

Test Report

Test report no.: 21116498-25418-0

Date of issue: 2022-08-15

Test result: The test item - **passed** - and **complies** with the listed standards.

Applicant

Symeo GmbH

Manufacturer

Symeo GmbH

Test Item

BSW200291

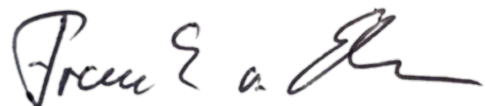
Electromagnetic Compatibility Testing according to:

47 CFR Part 15

Radio frequency devices,
Subpart B – Unintentional Radiators
(§15.107, §15.109)

Tested by
(name, function, signature)

Frank von Ehren
Lab Manager EMC



signature

Approved by
(name, function, signature)

Florian Schmidt
Head of Department EMC



signature

Applicant and Test item details	
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Manufacturer	Symeo GmbH Prof.-Messerschmitt-Str. 3 85579, Neubiberg, Germany Phone: +49 89 6607796-0 Fax: +49 89 6607796-190 E-Mail: info@symeo.com Homepage: http://www.symeo.com
Test item description	LPR-1DHP-291
Model/Type reference	BSW200291

Disclaimer and Notes

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Within this test report, a ☒ point / ☐ comma is used as a decimal separator.
If otherwise, a detailed note is added adjoined to its use.

Decision rule based on simple acceptance without guard bands, binary statement, based on mutually agreed uncertainty tolerances with expansion factor $k=2$.

1 TABLE OF CONTENTS

1	TABLE OF CONTENTS	3
2	GENERAL INFORMATION	4
2.1	Administrative details	4
2.2	Possible test case verdicts	4
2.3	Observations	4
2.4	Opinions and interpretations	4
2.5	Revision History	4
3	ENVIRONMENTAL & TEST CONDITIONS	5
3.1	Environmental conditions	5
4	TEST STANDARDS AND REFERENCES	5
5	EQUIPMENT UNDER TEST (EUT)	6
5.1	EUT A	6
6	Associated equipment (AE)	7
6.1	AE 1	7
7	SUMMARY OF TEST RESULTS	8
8	TEST RESULTS	9
8.1	Conducted emission (§15.107)	9
8.2	Radiated emission (§15.109)	15
9	MEASUREMENT UNCERTAINTY	25
Annex A	26
Annex B	29
Annex C	33

2 GENERAL INFORMATION

2.1 Administrative details

Testing laboratory	IBL-Lab GmbH Heinrich-Hertz-Allee 7 66386 Sankt Ingbert / Germany Fon: +49 6894 38938-0 Fax: +49 6894 38938-99 URL: www.ib-lenhardt.de E-Mail: info@ib-lenhardt.de
Accreditation	The testing laboratory is accredited by Deutsche Akkreditierungsstelle GmbH (DAkKS) in compliance with DIN EN ISO/IEC 17025:2018. Scope of testing and registration number: <ul style="list-style-type: none">Electromagnetic Compatibility D-PL-21375-01-02Electromagnetic Compatibility and Telecommunication (FCC requirements) D-PL-21375-01-03 Website DAkKS: https://www.dakks.de/ The Deutsche Akkreditierungsstelle GmbH (DAkKS) is also a signatory to the ILAC Mutual Recognition Arrangement
Testing location	IBL-Lab GmbH Heinrich-Hertz-Allee 7 66386 St. Ingbert / Germany
Date of receipt of test samples	2022-08-09
Start – End of tests	2022-08-09 – 2022-08-12

2.2 Possible test case verdicts

Test sample meets the requirements	passed
Test sample does not meet the requirements	failed
Test case does not apply to the test sample	n/a (not applicable)
Test case not performed	n/p (not performed)

2.3 Observations

No additional observations other than the reported observations within this test report have been made.

2.4 Opinions and interpretations

No appropriate opinions or interpretations according ISO/IEC 17025:2017.

2.5 Revision History

-1 Initial Version

3 ENVIRONMENTAL & TEST CONDITIONS

3.1 Environmental conditions

Temperature	20°C ± 5°C (see below)
Relative humidity	25-75% r.H. (see below)
Barometric Pressure	860-1060 mbar

4 TEST STANDARDS AND REFERENCES

Test standard (accredited)	Description
47 CFR Part 15	Radio frequency devices, Subpart B – Unintentional Radiators (\$15.107, \$15.109)

Reference	Description
ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10-2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

5 EQUIPMENT UNDER TEST (EUT)

5.1 EUT A

5.1.1 Product description*

Test item description*	LPR-1DHP-291
Intended use*	The LPR-1DHP-291 radar system performs 1D distance measurements for short, medium and long ranges.

*: as declared by applicant

5.1.2 Description of test item

Model name*	BSW200291
Serial number*	EM4AJN0010
Hardware status*	---
Firmware status*	BR2019-184-gf6c2ac8.devel_sr

*: as declared by applicant

5.1.3 Technical data of test item

Operational frequency band*	57.0 - 64.0GHz	
Antenna*	integrated, beam width = $\pm 2,5^\circ$	
Power supply*	By external DC	
Power supply range*	DC 11 – 36 V	
Nominal supply voltage*	DC 24 V	
Ports*	Classification*	Direction*
	DC mains	input
	Wired network, shielded	in/output

*: as declared by applicant

5.1.4 Additional information

6 Associated equipment (AE)

6.1 AE 1

Product description

Notebook

Description

Model name	DELL Latitude E5570
Serial number	2Z9QRF2
Hardware status	--
Software status	Windows 10 Pro 64 Bit

7 SUMMARY OF TEST RESULTS

Test specification

FCC 47 CFR Part 15

Clause	Requirement / Test case	Chapter	Test Conditions	Result / Remark	Verdict
§15.107	Conducted limits	8.1	normal	Class B	passed
§15.109	Radiated emission limits	8.2	normal	Class B	passed

Comments and observations

8 TEST RESULTS

8.1 Conducted emission (§15.107)

8.1.1 Test plan

Test setup	EUT A + AE 1
Operating mode	EMC test mode
Port	AC mains
LCL	---
Limit	§15.107 Class B
Verdict	passed *

* see measurement results in section 8.1.5

Comment:	---
----------	-----

8.1.2 Conducted limits (§15.107)

Description & Limits

§ 15.107 Conducted limits.

- (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 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

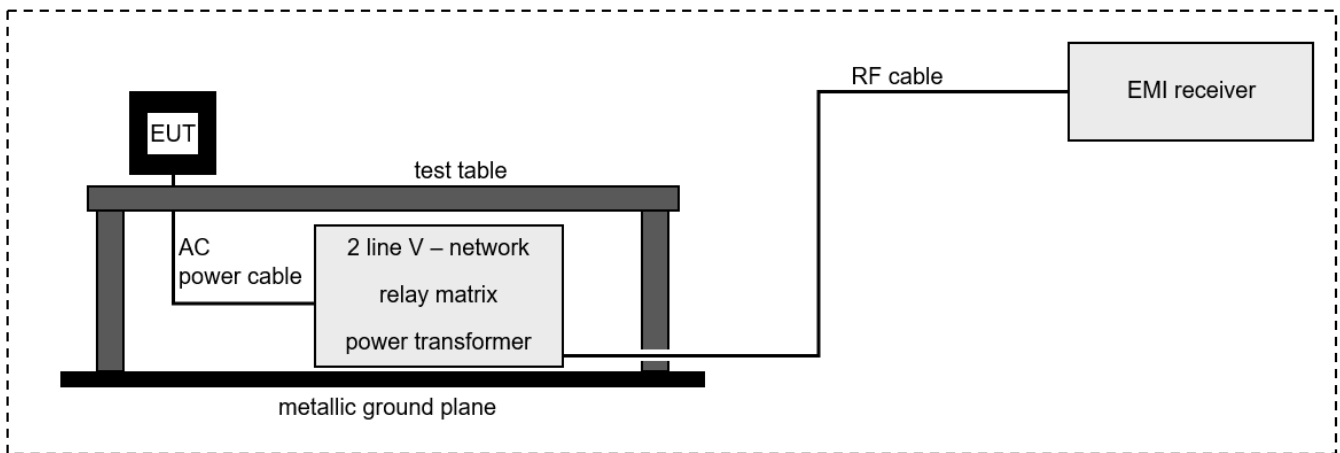
Frequency [MHz]	Conducted limit [dB μ V]	
	Quasi-Peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5.0	56	46
5.0 – 30	60	50

*Decreases with the logarithm of the frequency.

- (b) For a Class A digital device 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 μ H/50 ohms LISN. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency [MHz]	Conducted limit [dB μ V]	
	Quasi-Peak	Average
0.15 – 0.5	79	66
0.5 – 30	73	60

8.1.3 Test Setup Description



EMC32 software version: 11.10.00

FS = UR + CL + AF

(FS-field strength; UR-voltage at the receiver; CL-loss of the cable; AF-antenna factor)

Example calculation:

FS [dBμV] = 12.35 [dBμV] + 1.90 [dB] + 16.80 [dB] = 31.05 [dBμV] (35.69 μV)

List of test equipment used:

#	Equipment	Type	Serial number	Internal number	Calibrated until	Used for test
1	EMI Test Receiver	Rohde & Schwarz ESW 26	101481	LAB000236	2023-07-07	<input checked="" type="checkbox"/>
2	Open Switch and Control Platform	Rohde & Schwarz OSP-B200S2	101443	LAB000239	n/a	<input checked="" type="checkbox"/>
4	Two-line V-Network	Rohde & Schwarz ENV216	102597	LAB000220	2022-09-17	<input checked="" type="checkbox"/>

8.1.4 Measurement procedure

Test setup

- The EUT is set up according to its intended use, as described in the user manual or as defined by the manufacturer.
- In case of floor standing equipment, it is placed in the middle of the turn table.
In case of tabletop equipment it is placed on a non-conductive table with a height of 80 cm.
- Additional equipment, cables, ... necessary for testing, are positioned like under normal operation.
- Interface cables, e.g. power supply, network, ... are connected to the connection box in the turn table.
- EUT is powered on and set into operation.

Pre-scan

- The EMI-receiver/spectrum analyser performs a positive-peak/max-hold sweep (=worst-case). Data is transferred to EMI-software and recorded. EMI-software will show the maximum level of all single sweeps as the final result for the pre-scan.

Final measurement

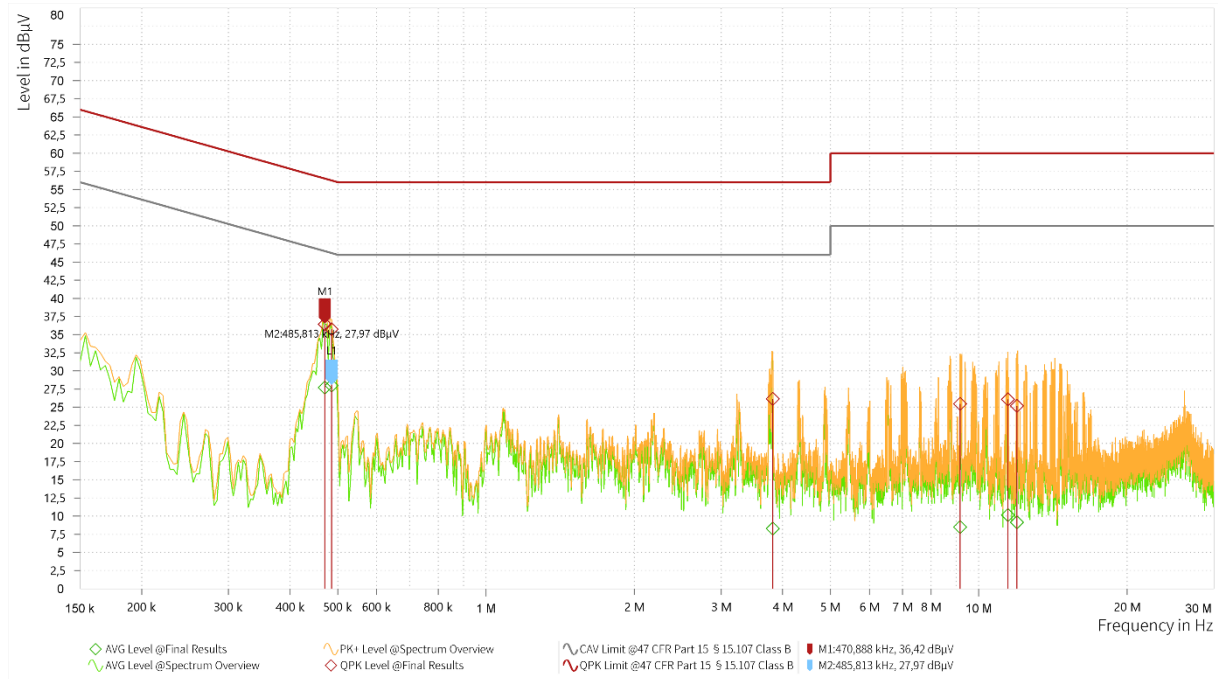
- Significant emissions found during the pre-scan will be maximized by the EMI-software based on evaluated data during the pre-scan.
- Final measurement will be performed with measuring equipment settings as defined in the applicable test standards (e.g. ANSI C63.4).
- Plot of the pre-scan with frequencies of identified emissions including levels, correction factors, and settings of measuring equipment is recorded.

Detailed requirements can be found in e.g. ANSI C63.4

8.1.5 Measurement results

8.1.5.1 Test result on phase line

Spectrum Overview

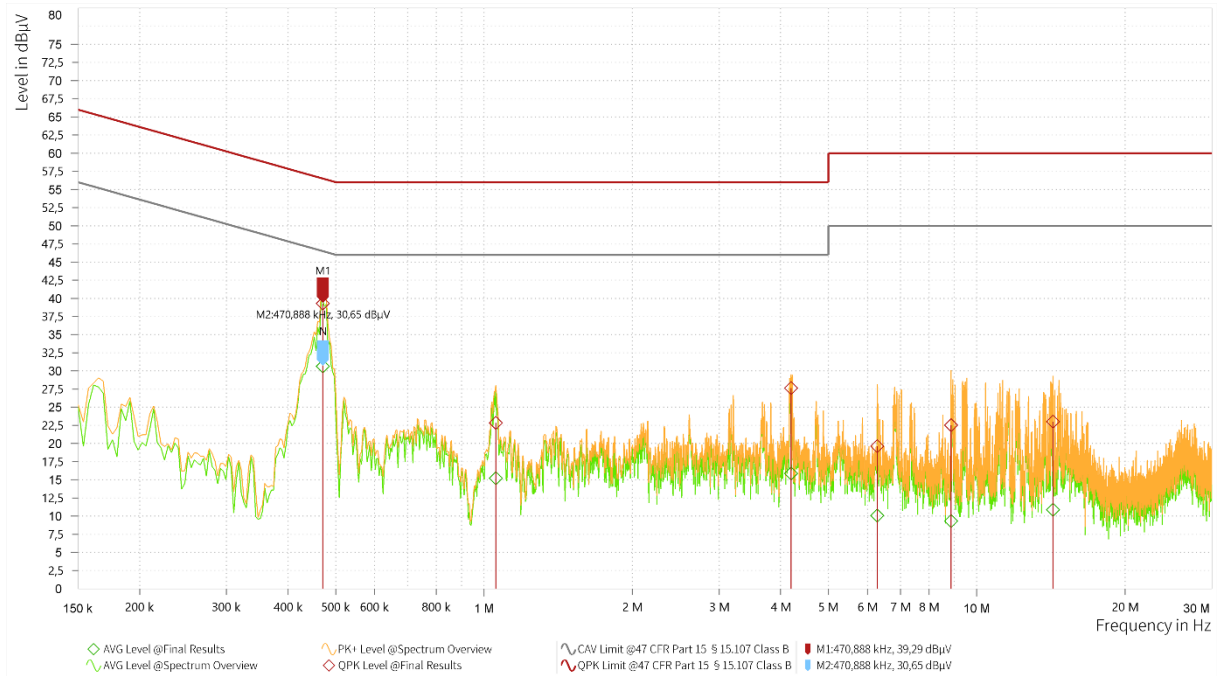


EMI Final Results

Frequency [MHz]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	AVG Level [dBµV]	AVG: CAV Limit [dBµV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [ms]
0,471	36,42	56,50	20,08	27,70	46,50	18,80	10,08	L1	9,000	15.000,000
0,486	35,73	56,24	20,51	27,97	46,24	18,27	10,08	L1	9,000	15.000,000
3,818	26,14	56,00	29,86	8,29	46,00	37,71	9,93	L1	9,000	15.000,000
9,172	25,45	60,00	34,55	8,49	50,00	41,51	10,14	L1	9,000	15.000,000
11,463	26,09	60,00	33,91	10,14	50,00	39,86	10,24	L1	9,000	15.000,000
11,952	25,18	60,00	34,82	9,13	50,00	40,87	10,26	L1	9,000	15.000,000

8.1.5.2 Test result on neutral line

Spectrum Overview



EMI Final Results

Frequency [MHz]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	AVG Level [dBµV]	AVG: CAV Limit [dBµV]	AVG Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]	Meas. Time [ms]
0,471	39,29	56,50	17,21	30,65	46,50	15,85	10,08	N	9,000	15.000,000
1,057	22,85	56,00	33,15	15,21	46,00	30,79	9,92	N	9,000	15.000,000
4,198	27,64	56,00	28,36	15,88	46,00	30,12	9,96	N	9,000	15.000,000
6,280	19,61	60,00	40,39	10,06	50,00	39,94	10,05	N	9,000	15.000,000
8,870	22,53	60,00	37,47	9,32	50,00	40,68	10,14	N	9,000	15.000,000
14,284	23,01	60,00	36,99	10,88	50,00	39,12	10,35	N	9,000	15.000,000

8.2 Radiated emission (§15.109)

8.2.1 Test plan

Test setup	EUT A + AE 1 + AE 2
Operating mode	EMC test mode
Limit	§15.109 Class B
Verdict	passed*

* see measurement results in section 8.2.5

Comment: ---

8.2.2 Frequency range of radiated measurements (§15.33)

Highest frequency generated or used in the device or on which the device operates or tunes	Upper frequency of measurement range (MHz)
Below 1.705 MHz	30 MHz
1.705 – 108 MHz	1000 MHz
108 – 500 MHz	2000 MHz
500 – 1000 MHz	5000 MHz
Above 1000 MHz	5th harmonic of the highest frequency or 40 GHz, whichever is lower.

8.2.3 Radiated emission limits (§15.109)

Description & Limits

§ 15.109 Radiated emission limits.

- (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency [MHz]	Field Strength [μV/m] / [dBμV/m]	Measurement distance [m]
30 – 88	100 / 40.0	3
88 – 216	150 / 43.5	3
216 – 960	200 / 46.0	3
960 – 40 000	500 / 54.0	3

- (b) The field strength of radiated emissions from a Class A digital device, as determined at a distance of 10 meters, shall not exceed the following:

Frequency [MHz]	Field Strength [μV/m] / [dBμV/m]	Measurement distance [m]
30 – 88	90 / 39.1	3
88 – 216	150 / 43.5	3
216 – 960	210 / 46.4	3
960 – 40 000	300 / 49.5	3

Note

Measurements with the peak detector are also suitable to demonstrate compliance of an EUT, as long as the required resolution bandwidth is used, because peak detection will yield amplitudes equal to or greater than amplitudes measured with RMS detector. The measurement data from a spectrum analyser peak detector will represent the worst-case results (see ANSI C63.10).

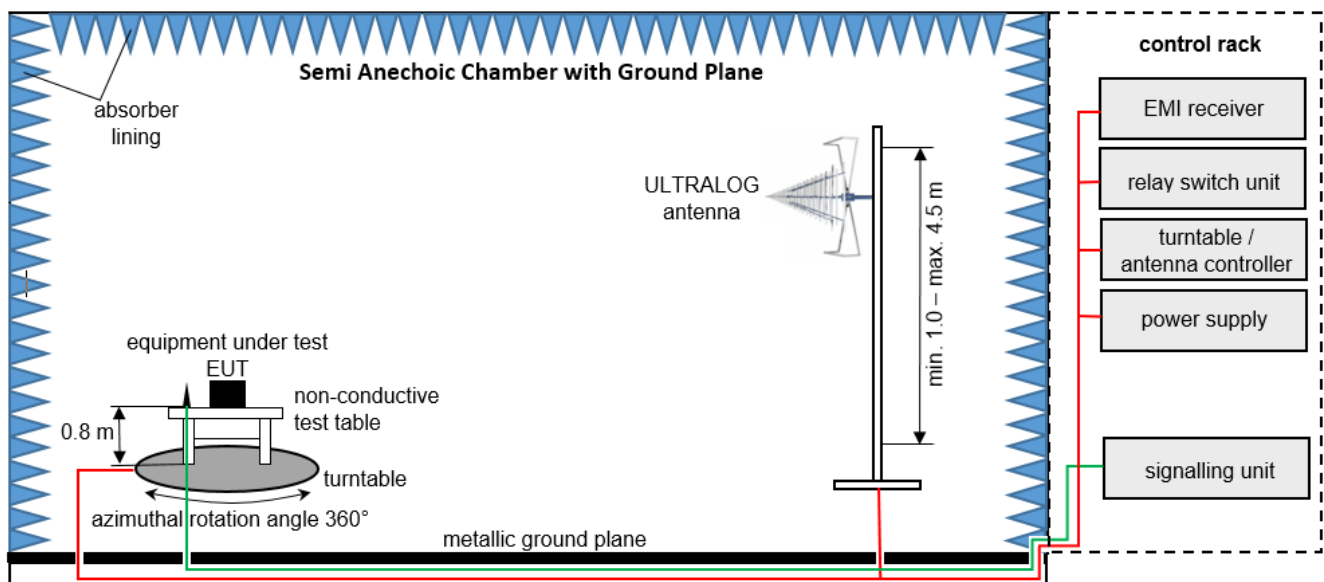
Typical test distances

Up to 18 GHz: 3.00 m
18 – 40 GHz: 0.50 m

8.2.4 Test Setup Description

8.2.4.1 Semi Anechoic Chamber with Ground Plane

Radiated measurements are performed in vertical and horizontal plane in the frequency range 30 MHz to 1 GHz in a Semi Anechoic Chamber with a metallic ground plane. The EUT is positioned on a non-conductive test table with a height of 0.80 m above the metallic ground plane that covers the whole chamber. The receiving antennas conform to specification ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices. These antennas can be moved over the height range between 1.0 m and 4.5 m in order to search for maximum field strength emitted from the EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by a spectrum analyzer where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.



Measurement distance: ULTRALOG antenna 3 meter
EMC32 software version: 11.10.00

$FS = UR + CL + AF$
(FS-field strength; UR-voltage at the receiver; CL-loss of the cable; AF-antenna factor)

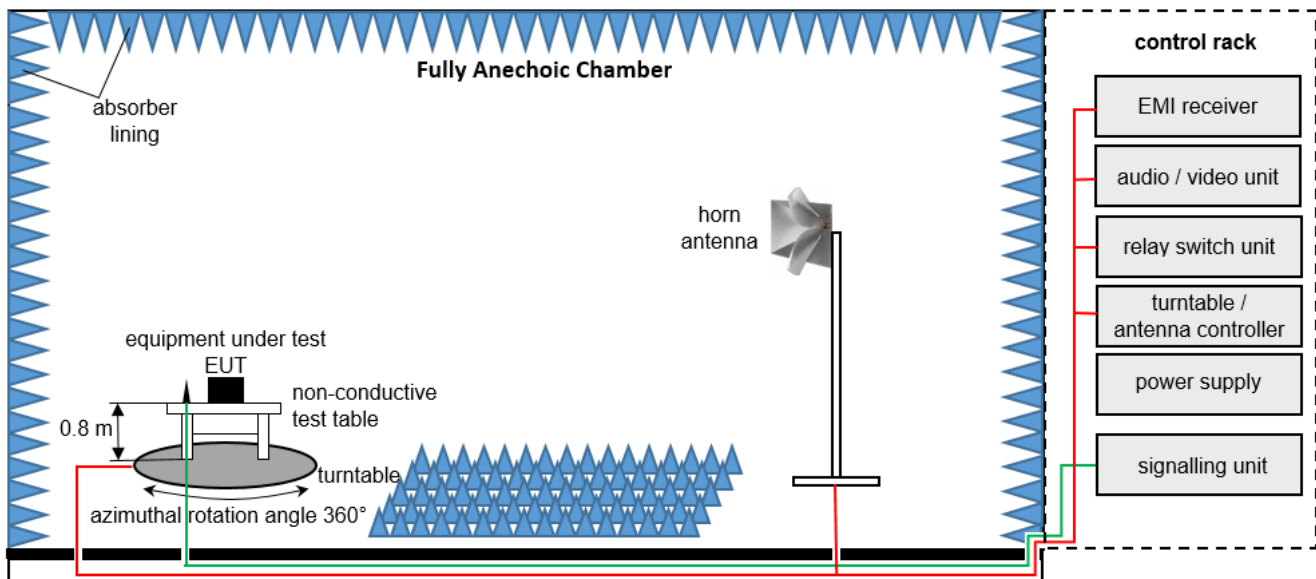
Example calculation:

$FS [dB\mu V/m] = 12.35 [dB\mu V/m] + 1.90 [dB] + 16.80 [dB/m] = 31.05 [dB\mu V/m] (35.69 \mu V/m)$

List of test equipment used:

#	Equipment	Type	Serial number	Internal number	Calibrated until	Used for test
1	EMI Test Receiver	Rohde & Schwarz ESW 26	101481	LAB000236	2022-07-07	<input checked="" type="checkbox"/>
2	Open Switch and Control Platform	Rohde & Schwarz OSP-B200S2	101443	LAB000239	n/a	<input checked="" type="checkbox"/>
3	Antenna	Rohde & Schwarz HL562E	102001	LAB000123	2023-07-05	<input checked="" type="checkbox"/>

8.2.4.2 Fully Anechoic Chamber



Measurement distance: horn antenna 3 meter

EMC32 software version: 11.10.00

$$FS = UR + CA + AF$$

(FS-field strength; UR-voltage at the receiver; CA-loss of the signal path; AF-antenna factor)

Example calculation:

$$FS [dB\mu V/m] = 40.0 [dB\mu V/m] + (-35.8) [dB] + 32.9 [dB/m] = 37.1 [dB\mu V/m] (71.61 \mu V/m)$$

List of test equipment used:

#	Equipment	Type	Serial number	Internal number	Calibrated until	Used for test
1	EMI Test Receiver	Rohde & Schwarz ESW 26	101481	LAB000236	2022-07-07	<input checked="" type="checkbox"/>
2	Open Switch and Control Platform	Rohde & Schwarz OSP-B200S2	101443	LAB000239	n/a	<input checked="" type="checkbox"/>
3	Antenna	Rohde & Schwarz HF907	102899	LAB000151	2023-04-23	<input checked="" type="checkbox"/>
4	Pre-Amplifier	Schwarzbeck BBV 9718 C	84	LAB000169	n/a	<input checked="" type="checkbox"/>

8.2.5 Test Setup Description

8.2.5.1 Radiated spurious emissions from 30 MHz to 1 GHz

Test setup

- The EUT is set up according to its intended use, as described in the user manual or as defined by the manufacturer.
- In case of floor standing equipment, it is placed in the middle of the turn table.
In case of tabletop equipment it is placed on a non-conductive table with a height of 80 cm.
- Additional equipment, cables, ... necessary for testing, are positioned like under normal operation.
- Interface cables, e.g. power supply, network, ... are connected to the connection box in the turn table.
- EUT is powered on and set into operation.

Pre-scan

- Turntable performs an azimuthal rotation from 0° to 315° in 45° steps.
- Antenna polarisation is changed (H-V / V-H) and antenna height is changed from 1 meter to 4 meters.
- For each turntable step / antenna polarisation / antenna height the EMI-receiver/spectrum analyser performs a positive-peak/max-hold sweep (=worst-case). Data is transferred to EMI-software and recorded. EMI-software will show the maximum level of all single sweeps as the final result for the pre-scan.

Final measurement

- Significant emissions found during the pre-scan will be maximized by the EMI-software based on evaluated data during the pre-scan by rotating the turntable and changing antenna height and polarisation.
- Final measurement will be performed with measuring equipment settings as defined in the applicable test standards (e.g. ANSI C63.4).
- Plot of the pre-scan with frequencies of identified emissions including levels, correction factors, turn table position, antenna polarisation and settings of measuring equipment is recorded.

Detailed requirements can be found in e.g. ANSI C63.4

8.2.5.2 Radiated spurious emissions from 1 GHz to 18 GHz

Test setup

- The EUT is set up according to its intended use, as described in the user manual or as defined by the manufacturer.
- In case of floor standing equipment, it is placed in the middle of the turn table.
In case of tabletop equipment it is placed on a non-conductive table with a height of 80 cm.
- Additional equipment, cables, ... necessary for testing, are positioned like under normal operation.
- Interface cables, e.g. power supply, network, ... are connected to the connection box in the turn table.
- EUT is powered on and set into operation.

Pre-scan

- Turntable performs an azimuthal rotation from 0° to 315° in 45° steps.
- Antenna polarisation is changed (H-V / V-H) and antenna height is changed from 1 meter to 4 meters.
- For each turntable step / antenna polarisation / antenna height the EMI-receiver/spectrum analyser performs a positive-peak/max-hold sweep (=worst-case). Data is transferred to EMI-software and recorded. EMI-software will show the maximum level of all single sweeps as the final result for the pre-scan.

Final measurement

- Significant emissions found during the pre-scan will be maximized by the EMI-software based on evaluated data during the pre-scan by rotating the turntable and changing antenna height and polarisation.
- Final measurement will be performed with measuring equipment settings as defined in the applicable test standards (e.g. ANSI C63.4).
- Plot of the pre-scan with frequencies of identified emissions including levels, correction factors, turn table position, antenna polarisation and settings of measuring equipment is recorded.

Detailed requirements can be found in e.g. ANSI C63.4

8.2.5.3 Radiated spurious emissions above 18 GHz

Test setup

- The EUT is set up according to its intended use, as described in the user manual or as defined by the manufacturer.
- Additional equipment, cables, ... necessary for testing, are positioned like under normal operation.
- EUT is powered on and set into operation.
- Test distance depends on EUT size and test antenna size (farfield conditions shall be met).

Pre-scan

- The test antenna is handheld and moved carefully over the EUT to cover the EUT's whole sphere and for different polarizations of the antenna.

Final measurement

- Significant emissions found during the pre-scan will be maximized, i.e. position and antenna orientation causing the highest emissions with Peak and RMS detector
- Final measurement will be performed with measuring equipment settings as defined in the applicable test standards (e.g. ANSI C63.4).
- Final plot showing measurement data, levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit is recorded.

Note

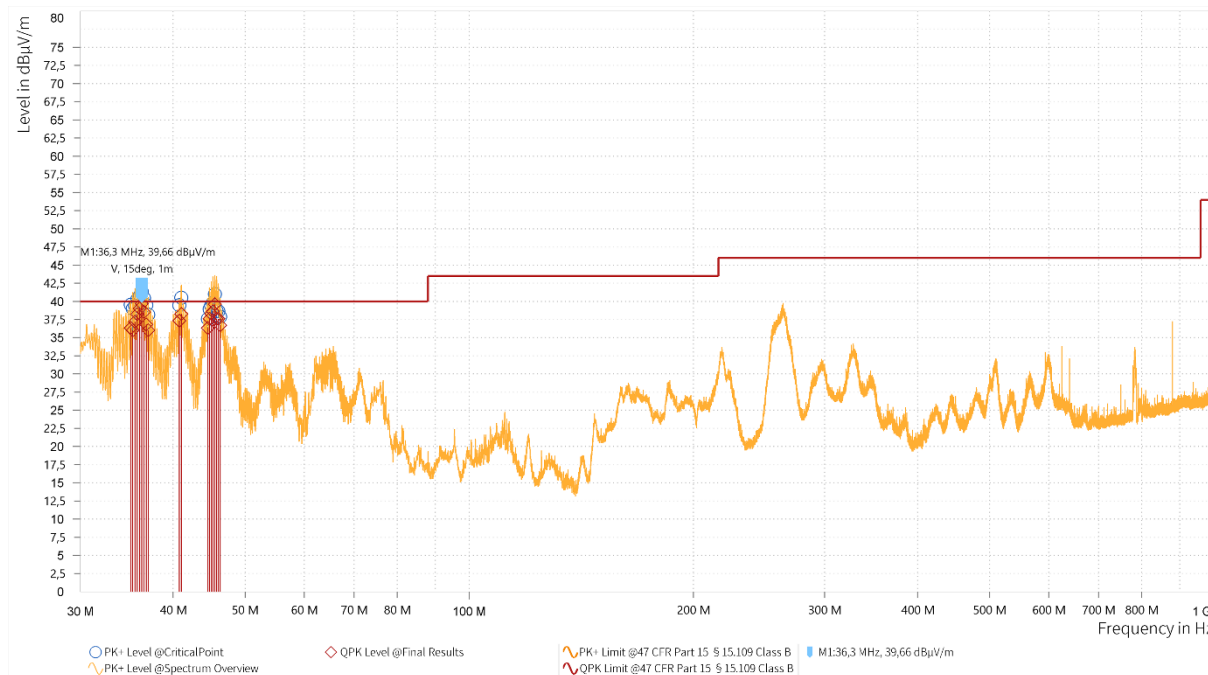
- In case of measurements with external harmonic mixers (e.g. above 50 GHz) special care is taken to avoid possible overloading of the external mixer's input.
- As external harmonic mixers may generate false images, care is taken to ensure that any emission measured by the spectrum analyzer is indeed radiated from the EUT and not internally generated by the external harmonic mixer. Signal identification feature of spectrum analyzer is used to eliminate/reduce images of the external harmonic mixer.

Detailed requirements can be found in e.g. ANSI C63.4

8.2.6 Measurement results

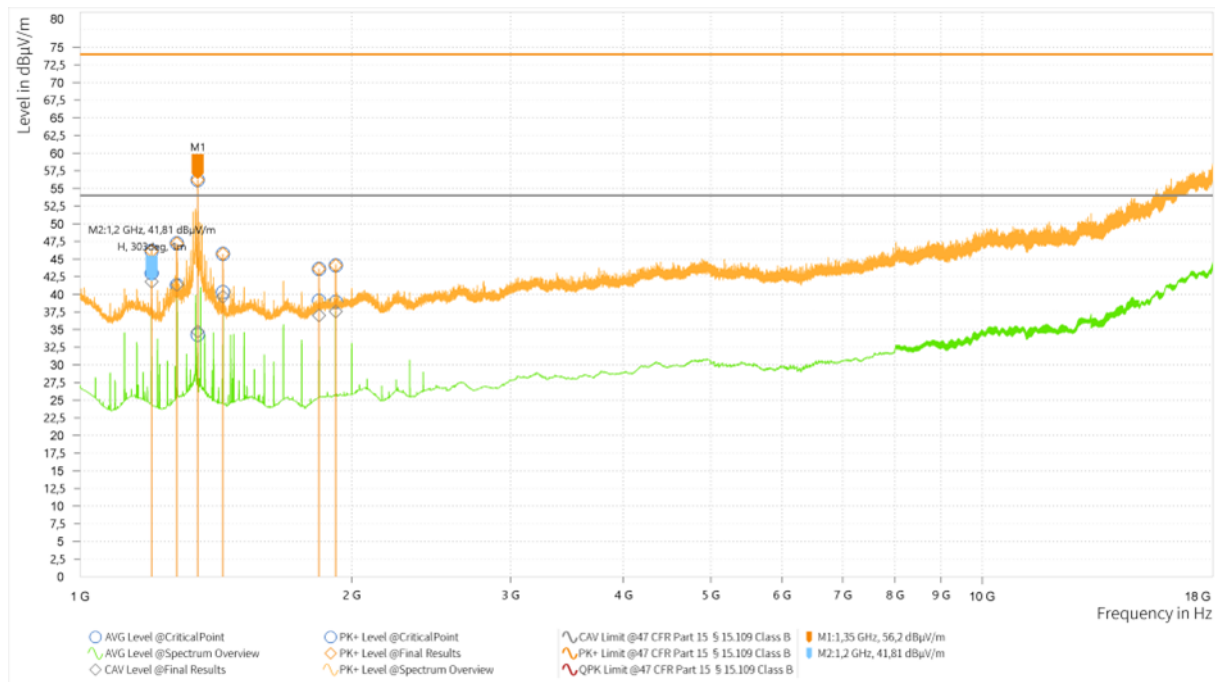
8.2.6.1 Test result 30 ... 1000 MHz

Spectrum Overview



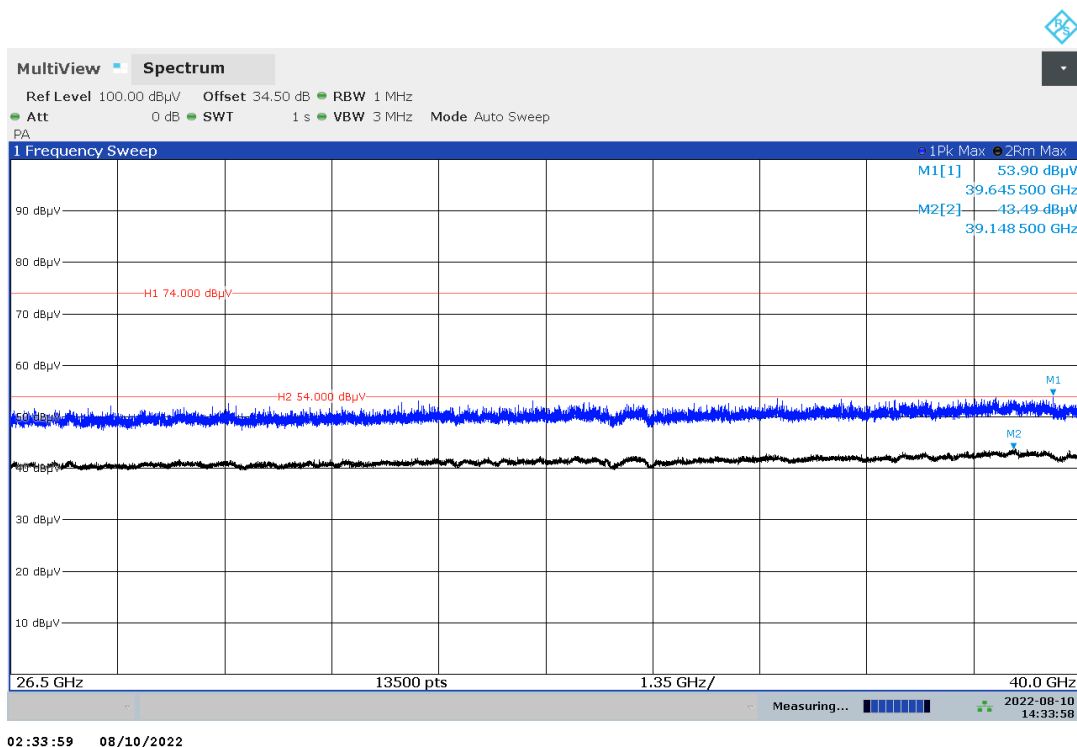
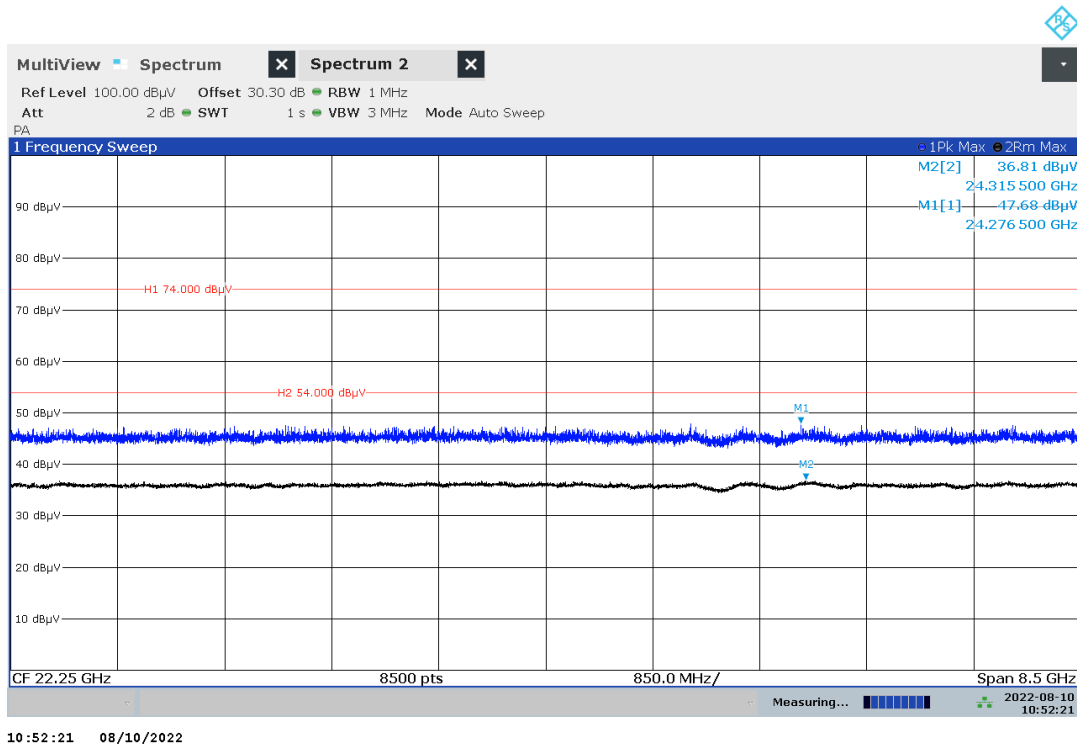
Frequency [MHz]	QPK Level [dBµV/m]	QPK Limit [dBµV/m]	QPK Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]	Meas. Time [ms]
35,070	36,33	40,00	3,67	17,68	V	38	1,04	120,000	15.000,000
35,310	36,02	40,00	3,98	17,56	V	38	1,04	120,000	15.000,000
35,550	37,19	40,00	2,81	17,43	V	3	1,04	120,000	15.000,000
35,790	38,22	40,00	1,78	17,31	V	22	1	120,000	15.000,000
36,060	39,03	40,00	0,97	17,16	V	47	1	120,000	15.000,000
36,300	39,66	40,00	0,34	17,01	V	15	1	120,000	15.000,000
36,540	38,53	40,00	1,47	16,87	V	19	1	120,000	15.000,000
36,810	36,82	40,00	3,18	16,70	V	26	1	120,000	15.000,000
37,050	36,01	40,00	3,99	16,56	V	14	1	120,000	15.000,000
40,770	37,31	40,00	2,69	14,34	V	143	1	120,000	15.000,000
41,010	38,27	40,00	1,73	14,20	V	19	1,08	120,000	15.000,000
44,520	36,32	40,00	3,68	11,82	V	219,5653	1	120,000	15.000,000
44,760	37,60	40,00	2,40	11,65	V	219,5738	1	120,000	15.000,000
45,000	38,30	40,00	1,70	11,48	V	224	1	120,000	15.000,000
45,240	38,63	40,00	1,37	11,31	V	227,5171	1	120,000	15.000,000
45,750	37,59	40,00	2,41	10,94	V	224	1	120,000	15.000,000
45,990	37,60	40,00	2,40	10,76	V	240	1	120,000	15.000,000
46,260	36,71	40,00	3,29	10,60	V	202	1,04	120,000	15.000,000

8.2.6.2 Test result 1 ... 18 GHz



Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	CAV Level [dBµV/m]	CAV Limit [dBµV/m]	CAV Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]	Meas. BW [kHz]
1.200,000	46,14	74,00	27,86	41,81	54,00	12,19	-2,80	H	303	1	1.000,000
1.280,000	47,22	74,00	26,78	41,33	54,00	12,67	-2,35	H	93	1	1.000,000
1.350,000	56,20	74,00	17,80	34,73	54,00	19,27	-1,77	H	105	1	1.000,000
1.440,000	45,72	74,00	28,28	39,66	54,00	14,34	-1,37	V	333	1	1.000,000
1.840,000	43,59	74,00	30,41	37,00	54,00	17,00	0,88	V	225	1	1.000,000
1.920,000	44,09	74,00	29,91	37,58	54,00	16,42	1,41	H	90	1	1.000,000

8.2.6.3 Test result 18 ... 40 GHz



9 MEASUREMENT UNCERTAINTY

#	Test	Measurement uncertainty	
1	Conducted emissions CISPR 16-4-2	2.21 dB	
2	Radiated emissions CISPR 16-4-2	30 ... 1000 MHz 1 ... 18 GHz	3.68dB 3.64 dB
3	Harmonics / Flicker EN / IEC 61000-4-15	Current AC 350uA-320mA / 50Hz-5kHz Current AC 350mA-2.2A / 50Hz-5kHz Current AC 2.5A-10A / 50Hz-1kHz Current AC 2A-80A / 50Hz-1kHz Resistor DC Inductance Short-term flicker severity Maximum steady state voltage Maximum absolute voltage change Maximum time duration during observation Voltage AC 1V-1000V / 16Hz-10kHz	0.24 % 0.40 % 0.27 % 0.20 % 0.23 % 0.23 % 0.24 % 0.24 % 0.24 % 0.24 % 0.20 %
4	Radio frequency electromagnetic field EN / IEC 61000-4-3	1.98 dB	
5	Electrical fast transients / Burst EN / IEC 61000-4-4	Peak Voltage Rise time Duration Frequency oscilloscope	6.05 % 186 ps 1602 ps 0.014 %
6	Surges EN / IEC 61000-4-5	Peak current Front & Rise time Duration Frequency oscilloscope Peak voltage Front & Rise time Duration	3.67 % 76000 ps 76000 ps 0.014 % 4.87 % 4600 ps 4600 ps
7	Conducted disturbances EN / IEC 61000-4-6	3.47 dB	
8	Voltage dips and interruptions EN / IEC 61000-4-11	Voltage AC 1mV-1000V Current AC Inrush Current Rise / Fall time Duration	4.95 % 3.82 % 3.71 % 18.4 ns 46000 ps

END OF TEST REPORT