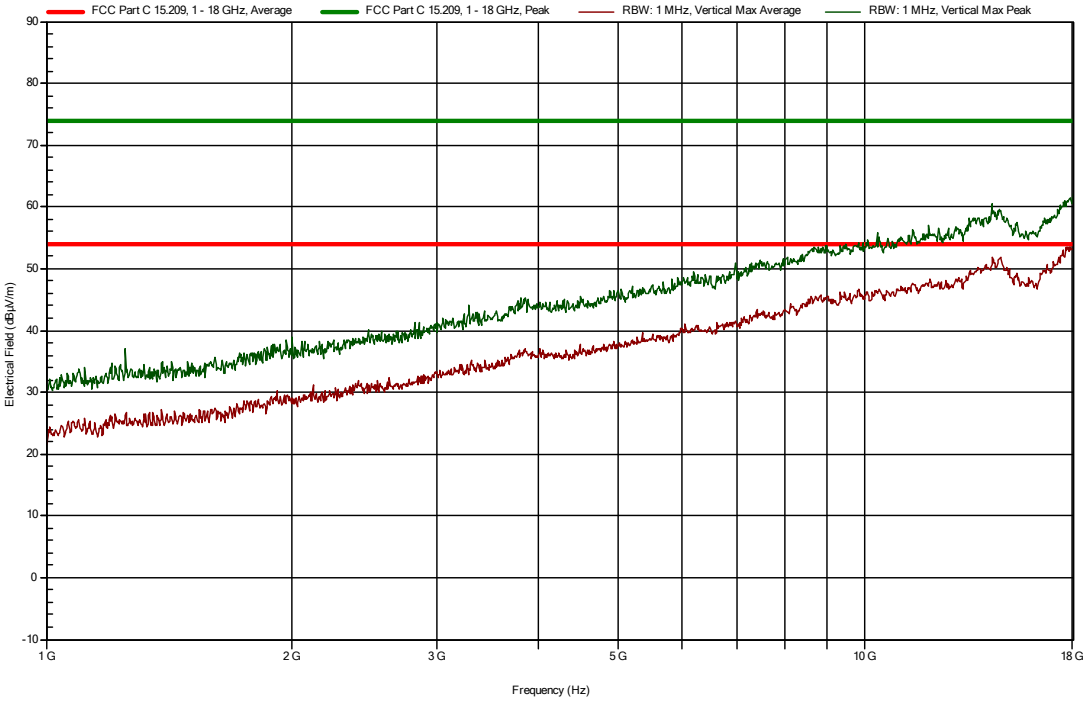
Plot 4d: radiated emissions of the EUT, Antenna horizontal, in the range 250-1000 MHz
(pre-scan peak values shown)
Middle channel



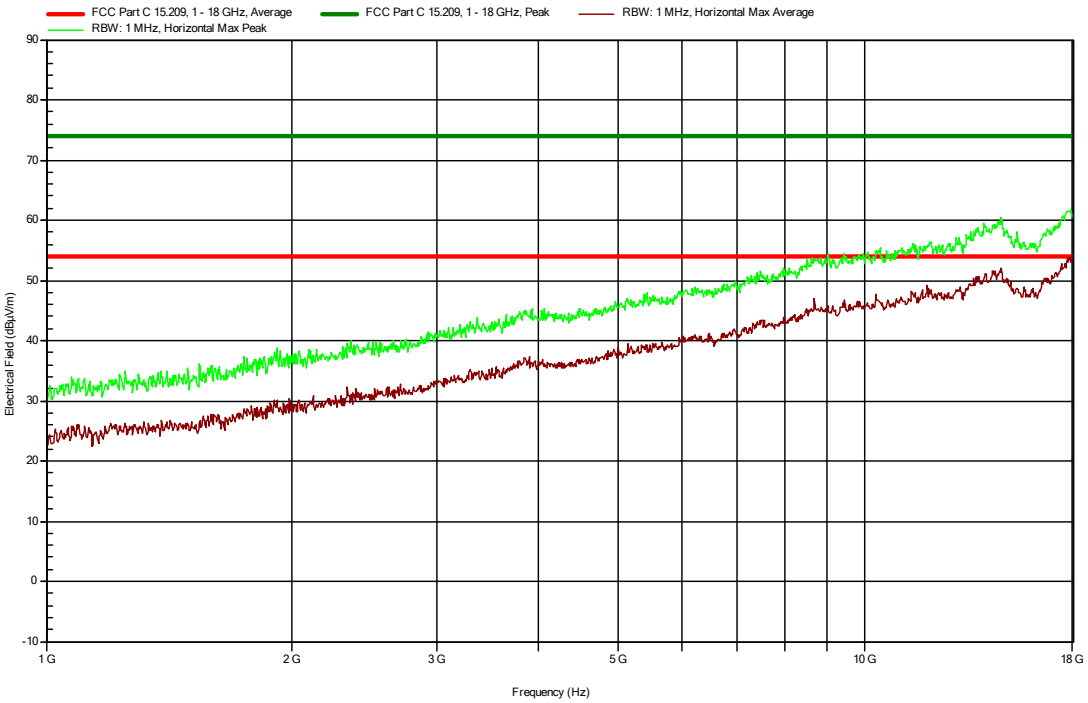
Plot 4e: radiated emissions of the EUT, Antenna vertical, in the range 250-1000 MHz
(pre-scan peak values shown)
High channel



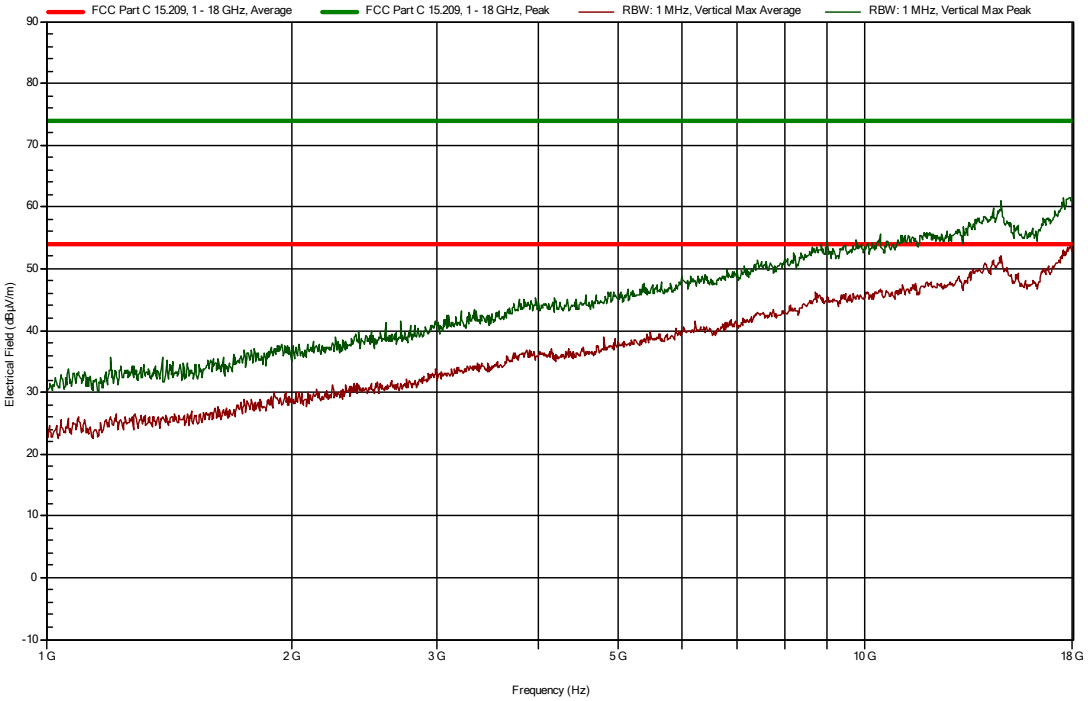
Plot 4f: radiated emissions of the EUT, Antenna horizontal, in the range 250-1000 MHz
(pre-scan peak values shown)
High channel



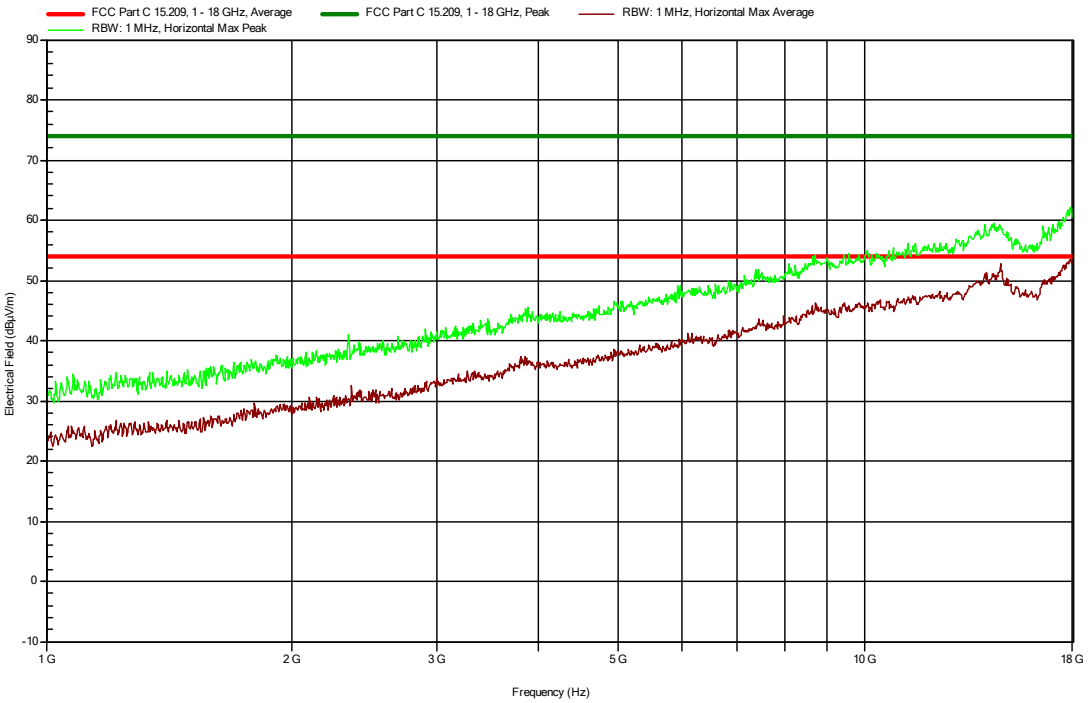
Plot 5a: radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz
(peak and average values shown)
Low channel



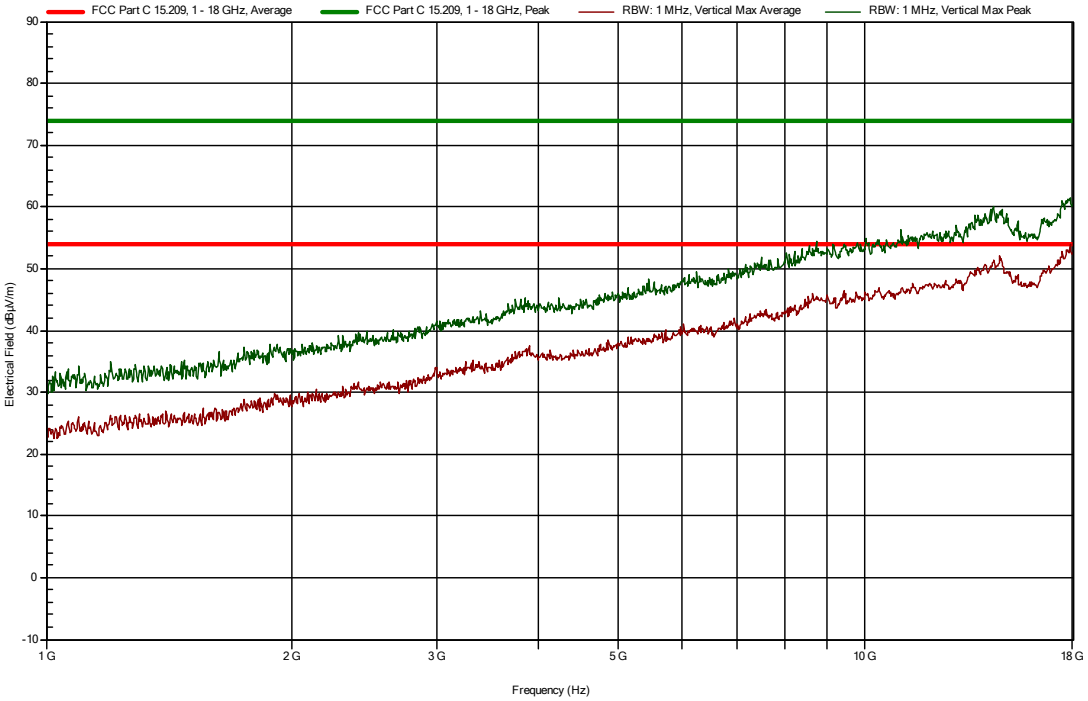
Plot 5b: radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz
(peak and average values shown)
Low channel



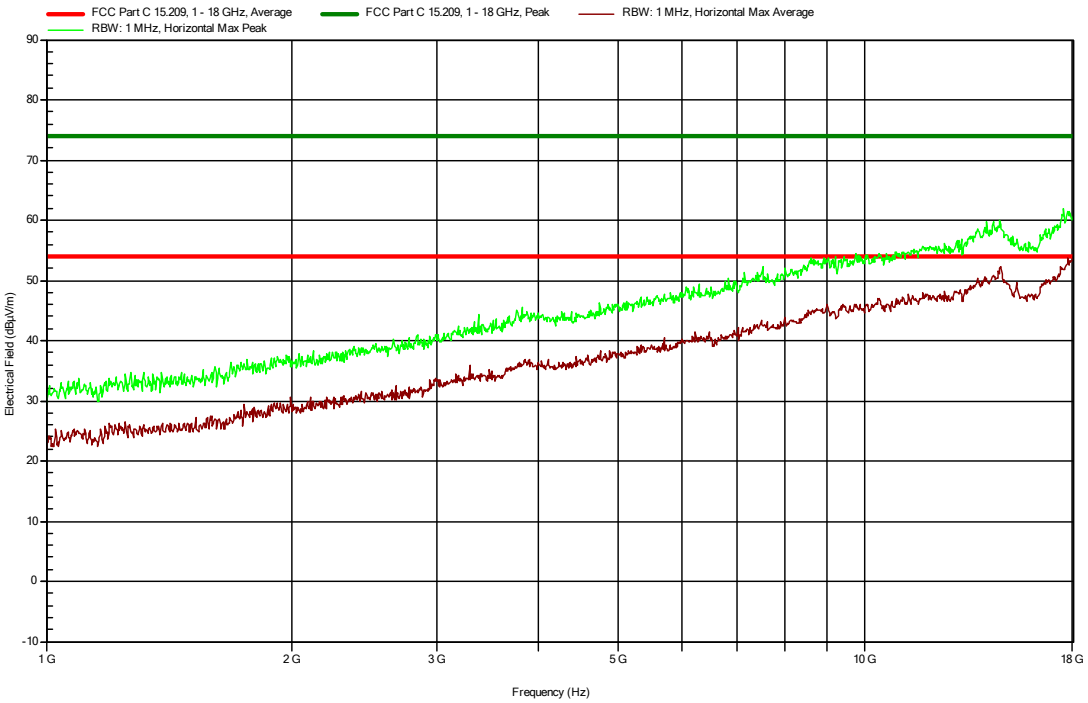
Plot 5c: radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz
(peak and average values shown)
Middle channel



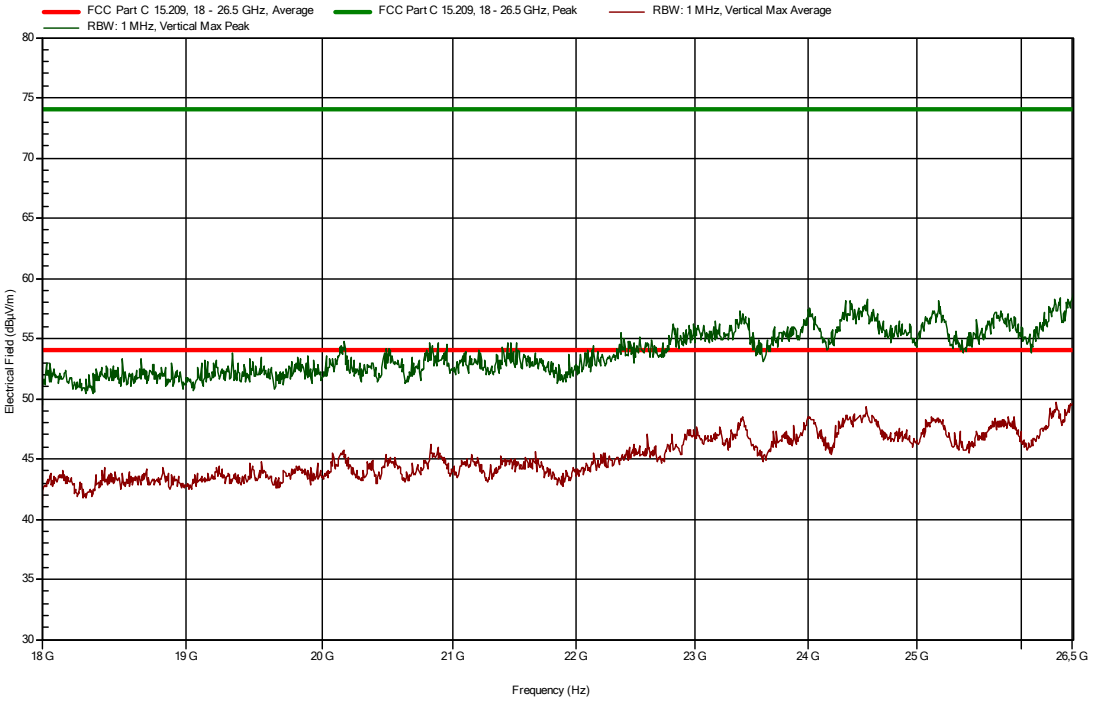
Plot 5d: radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz
(peak and average values shown)
Middle channel



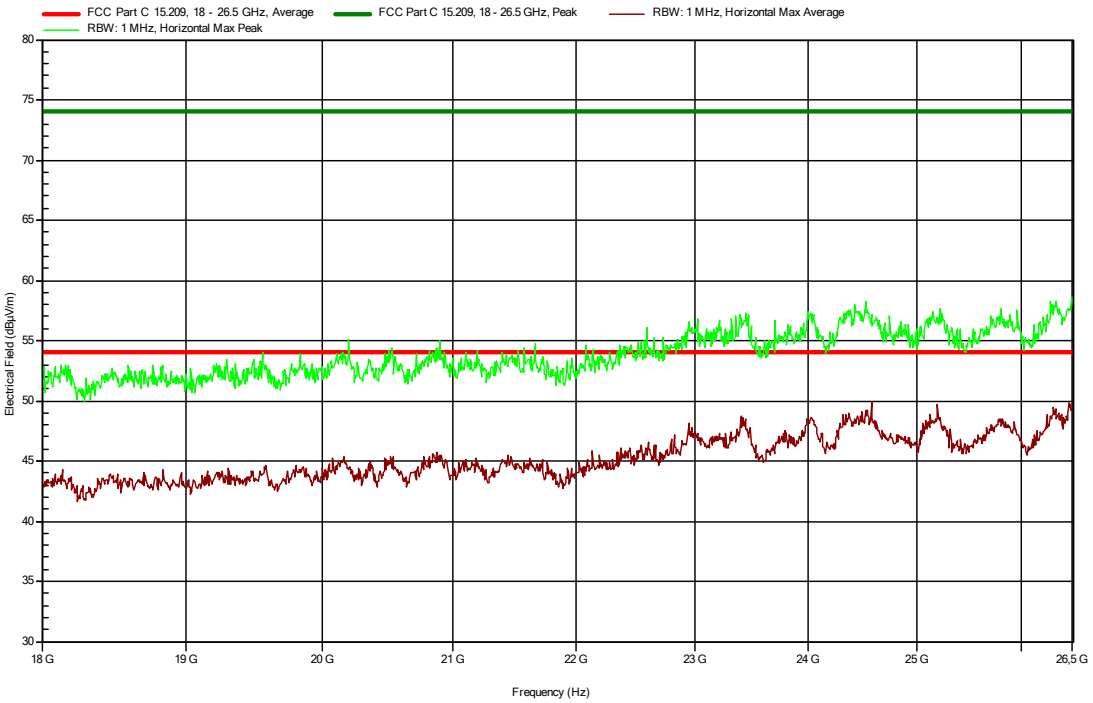
Plot 5e: radiated emissions of the EUT, Antenna vertical, in the range 1 – 18 GHz
(peak and average values shown)
High channel



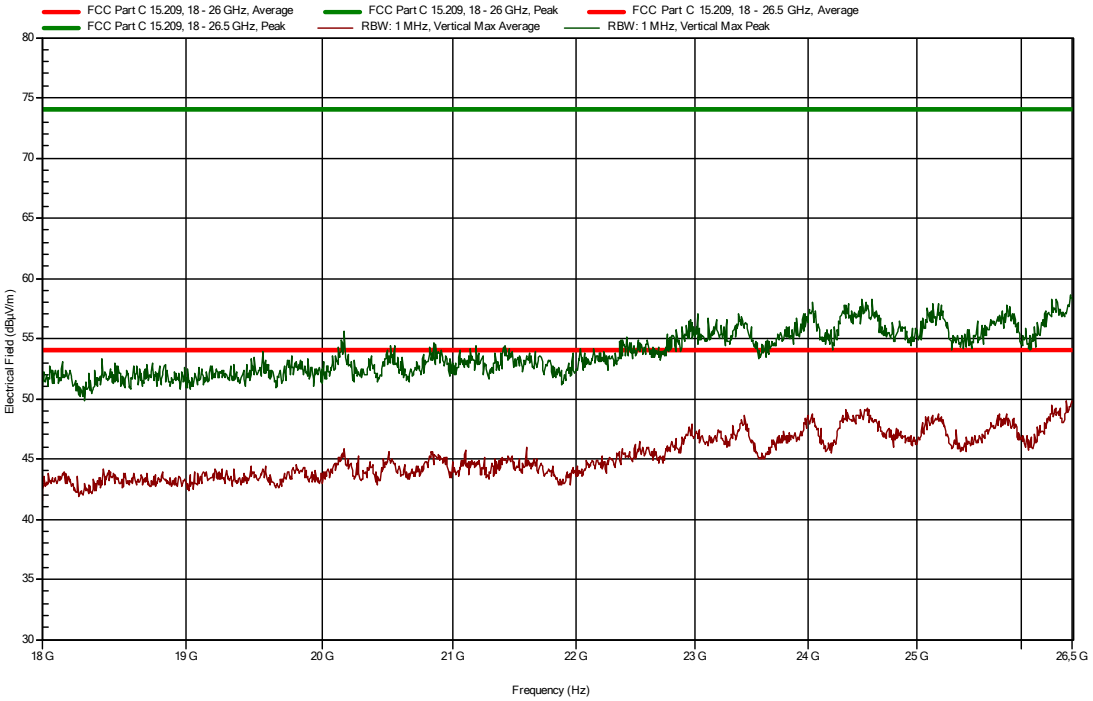
Plot 5f: radiated emissions of the EUT, Antenna horizontal, in the range 1 – 18 GHz
(peak and average values shown)
High channel



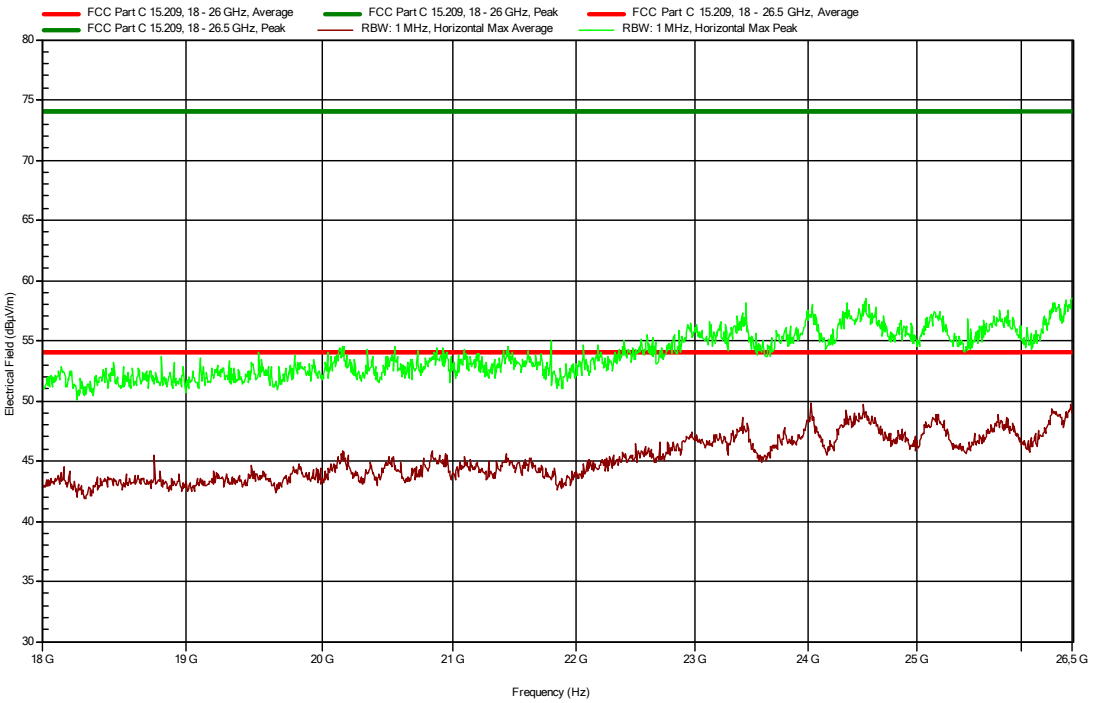
Plot 6a: radiated emissions of the EUT, Antenna vertical, in the range 18 – 26 GHz
(peak and average values shown)
Low channel



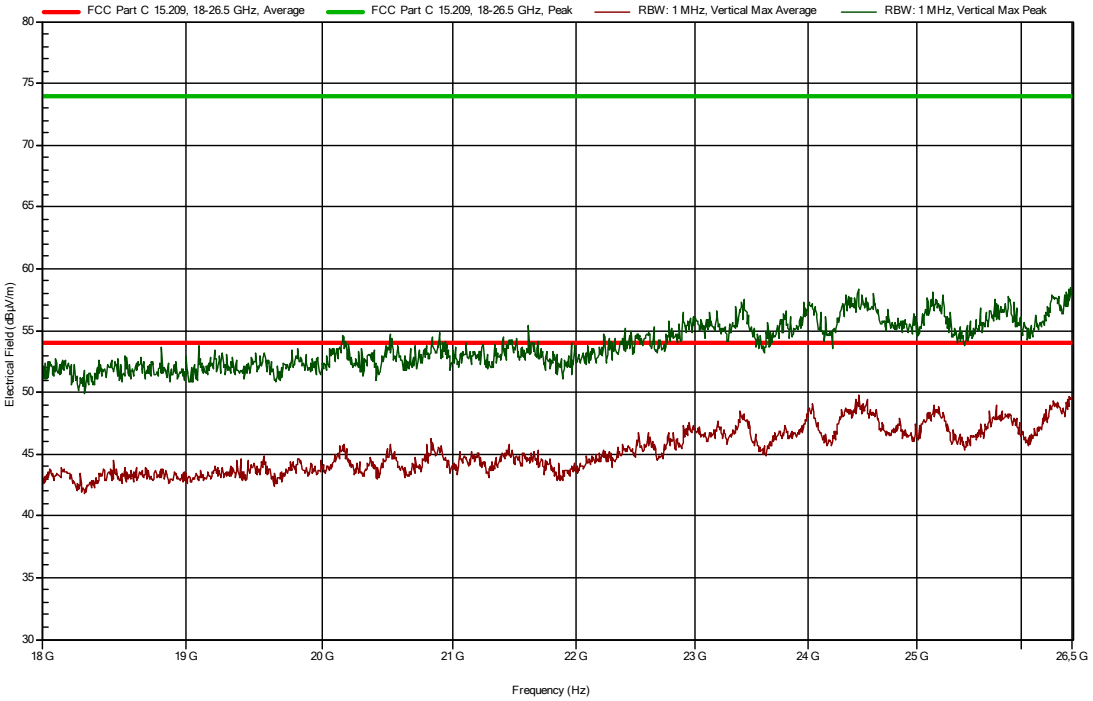
Plot 6b: radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26GHz
(peak and average values shown)
Low channel



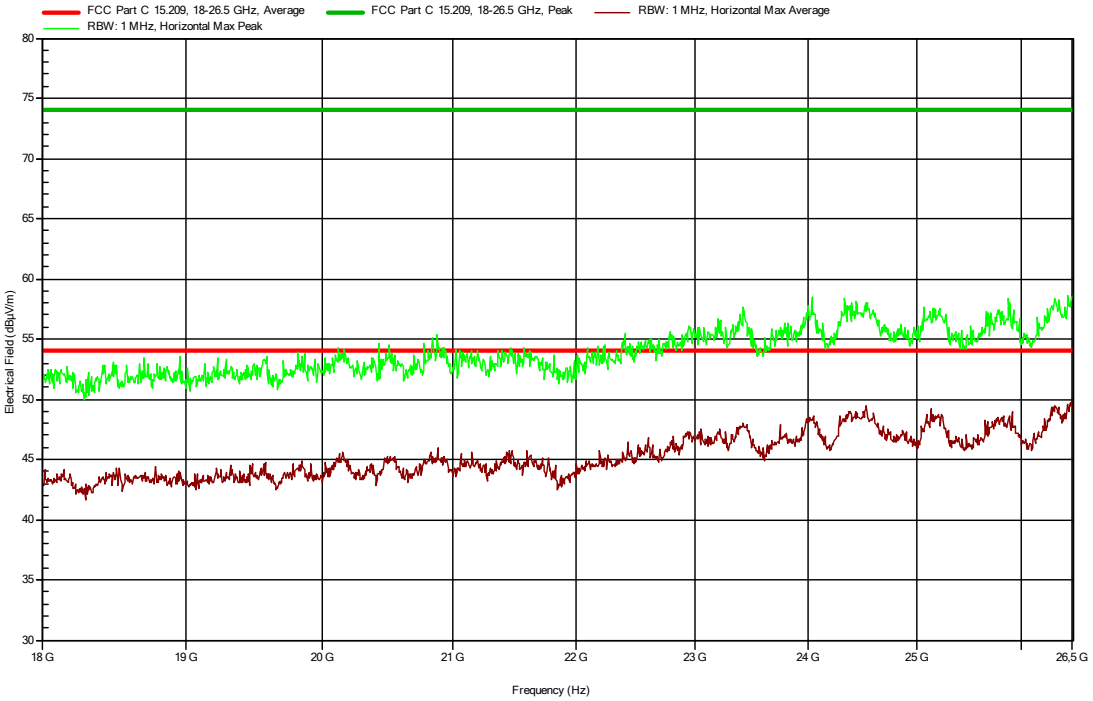
Plot 6c: radiated emissions of the EUT, Antenna vertical, in the range 18 – 26GHz
(peak and average values shown)
Middle channel



Plot 6d: radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26GHz
(peak and average values shown)
Middle channel



Plot 6e: radiated emissions of the EUT, Antenna vertical, in the range 18 – 26GHz
(peak and average values shown)
High channel



Plot 6f: radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26 GHz
(peak and average values shown)
High channel

3.2 Output Power Measurement

3.2.1 Limit

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

RSS: For DTSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W. The e.i.r.p. shall not exceed 4W

3.2.2 Measurement instruments

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

3.2.3 Test setup

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

3.2.4 Test procedure

The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02.
IRN 402 - RF power (W) – Method 12

3.2.5 Test results of Output Power Measurement

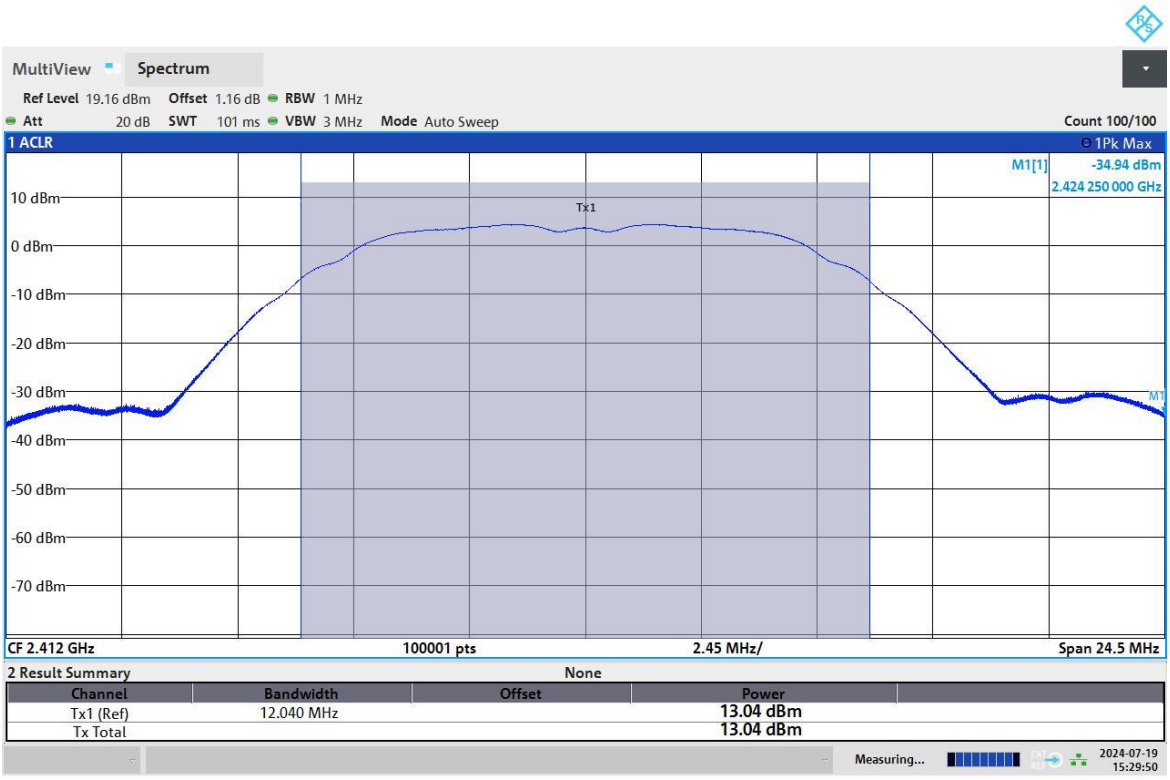
EUT set to power setting 14

Peak method

Technology Std.	Channel	Frequency (MHz)	Data rate	Peak output power conducted (dBm)	Peak output power conducted (W)	Peak output power EIRP (W)
802.11b	1	2412	1 Mbps	13.04	0.020	0.028
	6	2437	1 Mbps	15.47	0.035	0.050
	11	2462	1 Mbps	13.31	0.021	0.030
Uncertainty				±0.71 dB		

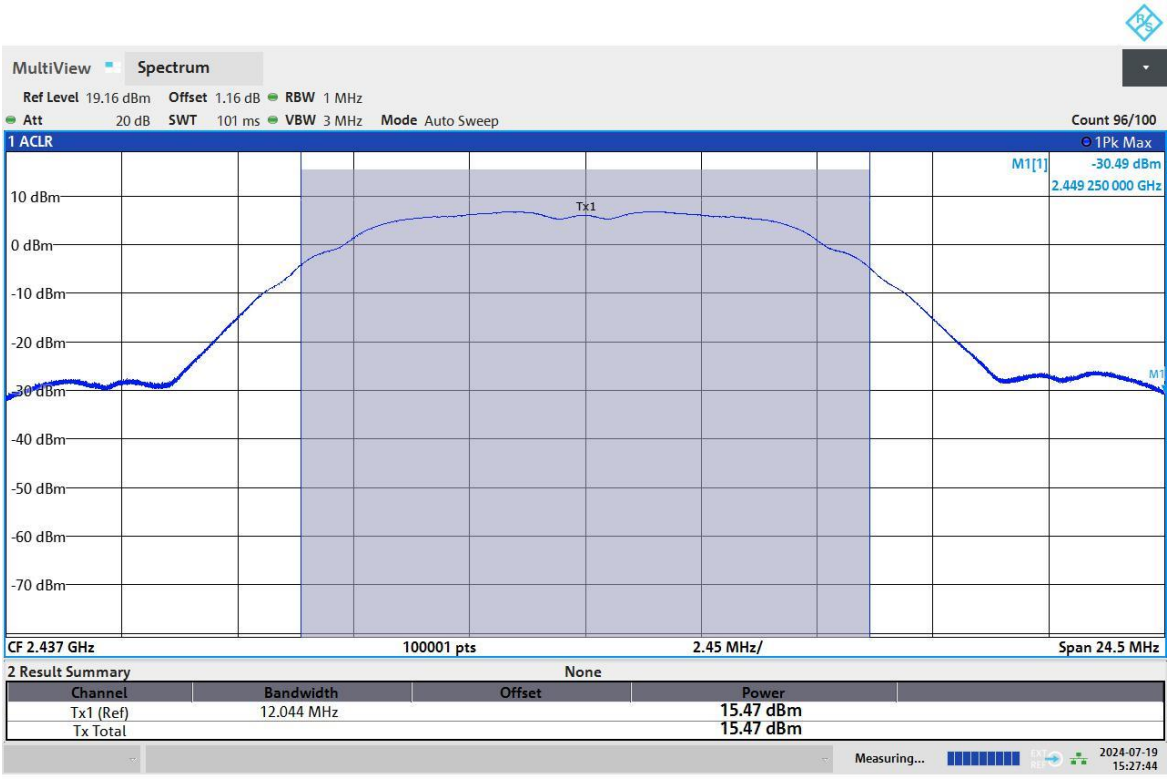
3.2.6 Plots of the output power measurement

Channel 1



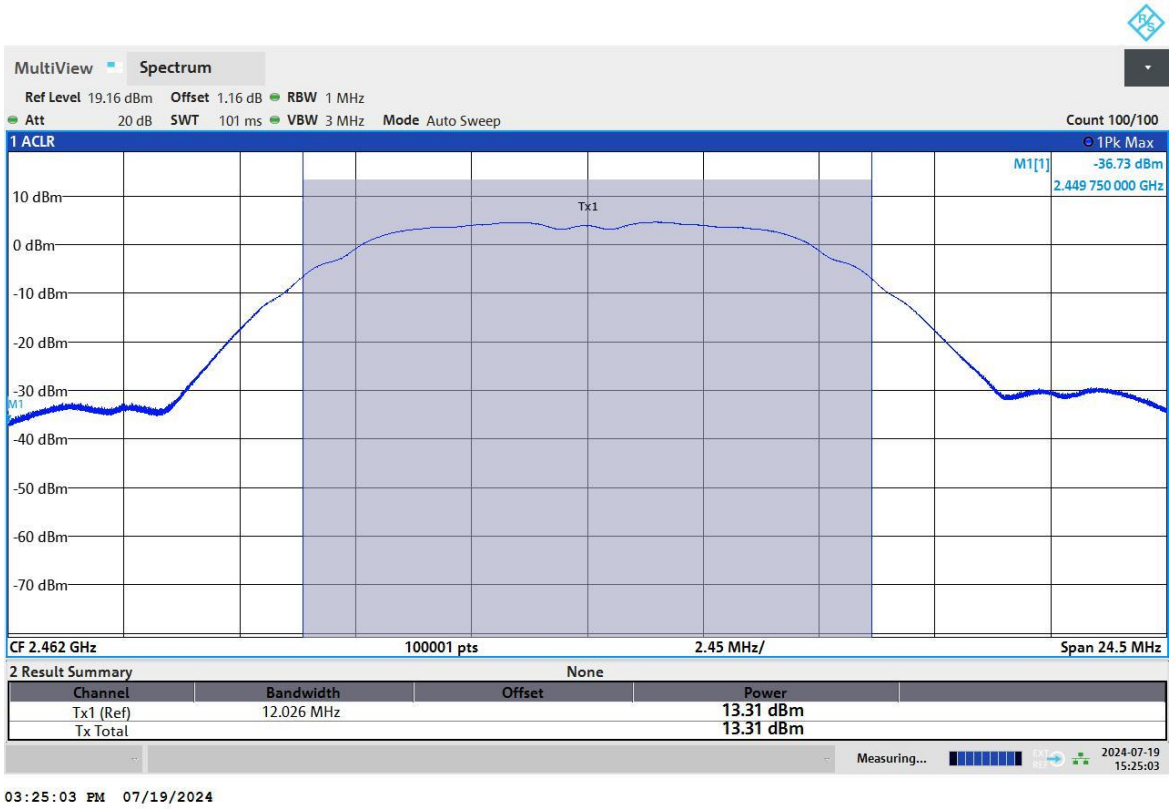
03:29:51 PM 07/19/2024

Channel 6



03:27:45 PM 07/19/2024

Channel 11


MultiView
Spectrum
Ref Level 19.16 dBm Offset 1.16 dB RBW 1 MHz
Att 20 dB SWT 101 ms VBW 3 MHz Mode Auto Sweep
Count 100/100
1 ACLR
1Pk Max
M1[1]
-36.73 dBm
2.449 750 000 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
Tx1
M1
CF 2.462 GHz
100001 pts
2.45 MHz/
Span 24.5 MHz
2 Result Summary
None
Channel
Bandwidth
Offset
Power
Tx1 (Ref)
12.026 MHz
13.31 dBm
Tx Total
13.31 dBm
Measuring...
2024-07-19
15:25:03
03:25:03 PM 07/19/2024

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

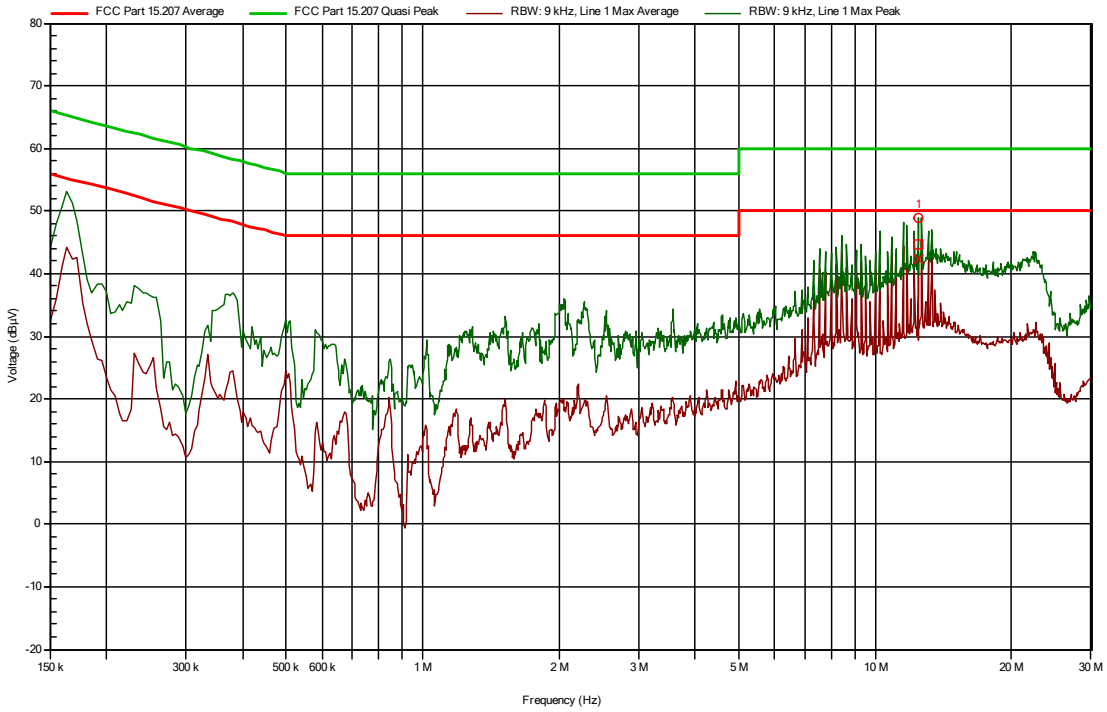
3.3.5 Measurement uncertainty

+/- 3.6 dB

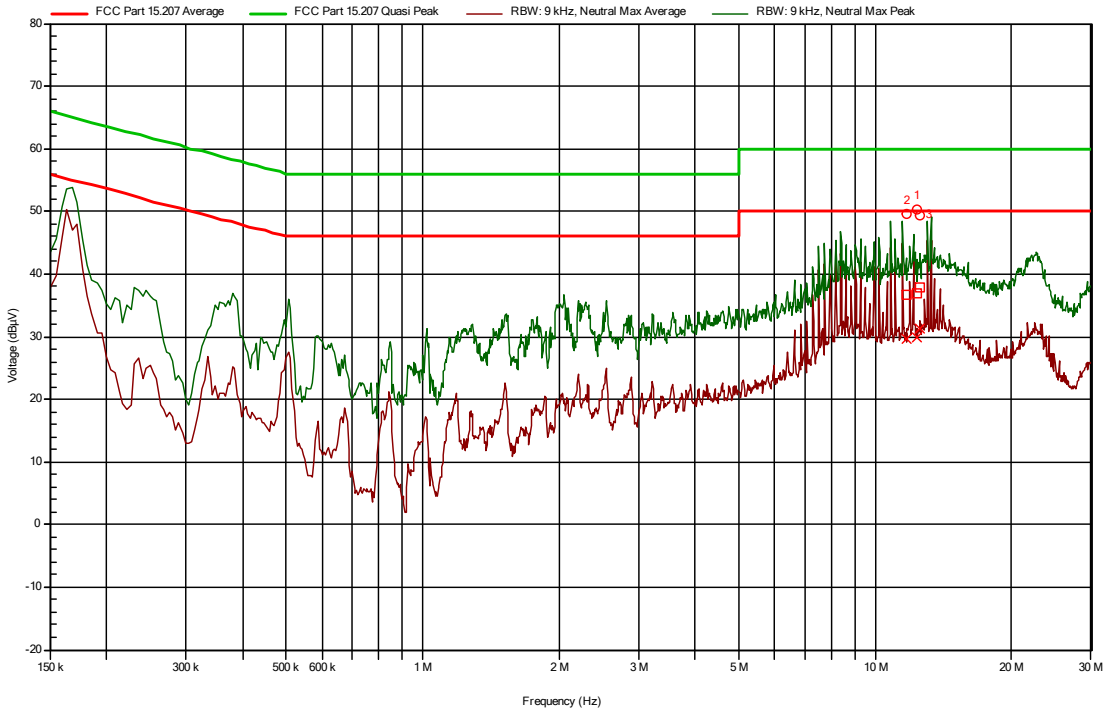
3.3.6 AC Power Line Conducted emission data of the EUT, results

Frequency	Average	Average Limit	Quasi-Peak	Quasi-Peak Limit	LISN	Status
12,354 MHz	29,9 dBµV	50 dBµV	36,8 dBµV	60 dBµV	Neutral	Pass
11,693 MHz	29,7 dBµV	50 dBµV	36,6 dBµV	60 dBµV	Neutral	Pass
12,575 MHz	31,4 dBµV	50 dBµV	37,9 dBµV	60 dBµV	Neutral	Pass
12,408 MHz	42,3 dBµV	50 dBµV	44,8 dBµV	60 dBµV	Line 1	Pass

3.3.7 Plots of the AC mains conducted spurious measurement



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



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

4 Sample calculations

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

Conducted emission Measurement:

U_{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)**	**Cable loss (dB)**	**Corr. (dB)**
	114379 SN: 230000813 Rohde & Schwarz ENV 216	**TE 11134**	
0,15	9.7	0.02	9.72
0,2	9.68	0.03	9.71
0,3	9.68	0.03	9.71
0,5	9.69	0.08	9.77
0,7	9.69	0.25	9.94
0,8	9.69	0.25	9.94
1	9.68	0.11	9.79
2	9.7	0.15	9.85
3	9.71	0.21	9.92
5	9.72	0.21	9.93
7	9.76	0.25	10.01
8	9.77	0.25	10.02
10	9.77	0.29	10.06
15	9.84	0.34	10.18
20	9.88	0.37	10.25
25	9.97	0.43	10.4
30	10.08	0.45	10.53

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: 114436** **VHA 9103 + BBA 9106** **SN: 9856**	**Cable loss (dB)** **Id: SAR cable**	**Corr. (dB)**
30	18.6	0.68	19.28
100	10.4	1.15	11.55
150	14.8	1.41	16.21
200	16.0	1.63	17.63
250	16.9	1.93	18.83

Frequency (MHz)	**Gain (dBi)** **ID: 114385** **EMCO LPDA** **SN: 9856**	**Cable loss (dB)** **Id: SAR cable**	**Corr. (dB)**
250	11.8	1.93	13.73
300	13	2.12	15.12
350	15.6	2.2	17.8
400	17.1	2.29	19.39
450	17.3	2.53	19.83
500	17.7	2.67	20.37
550	18.4	2.9	21.3
600	19.2	3.02	22.22
650	19.7	3.09	22.79
700	20.3	3.22	23.52
750	21.4	3.56	24.96
800	22	3.69	25.69
900	22.1	3.81	25.91
950	22.6	3.91	26.51
1000	22.5	4.3	26.8

Frequency (MHz)	AF (dB/m) Kiwa ID: 114607 Emco 3115 SN: 9412-4377	Gain (dB) Kiwa ID: 114693 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) Kiwa ID: 114518 Flann 20240-25 SN: 163703	Gain (dB) Kiwa ID:114693 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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