FCC Measurement/Technical Report on

Dedrone RF-Sensor RF-310 Rev. B
RF-310 Rev. B

FCC ID: 2AON3-TH87K7ERPI
IC: 23389-TH87K7ERPI

Test Report Reference: MDE_DEDRONE_2506_FCC_01

Test Laboratory:
7layers GmbH
Borsigstrasse 11
40880 Ratingen
Germany

Deutsche Akkreditierungsstelle D-PL-12140-01-00

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1 APPLIED STANDARDS AND TEST SUMMARY

1.1 APPLIED STANDARDS

Applicable FCC Rules

Prepared in accordance with the requirements of FCC Rules and Regulations as listed in 47 CFR Ch.1 Parts 2 and 15 (10-1-24 Edition). The following subparts are applicable to the results in this test report.

Part 2, Subpart J - Equipment Authorization Procedures, Certification

Part 15, Subpart B – Unintentional Radiators

§ 15.107 Conducted limits

§ 15.109 Radiated emission limits; general requirements

Applicable ISED Standards

ICES-Gen, Issue 2 (February 2024)

ICES-003, Issue 7

Note:
ANSI C63.4–2014 is applied.

1.2 FCC-IC CORRELATION TABLE

Correlation of measurement requirements for Information Technology Equipment (ITE) from FCC and ISED Canada

Measurement	FCC reference	ISED reference
Conducted Emissions (AC Power Line)	§15.107	ICES-003 Issue 7: 3.2.1
Radiated Spurious Emissions	§15.109	ICES-003 Issue 7: 3.2.2

Remarks:

1. FCC Part 15 subpart B, ICES 003 and CISPR 22 contain different definitions of Class A and Class B limits, i.e. which class is applicable to which kind of EUT.
   ICES 003 and CISPR 22 distinguish between the location where the EUT is intended to operate whilst FCC refers to the method of commercial distribution (distributive trades).
2. The correct assignment of the appropriate class to the concrete EUT is not scope of this test report!
3. A radio apparatus that is specifically subject to an ISED Radio Standard Specification (RSS) and which contains an ITE is not subject to ICES-003 provided the ITE is used only to enable operation of the radio apparatus and the ITE does not control additional functions or capabilities.
4. ISM (Industrial, Scientific or Medical) radio frequency generators, though they may contain ITE, are excluded from the definition of ITE and are not subject to ICES-003. They are instead subject to the Interference-Causing Equipment Standard ICES-001, which specifically addresses ISM radio frequency generators.

1.3 MEASUREMENT SUMMARY

47 CFR CHAPTER I FCC PART 15 Subpart B	**§ 15.107 Class B**			
Conducted Emissions at AC mains The measurement was performed according to ANSI C63.4			**Final Result**	
OP-Mode	**Setup**	**Date**	**FCC**	**IC**
AC mains connection, Test setup via auxiliary equipment, computer peripheric	S01_AA01	2026-04-21	Passed	Passed

47 CFR CHAPTER I FCC PART 15 Subpart B	**§ 15.109 Class B**			
Radiated Emissions The measurement was performed according to ANSI C63.4			**Final Result**	
OP-Mode	**Setup**	**Date**	**FCC**	**IC**
AC mains connection, Measurement range, Test setup				
via auxiliary equipment, 26 GHz - 40 GHz, computer peripheric	S02_AA01	2026-03-31	Passed	Passed
via auxiliary equipment, 18 GHz - 26 GHz, computer peripheric	S02_AA01	2026-03-31	Passed	Passed
via auxiliary equipment, 6 GHz - 18 GHz, computer peripheric	S02_AA01	2026-03-30	Passed	Passed
via auxiliary equipment, 1 GHz - 6 GHz, computer peripheric	S03_AA01	2026-04-28	Passed	Passed
via auxiliary equipment, 30 MHz - 1 GHz, computer peripheric	S02_AA01	2026-03-30	Passed	Passed

N/A: Not applicable
N/P: Not performed

2 REVISION HISTORY / SIGNATURES

Report version control			
Version	**Release date**	**Change Description**	**Version validity**
initial	2026-06-05	--	valid
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COMMENT: -

(responsible for accreditation scope)
Dipl.-Ing. Marco Kullik

(responsible for testing and report)
BSc. Jens Dörwald

7 layers GmbH, Borsigstr. 11
40880 Ratingen, Germany
Phone +49 (0)2102 749 0

3 ADMINISTRATIVE DATA

3.1 TESTING LABORATORY

Company Name:	7layers GmbH
Address:	Borsigstr. 11 40880 Ratingen Germany

The test facility is accredited by the following accreditation organisation:

Laboratory accreditation no:	DAkkS D-PL-12140-01-00
FCC Designation Number:	DE0015
FCC Test Firm Registration:	929146
ISED CAB Identifier	DE0007; ISED#: 3699A
Responsible for accreditation scope:	Dipl.-Ing. Marco Kullik
Report Template Version:	2025-10-17

3.2 PROJECT DATA

Responsible for testing and report:	BSc. Jens Dörwald
Employees who performed the tests:	documented internally at 7Layers
Date of Report:	2026-06-05
Testing Period:	2026-03-30 to 2026-04-28

3.3 APPLICANT DATA

Company Name:	Dedrone Holdings, LLC
Address:	45662 Terminal Dr., Suite 110 Sterling, VA 20166 USA
Contact Person:	Robin Jaeger

3.4 MANUFACTURER DATA

Company Name:	Dedrone GmbH
Address:	Miramstraße 87 34123 Kassel Germany
Contact Person:	Robin Jaeger

4 TEST OBJECT DATA

4.1 GENERAL EUT DESCRIPTION

Kind of Device product description	The device is a is a passive, network-attached sensor. The sensor's intended use is to detect and localize drones and remote controls based on RF signals. The RF-310 Rev. B sends the data via LAN connection to the DedroneTracker.AI System. Two RF modules are integrated and used as receiver only operating in the frequency bands: Broadband receiver module USRP B210: 433 MHz, 868 MHz, 915 MHz, 2450 MHz, 5200 MHz and 5800 MHz Wi-Fi module Doodlelabs ACM DB3: 2.4 GHz and 5 GHz bands
Product name	Dedrone RF-Sensor RF-310 Rev. B
Type	RF-310 Rev. B
Declared EUT data by the supplier	
Power Supply Type	PoE (Power over Ethernet)
Nominal Voltage / Frequency	PoE IEEE 802.3bt 48 V – 57 V DC
Highest internal frequency	5875 MHz
Ports	- LAN (PoE) (connected to AUX1 or AUX2, 5m)
Special software used for testing	- internet link (https://hw-validation.cloud.dedrone.com/)

4.2 EUT MAIN COMPONENTS

Sample Name	**Sample Code**	**Description**
EUT A	DE1270017aa01	Radiated sample
Sample Parameter	**Value**	
Serial No.	DR03112548P1001004	
HW Version	P1	
SW Version	7	
Comment	-	

NOTE:The short description is used to simplify the identification of the EUT in this test report.

4.3 ANCILLARY EQUIPMENT

For the purposes of this test report, ancillary equipment is defined as equipment which is used in conjunction with the EUT to provide operational and control features to the EUT. It is necessary to configure the system in a typical fashion, as a customer would normally use it. But nevertheless Ancillary Equipment can influence the test results.

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4.4 AUXILIARY EQUIPMENT

For the purposes of this test report, auxiliary equipment is defined as equipment which is used temporarily to enable operational and control features especially used for the tests of the EUT which is not used during normal operation or equipment that is used during the tests in combination with the EUT but is not subject of this test report. It is necessary to configure the system in a typical fashion, as a customer would normally use it.
But nevertheless Auxiliary Equipment can influence the test results.

Device	**Details (Manufacturer, Type Model, HW, SW, S/N)**	**Description**
AUX 1	Cudy, POE400, -, -, POE400252400007	90W Gigabit PoE++ Injector
AUX 2	Linksys, WRT3200ACM, -, 1.0.8.199531, 1981160B900782	Router
AUX 3	EDIMAX, GP-102ITT, -, -, GP102T25CA00029	1-port Giga Ethernet 60W PoE Injector
AUX 4	Tp-link omada, ER706W-4G, -, -, 22432Q4000055	Omada 4G+ Cat6 AX3000 Gigabit VPN Router
AUX 5	Fujitsu Ltd., Lifebook U758, 2018-07, Win 11 Pro Engl., DSAL005080	Laptop RE07
AUX 6	Fujitsu Ltd., A13-065N3A, -, -, 18790GUG04	AC/DC Adapter 65W for laptop RE07

4.5 EUT SETUPS

This chapter describes the combination of EUTs and equipment used for testing. The rationale for selecting the EUTs, ancillary and auxiliary equipment and interconnecting cables, is to test a representative configuration meeting the requirements of the referenced standards.

Setup	**Combination of EUTs**	**Description and Rationale**
S01_AA01	EUT A, AUX 3 to AUX 6	Conducted Setup
S02_AA01	EUT A, AUX 1 + AUX 4 to AUX 6	Radiated Setup
S03_AA01	EUT A, AUX 1 + AUX 2 + AUX 5 + AUX 6	Radiated Setup

4.6 OPERATING MODES / TEST CHANNELS

This chapter describes the operating modes of the EUTs used for testing.

- Drone detection
- Wifi detection
- Data traffic via LAN to a laptop

4.7 PRODUCT LABELLING

4.7.1 FCC ID LABEL

Please refer to the documentation of the applicant.

4.7.2 LOCATION OF THE LABEL ON THE EUT

Please refer to the documentation of the applicant.

5 TEST RESULTS

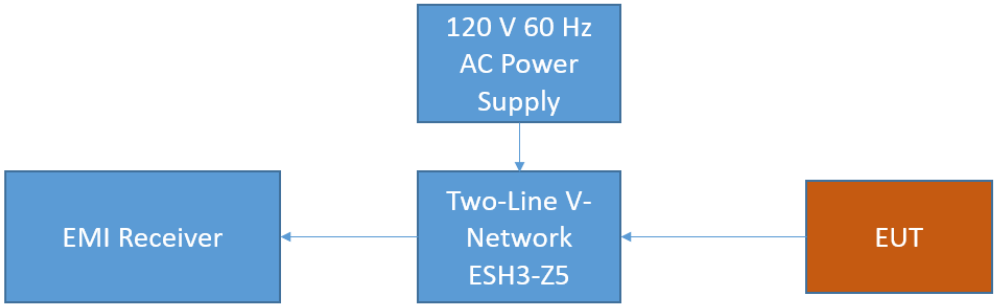
5.1 CONDUCTED EMISSIONS AT AC MAINS

Standard **FCC Part 15 Subpart B**

The test was performed according to:
ANSI C63.4

5.1.1 TEST DESCRIPTION

The test set-up was made in accordance with the general provisions of ANSI C 63.4.
The Equipment Under Test (EUT) was setup in a shielded room to perform the conducted emissions measurements in a typical installation configuration. The EUT was powered from 50µH || 50 Ohm Line Impedance Stabilization Network (LISN). The LISN's unused connections were terminated with 50 Ohm loads.



FCC Conducted Emissions on AC

The measurement procedure consists of two steps. It is implemented into the EMI test software EMC-32 from R&S.

Step 1: Preliminary scan
Intention of this step is, to determine the conducted EMI-profile of the EUT.
EMI receiver settings:
- Detector: Quasi-Peak & Average, trace Max-hold
- Frequency range: 150 kHz – 30 MHz
- Frequency steps: 2.5 kHz
- IF–Bandwidth: 9 kHz
- Measuring time / Frequency step: 100 ms (FFT-based)
- Measurement combinations:
1) Neutral lead - reference ground (PE grounded)
2) Phase lead - reference ground (PE grounded)
3) Neutral lead - reference ground (PE floating)
4) Phase lead - reference ground (PE floating)

On basis of this preliminary scan the highest amplitudes and the corresponding frequencies relative to the limit are identified. Emissions above the limit and emissions which are in the 10 dB range below the limit are considered.

Step 2: Final measurement
Intention of this step is, to determine the highest emissions with the settings defined in the test specification for the frequencies and leads identified in step 1.

EMI receiver settings:
- Detector: Quasi-Peak & CISPR-Average
- IF Bandwidth: 9 kHz
- Measuring time: 15 x 1 s / frequency

The highest value is reported in the table.

5.1.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart B, §15.107

Class B:

Frequency (MHz)	QP Limits (dBµV)	AV Limits (dBµV)
0.15 – 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

Class A:

Frequency (MHz)	QP Limits (dBµV)	AV Limits (dBµV)
0.15 – 0.5	79	66
0.5 - 30	73	60

5.1.3 TEST PROTOCOL

Temperature: 24 °C
Air Pressure: 1016 hPa
Humidity: 33 %
via auxiliary equipment, computer peripheric

Power line	PE	Frequency [MHz]	Level [dBµV]	Detector	Limit [dBµV]	Margin [dB]
N	FLO	0.42	45.0	QP	57.5	12.5
L1	GND	25.69	28.2	AV	50.0	21.8
L1	GND	26.19	45.0	QP	60.0	15.1
L1	GND	26.19	23.9	AV	50.0	26.1
L1	GND	26.70	24.8	AV	50.0	25.2
L1	GND	26.70	40.9	QP	60.0	19.1
L1	GND	27.20	47.5	QP	60.0	12.5
L1	GND	27.20	26.7	AV	50.0	23.3
L1	GND	27.70	47.5	QP	60.0	12.5
L1	GND	27.70	25.2	AV	50.0	24.8
L1	GND	28.21	45.9	QP	60.0	14.2
L1	GND	28.21	24.0	AV	50.0	26.0

Remark: Please see next sub-clause for the measurement plot.

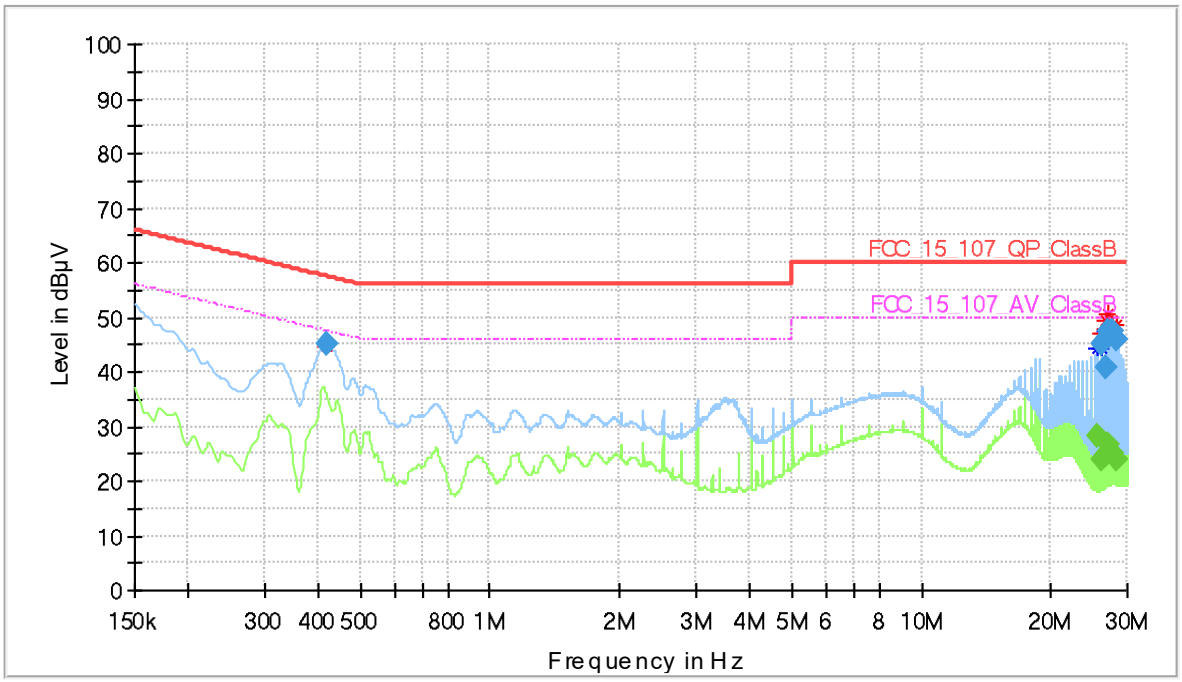
5.1.4 MEASUREMENT PLOT (EXAMPLE PLOT, SHOWING WORST CASE, IF APPLICABLE)

AC mains connection = via auxiliary equipment, Test setup = computer peripheric (S01_AA01)

Diagram 1.01

Common Information

Test Description:	Conducted Emissions
Test Standard:	FCC §15.107, ANSI C63.4
EUT / Setup Code:	DE1270017aa01
Operating Conditions:	120 V 60 Hz, Drone detection, Wifi detection, LAN traffic to Laptop.
Comment:	Computer peripheral setup
Legend:	Trace: blue = QP, green = CISPR AV; Star: red or blue = critical frequency; Rhombus: blue = final QP, green = final CISPR AV
Tested Port / used LISN:	AC mains (AUX2) => 1st LISN ESH3-Z5
Termination of other ports:	AC of AUX5 => 2nd LISN ESH3-Z5 +50 Ohm



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.417750	45.01	---	57.49	12.48	1000.0	9.000	N	FLO	10.1
25.689750	---	28.21	50.00	21.79	1000.0	9.000	L1	GND	11.2
26.189250	44.95	---	60.00	15.05	1000.0	9.000	L1	GND	11.2
26.193750	---	23.87	50.00	26.13	1000.0	9.000	L1	GND	11.2
26.697750	---	24.79	50.00	25.21	1000.0	9.000	L1	GND	11.2
26.700000	40.92	---	60.00	19.08	1000.0	9.000	L1	GND	11.2
27.199500	47.54	---	60.00	12.46	1000.0	9.000	L1	GND	11.2
27.199500	---	26.71	50.00	23.29	1000.0	9.000	L1	GND	11.2
27.699000	47.54	---	60.00	12.46	1000.0	9.000	L1	GND	11.2
27.703500	---	25.19	50.00	24.81	1000.0	9.000	L1	GND	11.2
28.205250	45.85	---	60.00	14.15	1000.0	9.000	L1	GND	11.2
28.207500	---	23.98	50.00	26.02	1000.0	9.000	L1	GND	11.2

5.1.5 TEST EQUIPMENT USED

- Conducted Emissions FCC

5.2 RADIATED EMISSIONS

Standard **FCC Part 15 Subpart B**

The test was performed according to:
ANSI C63.4

5.2.1 TEST DESCRIPTION

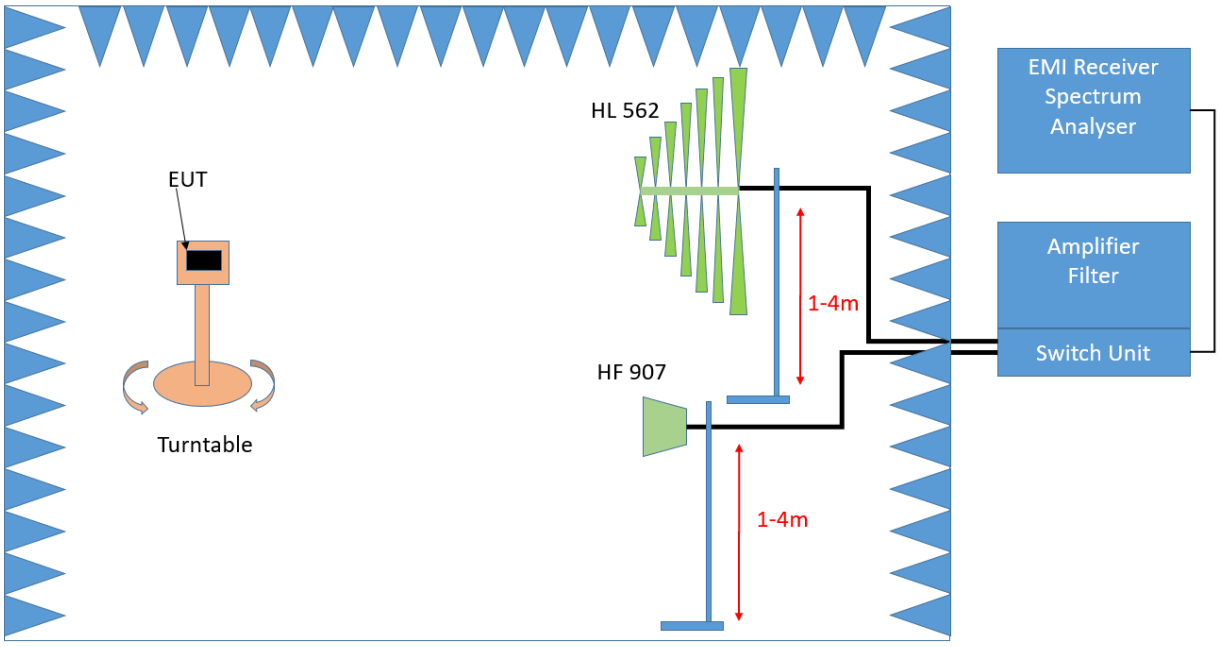
The test set-up was made in accordance to the general provisions of ANSI C63.4 in a typical installation configuration. The measurements were performed according to the following sub-chapters of ANSI C63.4:

- 30 MHz – 1 GHz: Chapter 8.3.2.1
- > 1 GHz: Chapter 8.3.2.2

The measurement procedure is implemented into the EMI test software EMC32 from R&S. Exploratory tests are performed at 3 orthogonal axes to determine the worst-case orientation of a body-worn or handheld EUT. The final test on all kind of EUTs is also performed at 3 axes. A pre-check is performed while the EUT is powered.

The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The influence of the EUT support table that is used between 30–1000 MHz was evaluated.

1. Measurement setup



Test Setup; Spurious Emission Radiated (SAC)

Frequency range 30 MHz – 1 GHz

Step 1: Preliminary scan
This is a preliminary test to identify the highest amplitudes relative to the limit.
Settings for step 1:
- Antenna distance: 3 m
- Detector: Peak-Max-hold / Quasi-Peak (FFT-based)
- Frequency range: 30 – 1000 MHz
- Frequency steps: 30 kHz
- IF–Bandwidth: 120 kHz
- Measuring time / Frequency step: 100 ms
- Turntable angle range: –180° to 90°
- Turntable step size: 90°
- Height variation range: 1 – 4 m
- Height variation step size: 1.5 m
- Polarisation: Horizontal + Vertical

Intention of this step is, to determine the radiated EMI-profile of the EUT. Afterwards the relevant emissions for the final measurement are identified.

Step 2: Adjustment measurement
In this step the accuracy of the turntable azimuth and antenna height will be improved. This is necessary to find out the maximum value of every frequency.
For each frequency, which was determined the turntable azimuth and antenna height will be adjusted. The turntable azimuth will slowly vary by 360°. During this action, the value of emission is continuously measured. The turntable azimuth at the highest emission will be recorded and adjusted. In this position, the antenna height will slowly vary between 1 – 4 m. During this action, the value of emission is also continuously measured. The antenna height of the highest emission will also be recorded and adjusted.
- Detector: Peak – Max-hold
- Measured frequencies: in step 1 determined frequencies
- IF – Bandwidth: 120 kHz
- Measuring time: 100 ms
- Turntable angle range: 360 °
- Height variation range:1 – 4 m
- Antenna Polarization: max. value determined in step 1

Step 3: Final measurement with QP detector
With the settings determined in step 2, the final measurement will be performed:
EMI receiver settings for step 3:
- Detector: Quasi-Peak
- Measured frequencies: in step 1 determined frequencies
- IF – Bandwidth: 120 kHz
- Measuring time: 1 s

Above 1 GHz:

The following changes apply to the measurement procedure for the frequency range above 1 GHz:

Step 1:
- Turntable step size: 45°
- Detector: Peak, Average (Max-hold)
- IF – Bandwidth: 1 MHz
- Frequency steps: 250 kHz
- Measuring time: 500 ms / GHz

Step 2:
- IF – Bandwidth: 1 MHz

Step 3:
- Detector: Peak / CISPR Average
- IF – Bandwidth: 1 MHz

After every measurement a plot will be generated which contains a diagram with the results of the preliminary scan and a chart with the frequencies and values of the results of the final measurement.

5.2.2 TEST REQUIREMENTS / LIMITS

FCC Part 15, Subpart B, §15.109, Radiated Emission Limits

Class B:

Frequency (MHz)	Limit (µV/m)	Measurement distance (m)	Limits (dBµV/m)
30 – 88	100@3m	3	40.0@3m
88 – 216	150@3m	3	43.5@3m
216 – 960	200@3m	3	46.0@3m
960 - 26000	500@3m	3	54.0@3m
26000 - 40000	500@3m	1	54.0@3m

Class A:

Frequency (MHz)	Limit (µV/m)	Measurement distance (m)	Limits (dBµV/m)
30 – 88	90@10m	3	39.1@10m
88 – 216	150@10m	3	43.5@10m
216 – 960	210@10m	3	46.4@10m
960 - 26000	300@10m	3	49.5@10m
26000 - 40000	300@10m	1	49.5@10m

The measured values for Class A and for Class B (> 26 GHz) measurements are corrected with an inverse linear distance extrapolation factor (20 dB/decade).

§15.35(b) ..., there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit....

Used conversion factor: Limit (dBµV/m) = 20 log (Limit (µV/m)/1µV/m)

5.2.3 TEST PROTOCOL

Ambient temperature: 22–23 °C
Air Pressure: 1009–1020 hPa
Humidity: 33–34 %
via auxiliary equipment, computer peripheric

Spurious Freq. [MHz]	Spurious Level [dBµV/m]	Detector	RBW [kHz]	Limit [dBµV/m]	Margin to Limit [dB]
34.7	26.4	QP	120	40.0	13.6
52.5	33.5	QP	120	40.0	6.5
75.0	32.9	QP	120	40.0	7.1
81.5	37.5	QP	120	40.0	2.5
89.0	34.7	QP	120	43.5	8.8
126.4	31.3	QP	120	43.5	12.2
142.7	32.8	QP	120	43.5	10.7
196.2	30.8	QP	120	43.5	12.7
796.4	20.6	QP	120	46.0	25.4
1250.0	38.9	PEAK	1000	74.0	35.1
1250.0	30.4	AV	1000	54.0	23.6
1375.0	32.6	AV	1000	54.0	21.4
1375.0	40.6	PEAK	1000	74.0	33.4
1812.5	42.6	PEAK	1000	74.0	31.4
1812.5	33.1	AV	1000	54.0	20.9
1996.0	51.2	PEAK	1000	74.0	22.8
1996.0	24.6	AV	1000	54.0	29.4
2000.0	31.2	AV	1000	54.0	22.8
2000.0	43.7	PEAK	1000	74.0	30.3
2164.5	23.4	AV	1000	54.0	30.6
2164.5	46.0	PEAK	1000	74.0	28.0
3333.3	46.4	PEAK	1000	74.0	27.6
3333.3	33.0	AV	1000	54.0	21.0
5979.0	61.2	PEAK	1000	74.0	12.8
5979.0	30.9	AV	1000	54.0	23.1
13470.3	47.6	AV	1000	54.0	6.4
13470.3	60.5	PEAK	1000	74.0	13.5
17920.8	53.2	AV	1000	54.0	0.8
17920.8	66.3	PEAK	1000	74.0	7.7

Remark: Please see next sub-clause for the measurement plot.

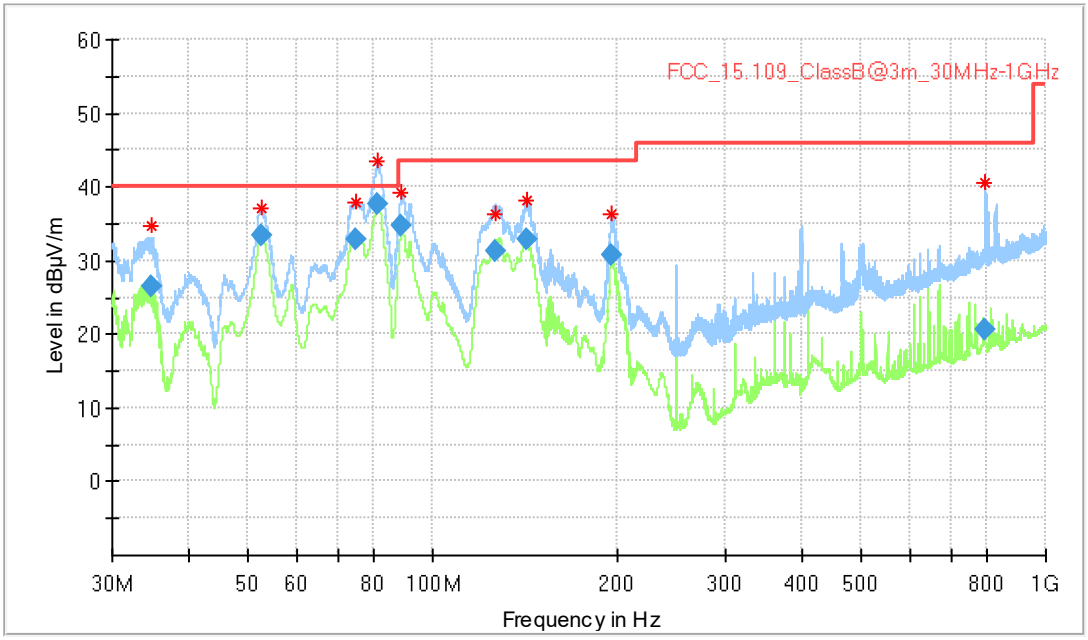
5.2.4 MEASUREMENT PLOT (EXAMPLE PLOT, SHOWING WORST CASE, IF APPLICABLE)

AC mains connection = via auxiliary equipment, Measurement range = 30 MHz - 1 GHz, Test setup = computer peripheric
(S02_AA01)

Diagram 2.01

Common Information

Test Description:	Radiated Emissions, Test Site: Semi Anechoic Chamber @ 3 m
Test Standard:	FCC §15.109 / Class B
Frequency range:	30 MHz – 1 GHz
EUT / Setup Code:	DE1270017aa01
Operating Conditions:	Drone Detection + Wifi detection + LAN traffic to Laptop.
Comment	Computer peripheral Setup
Legend:	Trace (preview): blue = PK, green = QP; Star: red or blue = critical frequency; Rhombus: blue = final QP



Final_Result

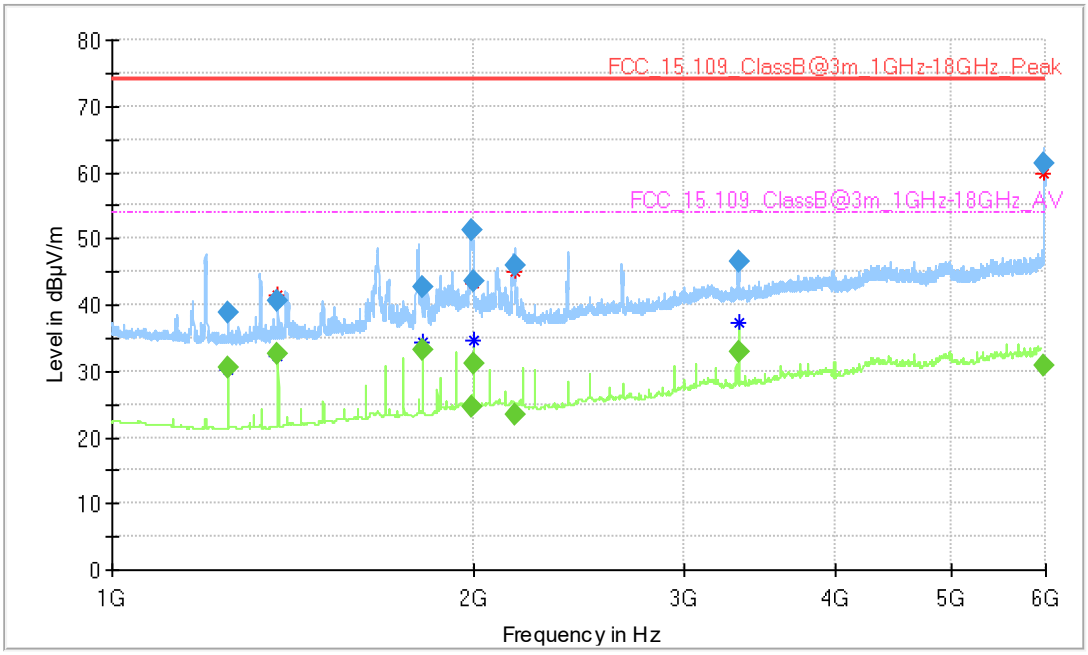
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
34.650000	26.4	40.00	13.6	1000.0	120.000	111.0	V	50	16.9
52.530000	33.5	40.00	6.5	1000.0	120.000	113.0	V	298	5.9
74.970000	32.9	40.00	7.1	1000.0	120.000	149.0	V	201	9.8
81.540000	37.5	40.00	2.5	1000.0	120.000	141.0	V	159	10.6
89.040000	34.7	43.50	8.8	1000.0	120.000	123.0	V	327	11.1
126.360000	31.3	43.50	12.2	1000.0	120.000	129.0	V	338	11.6
142.680000	32.8	43.50	10.8	1000.0	120.000	111.0	V	212	10.4
196.170000	30.8	43.50	12.8	1000.0	120.000	100.0	V	12	10.1
796.440000	20.6	46.00	25.4	1000.0	120.000	112.0	V	0	25.6

AC mains connection = via auxiliary equipment, Measurement range = 1 GHz - 6 GHz, Test setup = computer peripheric
(S03_AA01)

Diagram 2.02

Common Information

Test Description:	Radiated Emissions @ 3 m, SAC + mobile floor absorber
Test Standard:	FCC §15.109 / Class B
Frequency range:	1 GHz – 6 GHz
EUT / Setup Code:	DE1270017aa01
Operating Conditions:	Drone Detection + Wifi detection + LAN traffic to Laptop.
Comment	Computer peripheral Setup
Legend:	Trace (preview): blue = PK, green = QP; Star: red or blue = critical frequency; Rhombus: blue = final QP



Final_Result

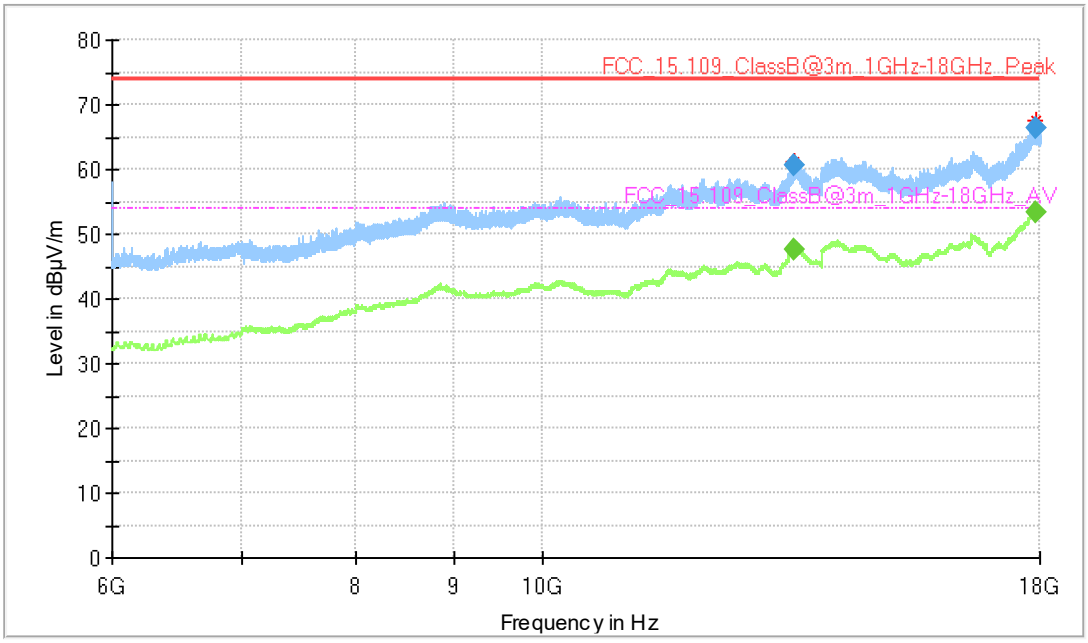
Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1250.000000	38.9	---	74.00	35.1	200.0	1000.000	299.0	H	-172	2.8
1250.000000	---	30.4	54.00	23.6	200.0	1000.000	299.0	H	-172	2.8
1375.000000	---	32.6	54.00	21.4	200.0	1000.000	325.0	H	-181	3.4
1375.000000	40.6	---	74.00	33.4	200.0	1000.000	325.0	H	-181	3.4
1812.500000	42.6	---	74.00	31.4	200.0	1000.000	220.0	V	9	6.4
1812.500000	---	33.1	54.00	20.9	200.0	1000.000	220.0	V	9	6.4
1996.000000	51.2	---	74.00	22.8	200.0	1000.000	123.0	V	-227	8.5
1996.000000	---	24.6	54.00	29.4	200.0	1000.000	123.0	V	-227	8.5
2000.000000	---	31.2	54.00	22.8	200.0	1000.000	364.0	H	63	8.5
2000.000000	43.7	---	74.00	30.4	200.0	1000.000	364.0	H	63	8.5
2164.500000	---	23.4	54.00	30.6	200.0	1000.000	154.0	V	-138	8.4
2164.500000	46.0	---	74.00	28.0	200.0	1000.000	154.0	V	-138	8.4
3333.250000	46.4	---	74.00	27.6	200.0	1000.000	235.0	V	2	13.9
3333.250000	---	33.0	54.00	21.0	200.0	1000.000	235.0	V	2	13.9
5979.000000	61.2	---	74.00	12.8	200.0	1000.000	186.0	V	-226	20.6
5979.000000	---	30.9	54.00	23.1	200.0	1000.000	186.0	V	-226	20.6

AC mains connection = via auxiliary equipment, Measurement range = 6 GHz - 18 GHz, Test setup = computer peripheric
(S02_AA01)

Diagram 2.03

Common Information

Test Description:	Radiated Emissions @ 3 m, SAC + mobile floor absorber
Test Standard:	FCC §15.109 / Class B
Frequency range:	6 GHz – 18 GHz
EUT / Setup Code:	DE1270017aa01
Operating Conditions:	Drone Detection + Wifi detection + LAN traffic to Laptop.
Comment	Computer peripheral Setup
Legend:	Trace (preview): blue = PK, green = QP; Star: red or blue = critical frequency; Rhombus: blue = final QP



Final_Result

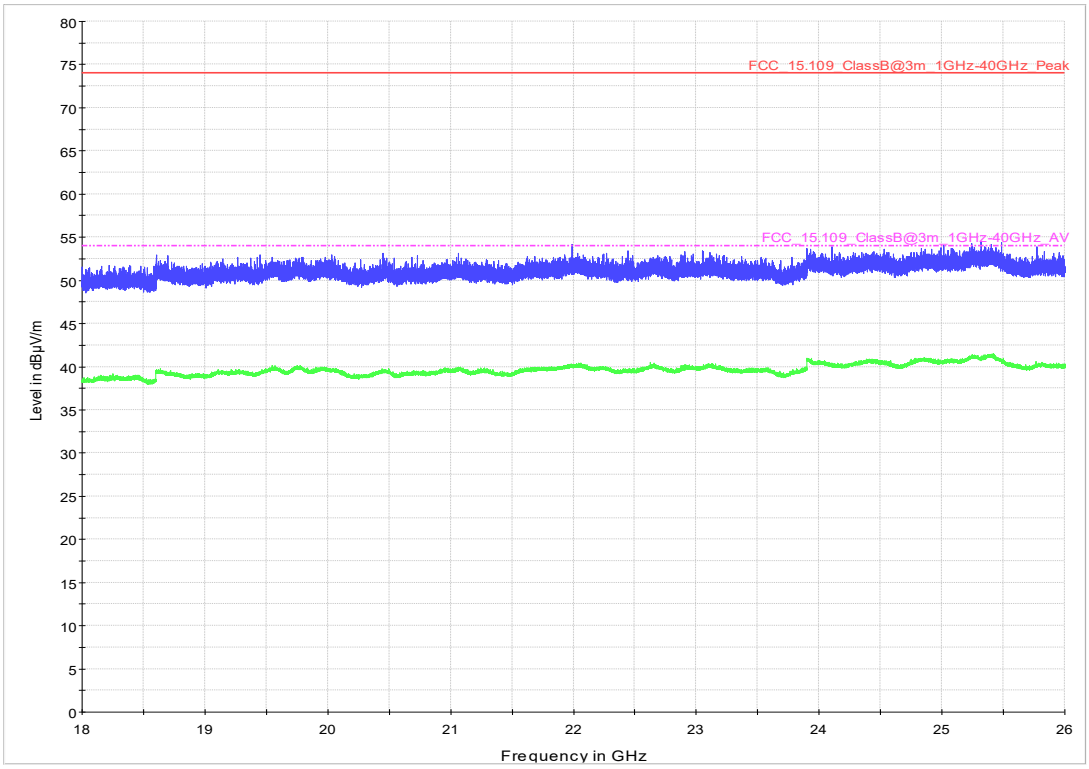
Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
13470.250000	---	47.6	54.00	6.4	200.0	1000.000	365.0	V	-26	32.3
13470.250000	60.5	---	74.00	13.5	200.0	1000.000	365.0	V	-26	32.3
17920.750000	---	53.2	54.00	0.8	200.0	1000.000	364.0	H	-97	38.4
17920.750000	66.3	---	74.00	7.7	200.0	1000.000	364.0	H	-97	38.4

AC mains connection = via auxiliary equipment, Measurement range = 18 GHz - 26 GHz, Test setup = computer peripheric
(S02_AA01)

Diagram 2.04

Common Information

Test Description:	Radiated Emissions @ 3 m, SAC + mobile floor absorber
Test Standard:	FCC §15.109 / Class B
Frequency range:	18 GHz – 26 GHz
EUT / Setup Code:	DE1270017aa01
Operating Conditions:	Drone Detection + Wifi detection + LAN traffic to Laptop.
Comment	Computer peripheral Setup
Legend:	Trace (preview): blue = PK, green = QP; Star: red or blue = critical frequency; Rhombus: blue = final QP

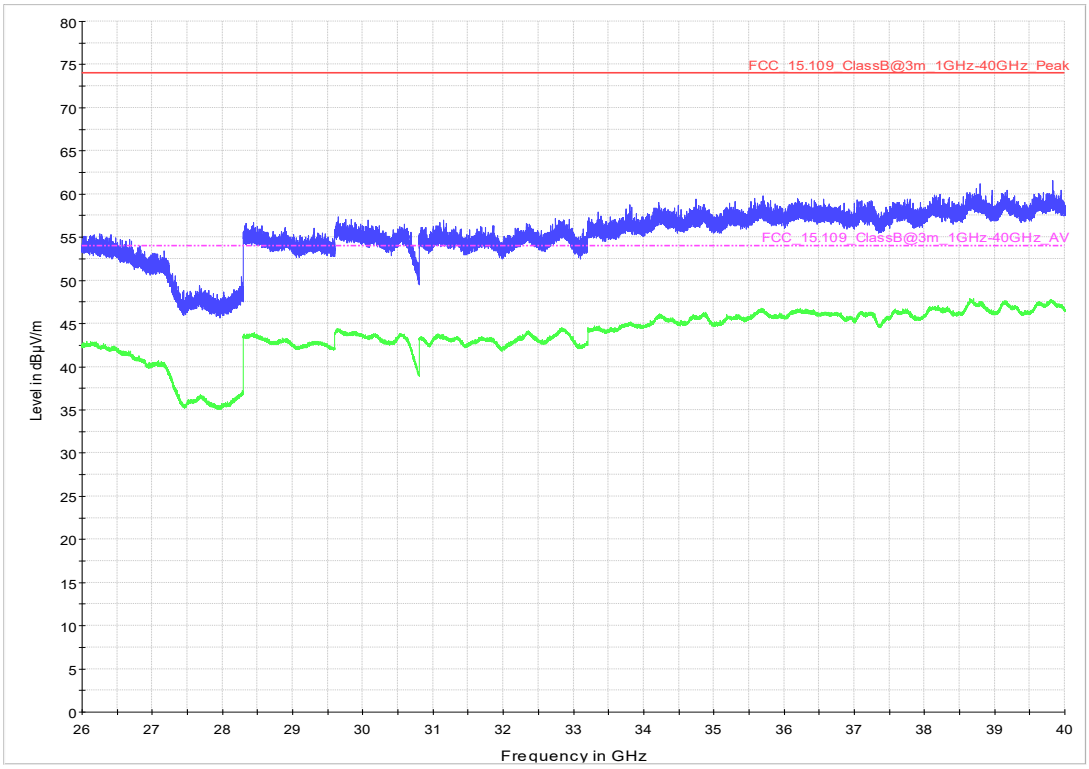


AC mains connection = via auxiliary equipment, Measurement range = 26 GHz - 40 GHz, Test setup = computer peripheric
(S02_AA01)

Diagram 2.05

Common Information

Test Description:	Radiated Emissions @ 3 m, SAC + mobile floor absorber
Test Standard:	FCC §15.109 / Class B
Frequency range:	26 GHz – 40 GHz
EUT / Setup Code:	DE1270017aa01
Operating Conditions:	Drone Detection + Wifi detection + LAN traffic to Laptop.
Comment	Computer peripheral Setup
Legend:	Trace (preview): blue = PK, green = QP; Star: red or blue = critical frequency; Rhombus: blue = final QP



5.2.5 TEST EQUIPMENT USED

- Radiated Emissions SAC above 1 GHz
- Radiated Emissions SAC up to 1 GHz

6 TEST EQUIPMENT

6.1 TEST EQUIPMENT HARDWARE

1 Conducted Emissions FCC
Conducted Emissions AC Mains for FCC standards

Ref.No.	Device Name	Description	Manufacturer	Serial Number	Last Calibration	Calibration Due
1.1	Opus10 TPR (8253.00)	T/P Logger 13	Lufft Mess- und Regeltechnik GmbH	13936	2026-02	2028-02
1.2	Fluke 177	Digital Multimeter 03 (Multimeter)	Fluke Europe B.V.	86670383	2025-09	2027-09
1.3	ESH3-Z5	Two-Line V-Network (AUX)	Rohde & Schwarz GmbH & Co. KG	828304/029	2025-10	2027-10
1.4	CS-RUB6	Rubidium Frequency Standard	Rohde & Schwarz GmbH & Co. KG	100451	2025-07	2027-07
1.5	EP 1200/B, NA/B1	AC Source, Amplifier with integrated variable Oscillator	Spitzenberger & Spies GmbH & Co. KG	B6278	N/A	N/A
1.6	NGSM 32/10	Power Supply	Rohde & Schwarz GmbH & Co. KG	3456	2025-04	2027-04
1.7	Chroma 6404	AC Source	Chroma ATE INC.	64040001304	N/A	N/A
1.8	CMU 200	"CMU1" Universal Radio Communication Tester	Rohde & Schwarz GmbH & Co. KG	102366	N/A	N/A
1.9	Shielded Room 02	Shielded Room 4m x 3m	Frankonia Germany EMC Solution GmbH	-	N/A	N/A
1.10	CMD 55	Digital Radio Communication Tester	Rohde & Schwarz	831050/020	N/A	N/A
1.11	ESH3-Z5	Two-Line V-Network (EUT)	Rohde & Schwarz GmbH & Co. KG	829996/002	2025-10	2027-10
1.12	ESR 7	EMI Receiver / Spectrum Analyzer	Rohde & Schwarz	101424	2025-04	2027-04
1.13	Opus10 THI (8152.00)	T/H Logger 02	Lufft Mess- und Regeltechnik GmbH	7489	2026-01	2028-01
1.14	SMU 200A	Vector Signal Generator 100 kHz - 3 GHz (GPS Signalling Unit)	Rohde & Schwarz GmbH & Co. KG	100912	N/A	N/A
1.15	SMU200A	Vector Signal Generator	Rohde & Schwarz GmbH & Co. KG	104316		

2 Radiated Emissions SAC above 1 GHz

Radiated emission tests above 1 GHz in a semi anechoic room with floor absorbers

Ref.No.	Device Name	Description	Manufacturer	Serial Number	Last Calibration	Calibration Due
2.1	N5000/NP	Filter for EUT, 2 Lines, 250 V, 16 A	ETS-LINDGREN	241515	N/A	N/A
2.2	Opus10 TPR (8253.00)	T/P Logger 13	Lufft Mess- und Regeltechnik GmbH	13936	2026-02	2028-02
2.3	ESW44	EMI Receiver / Spectrum Analyzer	Rohde & Schwarz GmbH & Co. KG	101603	2026-04	2028-04
2.4	Anechoic Chamber 01	SAC/FAR, 10.58 m x 6.38 m x 6.00 m	Frankonia Germany EMC Solution GmbH	none	N/A	N/A
2.5	Fluke 177	Digital Multimeter 03 (Multimeter)	Fluke Europe B.V.	86670383	2025-09	2027-09
2.6	Opus10 THI (8152.00)	T/H Logger 10	Lufft Mess- und Regeltechnik GmbH	12488	2026-02	2028-02
2.7	CS-RUB6	Rubidium Frequency Standard	Rohde & Schwarz GmbH & Co. KG	100451	2025-07	2027-07
2.8	EP 1200/B, NA/B1	AC Source, Amplifier with integrated variable Oscillator	Spitzenberger & Spies GmbH & Co. KG	B6278	N/A	N/A
2.9	3160-09	Standard Gain / Pyramidal Horn Antenna 26.5 GHz	EMCO Elektronic GmbH	00083069	N/A	N/A
2.10	DS 420S	Turn Table 2 m diameter	HD GmbH	420/573/99	N/A	N/A
2.11	JS4-00102600-42-5A	Broadband Amplifier 30 MHz - 26 GHz	Miteq	619368	N/A	N/A
2.12	3160-10	Standard Gain / Pyramidal Horn Antenna 40 GHz	EMCO Elektronic GmbH	00086675	N/A	N/A
2.13	MA4985-XP-ET	Bore Sight Antenna Mast	innco systems GmbH	none	N/A	N/A
2.14	BB4312-C30-H3x	Filter Universal 1A	Siemens Matsushita Components	none	N/A	N/A
2.15	HF 907-2	Double-ridged horn	Rohde & Schwarz	102817	2025-09	2028-09

3 Radiated Emissions SAC up to 1 GHz

Radiated emission tests up to 1 GHz in a semi anechoic room

Ref.No.	Device Name	Description	Manufacturer	Serial Number	Last Calibration	Calibration Due
3.1	N5000/NP	Filter for EUT, 2 Lines, 250 V, 16 A	ETS-LINDGREN	241515	N/A	N/A

Ref.No.	Device Name	Description	Manufacturer	Serial Number	Last Calibration	Calibration Due
3.2	Opus10 TPR (8253.00)	T/P Logger 13	Lufft Mess- und Regeltechnik GmbH	13936	2026-02	2028-02
3.3	ESW44	EMI Receiver / Spectrum Analyzer	Rohde & Schwarz GmbH & Co. KG	101603	2026-04	2028-04
3.4	Anechoic Chamber 01	SAC/FAR, 10.58 m x 6.38 m x 6.00 m	Frankonia Germany EMC Solution GmbH	none	N/A	N/A
3.5	Fluke 177	Digital Multimeter 03 (Multimeter)	Fluke Europe B.V.	86670383	2025-09	2027-09
3.6	Opus10 THI (8152.00)	T/H Logger 10	Lufft Mess- und Regeltechnik GmbH	12488	2026-02	2028-02
3.7	CS-RUB6	Rubidium Frequency Standard	Rohde & Schwarz GmbH & Co. KG	100451	2025-07	2027-07
3.8	EP 1200/B, NA/B1	AC Source, Amplifier with integrated variable Oscillator	Spitzenberger & Spies GmbH & Co. KG	B6278	N/A	N/A
3.9	DS 420S	Turn Table 2 m diameter	HD GmbH	420/573/99	N/A	N/A
3.10	HL 562E Ultralog	Biconical-log-per Antenna (30 MHz - 6 GHz)	Rohde & Schwarz GmbH & Co. KG	102299	2024-07	2027-07
3.11	ESR 7	EMI Receiver / Spectrum Analyzer	Rohde & Schwarz	101424	2025-04	2027-04
3.12	AM 4.0	Antenna Mast 4 m	Maturo GmbH	AM4.0/180/11920513	N/A	N/A

The calibration interval is the time interval between “Last Calibration” and “Calibration Due”

6.2 TEST EQUIPMENT SOFTWARE

Semi-Anechoic Chamber:	
Software	Version
EMC32 Measurement Software	10.60.10
INNCO Mast Controller	1.02.62
INNCO Mast Height	34.10
INNCO Mast Elevation	36.11
MATURO Controller	1.24
MATURO Mast	12.19
MATURO Turn-Table	30.10
Fully-Anechoic Chamber:	
Software	Version
EMC32 Measurement Software	10.60.10
MATURO Controller	1.30
MATURO Turn-Unit	11.10
MATURO Mast	12.10
MATURO Turntable	12.11
INNCO Controller	1.03.02
INNCO Mast Height	34.10
INNCO Mast Elevation	36.11
TS 8997	
WMS32 Measurement Software	11.60.00 (till 2024-03-19), 11.70.00 + Hotfix 01
Conducted AC Emissions:	
Software	Version
EMC32 Measurement Software	10.60.20

7 ANTENNA FACTORS, CABLE LOSS AND SAMPLE CALCULATIONS

This chapter contains the antenna factors with their corresponding path loss of the used measurement path for all antennas as well as the insertion loss of the LISN.

7.1 LISN R&S ESH3-Z5 (150 KHZ – 30 MHZ)

Frequency		Corr.	LISN insertion loss ESH3-Z5	cable loss (incl. 10 dB atten-uator)
MHz		dB	dB	dB
0.15		10.1	0.1	10.0
5		10.3	0.1	10.2
7		10.5	0.2	10.3
10		10.5	0.2	10.3
12		10.7	0.3	10.4
14		10.7	0.3	10.4
16		10.8	0.4	10.4
18		10.9	0.4	10.5
20		10.9	0.4	10.5
22		11.1	0.5	10.6
24		11.1	0.5	10.6
26		11.2	0.5	10.7
28		11.2	0.5	10.7
30		11.3	0.5	10.8

Sample calculation

U_{LISN} (dB µV) = U (dB µV) + Corr. (dB)
U = Receiver reading
LISN Insertion loss = Voltage Division Factor of LISN
Corr. = sum of single correction factors of used LISN, cables, switch units (if used)
Linear interpolation will be used for frequencies in between the values in the table.

7.2 ANTENNA R&S HFH2-Z2 (9 KHZ – 30 MHZ)

Frequency	AF HFH-Z2)	Corr.	cable loss 1 (inside chamber)	cable loss 2 (outside chamber)	cable loss 3 (switch unit)	cable loss 4 (to receiver)	distance corr. (-40 dB/ decade)	d_{Limit} (meas. distance (limit)	d_{used} (meas. distance (used)
MHz	dB (1/m)	dB	dB	dB	dB	dB	dB	m	m
0.009	20.50	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.01	20.45	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.015	20.37	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.02	20.36	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.025	20.38	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.03	20.32	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.05	20.35	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.08	20.30	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.1	20.20	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.2	20.17	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.3	20.14	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.49	20.12	-79.6	0.1	0.1	0.1	0.1	-80	300	3
0.490001	20.12	-39.6	0.1	0.1	0.1	0.1	-40	30	3
0.5	20.11	-39.6	0.1	0.1	0.1	0.1	-40	30	3
0.8	20.10	-39.6	0.1	0.1	0.1	0.1	-40	30	3
1	20.09	-39.6	0.1	0.1	0.1	0.1	-40	30	3
2	20.08	-39.6	0.1	0.1	0.1	0.1	-40	30	3
3	20.06	-39.6	0.1	0.1	0.1	0.1	-40	30	3
4	20.05	-39.5	0.2	0.1	0.1	0.1	-40	30	3
5	20.05	-39.5	0.2	0.1	0.1	0.1	-40	30	3
6	20.02	-39.5	0.2	0.1	0.1	0.1	-40	30	3
8	19.95	-39.5	0.2	0.1	0.1	0.1	-40	30	3
10	19.83	-39.4	0.2	0.1	0.2	0.1	-40	30	3
12	19.71	-39.4	0.2	0.1	0.2	0.1	-40	30	3
14	19.54	-39.4	0.2	0.1	0.2	0.1	-40	30	3
16	19.53	-39.3	0.3	0.1	0.2	0.1	-40	30	3
18	19.50	-39.3	0.3	0.1	0.2	0.1	-40	30	3
20	19.57	-39.3	0.3	0.1	0.2	0.1	-40	30	3
22	19.61	-39.3	0.3	0.1	0.2	0.1	-40	30	3
24	19.61	-39.3	0.3	0.1	0.2	0.1	-40	30	3
26	19.54	-39.3	0.3	0.1	0.2	0.1	-40	30	3
28	19.46	-39.2	0.3	0.1	0.3	0.1	-40	30	3
30	19.73	-39.1	0.4	0.1	0.3	0.1	-40	30	3

Sample calculation

E (dB µV/m) = U (dB µV) + AF (dB 1/m) + Corr. (dB)
U = Receiver reading
AF = Antenna factor
Corr. = sum of single correction factors of used cables, switch unit, distance correction, amplifier (if applicable)
distance correction = -40 * LOG (d_{Limit}/ d_{used})
Linear interpolation will be used for frequencies in between the values in the table.
Table shows an extract of values

7.3 ANTENNA R&S HL562 (30 MHZ – 1 GHZ)

(d_{Limit} = 3 m)

Frequency	AF R&S HL562	Corr.	cable loss 1 (inside chamber)	cable loss 2 (outside chamber)	cable loss 3 (switch unit)	cable loss 4 (to receiver)	distance corr. (-20 dB/ decade)	d_{Limit} (meas. distance (limit)	d_{used} (meas. distance (used)
MHz	dB (1/m)	dB	dB	dB	dB	dB	dB	m	m
30	18.6	0.6	0.29	0.04	0.23	0.02	0.0	3	3
50	6.0	0.9	0.39	0.09	0.32	0.08	0.0	3	3
100	9.7	1.2	0.56	0.14	0.47	0.08	0.0	3	3
150	7.9	1.6	0.73	0.20	0.59	0.12	0.0	3	3
200	7.6	1.9	0.84	0.21	0.70	0.11	0.0	3	3
250	9.5	2.1	0.98	0.24	0.80	0.13	0.0	3	3
300	11.0	2.3	1.04	0.26	0.89	0.15	0.0	3	3
350	12.4	2.6	1.18	0.31	0.96	0.13	0.0	3	3
400	13.6	2.9	1.28	0.35	1.03	0.19	0.0	3	3
450	14.7	3.1	1.39	0.38	1.11	0.22	0.0	3	3
500	15.6	3.2	1.44	0.39	1.20	0.19	0.0	3	3
550	16.3	3.5	1.55	0.46	1.24	0.23	0.0	3	3
600	17.2	3.5	1.59	0.43	1.29	0.23	0.0	3	3
650	18.1	3.6	1.67	0.34	1.35	0.22	0.0	3	3
700	18.5	3.6	1.67	0.42	1.41	0.15	0.0	3	3
750	19.1	4.1	1.87	0.54	1.46	0.25	0.0	3	3
800	19.6	4.1	1.90	0.46	1.51	0.25	0.0	3	3
850	20.1	4.4	1.99	0.60	1.56	0.27	0.0	3	3
900	20.8	4.7	2.14	0.60	1.63	0.29	0.0	3	3
950	21.1	4.8	2.22	0.60	1.66	0.33	0.0	3	3
1000	21.6	4.9	2.23	0.61	1.71	0.30	0.0	3	3

(d_{Limit} = 10 m)

30	18.6	-9.9	0.29	0.04	0.23	0.02	-10.5	10	3
50	6.0	-9.6	0.39	0.09	0.32	0.08	-10.5	10	3
100	9.7	-9.2	0.56	0.14	0.47	0.08	-10.5	10	3
150	7.9	-8.8	0.73	0.20	0.59	0.12	-10.5	10	3
200	7.6	-8.6	0.84	0.21	0.70	0.11	-10.5	10	3
250	9.5	-8.3	0.98	0.24	0.80	0.13	-10.5	10	3
300	11.0	-8.1	1.04	0.26	0.89	0.15	-10.5	10	3
350	12.4	-7.9	1.18	0.31	0.96	0.13	-10.5	10	3
400	13.6	-7.6	1.28	0.35	1.03	0.19	-10.5	10	3
450	14.7	-7.4	1.39	0.38	1.11	0.22	-10.5	10	3
500	15.6	-7.2	1.44	0.39	1.20	0.19	-10.5	10	3
550	16.3	-7.0	1.55	0.46	1.24	0.23	-10.5	10	3
600	17.2	-6.9	1.59	0.43	1.29	0.23	-10.5	10	3
650	18.1	-6.9	1.67	0.34	1.35	0.22	-10.5	10	3
700	18.5	-6.8	1.67	0.42	1.41	0.15	-10.5	10	3
750	19.1	-6.3	1.87	0.54	1.46	0.25	-10.5	10	3
800	19.6	-6.3	1.90	0.46	1.51	0.25	-10.5	10	3
850	20.1	-6.0	1.99	0.60	1.56	0.27	-10.5	10	3
900	20.8	-5.8	2.14	0.60	1.63	0.29	-10.5	10	3
950	21.1	-5.6	2.22	0.60	1.66	0.33	-10.5	10	3
1000	21.6	-5.6	2.23	0.61	1.71	0.30	-10.5	10	3

Sample calculation

E (dB µV/m) = U (dB µV) + AF (dB 1/m) + Corr. (dB)
U = Receiver reading
AF = Antenna factor
Corr. = sum of single correction factors of used cables, switch unit, distance correction, amplifier (if applicable)
distance correction = -20 * LOG (d_{Limit}/ d_{used})
Linear interpolation will be used for frequencies in between the values in the table.
Tables show an extract of values.

7.4 ANTENNA R&S HF907 (1 GHZ – 18 GHZ)

Frequency	AF R&S HF907	Corr.	cable loss 1 (relay + cable inside chamber)	cable loss 2 (outside chamber)	cable loss 3 (switch unit, atten-uator & pre-amp)	cable loss 4 (to receiver)		
MHz	dB (1/m)	dB	dB	dB	dB	dB		
1000	24.4	-19.4	0.99	0.31	-21.51	0.79		
2000	28.5	-17.4	1.44	0.44	-20.63	1.38		
3000	31.0	-16.1	1.87	0.53	-19.85	1.33		
4000	33.1	-14.7	2.41	0.67	-19.13	1.31		
5000	34.4	-13.7	2.78	0.86	-18.71	1.40		
6000	34.7	-12.7	2.74	0.90	-17.83	1.47		
7000	35.6	-11.0	2.82	0.86	-16.19	1.46		

Frequency	AF R&S HF907	Corr.	cable loss 1 (relay inside chamber)	cable loss 2 (inside chamber)	cable loss 3 (outside chamber)	cable loss 4 (switch unit, atten-uator & pre-amp)	cable loss 5 (to receiver)	used for FCC 15.247
MHz	dB (1/m)	dB	dB	dB	dB	dB	dB	
3000	31.0	-23.4	0.47	1.87	0.53	-27.58	1.33	
4000	33.1	-23.3	0.56	2.41	0.67	-28.23	1.31	
5000	34.4	-21.7	0.61	2.78	0.86	-27.35	1.40	
6000	34.7	-21.2	0.58	2.74	0.90	-26.89	1.47	
7000	35.6	-19.8	0.66	2.82	0.86	-25.58	1.46	

Frequency	AF R&S HF907	Corr.	cable loss 1 (relay inside chamber)	cable loss 2 (High Pass)	cable loss 3 (pre-amp)	cable loss 4 (inside chamber)	cable loss 5 (outside chamber)	cable loss 6 (to receiver)
MHz	dB (1/m)	dB	dB	dB	dB	dB	dB	dB
7000	35.6	-57.3	0.56	1.28	-62.72	2.66	0.94	1.46
8000	36.3	-56.3	0.69	0.71	-61.49	2.84	1.00	1.53
9000	37.1	-55.3	0.68	0.65	-60.80	3.06	1.09	1.60
10000	37.5	-56.2	0.70	0.54	-61.91	3.28	1.20	1.67
11000	37.5	-55.3	0.80	0.61	-61.40	3.43	1.27	1.70
12000	37.6	-53.7	0.84	0.42	-59.70	3.53	1.26	1.73
13000	38.2	-53.5	0.83	0.44	-59.81	3.75	1.32	1.83
14000	39.9	-56.3	0.91	0.53	-63.03	3.91	1.40	1.77
15000	40.9	-54.1	0.98	0.54	-61.05	4.02	1.44	1.83
16000	41.3	-54.1	1.23	0.49	-61.51	4.17	1.51	1.85
17000	42.8	-54.4	1.36	0.76	-62.36	4.34	1.53	2.00
18000	44.2	-54.7	1.70	0.53	-62.88	4.41	1.55	1.91

Sample calculation

E (dB µV/m) = U (dB µV) + AF (dB 1/m) + Corr. (dB)
U = Receiver reading
AF = Antenna factor
Corr. = sum of single correction factors of used cables, switch unit, distance correction, amplifier (if applicable)
Linear interpolation will be used for frequencies in between the values in the table.
Tables show an extract of values.

7.5 ANTENNA EMCO 3160-09 (18 GHZ – 26.5 GHZ)

Frequency	AF EMCO 3160-09	Corr.	cable loss 1 (inside chamber)	cable loss 2 (pre-amp)	cable loss 3 (inside chamber)	cable loss 4 (switch unit)	cable loss 5 (to receiver)
MHz	dB (1/m)	dB	dB	dB	dB	dB	dB
18000	40.2	-23.5	0.72	-35.85	6.20	2.81	2.65
18500	40.2	-23.2	0.69	-35.71	6.46	2.76	2.59
19000	40.2	-22.0	0.76	-35.44	6.69	3.15	2.79
19500	40.3	-21.3	0.74	-35.07	7.04	3.11	2.91
20000	40.3	-20.3	0.72	-34.49	7.30	3.07	3.05
20500	40.3	-19.9	0.78	-34.46	7.48	3.12	3.15
21000	40.3	-19.1	0.87	-34.07	7.61	3.20	3.33
21500	40.3	-19.1	0.90	-33.96	7.47	3.28	3.19
22000	40.3	-18.7	0.89	-33.57	7.34	3.35	3.28
22500	40.4	-19.0	0.87	-33.66	7.06	3.75	2.94
23000	40.4	-19.5	0.88	-33.75	6.92	3.77	2.70
23500	40.4	-19.3	0.90	-33.35	6.99	3.52	2.66
24000	40.4	-19.8	0.88	-33.99	6.88	3.88	2.58
24500	40.4	-19.5	0.91	-33.89	7.01	3.93	2.51
25000	40.4	-19.3	0.88	-33.00	6.72	3.96	2.14
25500	40.5	-20.4	0.89	-34.07	6.90	3.66	2.22
26000	40.5	-21.3	0.86	-35.11	7.02	3.69	2.28
26500	40.5	-21.1	0.90	-35.20	7.15	3.91	2.36

Sample calculation

E (dB µV/m) = U (dB µV) + AF (dB 1/m) + Corr. (dB)
U = Receiver reading
AF = Antenna factor
Corr. = sum of single correction factors of used cables, switch unit, distance correction, amplifier (if applicable)
Linear interpolation will be used for frequencies in between the values in the table.
Table shows an extract of values.

7.6 ANTENNA EMCO 3160-10 (26.5 GHZ – 40 GHZ)

Frequency	AF EMCO 3160-10	Corr.	cable loss 1 (inside chamber)	cable loss 2 (outside chamber)	cable loss 3 (switch unit)	cable loss 4 (to receiver)	distance corr. (-20 dB/ decade)	d_{Limit} (meas. distance (limit)	d_{used} (meas. distance (used)
GHz	dB (1/m)	dB	dB	dB	dB	dB	dB	m	m
26.5	43.4	-11.2	4.4				-9.5	3	1.0
27.0	43.4	-11.2	4.4				-9.5	3	1.0
28.0	43.4	-11.1	4.5				-9.5	3	1.0
29.0	43.5	-11.0	4.6				-9.5	3	1.0
30.0	43.5	-10.9	4.7				-9.5	3	1.0
31.0	43.5	-10.8	4.7				-9.5	3	1.0
32.0	43.5	-10.7	4.8				-9.5	3	1.0
33.0	43.6	-10.7	4.9				-9.5	3	1.0
34.0	43.6	-10.6	5.0				-9.5	3	1.0
35.0	43.6	-10.5	5.1				-9.5	3	1.0
36.0	43.6	-10.4	5.1				-9.5	3	1.0
37.0	43.7	-10.3	5.2				-9.5	3	1.0
38.0	43.7	-10.2	5.3				-9.5	3	1.0
39.0	43.7	-10.2	5.4				-9.5	3	1.0
40.0	43.8	-10.1	5.5				-9.5	3	1.0

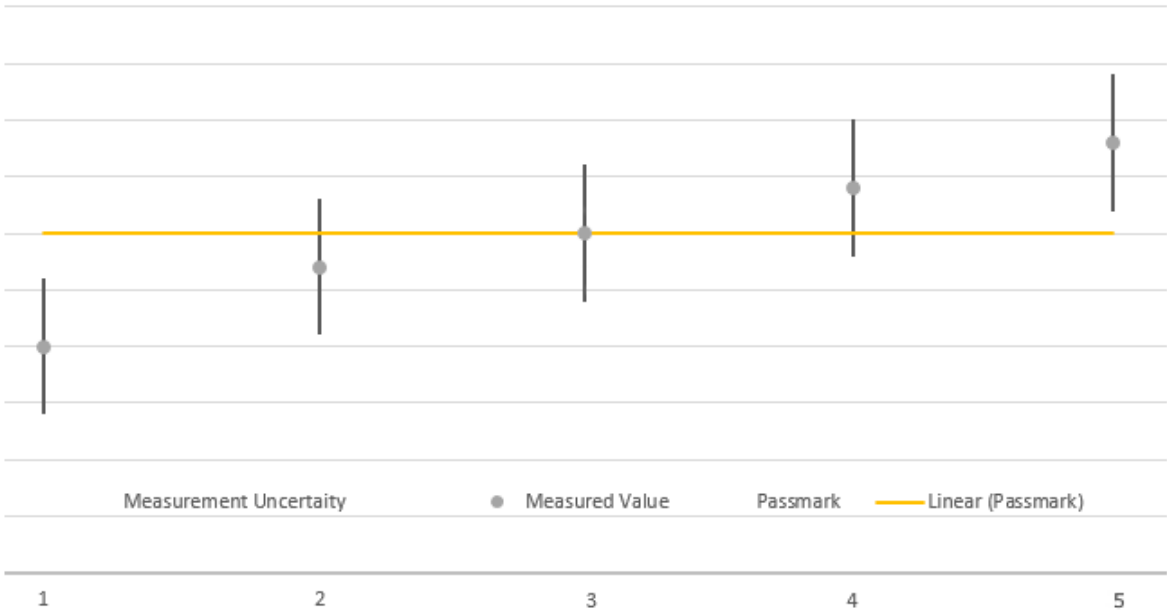
Sample calculation

E (dB µV/m) = U (dB µV) + AF (dB 1/m) + Corr. (dB)
U = Receiver reading
AF = Antenna factor
Corr. = sum of single correction factors of used cables, switch unit, distance correction, amplifier (if applicable)
Linear interpolation will be used for frequencies in between the values in the table.
distance correction = -20 * LOG (d_{Limit}/ d_{used})
Linear interpolation will be used for frequencies in between the values in the table.
Table shows an extract of values.

8 MEASUREMENT UNCERTAINTIES

Test Case	Parameter	Uncertainty
Conducted Emissions at AC mains	Voltage	± 3.4 dB
Radiated Emissions	Field Strength	± 5.5 dB

The measurement uncertainties for all parameters are calculated with an expansion factor (coverage factor) k = 1.96. This means, that the true value is in the corresponding interval with a probability of 95 %.



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	on pass mark	within pass mark	Passed
4	above pass mark	within pass mark	Failed
5	above pass mark	above pass mark	Failed

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.

9 PHOTO REPORT

Please see separate photo report.

**********END OF TEST REPORT**********