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DAkkS Deutsche Akkreditierungsstelle D-PL-22131-01-05 D-PL-22131-01-06

Report No. 455148-01

FCC TEST REPORT / ISED TEST REPORT

Product	Partitioning Engine
Name and address of the applicant	Roche Molecular Systems Inc. 1080 US Highway 202 South Branchburg, New Jersey 08876, USA
Name and address of the manufacturer	Roche Molecular Systems Inc. 1080 US Highway 202 South Branchburg, New Jersey 08876, USA
Model	Partitioning Engine REF: 10100846
Rating	100 – 240V
Trademark	ROCHE
Serial number	4361000036
Additional information	Radio Frequency Identification (RFID) -13.56MHz.
Tested according to	**FCC Part 15.225** Low Power Transmitter **13.110 - 14.010 MHz Band** **Industry Canada RSS-210, Issue 10** Low Power Licence-Exempt Radiocommunications Devices
Order number	455148
Tested in period	2021-12-20; 2021-12-21
Issue date	2022-08-23
Name and address of the testing laboratory	**Nemko GmbH** Reetzstraße 58 D-76327 Pfinztal Tel.: + 49 (0) 7240 – 63 - 0 Fax: + 49 (0) 7240 – 63 – 11 Bundesnetzagentur BNetzA-CAB-17/21-17
	FCC No: 973501 IC OATS: 10921A

Prepared by [F. Hupbauer]	Approved by [Dipl.-Ing. P. Lukas]

Template version: B

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1 TEST INFORMATION

1.1 Test item

Name :	Partitioning Engine
Model/version :	REF: 10100846
FCC ID:	2A6AL-RWR2
Serial number :	4361000036
Frequency Range :	13.553-13.567 MHz
Number of Channels :	1
Operating Modes :	Transmitter
Type of Modulation :	ASK
User Frequency Adjustment :	None
Maximum field strength @ 3m:	39.71 dbµV/m
Type of Power Supply :	AC Adapter: 100 – 240 V / 47 – 63 Hz Device: 24 VDC
Antenna Connector :	Integral loop antenna
Number of antennas:	2 identical internal antennas
Antenna Diversity Supported :	None
Desktop Charger :	None

Description of test item

The Partitioning Engine is an IVD system for laboratory use, which distributes sample into the different micro-partitions of a dPCR plate and seals those partitions with silicone oil. The Partitioning Engine is controlled by an internal ARM computer with a touchscreen on the front.

The device contains a 13.56 MHz RFID module with two identical antennas for identifying bottles.

Class A digital device:

A digital device that is marketed for use in a commercial, industrial or business environment, exclusive of a device which is marketed for use by the general public or is intended to be used in the home.

1.2 Normal test condition

Temperature:	18 - 20 °C
Relative humidity:	30 - 50 %
Normal test voltage:	120V / 60Hz

The values are the limit registered during the test period.

1.3 Test Engineer(s)

Frederic Hupbauer

1.4 Description of modification for Modification Filing

Not applicable.

1.5 Family List Rational

Not Applicable.

1.6 Antenna Requirement

Is the antenna detachable?	☐ Yes	☒ No
If detachable, is the antenna connector non-standard?	☐ Yes	☐ No

Type of antenna connector: N/A

Ref. FCC §15.203

1.7 Worst-Case Configuration and Mode

The module were set to continous operation and the maximum output level was set in the software.
For every antenna with the higest output with and without tag was tested.
The radiated measurements are tested on three axes.
The worst-case-scenario is reported.

1.8 Decision criteria

The decision of results under respect to the measurement uncertainty (MU) is performed as follows:

Measurement + MU < Limit: Test passed

Measurement + MU ≥ Limit and measurement < Limit: Test is passed with the restriction of being in the uncertainty range. This is documented in the report.

1.9 Comments

The radiated measurements are tested on three axis.

2 TEST REPORT SUMMARY

2.1 General

All measurements are traceable to national standards.

The tests were conducted for the purpose of demonstrating compliance with FCC CFR 47 Part 15.225 and Industry Canada RSS-210, Issue 10 and RSS-GEN, Issue 5.

Tests were performed in accordance with ANSI C63.4-2014 and and ANSI C63.10-2013.

Radiated tests were performed in a semi-anechoic shielded room (f < 1 GHz) and a fully-anechoic shielded room (f > 1 GHz) at a measuring distance of 3m.

A description of the test facility is on file with the FCC and Industry Canada.

Test setup photo document: 455148-01TRFFCC Annex – Test set-up photos

☒ New Submission ☒ Production Unit

☐ Class II Permissive Change ☐ Pre-production Unit

DXT Equipment Code ☐ Family Listing

2.2 Test summary

Name of test	FCC Part 15 reference	RSS-210 Issue 10 & RSS-GEN Issue 5	Result
Supply Voltage Variations	15.31(e)	6.11 (RSS-GEN)	Complies
Antenna Requirement	15.203	6.8 (RSS-GEN)	N/A [1]
Power-line Conducted Emission	15.207(a)	8.8 (RSS-GEN)	Complies
Occupied Bandwidth	N/A	6.7 (RSS-GEN)	-
Fundamental Field strength	15.225(a)	B.6(a)	Complies
Band Emissions	15.225(b)(c)	B.6(b)(c)	Complies
Spurious Emissions (Radiated)	15.225 (d) 15.209	B.6(d) 6.13 (RSS-GEN) 8.9 (RSS-GEN)	Complies
Frequency stability	15.225(e)	B.6	Complies

[1] Integral loop antenna

RSS Gen issue 5 covers section 7 & 6

RSS 210 issue 10 covers section B.6

3 TEST RESULTS

3.1 Power Line Conducted Emissions

Para. No.: 15.207 (a)
Para. No.: 8.8

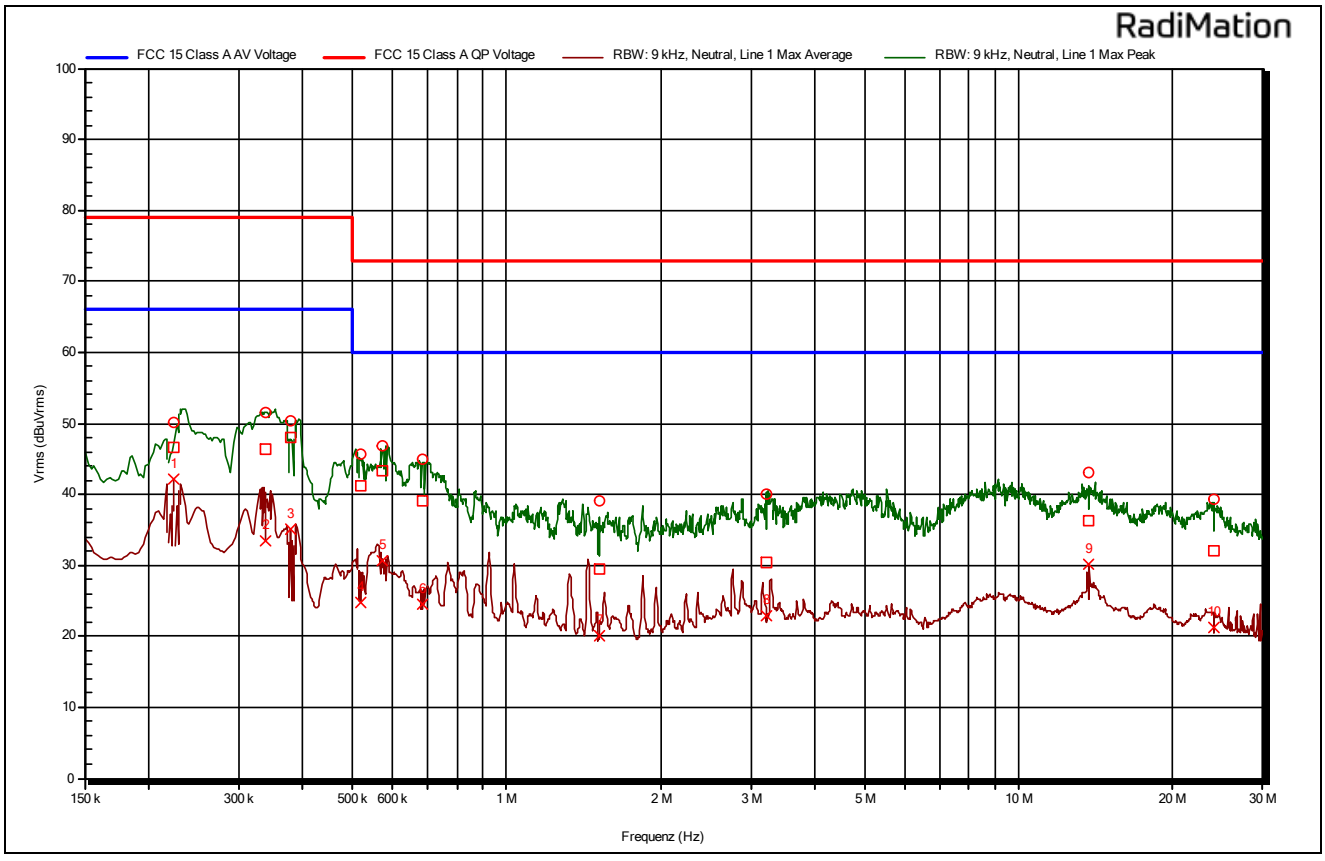
Test Performed By: F. Hupbauer	Date of Test: 2021-12-21

Measurement procedure: **ANSI C63.4-2014 using 50 µH/50 ohms LISN.**
Test Results: **Complies.**
Measurement Data: **See attached graph.**

Input voltage to EUT: 120V/60Hz and 240V/50Hz
Highest measured value (L1 and N):

Used measurement equipment: 1-0072, 1-0364, 1-0365, 1-1118, 1-0054, 1-0604, 1-0624, 1-0361

Diagram 120V/60Hz



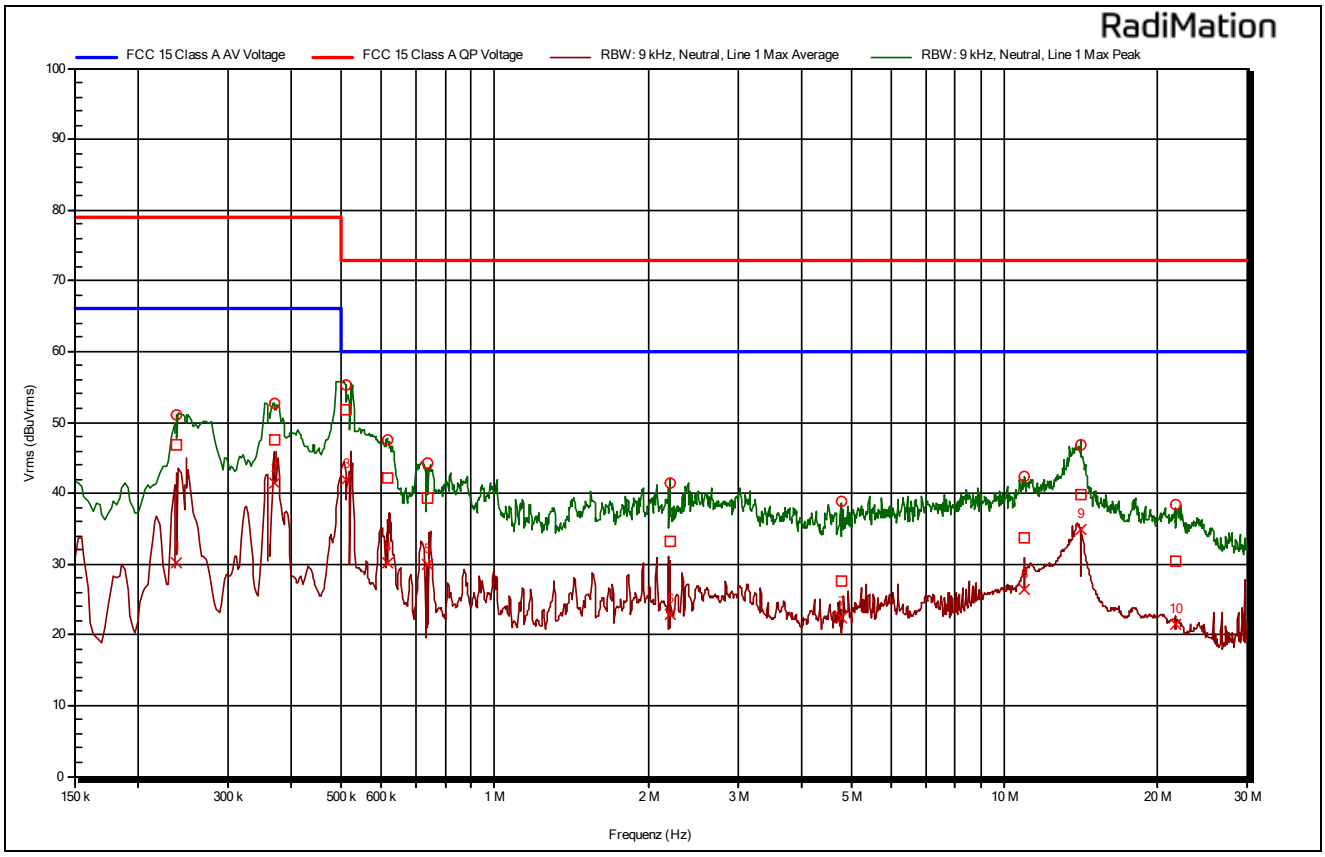
Final measurements QP with Quasi-Peak-Detector 120V/60Hz

Peak Number	Frequency (MHz)	Quasi-Peak (dBuVrms)	Quasi-Peak Limit (dBuVrms)	Quasi-Peak Correction (dB)	Quasi-Peak Difference (dB)	LISN
1	0.2242	46.49	79.00	10.0	-32.51	Line 1
2	0.3390	46.39	79.00	10.0	-32.61	Neutral
3	0.3795	47.92	79.00	10.0	-31.08	Neutral
4	0.5190	41.15	73.00	10.0	-31.85	Line 1
5	0.5730	43.40	73.00	10.0	-29.60	Neutral
6	0.6855	38.99	73.00	10.0	-34.01	Neutral
7	1.5158	29.50	73.00	10.0	-43.50	Line 1
8	3.2190	30.47	73.00	10.1	-42.53	Neutral
9	13.7400	36.19	73.00	10.5	-36.81	Line 1
10	24.0113	32.12	73.00	10.8	-40.88	Line 1

Final measurements AV with Average-Detector 120V/60Hz

Peak Number	Frequency (MHz)	Average (dBuVrms)	Average Limit (dBuVrms)	Average Correction (dB)	Average Difference (dB)	LISN
1	0.2242	42.25	66.00	10.0	-23.75	Line 1
2	0.3390	33.45	66.00	10.0	-32.55	Neutral
3	0.3795	35.08	66.00	10.0	-30.92	Neutral
4	0.5190	24.85	60.00	10.0	-35.15	Line 1
5	0.5730	30.61	60.00	10.0	-29.39	Neutral
6	0.6855	24.42	60.00	10.0	-35.58	Neutral
7	1.5158	20.17	60.00	10.0	-39.83	Line 1
8	3.2190	22.84	60.00	10.1	-37.16	Neutral
9	13.7400	30.21	60.00	10.5	-29.79	Line 1
10	24.0113	21.21	60.00	10.8	-38.79	Line 1

Diagram 240V/50Hz



Final measurements QP with Quasi-Peak-Detector 240V/50Hz

Peak Number	Frequency (MHz)	Quasi-Peak (dBuVrms)	Quasi-Peak Limit (dBuVrms)	Quasi-Peak Correction (dB)	Quasi-Peak Difference (dB)	LISN
1	0.2377	46.90	79.00	10.0	-32.10	Line 1
2	0.3705	47.59	79.00	10.0	-31.41	Line 1
3	0.5122	51.74	73.00	10.0	-21.26	Neutral
4	0.6180	42.06	73.00	10.0	-30.94	Neutral
5	0.7372	39.20	73.00	10.0	-33.80	Line 1
6	2.2043	33.30	73.00	10.1	-39.70	Neutral
7	4.7895	27.56	73.00	10.2	-45.44	Line 1
8	10.9703	33.58	73.00	10.4	-39.42	Line 1
9	14.0775	39.78	73.00	10.5	-33.22	Line 1
10	21.7095	30.30	73.00	10.6	-42.70	Line 1

Final measurements AV with Average-Detector 240V/50Hz

Peak Number	Frequency (MHz)	Average (dBuVrms)	Average Limit (dBuVrms)	Average Correction (dB)	Average Difference (dB)	LISN
1	0.2377	30.06	66.00	10.0	-35.94	Line 1
2	0.3705	41.48	66.00	10.0	-24.52	Line 1
3	0.5122	41.95	60.00	10.0	-18.05	Neutral
4	0.6180	30.23	60.00	10.0	-29.77	Neutral
5	0.7372	30.00	60.00	10.0	-30.00	Line 1
6	2.2043	22.99	60.00	10.1	-37.01	Neutral
7	4.7895	22.42	60.00	10.2	-37.58	Line 1
8	10.9703	26.43	60.00	10.4	-33.57	Line 1
9	14.0775	34.83	60.00	10.5	-25.17	Line 1
10	21.7095	21.54	60.00	10.6	-38.46	Line 1

The complete correction factor (CF) is made up of the correction factor of the instruments used.
For calculating the disturbance voltage U and the Margin the following formulas were employed:

$U = U_M + CF$ with: $CF = VDF_{AMN} + a_{Cb1} + a_{Cb2} + a_{Cb3} + a_{PL}$

U Value in dBµV (Quasi-peak or Average in the table)
U_M Measured value at receiver input in dBµV
CF Correction factor (Quasi-peak correction or Average correction in the table)

VDF_{AMN} Voltage division factor of AMN in dB
a_{Cb1} Cable loss of cable from AMN to wall in dB
a_{Cb2} Cable loss of cable from wall to coax switch in dB
a_{Cb3} Cable loss of cable from coax switch to pulse limiter in dB
a_{PL} Attenuation Pulse limiter in dB

Margin = Result - Limit

3.2 99 % Occupied Bandwidth

Para. No.: 6.7 RSS-Gen

Test Performed By: F. Hupbauer	**Date of Test: 2021-12-20**

Test Results: Complies

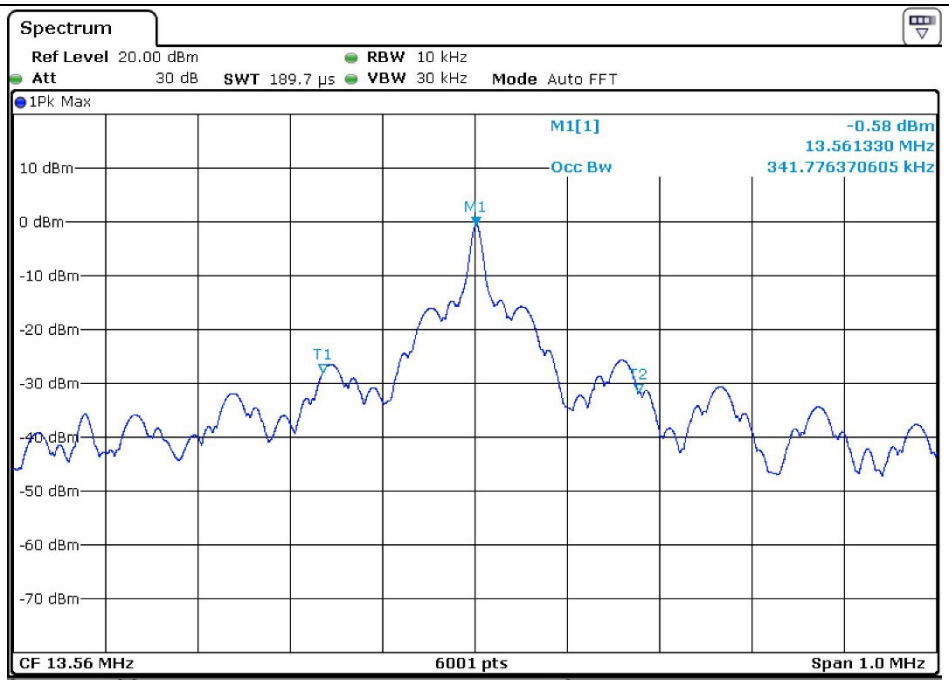
Measurement Data:

BW (kHz)	
13.56 MHz	
99 % BW	341.78
20 dB BW	129.71

Used measurement equipment: 1-0611, 1-0870, 1-0925

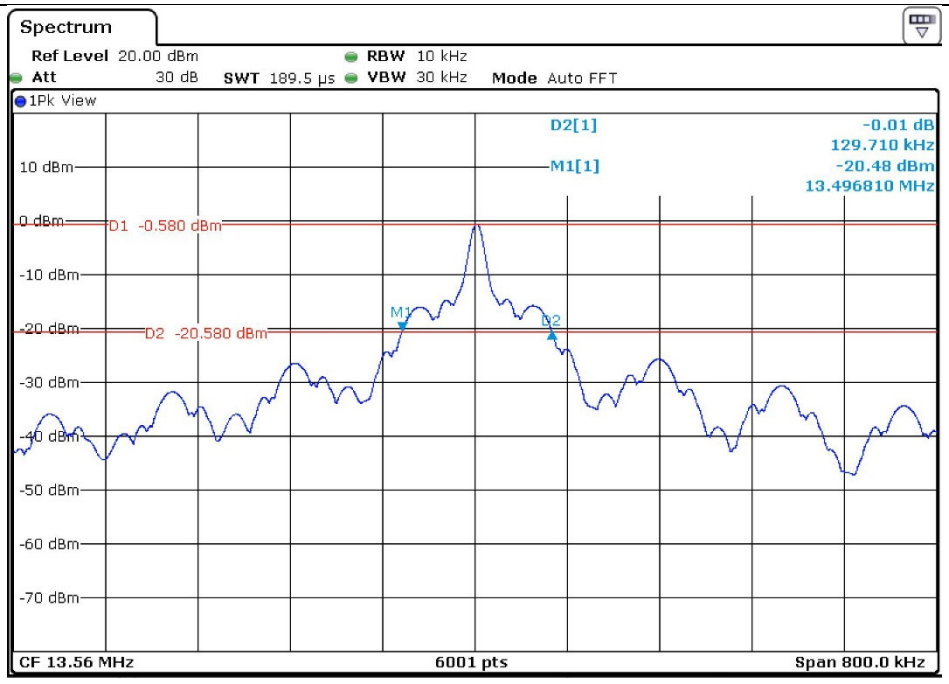
Requirements:

For information only



13.56 MHz – 99% OCC BW

Plot-No.:455148-013



13.56 MHz – 20 dB OCC BW

Plot-No.:455148-014

3.3 Fundemental Field Strength

Para. No.: 15.225 (a) / B.6 (a)

Test Performed By: F. Hupbauer	**Date of Test: 2021-12-20**

Test Results: Complies

Measurement data:

Maximum field strength

RF channel (MHz)	Measured PK value (dBµV/m) @ 3m	Converted Limit @3m (dBµV/m)
13.56	39.71	124.0

The limit line given in the graph is corrected to 3 m distance.

Radiated measurements are performed at 3 m distance.

Detachable antenna?	☐ Yes	☒ No
If detachable, is the antenna connector non-standard?	☐ Yes	☐ No

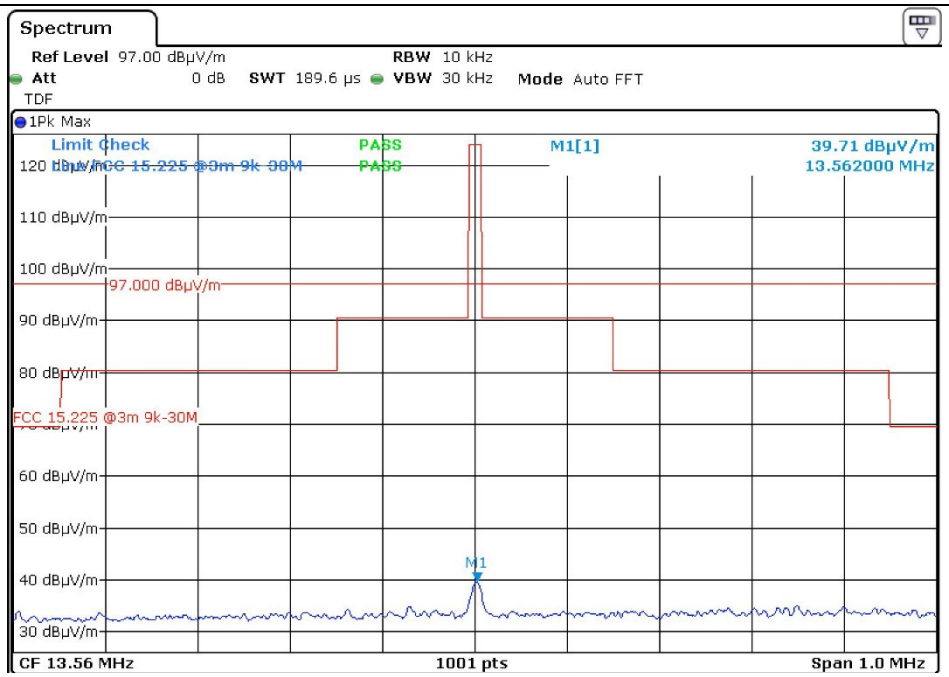
Integral loop antenna

Used measurement equipment: 1-0611, 1-0361, 1-0619. 1-0039

Requirements:

The maximum field strength within band 13.553 – 13.567MHz at 30 meters shall be ≤ 84.0 dBµV/m (at 3 meters ≤ 124.0 dBµV/m)

(b) 334 microvolts/m (50.5 dBµV/m) at 30 m, within the bands 13.410-13.553 MHz and 13.567-13.710 MHz. (at 3 meters ≤ 90.5 dBµV/m)
(c) 106 microvolts/m (40.5 dBµV/m) at 30 m, within the bands 13.110-13.410 MHz and 13.710-14.010 MHz. (at 3 meters ≤ 80.5 dBµV/m)



Field strength at radial polarization – 13.56MHz

Plot-No.:455148-006

3.4 Spurious emissions (radiated)

Para. No.: 15.209 / 15.225 (b, c, d) / B.6(b, c, d)

Test Performed By: F. Hupbauer	**Date of Test: 2021-12-20**

Test Results: Complies
Measurement Data:

Radiated Emissions with loop antenna, 9kHz – 30MHz
measured at a distance of 3 m. All antennas are operating simultaneously at 13.56 MHz.

Measured with Peak Detector:

Frequency	Dist. corr. factor	Measured Field strength, Peak @ 3m	Duty cycle corr. factor	Calculated Field strength, Peak @ 300m	Limit @ 300m	Margin
kHz	dB	dBµV/m	dB	dBµV/m	dBµV/m	dB
12.47	80	56.12	-	-23.88	45.69	69.57
15.49	80	56.34	-	-23.66	43.81	67.47
228.0	80	35.99	-	-44.01	20.42	64.43
232.9	80	34.44	-	-45.56	20.26	65.82

Calculated Field strength = Measured field strength – Dist. corr. factor
Margin = Limit - Calculated Field strength

The maximum is observed in radial polarization.
Antenna factor, amplifier gain and cable loss are included in spectrum analyzer “Transducer factor”.
The limit line given in the graph is corrected to 3 m distance using 40 dB/decade according to 15.31 (f) (2).

Used measurement equipment below 30 MHz: 1-0611, 1-0361, 1-0619, 1-0039
Used measurement equipment 30 – 200 MHz: 1-0604, 1-0361, 1-0619, 1-0040, 1-0364
Used measurement equipment 200 MHz – 1 GHz: 1-0604, 1-0361, 1-0619, 1-0055, 1-0364

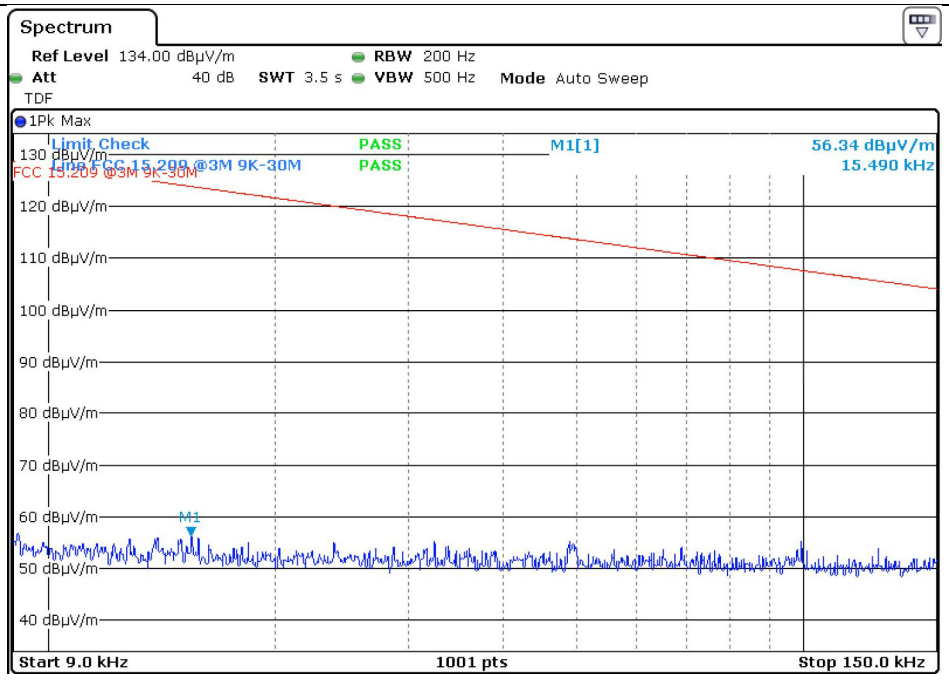
Requirement:
(d) The field strength of any emissions appearing outside of the 13.110 – 14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

Requirements/Limit according §15.209

FCC	Part 15.209 @ frequencies defined in §15.205	
ISED	RSS-GEN Issue 5, Clause 8.9 @ frequencies defined in clause 8.10	
	Radiated emission limit @3 meters	
Frequency (MHz)	**Quasi Peak (µV/m)**	**Quasi Peak (dBµV/m)**
30 – 88	100	40.0
88 – 216	150	43.5
216 – 960	200	46.0
Above 960	500	54.0

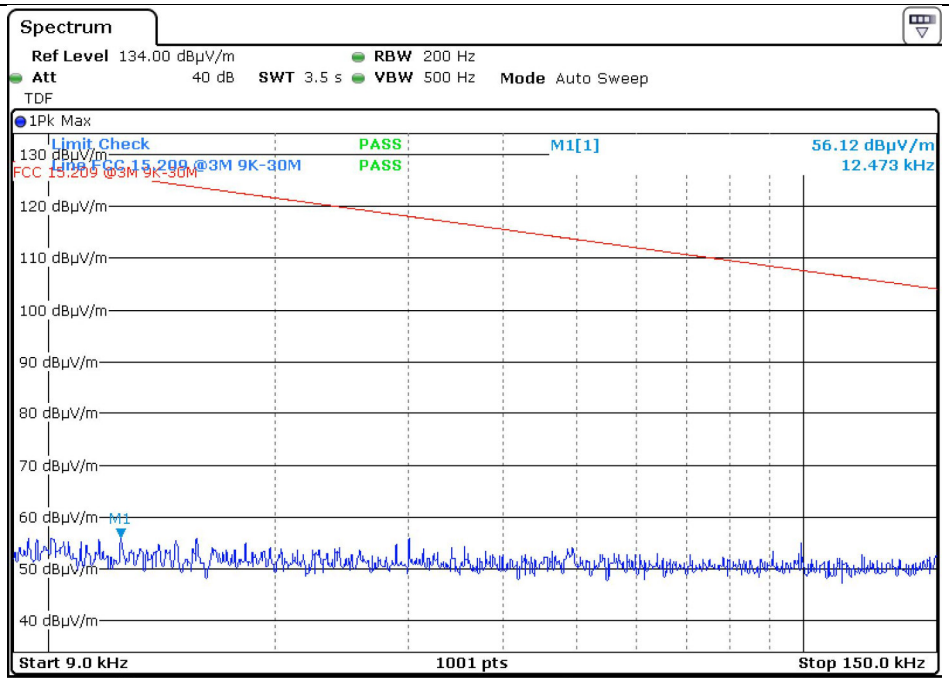
Radiated emissions 9kHz – 30 MHz.

Measuring distance 3 m, measured with Peak detector.



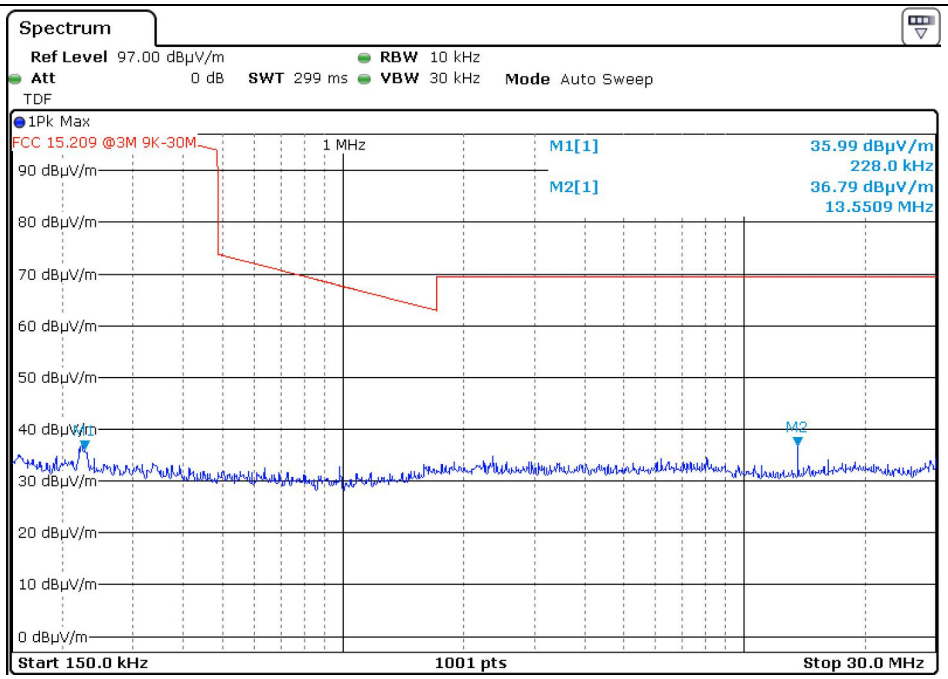
Radiated Emissions, 9 kHz – 150 kHz, longitudinal polarization

Plot-No.:455148-003



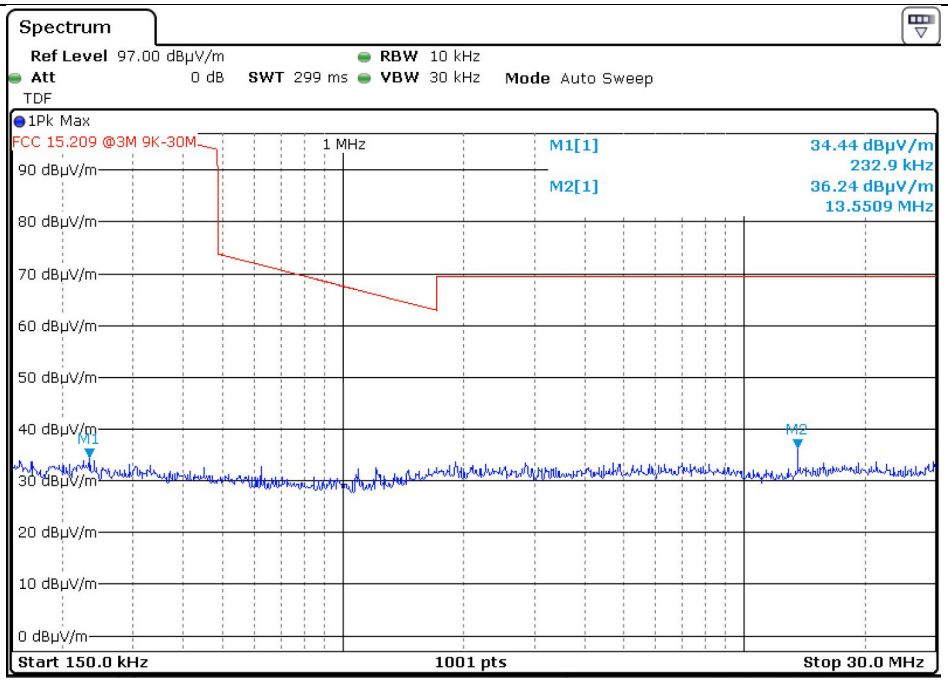
Radiated Emissions, 9 kHz – 150 kHz, radial polarization

Plot-No.:455148-004



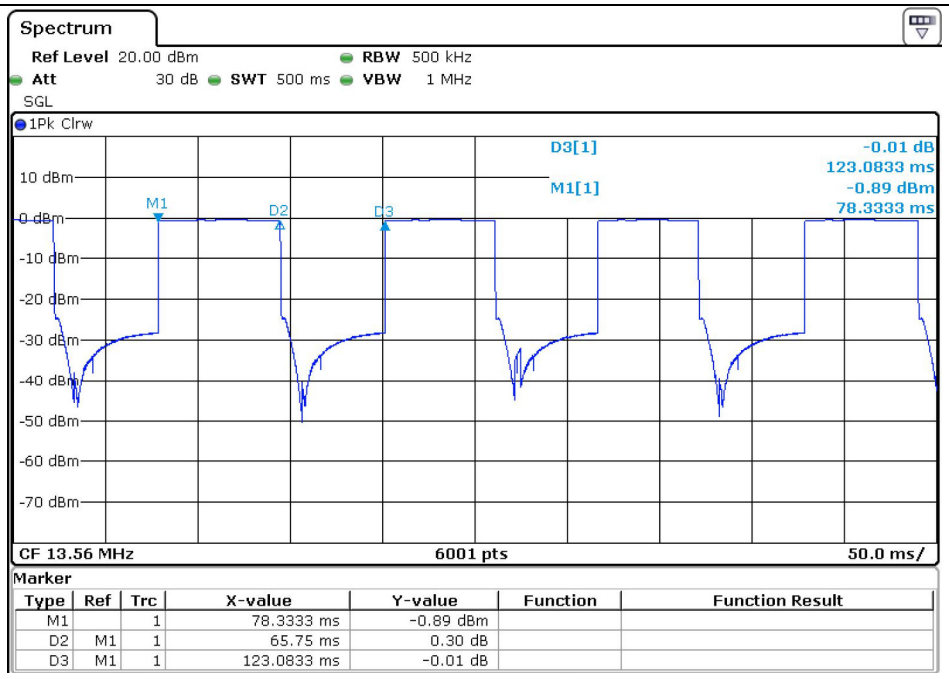
Radiated Emissions, 150 kHz – 30 MHz, longitudinal polarization

Plot-No.:455148-001



Radiated Emissions, 150 kHz – 30 MHz, radial polarization

Plot-No.:455148-002

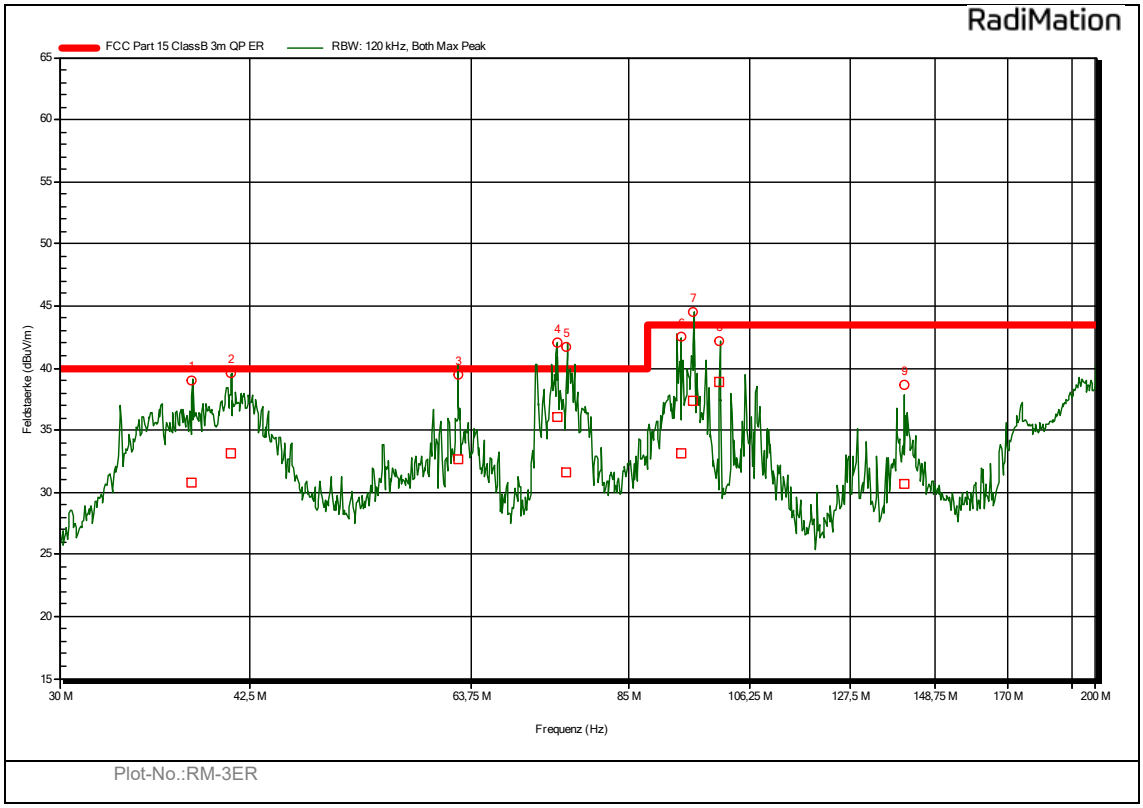


13.56 MHz – Duty Cycle

Plot-No.:455148-012

Radiated emissions 30 – 200 MHz.

Measuring distance 3 m. Detector: Quasi Peak



Peak Number	Frequency (MHz)	Quasi-Peak (dBuV/m)	Quasi-Peak Limit (dBuV/m)	Quasi-Peak Correction (dB)	Quasi-Peak Difference (dB)	Angle (Grad)	Height (m)	Polarization
1	38.22	30.75	40.00	18.4	-9.25	180.0	1.00	Vertical
2	41.07	33.19	40.00	17.8	-6.81	270.0	1.00	Vertical
3	62.25	32.61	40.00	15.4	-7.39	292.0	1.00	Vertical
4	74.55	36.11	40.00	15	-3.89	292.0	1.00	Vertical
5	75.87	31.61	40.00	15	-8.39	247.0	1.00	Vertical
6	93.63	33.17	43.50	15.2	-10.33	292.0	2.49	Horizontal
7	95.73	37.33	43.50	15.4	-6.17	292.0	2.49	Horizontal
8	100.47	38.89	43.50	15.7	-4.61	112.0	2.50	Horizontal
9	140.79	30.70	43.50	18.3	-12.80	247.0	1.00	Vertical

The complete correction factor (CF) is made up of the correction factor of the instruments used.
For calculating the disturbance field strength and the Margin the following formulas were employed:

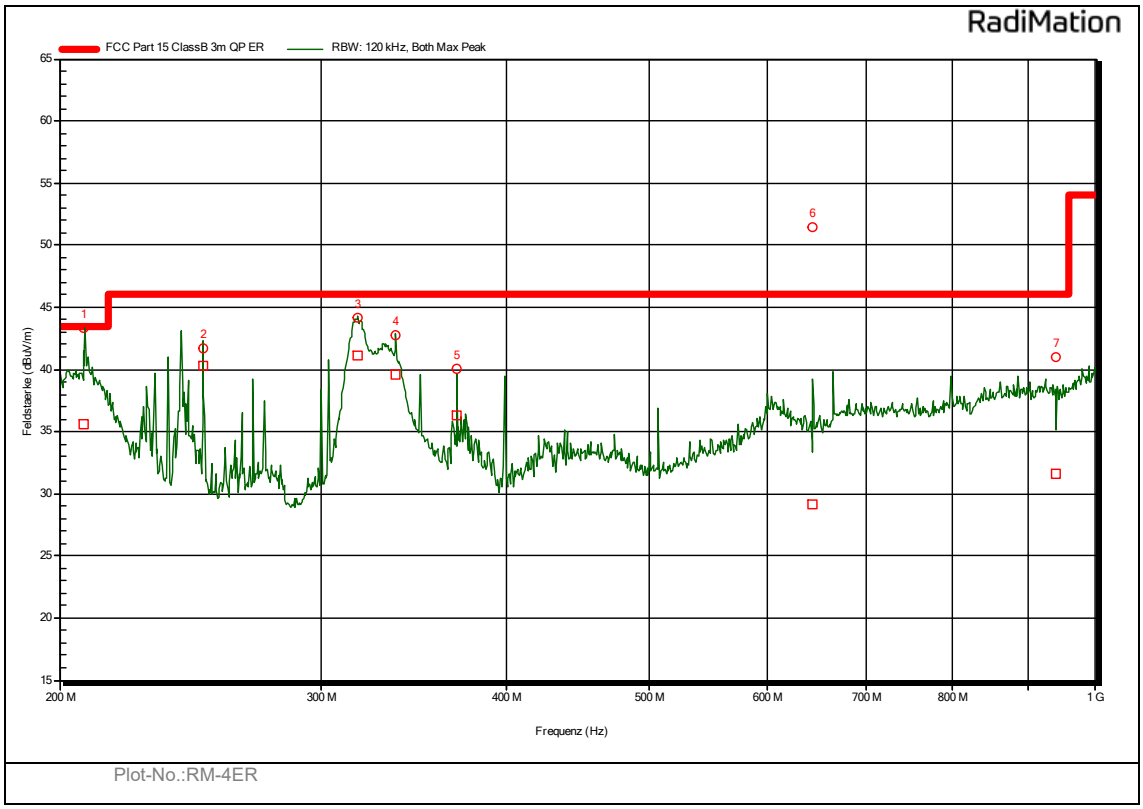
$E = U_M + CF$ with $CF = AF + a_{Cb1} + a_{Cb2}$

E	Value in dBµV/m (Quasi-peak in the table)
U_M	Measured value at receiver input in dBµV
CF	Correction factor (Quasi-peak Correction in the table)
AF	Antenna factor including 6 dB attenuator in dB/m
a_{Cb1}	Cable loss of cable from antenna to wall in dB
a_{Cb2}	Cable loss of cable from wall to receiver in dB

Margin = Result - Limit

Radiated emissions 200 – 1000 MHz.

Measuring distance 3 m. Detector: Quasi Peak



Peak Number	Frequency (MHz)	Quasi-Peak (dBuV/m)	Quasi-Peak Limit (dBuV/m)	Quasi-Peak Correction (dB)	Quasi-Peak Difference (dB)	Angle (Grad)	Height (m)	Polarization
1	207.74	35.62	43.50	11.3	-7.88	247.0	1.00	Horizontal
2	250.01	40.24	46.00	12.7	-5.76	315.0	1.00	Horizontal
3	317.51	41.16	46.00	14.8	-4.84	225.0	1.00	Horizontal
4	336.98	39.58	46.00	15.4	-6.42	67.0	1.00	Horizontal
5	370.46	36.36	46.00	16.1	-9.64	292.0	1.00	Horizontal
6	643.55	29.16	46.00	21.1	-16.84	225.0	1.00	Vertical
7	940.49	31.63	46.00	23.9	-14.37	337.0	4.00	Vertical

The complete correction factor (CF) is made up of the correction factor of the instruments used.
For calculating the disturbance field strength and the Margin the following formulas were employed:

$E = U_M + CF$ with $CF = AF + a_{Cb1} + a_{Cb2}$

E	Value in dBµV/m (Quasi-peak in the table)
U_M	Measured value at receiver input in dBµV
CF	Correction factor (Quasi-peak Correction in the table)
AF	Antenna factor in dB/m
a_{Cb1}	Cable loss of cable from antenna to wall in dB
a_{Cb2}	Cable loss of cable from wall to receiver in dB

Margin = Result - Limit

3.5 Transmitter Frequency Stability

Para. No.: 15.225(e)/B.6

Test Performed By: F. Hupbauer	**Date of Test: 2021-12-21**

Measurement Data:

Temperature	Module supply voltage	Given Frequency (MHz)	Measured value (MHz)	Deviation (%)
+50 ° C	24Vdc	13.56	13.56134733	-0.00012779
+40 ° C	24Vdc	13.56	13.56136000	-0.00003436
+30 ° C	24Vdc	13.56	13.56137233	0.00005656
+20 ° C	24Vdc	13.56	**13.56136466**	**0.00000000**
+20 ° C	26.7Vdc	13.56	13.56136333	-0.00000981
+20 ° C	21.0Vdc	13.56	13.56136433	-0.00000243
+10 ° C	24Vdc	13.56	13.56138866	0.00017697
+0 ° C	24Vdc	13.56	13.56138299	0.00013516
-10 ° C	24Vdc	13.56	13.56137166	0.00005162
-20 ° C	24Vdc	13.56	13.56136066	-0.00002950

Deviation = (Measured value / Measured reference value -1) * 100

At a variation of the supply voltage of ± 15 % the device stopped working.
There was no additional deviation in the transmission frequency.

Used measurement equipment: 1-0611, 1-0870, 1-0925

Requirement:

(e) The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage and for a variation in the supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4 Measurement Uncertainty

Measurement Uncertainty Values		
Test Item		**Uncertainty**
Output Power		±0.8 dB
Power Spectral Density		±0.8 dB
Out of Band Emissions, Conducted	**< 3.6 GHz**	±0.8 dB
	> 3.6 GHz	±1.2 dB
Spurious Emissions, Radiated	**< 200 MHz**	±4.77 dB
	200 MHz - 1 GHz	±5.02 dB
	1 GHz – 18 GHz	±4.94 dB
	> 18 GHz	±5.91 dB
Emission Bandwidth		±4 %
Power Line Conducted Emissions		±3.58 dB
Spectrum Mask Measurements	**Frequency**	±5 %
	Amplitude	±1.0 dB
Frequency Error		±0.6 ppm
Temperature Uncertainty		±1 °C

All uncertainty values are expanded standard uncertainty to give a confidence level of 95%, based on coverage factor k=2

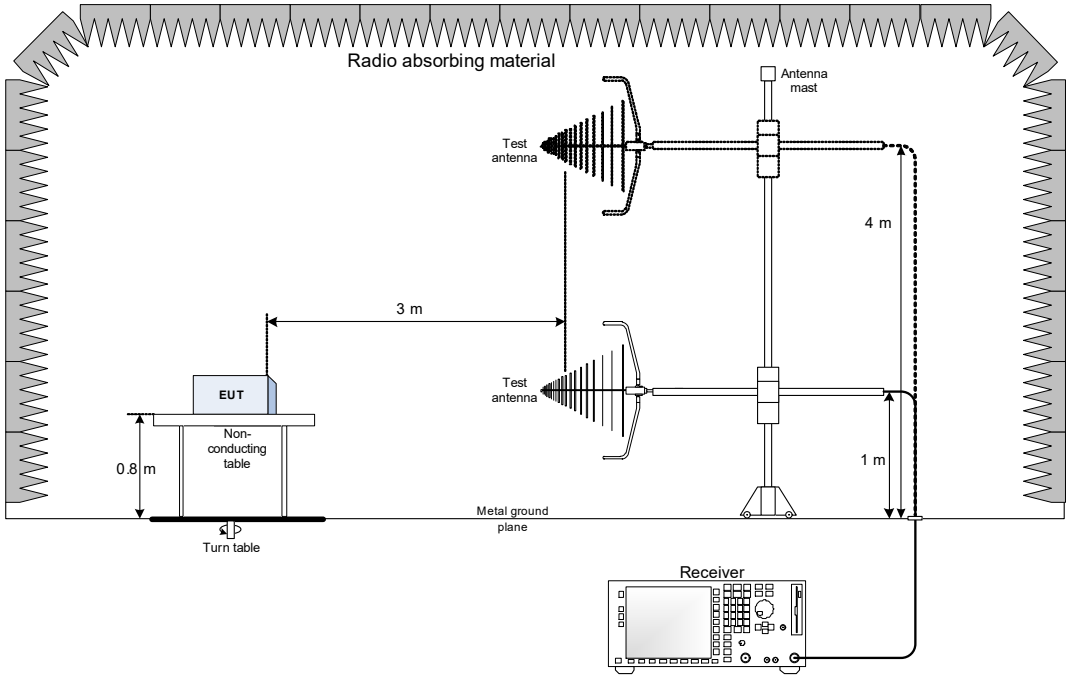
5 LIST OF TEST EQUIPMENT

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment and ancillaries are identified (numbered) by the Test Laboratory.

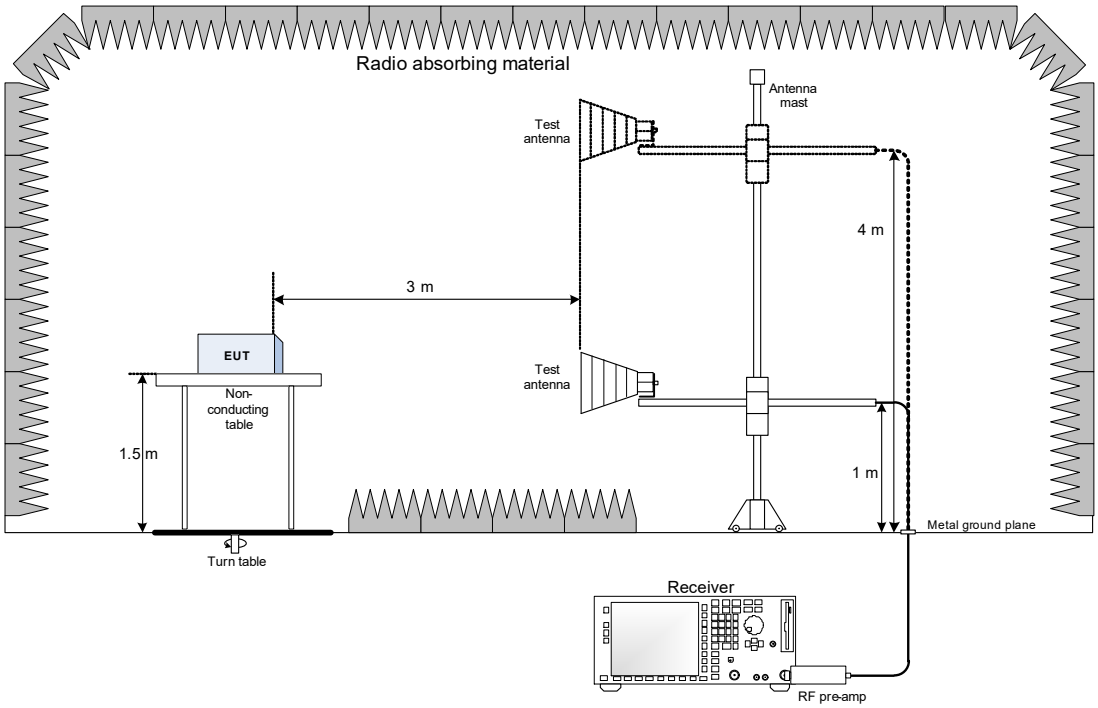
Inv.-Nr.	Instrument/ ancillary	Manufacturer	Type	Cal. Date	Cal. Due	mon
1-0037	Artificial mains network, 3ph	Rohde & Schwarz	ESH2-Z5	2021-10	2022-10	12
1-0039	Shielded loop antenna	Rohde & Schwarz	HFH2-Z2	2021-10	2022-10	12
1-0040	Biconical antenna	Rohde & Schwarz	HK116	2020-07	2023-07	36
1-0054	Pulse limiter	Rohde & Schwarz	ESH3-Z2	2021-10	2022-10	12
1-0055	LogPer antenna	Rohde & Schwarz	HL223	2020-07	2023-07	36
1-0072	Artificial mains network, 1ph	Rohde & Schwarz	ESH3-Z5	2021-10	2022-10	12
1-0200	Trilog antenna	Schwarzbeck	VULB 9163	2019-02	2022-02	36
1-0361	Semi anechoic chamber	Reinhold & Mahla	3m	2019-12	2022-12	36
1-0364	Antenna cable 2	Kabelwerk Eupen	CMS / RG 214-N/7	2019-09	2022-09	36
1-0365	Coaxial cable (to SAC)	SSB electronic	Aircom plus	2019-09	2022-09	36
1-0604	EMI test receiver	Rohde & Schwarz	ESU8	2021-10	2022-10	12
1-0611	Spectrum analyzer	Rohde & Schwarz	FSV 40	2021-10	2022-10	12
1-0615	Pre amplifier	Schwarzbeck	BBV-9718	2021-10	2022-10	12
1-0619	Coaxial cable (to SAC)	Huber+Suhner	SF106/2x11N-651/2m	2020-09	2023-09	36
1-0620	Antenna cable 3	Huber+Suhner	SF106/2x11N-651/3m	2019-09	2022-09	36
1-0624	EMI-Software Radimation	DARE	Radimation 2021.3.3	N / A	N / A	
1-0771	Horn antenna	Schwarzbeck	BBHA 9170	2021-03	2024-03	36
1-0772	Horn antenna	Schwarzbeck	BBHA 9120D	2021-03	2024-03	36
1-0781	Pre amplifier	Schwarzbeck	BBV 9721	2021-10	2022-10	12
1-0782	Antenna cable	Huber & Suhner	FB142A1060002020	2020-10	2023-10	36
1-0794	Coaxial cable	Rosenberger	FB142A0010002020	2020-10	2023-10	36
1-0806	Controller	Innco	CO 3000	N / A	N / A	
1-0807	Antenna mast	Innco	MA-400-XPET	N / A	N / A	
1-0870	10 dB Attenuator	mini circiuts	BW-N10W5+	2019-09	2022-09	36
1-0871	10 dB Attenuator	mini circiuts	BW-N10W5+	2019-09	2022-09	36
1-0925	Coaxial cable	HARBOUR	RG316 MIL	2019-09	2022-09	36
1-0927	Coaxial cable	HARBOUR	RG316 MIL	2019-09	2022-09	36
1-0993	6 dB Attenuator	mini circiuts	BW-N6W5+	2020-09	2023-09	36
1-0994	3 dB Attenuator	mini circiuts	BW-N3W5+	2020-09	2023-09	36
1-0995	6 dB Attenuator	mini circiuts	UNAT-6+	2020-09	2023-09	36
1-1000	Low Noise Preamplifier	Nemko GmbH	BBV 30M1G	2021-10	2022-10	12
1-1012	Coaxial cable	Rosenberger	LA2-018-2000	2020-06	2023-06	36
1-1118	Coaxial cable	Unknown	RG213 MIL	2019-09	2022-09	36
1-1133	Horn antenna	Rohde & Schwarz	HF907	2021-01	2022-01	12
1-1170	Climate chamber	Weiss Umwelttechnik	ClimeEvent C/600/40/3	2021-11	2022-11	12

6 BLOCK DIAGRAM

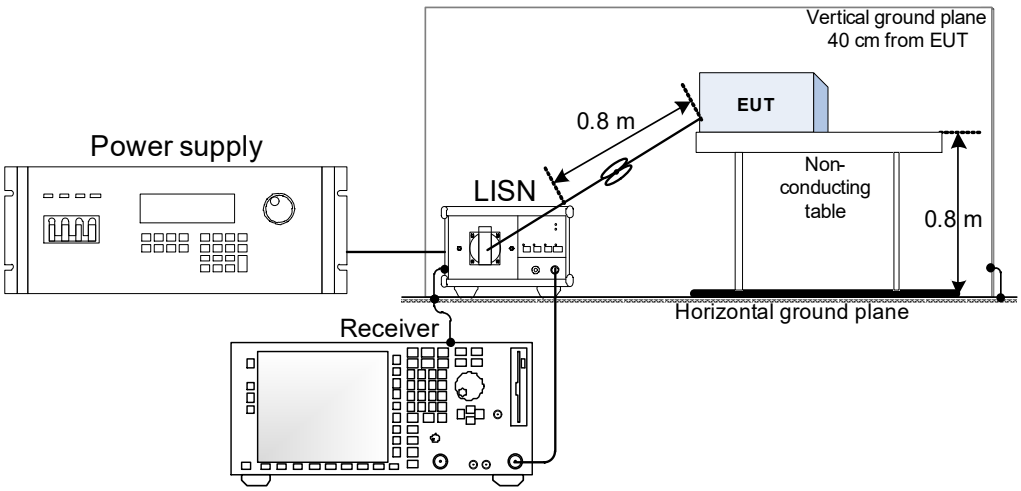
6.1 Radiated emissions set-up for frequencies below 1 GHz



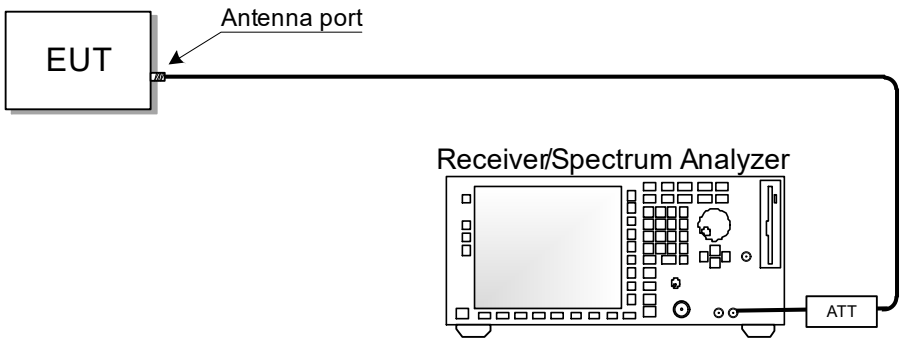
6.2 Radiated emissions set-up for frequencies above 1 GHz



6.3 Power Line Conducted Emissions set-up



6.4 Antenna port set-up



This setup is used for all conducted tests where a spectrum analyser is used. If the Output power of the EUT is higher than 100mW or so it may be necessary to use more attenuation to avoid damaging the input stage of the spectrum analyser.

Revision history

Version	Date	Comment	Sign
00	2022-08-23	**First version**	fh

– End of Report –