Test report for

47 CFR Part 15 Subpart B

Test report No. : P000276508 001 Ver 2.00

The RvA is signatory to ILAC - MRA

Product name	: MT-HV
Applicant	: Hella Gutmann Solutions GmbH
FCC ID	: 2AEOK015266081

Laboratory information

Accreditation

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

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

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

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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	21-04-2023	First draft	R.T
v1.00	22-06-2023	Final release	R.T
V2.00	22-08-2023	Revised version Updated FCC ID Updated section 2.2.2 setup photos Updated section 2.5 calibration information Added end of report	R.T

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Summary of Test results

FCC	Description	Section in report	Verdict
15.109 (a)	Radiated spurious emissions < 1GHz	3.1	Pass
15.109 (a)	Radiated spurious emissions > 1GHz	3.1	Pass
15.107 (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:	MT-HV
Brand name:	Hella Gutmann Solutions GmbH
FCC ID:	2AEOK015266081
IC:	Not applicable
Product type:	Measurement device
Model(s):	-
Batch and/or serial No.	-
Software version:	-
Hardware version:	-
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

EUT1

Product name:	MT-HV
Brand name:	Hella Gutmann Solutions GmbH
Product type:	Measurement device
Model(s):	-
Batch and/or serial No.	-
Remarks:	-

EUT2

Product name:	Mega Macsx
Brand name:	Hella Gutmann Solutions GmbH
Product type:	Notebook
Model(s):	-
Batch and/or serial No.	-
Remarks:	Connected to EUT1 for worse-case scenario

1.4 Product specifications of Equipment under test

Kind of product	**Diagnostic device**
Product name	MT-HV
Equipment classification	equipment for use
Operating frequency range:	2400.0 MHz -2483.5 MHz
Power supply	battery powered,
Supply voltage	DC powered: 12-32 V_{dc}

Disclaimer: above info is declared by the applicant

The EUT is considered as a Class B device.

1.5 Environmental conditions

Test date	11-04-2023
Ambient temperature	20.2 °C
Humidity	45%

1.6 Measurement standards

- ANSI C63.4:2014

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 B

1.8 Observation and remarks

The EUT was placed horizontally during the test as it represents both the typical use case and the worst-case scenario. The EUT is equipped with a pre-certified radio module, specifically the JODY W164, which has been manufactured by u-blox AG.The MT77 module was present in the unit during testing. To assess the worst-case scenario of the MT-HV, it was interconnected to Mega Macsx using USB-C during testing.

1.9 Conclusions

The sample of the product showed **NO NON-COMPLIANCES** to the specifications stated in paragraph 1.8 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 1.8 *"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 : 24-10-2023

Name : ing. R. van Barneveld

Function : Test Engineer

Signature :

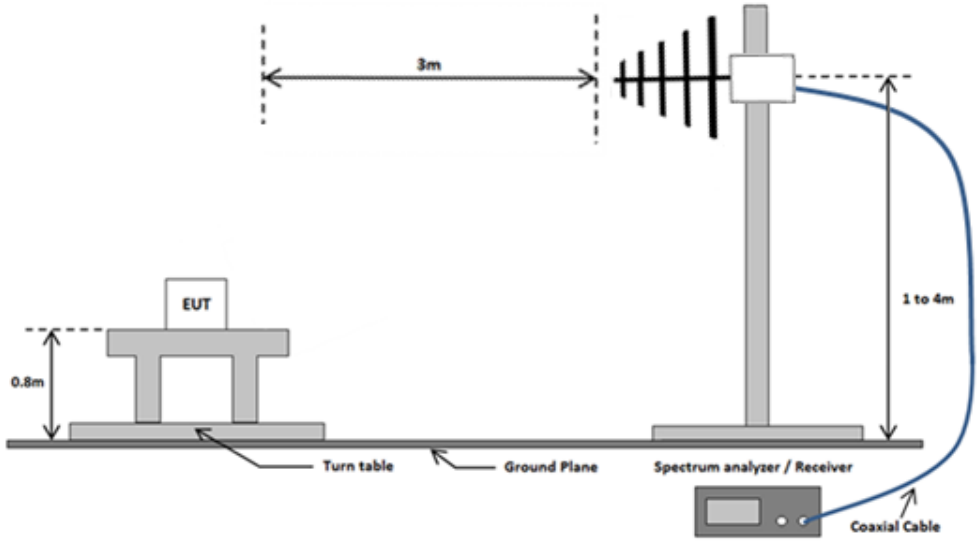
2 Test configuration of the Equipment Under Test

2.1 Test mode

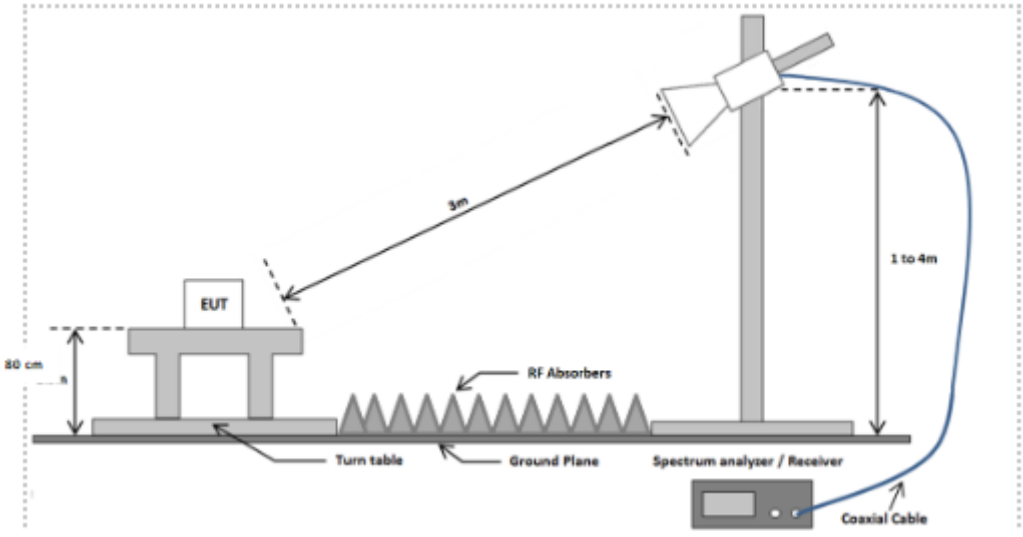
The EUT has been tested under normal operation.

2.2 Test setups

2.2.1 Radiated emissions test setup 30 MHz - 1 GHz

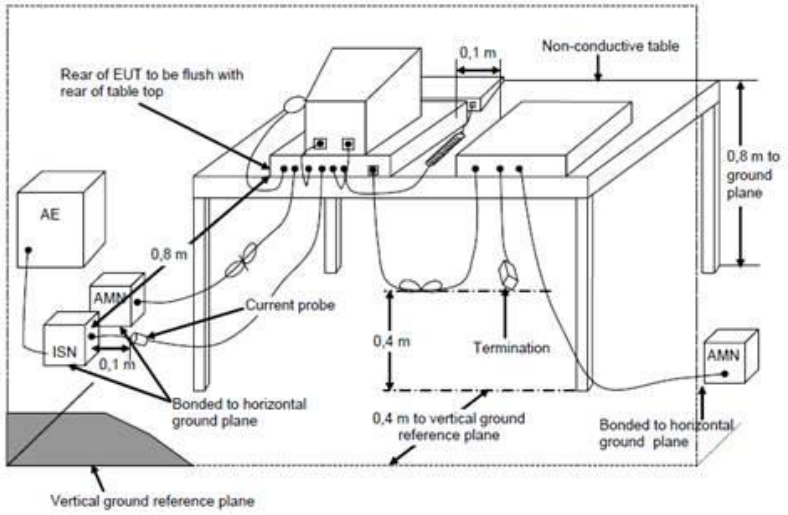


2.2.2 Radiated emissions test setup above 1 GHz



2.2.3 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	< 3m	-
2	x Vdc power	AUX1	EUT1	< 3m	-
3	Ethernet	EUT1 (MT-HV)	AUX2	<3m	-
4	USB-C	EUT1 (MT-HV)	EUT2 (Mega Macsx)	<3m	Note

Note: To assess the worst-case scenario of the MT-HV, it was interconnected using USB-C during testing.

2.3 Test methodology.

The test methodology used is based on the requirements of 47 CFR Part 15, sections 15.107 and 15.109. The test methods, which have been used, are based on ANSI C63.4-2014.

2.4 Equipment modifications.

No modifications have been made to the equipment.

2.5 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	3.2
EMI Receiver	Rohde & Schwarz	ESR7	114534	04-2023	04-2024	3.1
Spectrum Analyzer	Rohde & Schwarz	FSV40	114527	05-2022	05-2023	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
Preamplifier 1-18 GHz	µComp Nordic	MCNA-40-0010800-25-10P	114690	01-2023	01-2024	3.1
Test software	Raditeq	Radimation Version 2021.1.9	TE 02008	--	--	3.1/3.2
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
Conformance of the used measurement and test equipment with the requirements of ISO/IEC 17025:2017 has been confirmed before testing.
NA= Not Applicable

2.6 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

Except for Class A digital devices, the field strength of radiated emissions from an unintentional radiator shall not exceed the field strength levels specified in the following tables.
On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a CISPR quasi-peak detector function and related measurement bandwidths, unless otherwise specified.
Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function.
When average radiated emission measurements are specified in this part, there is also a limit on the peak level of the emissions. Unless otherwise specified, the limit on peak emissions is 20 dB above the average limit.
The product under test shall comply with both the average and the peak limits.

FCC 15.109(a)

Frequency (MHz)	Field strength (µV/meter)	Field strength (dBµV/m)	Measurement distance (meters)
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

3.1.2 Measurement instruments

The measurement instruments are listed in chapter 2.5 of this report.

3.1.3 Test setup

The test setup is as shown in chapter 2.2.1 and 2.2.2 of this report.

3.1.4 Test procedure

30 MHz to 26.5 GHz: According to ANSI C63.4-2014, section 8.3

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 30MHz to the highest measurement frequency according to the table below. Final radiated emission measurements were made at 3m distance.

Highest internal frequency (F_X) [i]	Highest measurement frequency (F_M)
$F_X \leq 108$ MHz	1 GHz
108 MHz < $F_X \leq 500$ MHz	2 GHz
500 MHz < $F_X \leq 1$ GHz	5 GHz
$F_X > 1$ GHz	5 x F_X up to a maximum of 40 GHz
i. F_X is the highest fundamental frequency generated and/or used in the ITE or digital apparatus under test.	

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
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

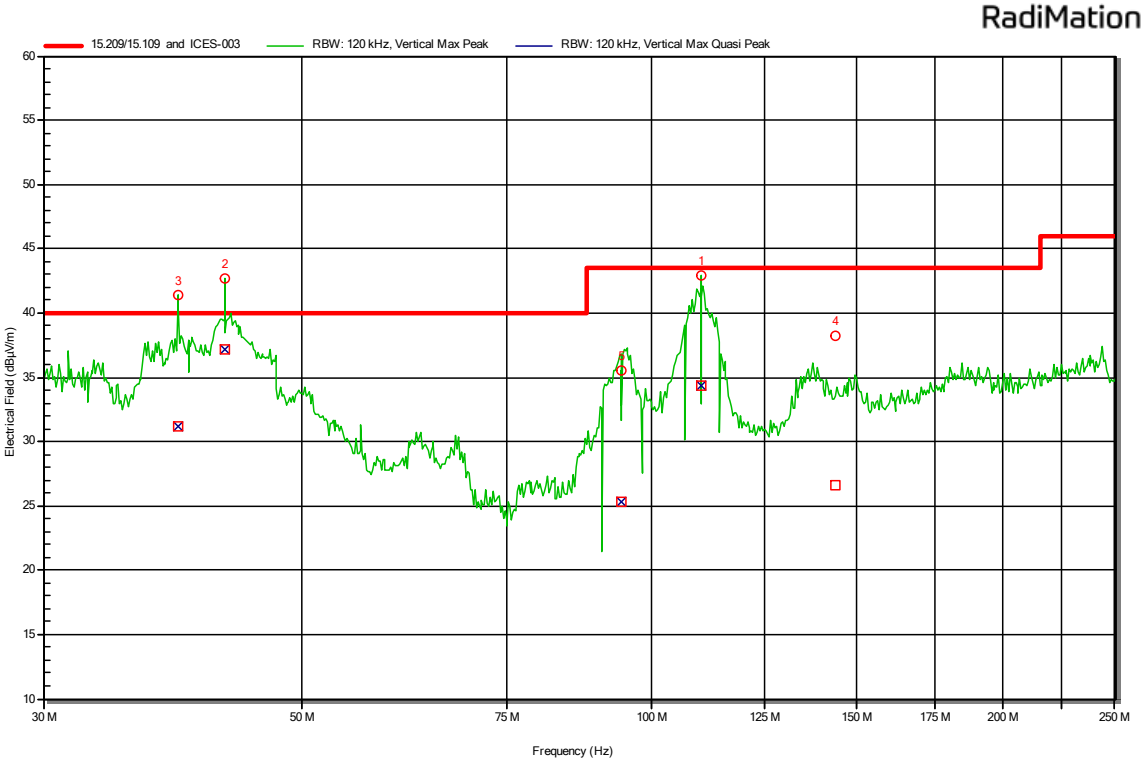
30-250 MHz

Peak Number	Frequency	Peak	Quasi-Peak	Quasi-Peak Limit	Status	Angle	Height	Distance	Polarization
5	94,243 MHz	35,5 dBµV/m	25,3 dBµV/m	43,5 dBµV/m	Pass	352 degrees	1 m	3 m	Vertical
4	143,792 MHz	38,2 dBµV/m	26,6 dBµV/m	43,5 dBµV/m	Pass	261 degrees	2,2 m	3 m	Horizontal
3	39,161 MHz	41,4 dBµV/m	31,2 dBµV/m	40 dBµV/m	Pass	295 degrees	1 m	3 m	Vertical
2	43,013 MHz	42,7 dBµV/m	37,2 dBµV/m	40 dBµV/m	Pass	179 degrees	1 m	3 m	Vertical
1	110,11 MHz	42,9 dBµV/m	34,3 dBµV/m	43,5 dBµV/m	Pass	141 degrees	1 m	3 m	Vertical

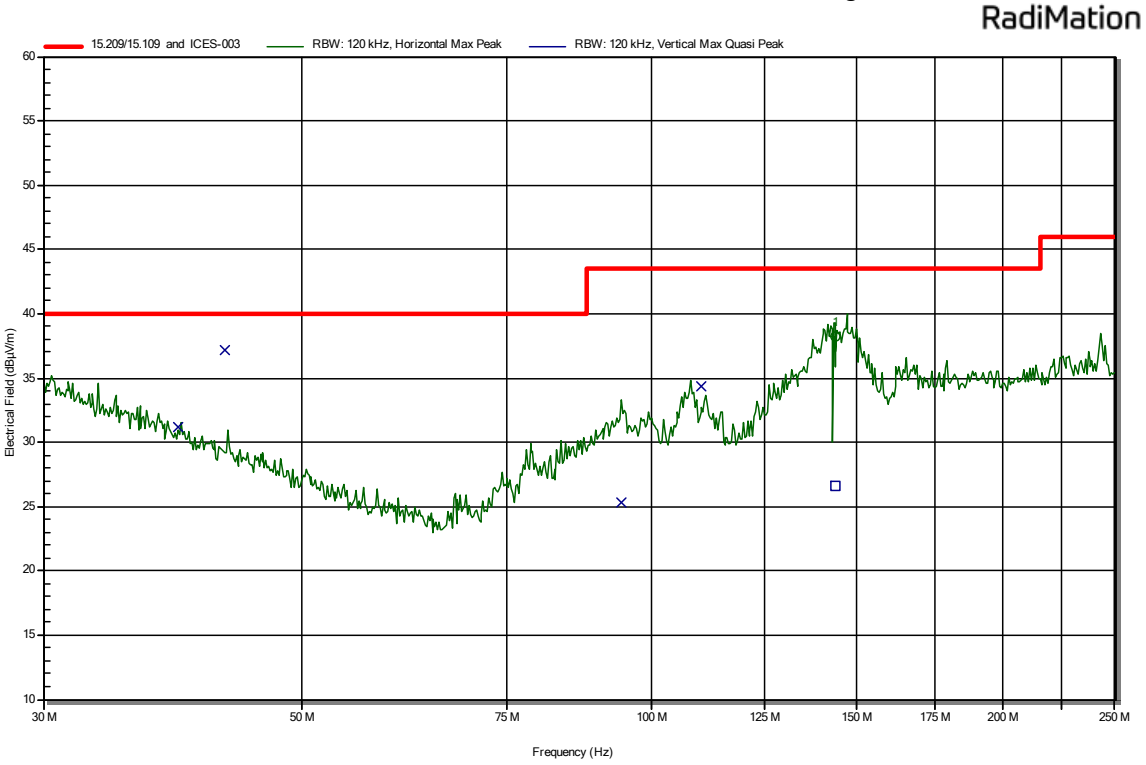
The results of the radiated emission tests are depicted in the table above. A selection of plots is provided on the next pages

3.1.7 Plots of the Radiated Spurious Emissions Measurement

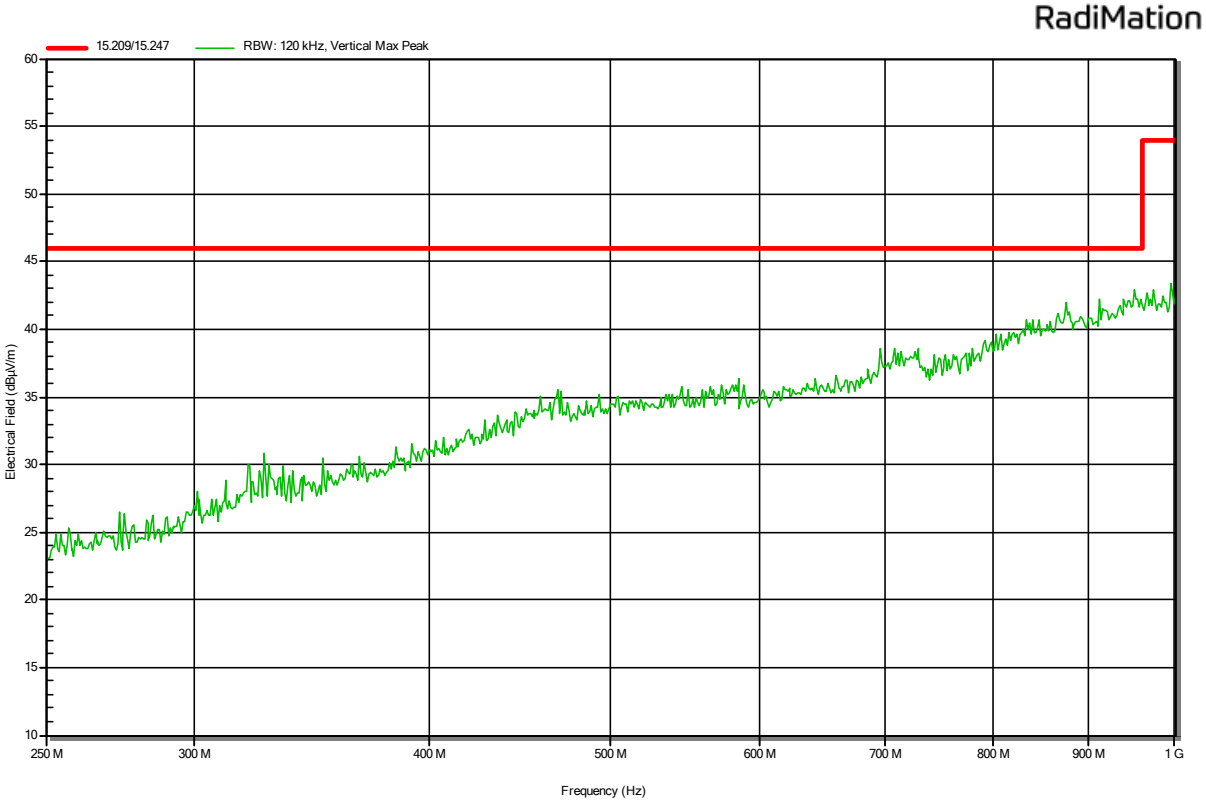
Plot 1a: radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz



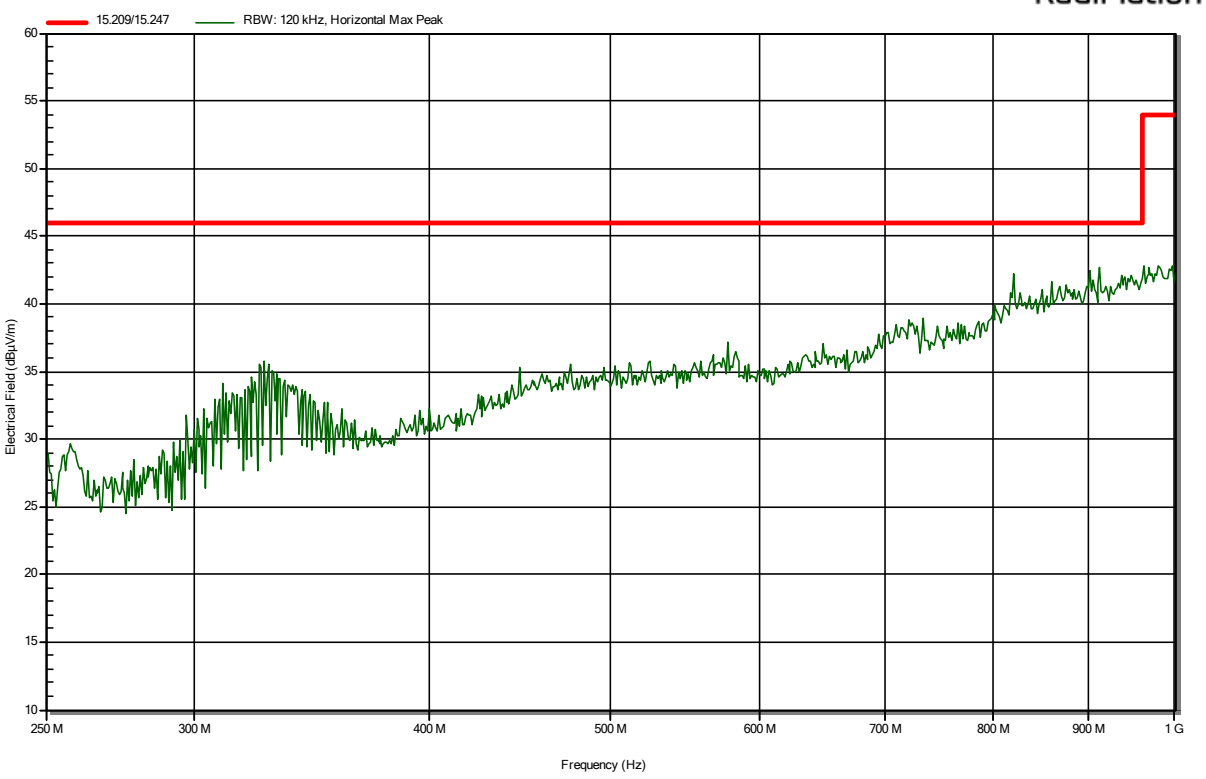
Plot 1a: radiated emissions of the EUT, Antenna Vertical, in the range 30 – 250 MHz



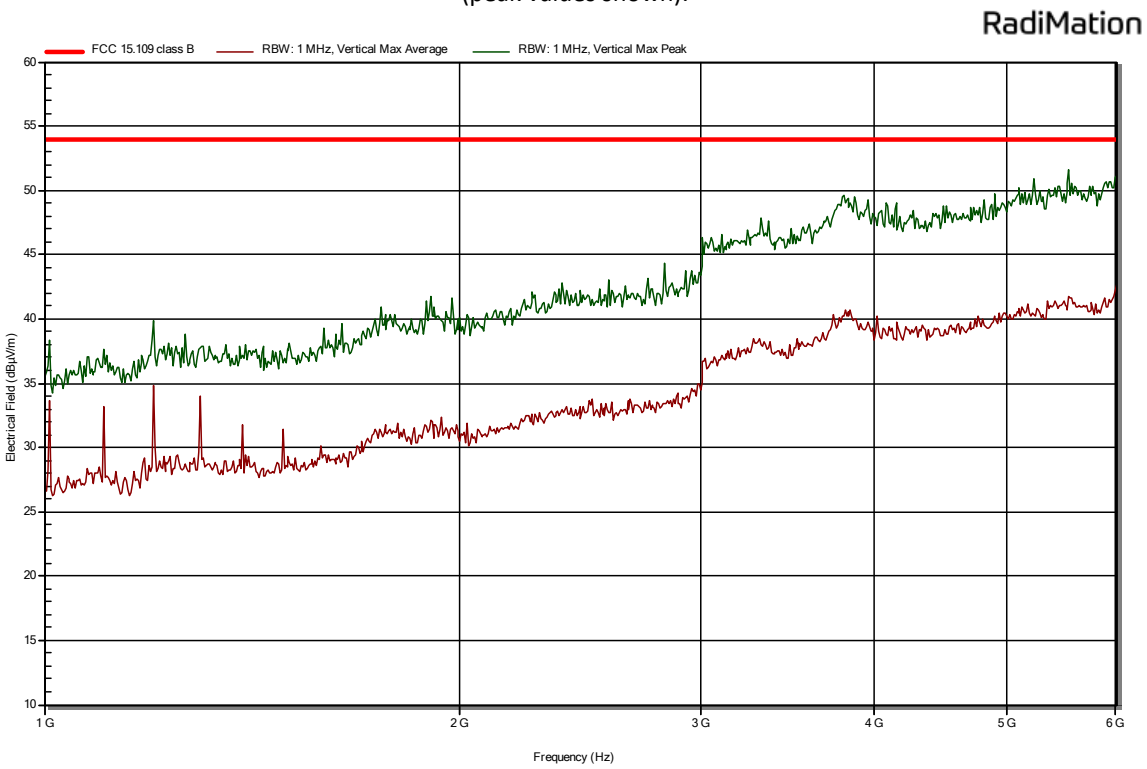
Plot 1b: radiated emissions of the EUT, Antenna vertical, in the range 250 – 1000 MHz



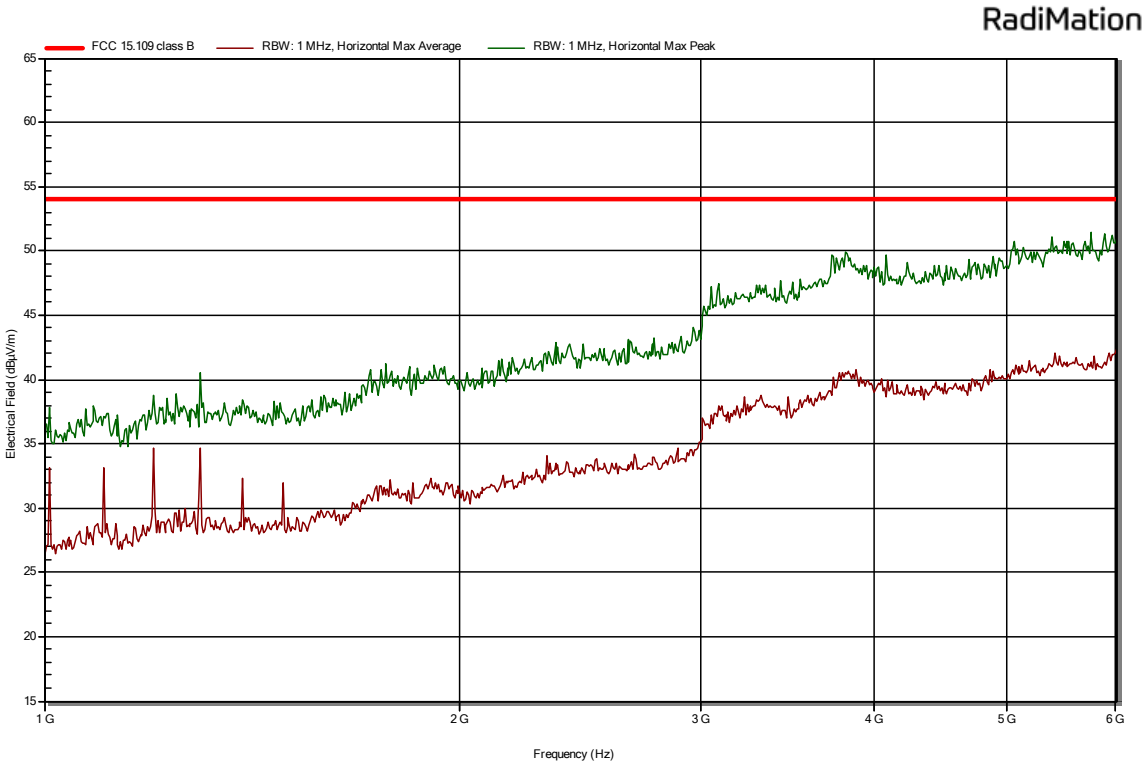
Plot 1b: radiated emissions of the EUT, Antenna horizontal, in the range 250 – 1000 MHz



Plot 2a: radiated emissions of the EUT, Antenna vertical, in the range 1-6 GHz
(peak values shown).



Plot 2b: radiated emissions of the EUT, Antenna horizontal, in the range 1-6 GHz
(worst case Average value shown).



3.1.8 Test results (EUT with USB connection)

30-250 MHz

Selected	Peak Number	Frequency	Peak	Angle	Height
Checked	1	31,815 MHz	27,8 dBµV/m	263 degrees	3 m
Checked	2	49,113 MHz	22 dBµV/m	239 degrees	1,5 m
Checked	3	86,045 MHz	29,1 dBµV/m	201 degrees	3 m
Checked	4	116,268 MHz	25,3 dBµV/m	109 degrees	4 m
Checked	5	139,67 MHz	31,1 dBµV/m	65 degrees	1,5 m
Checked	6	195,22 MHz	29,4 dBµV/m	256 degrees	1,5 m
Checked	7	38,8 MHz	28,1 dBµV/m	355 degrees	1 m
Checked	8	56,153 MHz	22,9 dBµV/m	354 degrees	1,5 m
Checked	9	74,55 MHz	28 dBµV/m	4 degrees	1,5 m
Checked	10	89,015 MHz	30,7 dBµV/m	359 degrees	1 m
Checked	11	132,878 MHz	30,3 dBµV/m	12 degrees	1 m
Checked	12	241,943 MHz	29,9 dBµV/m	319 degrees	2,5 m

250-1000 MHz

Selected	Peak Number	Frequency	Peak	Quasi-Peak	Quasi-Peak Limit	Status	Angle	Height	Polarization
Checked	1	255,999 MHz	40,9 dBµV/m	38,6 dBµV/m	46 dBµV/m	Pass	355 degrees	1,3 m	Horizontal
Checked	2	343,607 MHz	41,8 dBµV/m	37,8 dBµV/m	46 dBµV/m	Pass	179 degrees	1 m	Horizontal
Checked	3	384,001 MHz	42,7 dBµV/m	38,7 dBµV/m	46 dBµV/m	Pass	228 degrees	1 m	Horizontal
Checked	4	712,43 MHz	39,3 dBµV/m	27,5 dBµV/m	46 dBµV/m	Pass	103 degrees	3,2 m	Horizontal
Checked	5	818,509 MHz	41 dBµV/m	28,7 dBµV/m	46 dBµV/m	Pass	133 degrees	2,7 m	Horizontal
Checked	6	914,067 MHz	42,4 dBµV/m	30,1 dBµV/m	46 dBµV/m	Pass	228 degrees	1 m	Horizontal
Checked	7	343,634 MHz	36,9 dBµV/m	33 dBµV/m	46 dBµV/m	Pass	237 degrees	1,8 m	Vertical
Checked	8	383,985 MHz	39,6 dBµV/m	35,5 dBµV/m	46 dBµV/m	Pass	191 degrees	2,3 m	Vertical
Checked	9	572,12 MHz	38 dBµV/m	25,5 dBµV/m	46 dBµV/m	Pass	258 degrees	1,2 m	Vertical
Checked	10	703,345 MHz	39,3 dBµV/m	27,2 dBµV/m	46 dBµV/m	Pass	326 degrees	3,8 m	Vertical

Checked	11	808,366 MHz	40,2 dBµV/m	28,5 dBµV/m	46 dBµV/m	Pass	297 degrees	3,8 m	Vertical
Checked	12	893,112 MHz	42,6 dBµV/m	29,9 dBµV/m	46 dBµV/m	Pass	220 degrees	4 m	Vertical

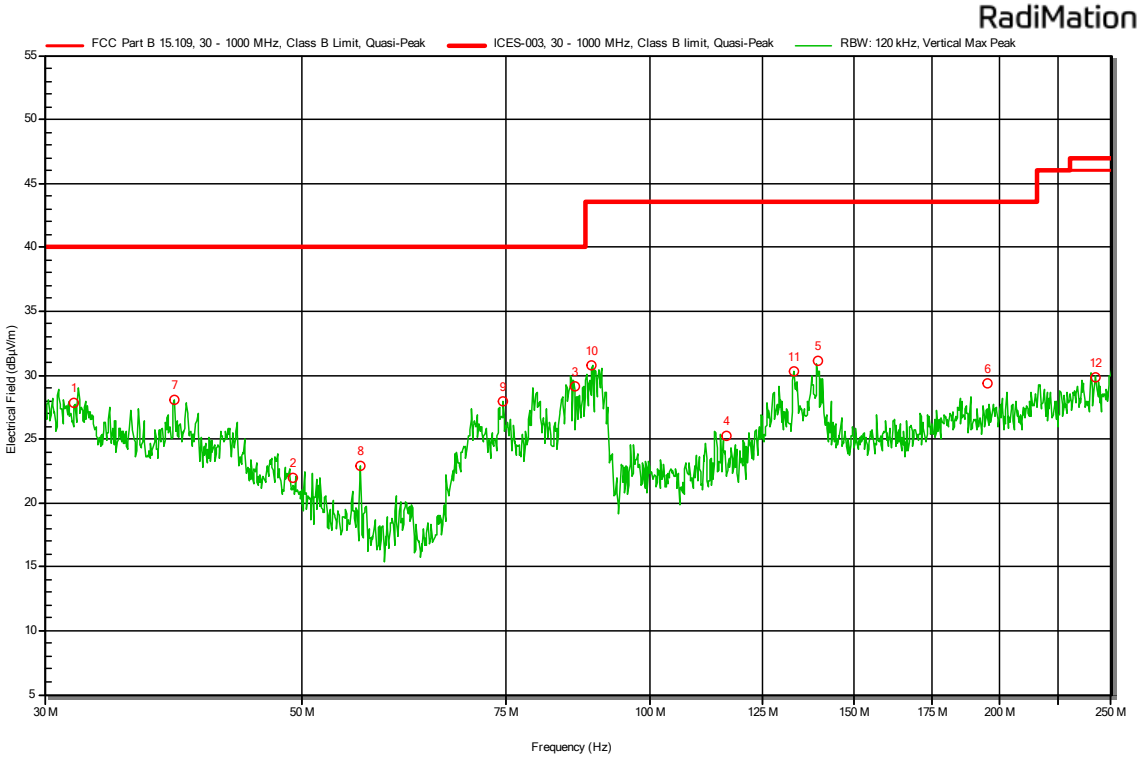
1-6 GHz

Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status	Angle	Height	Polarization
1	1,008 GHz	39,1 dBµV/m	74 dBµV/m	24,7 dBµV/m	54 dBµV/m	Pass	170 degrees	2,2 m	Vertical
2	1,066 GHz	42,3 dBµV/m	74 dBµV/m	32,1 dBµV/m	54 dBµV/m	Pass	88 degrees	1,8 m	Vertical
3	1,101 GHz	35,4 dBµV/m	74 dBµV/m	22,1 dBµV/m	54 dBµV/m	Pass	6 degrees	3,5 m	Vertical
4	1,2 GHz	43,8 dBµV/m	74 dBµV/m	27,2 dBµV/m	54 dBµV/m	Pass	41 degrees	3,2 m	Vertical
5	2,463 GHz	91,5 dBµV/m	74 dBµV/m	87,4 dBµV/m	54 dBµV/m	Fail	321 degrees	1 m	Vertical
6	5,42 GHz	45,5 dBµV/m	74 dBµV/m	32 dBµV/m	54 dBµV/m	Pass	356 degrees	2,7 m	Vertical
7	1,008 GHz	36,9 dBµV/m	74 dBµV/m	22,7 dBµV/m	54 dBµV/m	Pass	207 degrees	3 m	Horizontal
8	1,066 GHz	38,8 dBµV/m	74 dBµV/m	28,4 dBµV/m	54 dBµV/m	Pass	52 degrees	2,5 m	Horizontal
9	1,181 GHz	33,8 dBµV/m	74 dBµV/m	19,9 dBµV/m	54 dBµV/m	Pass	32 degrees	1,2 m	Horizontal
10	1,732 GHz	39,2 dBµV/m	74 dBµV/m	22,6 dBµV/m	54 dBµV/m	Pass	0 degrees	1 m	Horizontal
11	2,469 GHz	92,7 dBµV/m	74 dBµV/m	91,9 dBµV/m	54 dBµV/m	Fail	48 degrees	3,5 m	Horizontal
12	5,05 GHz	44,6 dBµV/m	74 dBµV/m	31,4 dBµV/m	54 dBµV/m	Pass	6 degrees	4 m	Horizontal

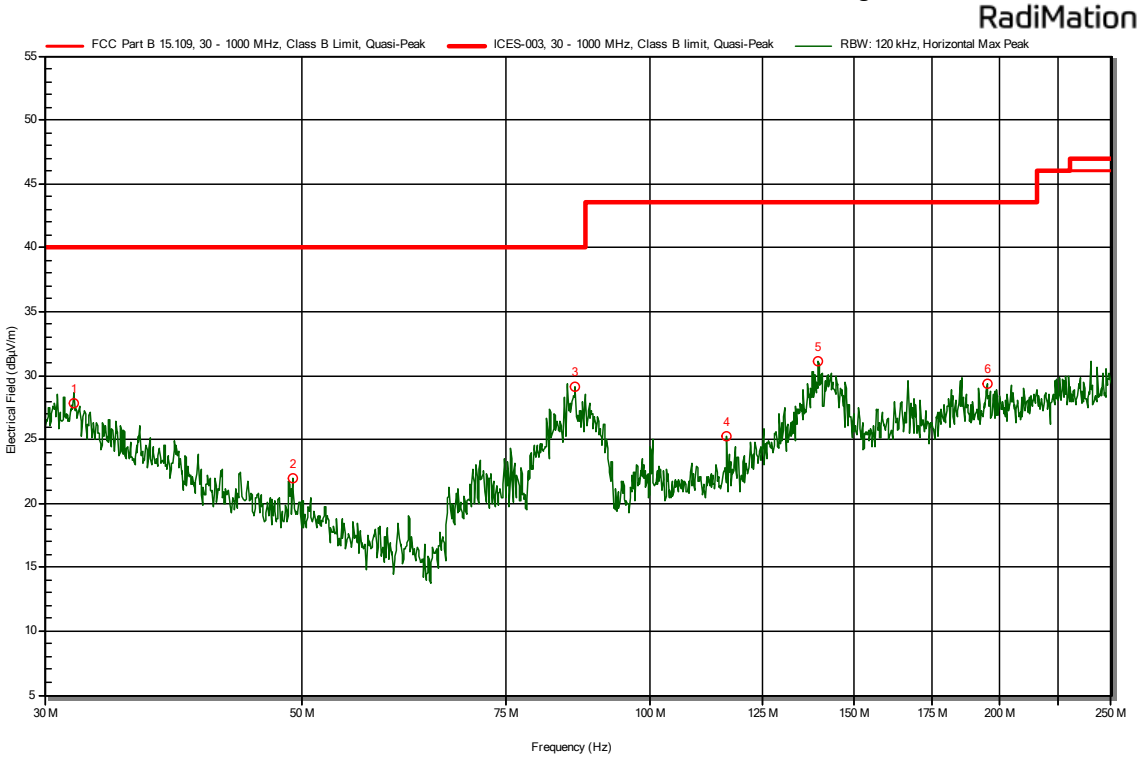
The results of the radiated emission tests are depicted in the table above. A selection of plots is provided on the next pages

3.1.9 Plots of the Radiated Spurious Emissions Measurement

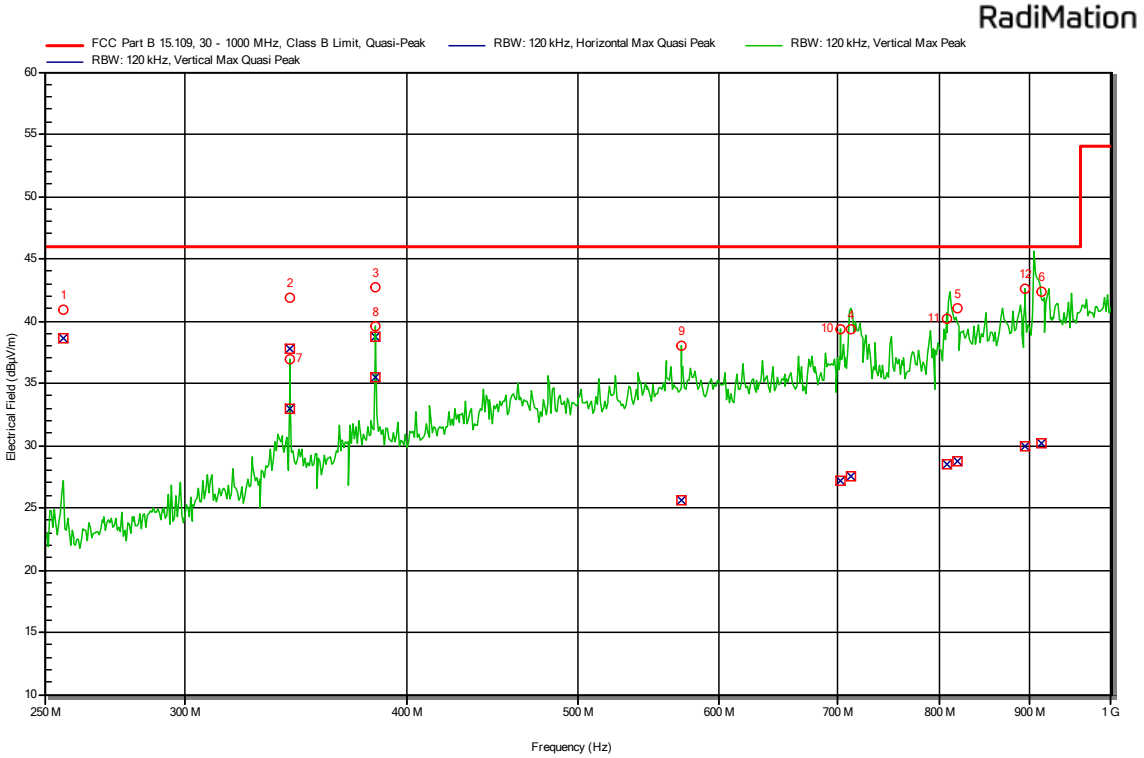
Plot 1a: radiated emissions of the EUT, Antenna horizontal, in the range 30 – 250 MHz



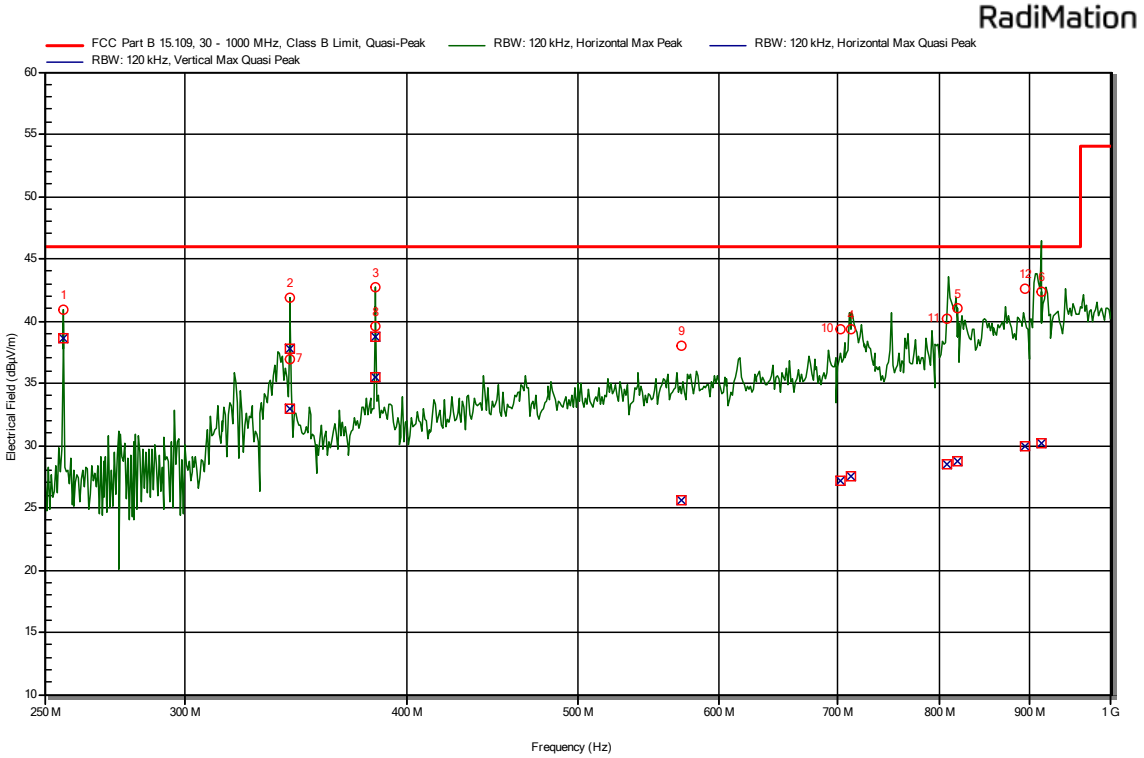
Plot 1a: radiated emissions of the EUT, Antenna Horizontal, in the range 30 – 250 MHz



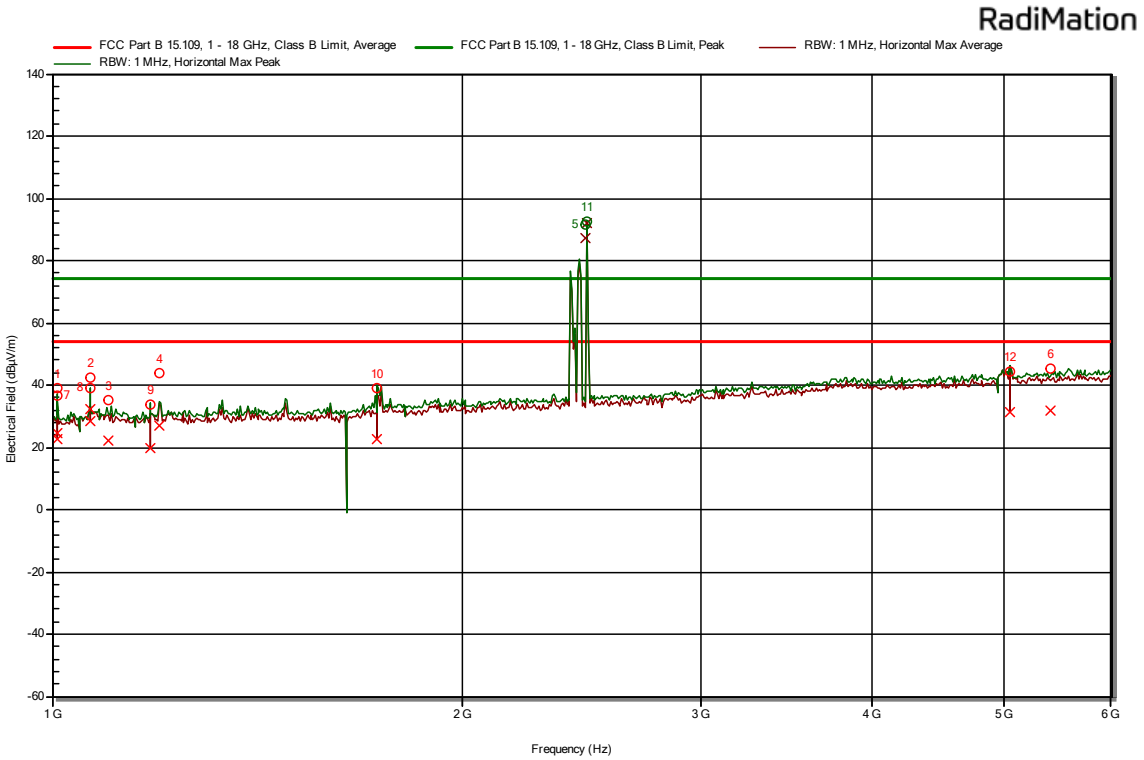
Plot 1b: radiated emissions of the EUT, Antenna vertical, in the range 250 – 1000 MHz



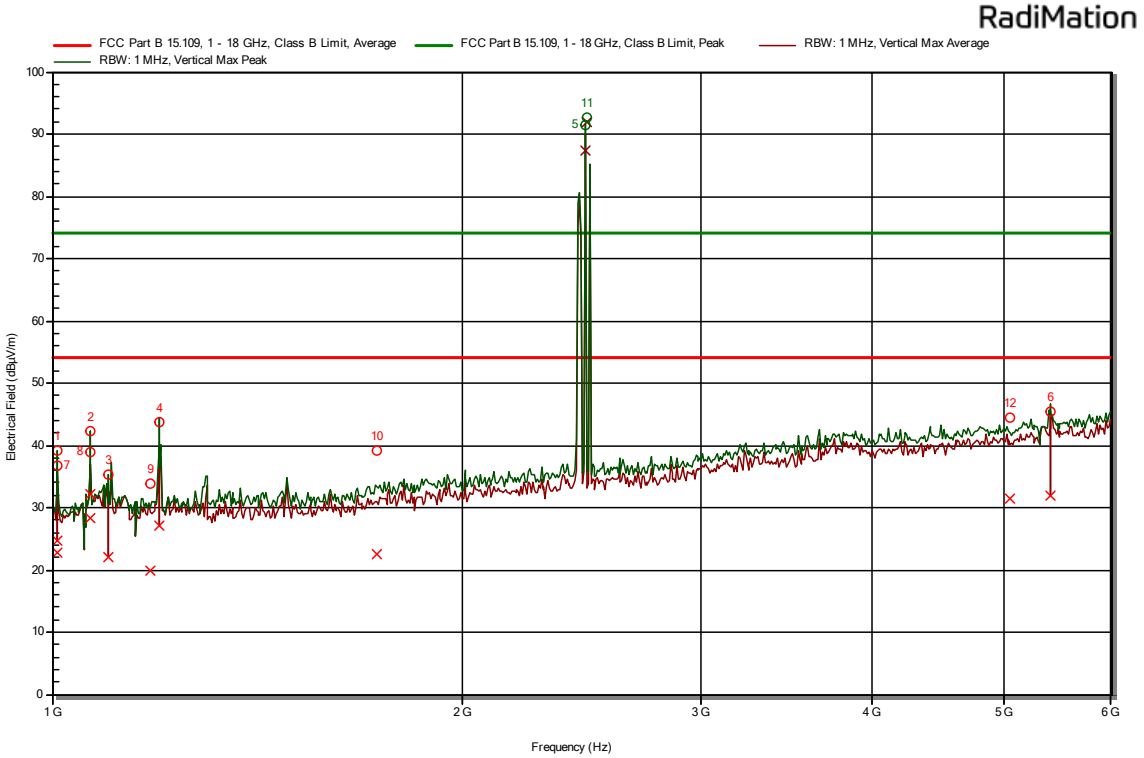
Plot 1b: radiated emissions of the EUT, Antenna horizontal, in the range 250 – 1000 MHz



Plot 2a: radiated emissions of the EUT, Antenna vertical, in the range 1-6 GHz
(peak values shown).



Plot 2b: radiated emissions of the EUT, Antenna horizontal, in the range 1-6 GHz (worst case Average value shown).



3.2 AC Power-line conducted emissions

3.2.1 Limit

§ 15.107 (a)
Except for Class A digital devices, for equipment 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).

Frequency of Emission (MHz)	Conducted Limit (dBµV) Quasi-Peak	Conducted Limit (dBµV) Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 - 30	46	50

*Decreases with the logarithm of the frequency.

3.2.2 Measurement instruments

The measurement instruments are listed in chapter 2.5 of this report.

3.2.3 Test setup

The test setup is as shown in chapter 2.2.3 of this report.

3.2.4 Test procedure

According to ANSI C63.4: 2014, section 13.3

IRN 029 – Method 1

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

See next page.

3.2.6 Measurement uncertainty

+/- 3.6 dB

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

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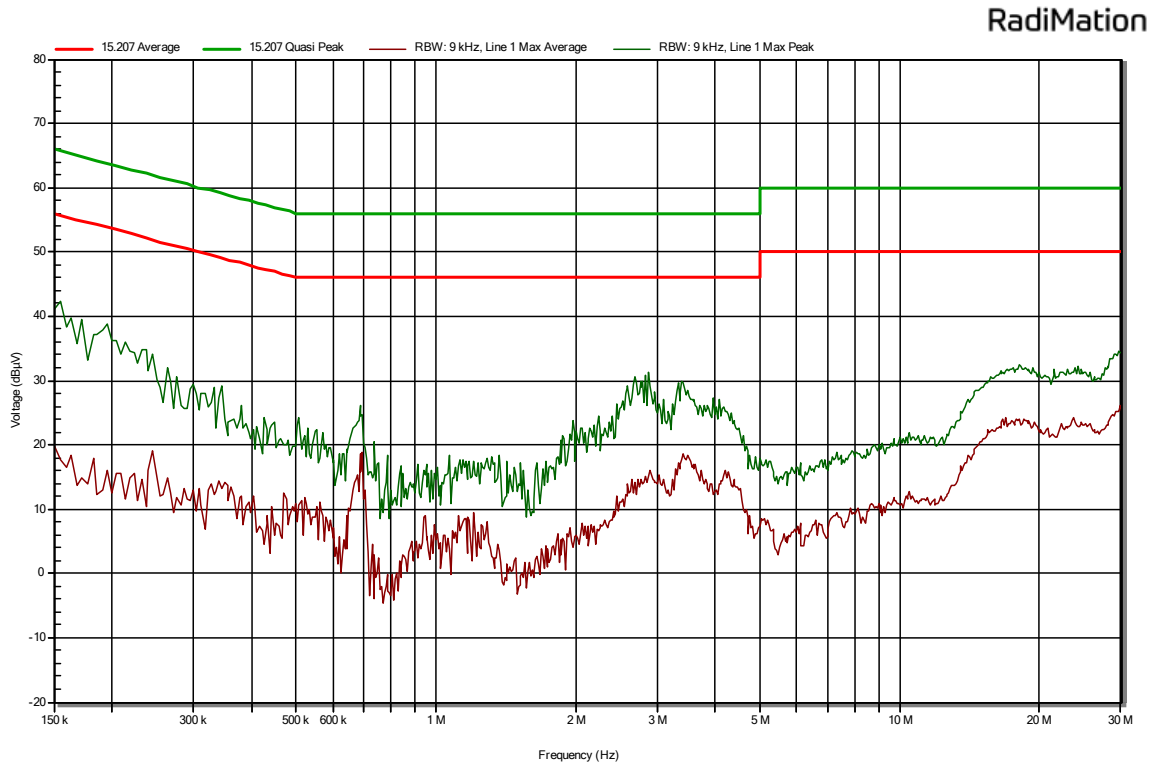
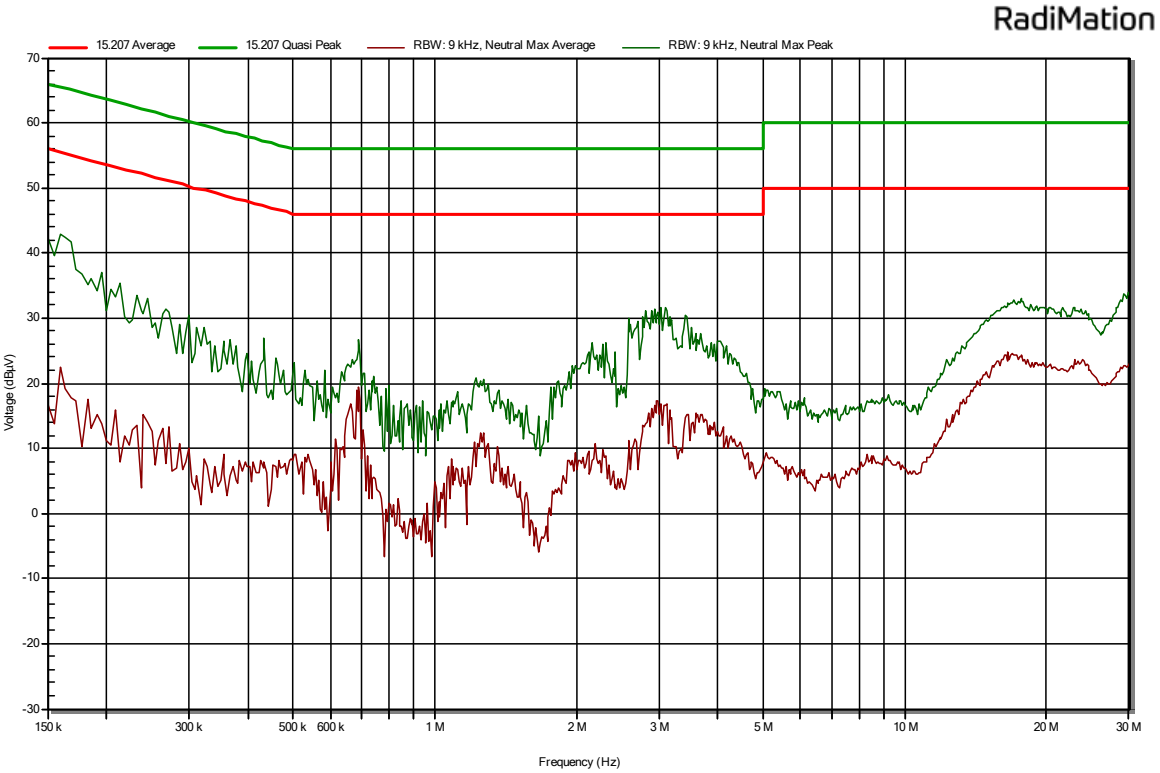
3.2.8 Plots of the AC mains conducted spurious measurement

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

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

5 Photograph test setup

5.1 Photograph test setup Radiated Emissions

Photo 1 Photograph test setup radiated emissions 30-250 MHz

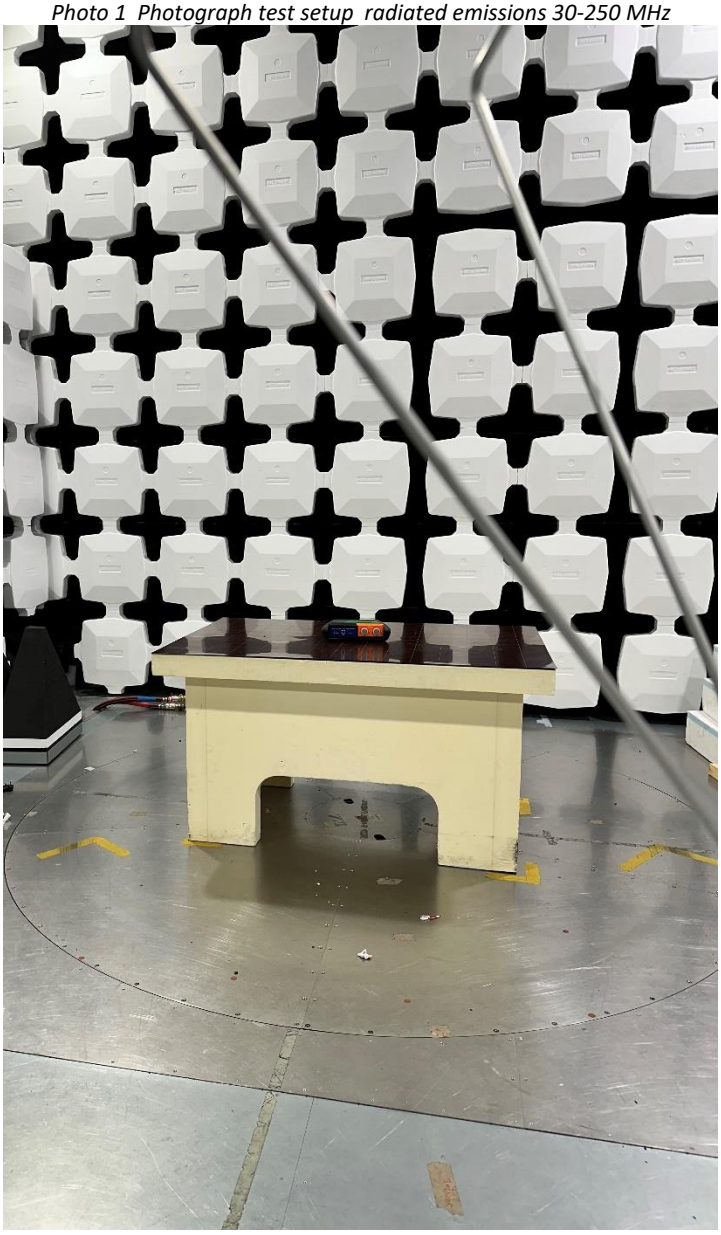


Photo 2 Photograph test setup radiated emissions 250-1000 MHz

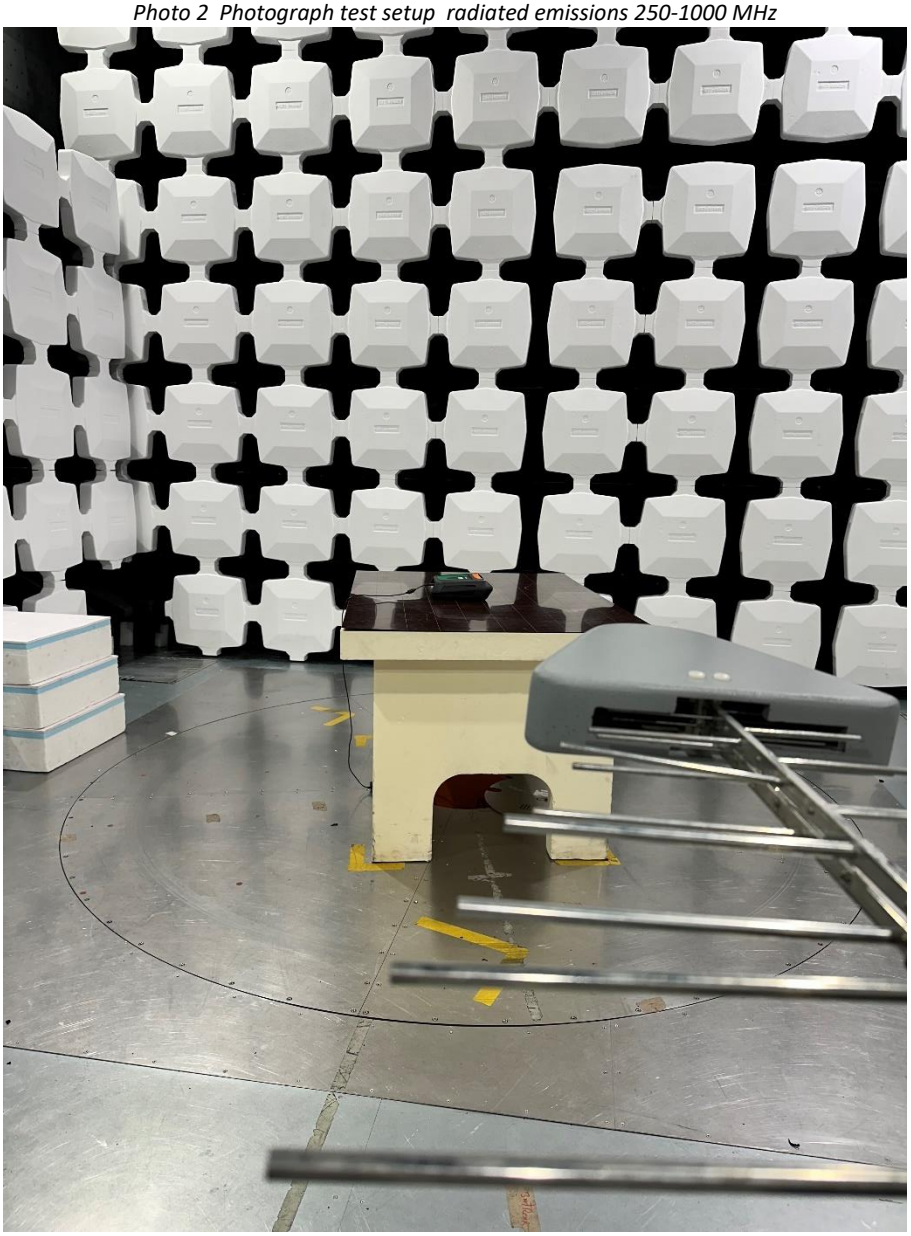
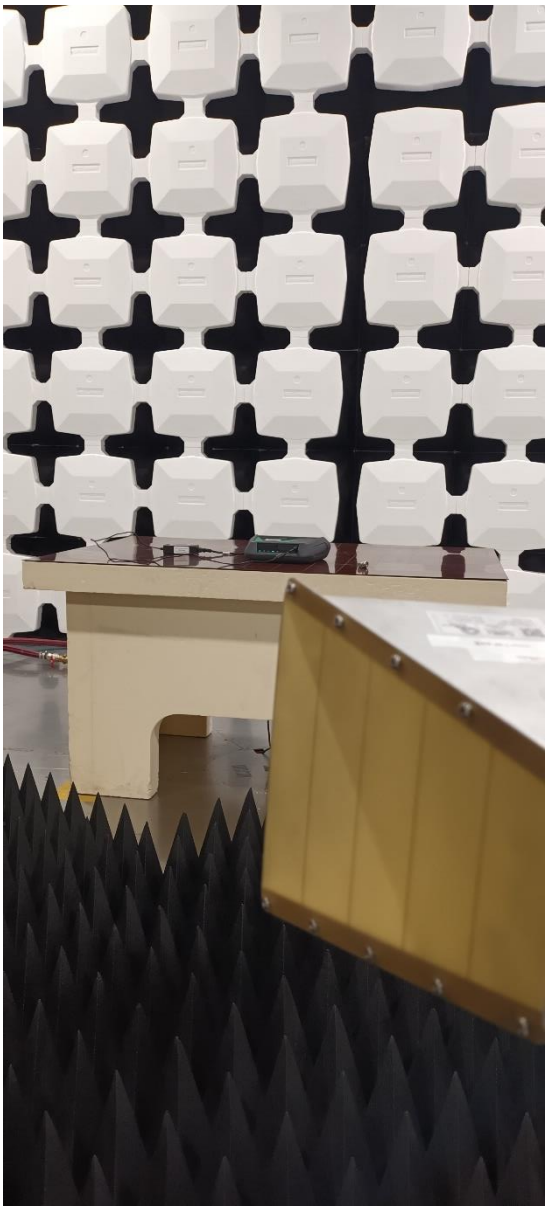


Photo 3 Photograph test setup radiated emissions 1-18 GHz



5.2 Photograph test setup, AC Power Line Conducted emissions

Photo 4: Photographs AC Power Line conducted emission

<----End of Report---->