

Prüfbericht-Nr.: Test report no.:	CN25BCPY 001	Auftrags-Nr.: Order no.:	326071184	Seite 1 von 36 Page 1 of 36
Kunden-Referenz-Nr.: Client reference no.:	1288983	Auftragsdatum: Order date:	2025-01-02	
Auftraggeber: Client:	IKEA of Sweden AB Box 702, SE-343 81 Älmhult, Sweden			
Prüfgegenstand: Test item:	Table lamp			
Bezeichnung / Typ-Nr.: Identification / Type no.:	B2414			
Auftrags-Inhalt: Order content:	TÜV Rheinland EMC service			
Prüfgrundlage: Test specification:	FCC 47 CFR Part 15, Subpart B:2023 Class B ICES-005:2018			
Wareneingangsdatum: Date of sample receipt:	2024-12-30	Refer to the EUT photos file		
Prüfmuster-Nr.: Test sample no.:	A003899728-001			
Prüfzeitraum: Testing period:	Refer to test report			
Ort der Prüfung: Place of testing:	Refer to clause 1.1			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von: tested by:	<i>Jessie Xu</i>		genehmigt von: authorized by:	<i>Jacky Chen</i>
Datum: Date:	2025-05-20		Ausstellungsdatum: Issue date:	2025-05-20
Stellung / Position:	Project engineer		Stellung / Position:	Authorizer
Sonstiges / Other:	FCC ID: FHO-B2414 Test Firm Name: TÜV Rheinland (Shanghai) Co., Ltd. Designation Number: CN1396 Test Firm Registration Number: 930979			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
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Prüfbericht-Nr.: CN25BCPY 001
Test report no.:

Seite 2 von 36
Page 2 of 36

Anmerkungen
Remarks

- | | |
|---|--|
| 1 | <p>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben.
Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</p> <p><i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p> |
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| 3 | <p>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben.
Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.
Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p> |
| 4 | <p>Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019.</p> <p><i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i></p> |

Prüfbericht - Nr.: CN25BCPY 001
Test Report No.:

Seite 3 von 36
Page 3 of 36

Revision history of test report:

Report number	Issue date	Contents and reason for change if appropriate
CN25BCPY 001	2025-05-20	Initial release.

Contents

1	TEST SITES	5
1.1	TEST FACILITIES.....	5
2	GENERAL PRODUCT INFORMATION	6
2.1	PRODUCT FUNCTION AND INTENDED USE.....	6
2.2	RATINGS AND SYSTEM DETAILS.....	6
2.3	INDEPENDENT OPERATION MODES.....	6
2.4	DESCRIPTION OF INTERCONNECTING CABLES	6
2.5	NOISE GENERATING AND NOISE SUPPRESSING PARTS	6
2.6	HIGHEST FREQUENCY GENERATED OR USED IN THE DEVICE OR ON WHICH THE DEVICE OPERATES OR TUNES .	6
2.7	SUBMITTED DOCUMENTS.....	6
3	TEST SET-UP AND OPERATION MODES	7
3.1	PRINCIPLE OF CONFIGURATION SELECTION	7
3.2	EQUIPMENT AND CABLE ARRANGEMENT.....	7
3.3	TEST SOFTWARE	8
3.4	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	8
3.5	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE.....	8
4	CONFORMITY DECISION RULE	9
5	TEST RESULTS EMISSION	10
5.1	EMISSION IN THE FREQUENCY RANGE UP TO 30 MHz	10
5.1.1	Conducted emission	10
5.2	EMISSION IN THE FREQUENCY RANGE ABOVE 30 MHz.....	20
5.2.1	Radiated emission (30-1000 MHz).....	20
6	PHOTOGRAPHS OF THE TEST SET-UP	34
7	LIST OF TEST AND MEASUREMENT INSTRUMENTS	35
8	LIST OF FIGURES	36

1 Test Sites

1.1 Test Facilities

Laboratory: TÜV Rheinland (Shanghai) Co., Ltd.

Address: Workshop 14, North Half of Workshop 10 and Workshop 16, Pingqian (Taicang) Modern Industrial Park, No.525, Yuewang Lingang South Road, Shaxi, Taicang, Jiangsu, China

The used test equipment is in accordance with CISPR 16-1 series standards for measurement of radio interference.

Refer to Clause 7 for test and measurement instruments.

2 General Product Information

2.1 Product Function and Intended Use

The EUT (equipment under test) is an ordinary table lamp for lighting and similar use. For further information, refer to the user's manual.

2.2 Ratings and System Details

Rated input	: 5 V DC
	Rechargeable Li-Ion Battery, DC 7.2 V, 2600 mAh
Rated power	: 5 W
Protection class	: Class III

The above model B2414 has two kinds of color, black and silver. They have the same electrical characteristics except the color. Therefore, the EMC testing was performed on the silver sample.

2.3 Independent Operation Modes

The basic operation modes are: "ON" and "OFF" with dimming function.

- Mode 1: EUT was charged by adapter and lighting on with max lighting output
- Mode 2: EUT was charged by adapter and lighting on with min lighting output
- Mode 3: EUT was charged by laptop and lighting on with max lighting output
- Mode 4: EUT was charged by laptop and lighting on with min lighting output
- Mode 5: EUT was powered by internal battery and lighting on with max lighting output
- Mode 6: EUT was powered by internal battery and lighting on with min lighting output

2.4 Description of interconnecting cables

N/A

2.5 Noise Generating and Noise Suppressing Parts

Refer to the circuit diagram for further information.

2.6 Highest frequency generated or used in the device or on which the device operates or tunes

The highest frequency used in the EUT is 650 kHz.

2.7 Submitted Documents

Circuit diagram, user's manual and rating label.

3 Test Set-up and Operation Modes

3.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible emission level. The test conditions were adapted accordingly in reference to the instructions for use.

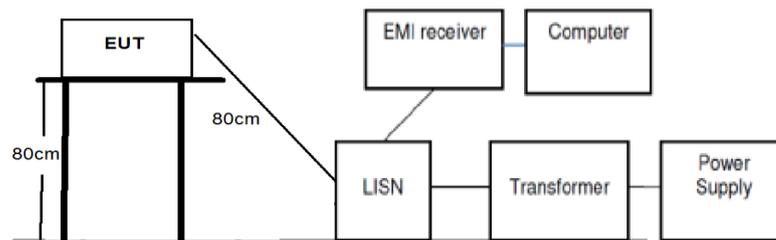
Refer to the related paragraph of this report.

The sequence of testing:

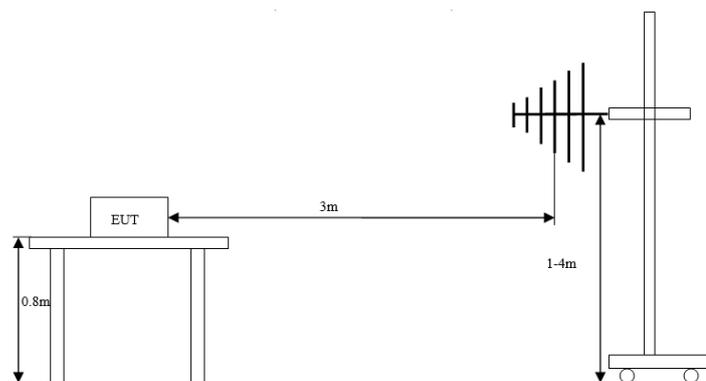
1. Conducted emission tests were performed on 2025-04-08.
2. Radiated emission tests were performed on 2025-04-09.

3.2 Equipment and cable arrangement

Block diagram for both conducted emission and radiated emission tests is as follows:



(Conducted emission)



(Radiated emission 30-1000 MHz)

Also refer to photographs on clause 6 for test setups for both conducted emission test and radiated emission test.

3.3 Test Software

No special test software was used during the tests.

3.4 Special Accessories and Auxiliary Equipment

During the test, the adaptor (model: ICPSW5-5NA-1, brand: IKEA) and laptop (model: T45, brand: IKEA) were used as power supply.

3.5 Countermeasures to achieve EMC Compliance

No other special measure is employed to achieve the requirement.

4 Conformity Decision Rule

For all EMI tests included in this report, as measurement uncertainties are less than the values U_{CISPR} given in CISPR 16-4-2, compliance with the limits is determined by comparing measurement results directly with corresponding limits without taking into consideration of measurement uncertainties.

5 Test Results EMISSION

5.1 Emission in the Frequency Range up to 30 MHz

5.1.1 Conducted emission

Result:	Passed
Date of testing	: 2025-04-08
Test procedure	: FCC 47 CFR Part 15, Subpart B:2023, ICES-005:2018, ANSI C63.4-2014 and CISPR 16-2-1
Frequency range	: 0.15 – 30 MHz
Limits	: Quasi-peak limit: 0.15 – 0.5 MHz, 66 to 56 dB μ V (decrease with the logarithm of frequency); 0.5 – 5 MHz, 56 dB μ V; 5 – 30 MHz, 60 dB μ V Average limit: 0.15 – 0.5 MHz, 56 to 46 dB μ V (decrease with the logarithm of frequency); 0.5 – 5 MHz, 46 dB μ V; 5 – 30 MHz, 50 dB μ V
Bandwidth of EMI receiver for final measurement	: 9 kHz
Measurement time for final measurement	: 1 s
Kind of test site	: Shielded room
Input voltage	: AC 120 V, 60 Hz for adapter and power supply of laptop
Operational mode	: Mode 1: EUT was powered by adapter and lighting on with max lighting output Mode 2: EUT was powered by adapter and lighting on with min lighting output Mode 3: EUT was powered by laptop and lighting on with max lighting output Mode 4: EUT was powered by laptop and lighting on with min lighting output
Ambient condition	: Temperature: 19.2 °C; Relative humidity: 51.3 %
Expanded measurement uncertainty ($k=2$)	: 2.33 dB The minimum margin to the limit is 11.86 dB at 0.489750 MHz. The margin is higher than expanded measurement uncertainty.

The measurement setup was made according to ANSI C63.4-2014 in a shielded room. The measurement equipment like test receivers, quasi-peak detector and artificial mains network (AMN) are in compliance with CISPR 16-1 series standards.

The tested object was set-up on a wooden support. The EUT was set 0.8 m away from the AMN. The cord longer than necessary to be connected to the AMN was folded forth and back parallel so as to form a bundle with a length between 0.3 m and 0.4 m.

The disturbance voltage test was performed on the neutral line and phase line of the power supply of the EUT respectively.

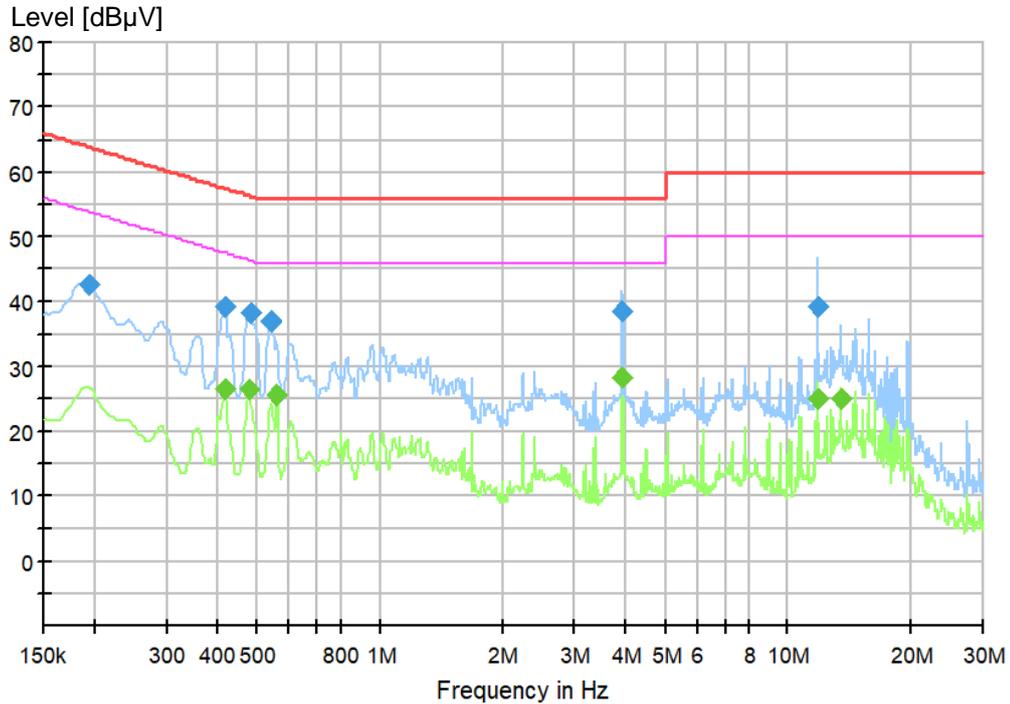
The following figures and tables were those measured by an automatic measuring system. Both quasi-peak and average measurements were performed. In the following spectral diagram, “◆” means Quasi-Peak Value and “◆” means Average Value results.

Notes on following tables of conducted emission results and conversions:

Level (dB μ V): final measurement results by using quasi-peak detector and average detector

Transd (dB): transducer factor including cable loss, insertion loss of artificial mains network and gain of pre-amplifier (if used)

Margin: Limit (dB μ V) - Level (dB μ V)

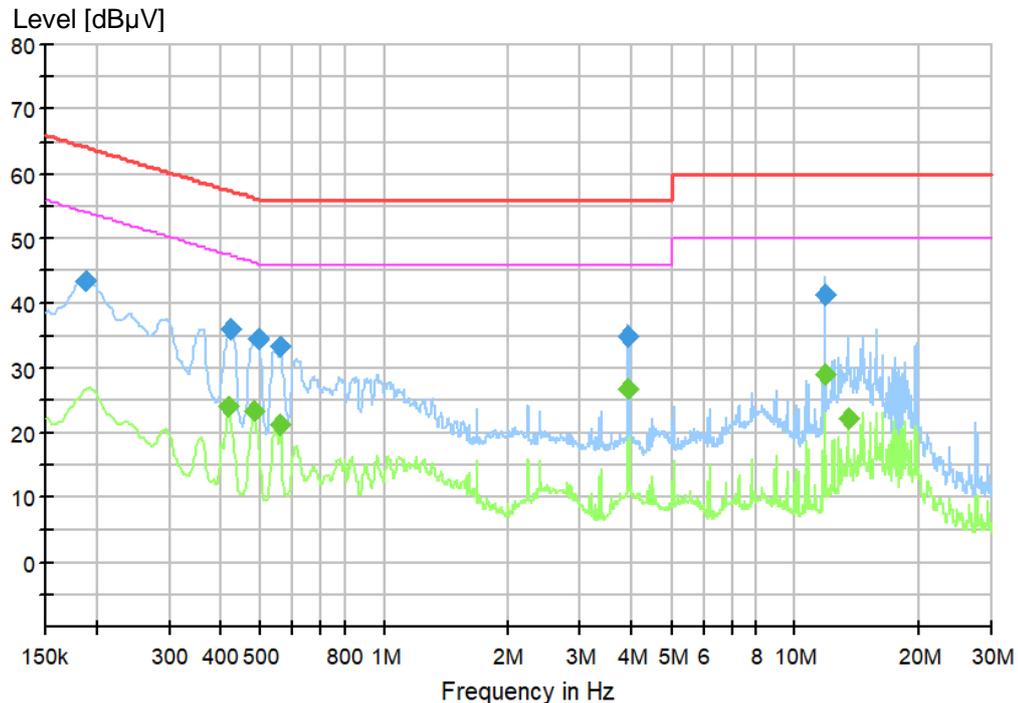
Figure 1: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L on mode 1


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Margin (dB)	Line	Corr. (dB)
0.195000	42.49	21.33	L1	10.3
0.415500	39.31	18.23	L1	10.3
0.480750	38.30	18.02	L1	10.3
0.539250	36.90	19.10	L1	10.3
3.934500	38.63	17.37	L1	10.2
11.800500	39.02	20.98	L1	10.8

Final average measurement result:

Frequency (MHz)	CAverage (dBµV)	Margin (dB)	Line	Corr. (dB)
0.415500	26.44	21.10	L1	10.3
0.478500	26.50	19.86	L1	10.3
0.561750	25.61	20.39	L1	10.3
3.934500	28.21	17.79	L1	10.2
11.802750	24.92	25.08	L1	10.8
13.533000	24.93	25.07	L1	10.8

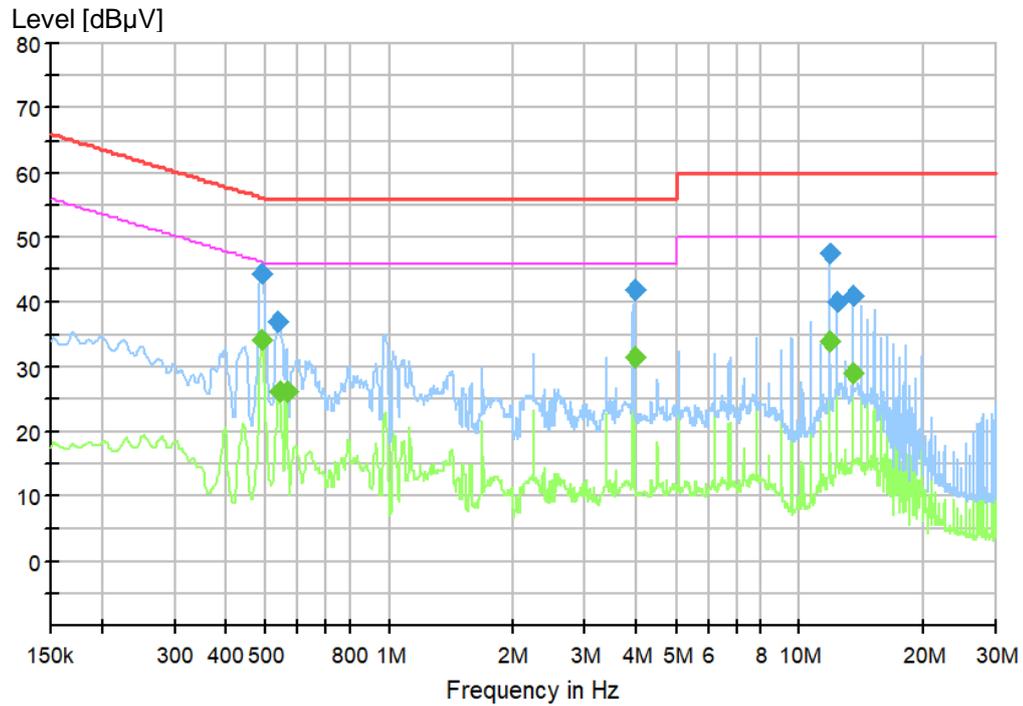
Figure 2: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N on mode 1


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Margin (dB)	Line	Corr. (dB)
0.188250	43.50	20.61	N	10.7
0.420000	36.19	21.26	N	10.3
0.494250	34.54	21.56	N	10.2
0.559500	33.22	22.78	N	10.3
3.936750	34.86	21.14	N	10.7
11.809500	41.39	18.61	N	11.1

Final average measurement result:

Frequency (MHz)	CAverage (dBµV)	Margin (dB)	Line	Corr. (dB)
0.417750	23.88	23.61	N	10.3
0.480750	23.29	23.04	N	10.2
0.559500	21.35	24.65	N	10.3
3.936750	26.68	19.32	N	10.7
11.809500	28.82	21.18	N	11.1
13.526250	22.28	27.72	N	11.1

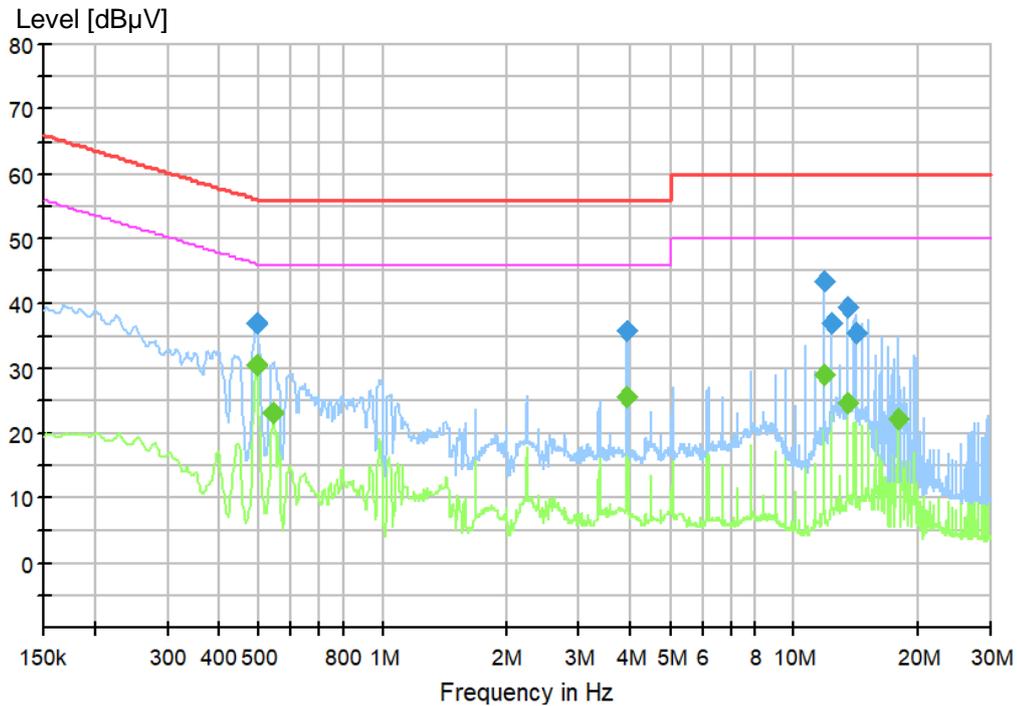
Figure 3: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L on mode 2


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Margin (dB)	Line	Corr. (dB)
0.489750	44.32	11.86	L1	10.3
0.537000	37.11	18.89	L1	10.3
3.941250	41.86	14.14	L1	10.2
11.823000	47.39	12.61	L1	10.8
12.392250	40.05	19.95	L1	10.8
13.508250	41.13	18.87	L1	10.8

Final average measurement result:

Frequency (MHz)	CAverage (dBµV)	Margin (dB)	Line	Corr. (dB)
0.489750	34.11	12.06	L1	10.3
0.539250	26.26	19.74	L1	10.3
0.564000	26.04	19.96	L1	10.3
3.941250	31.45	14.55	L1	10.2
11.827500	34.07	15.93	L1	10.8
13.508250	28.86	21.14	L1	10.8

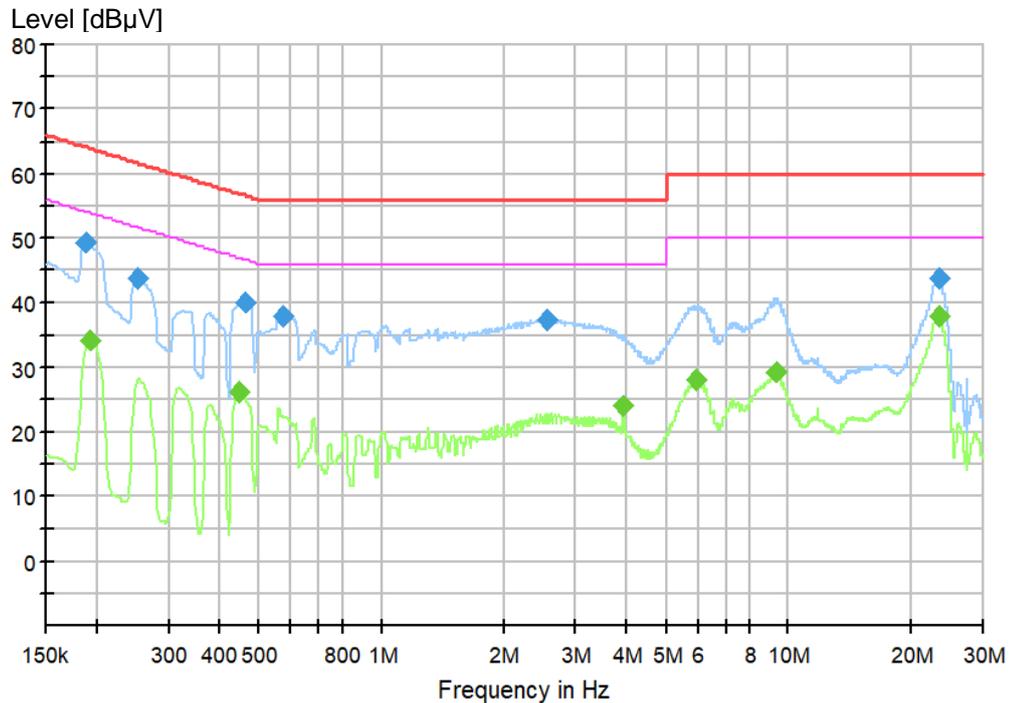
Figure 4: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N on mode 2


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Margin (dB)	Line	Corr. (dB)
0.496500	36.88	19.18	N	10.2
3.934500	35.89	20.12	N	10.7
11.796000	43.40	16.60	N	11.1
12.356250	36.93	23.07	N	11.1
13.470000	39.49	20.51	N	11.1
14.041500	35.37	24.63	N	11.1

Final average measurement result:

Frequency (MHz)	CAverage (dBµV)	Margin (dB)	Line	Corr. (dB)
0.494250	30.55	15.54	N	10.2
0.543750	23.10	22.90	N	10.3
3.934500	25.50	20.50	N	10.7
11.800500	29.12	20.88	N	11.1
13.470000	24.60	25.40	N	11.1
17.970000	22.15	27.85	N	11.2

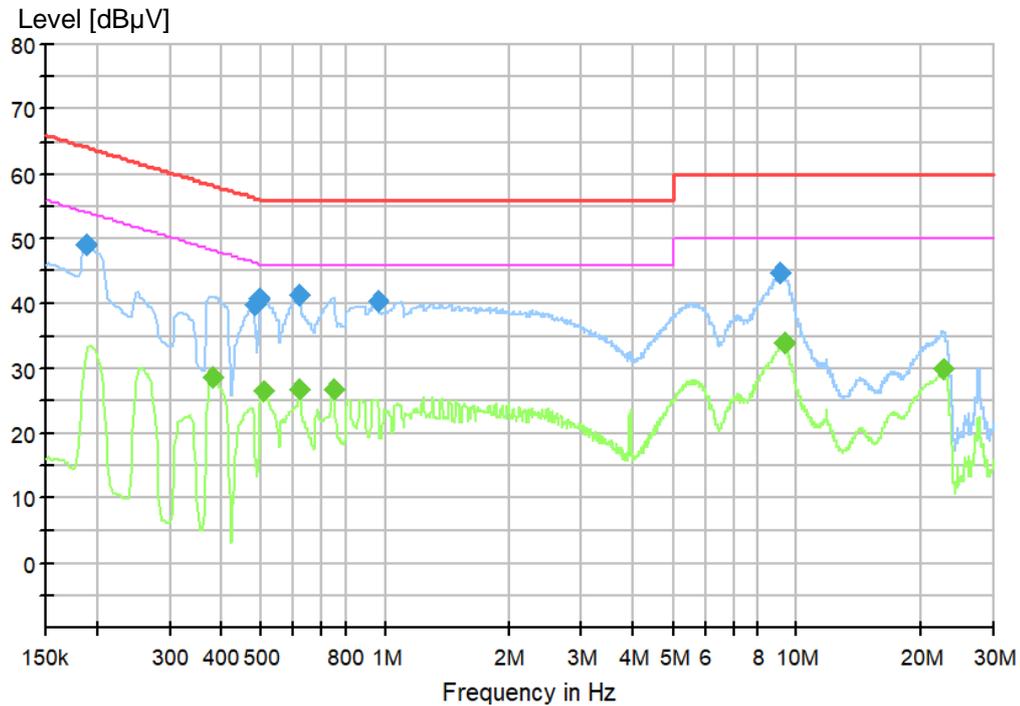
Figure 5: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L on mode 3


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Margin (dB)	Line	Corr. (dB)
0.188250	49.24	14.87	L1	10.3
0.251250	43.72	17.99	L1	10.3
0.460500	40.01	16.68	L1	10.3
0.575250	37.99	18.01	L1	10.3
2.550750	37.44	18.56	L1	10.1
23.338500	43.81	16.19	L1	11.1

Final average measurement result:

Frequency (MHz)	CAverage (dBµV)	Margin (dB)	Line	Corr. (dB)
0.192750	34.24	19.68	L1	10.3
0.444750	26.09	20.89	L1	10.3
3.932250	24.17	21.83	L1	10.2
5.925750	27.91	22.09	L1	10.6
9.309750	29.27	20.73	L1	10.8
23.343000	38.05	11.95	L1	11.1

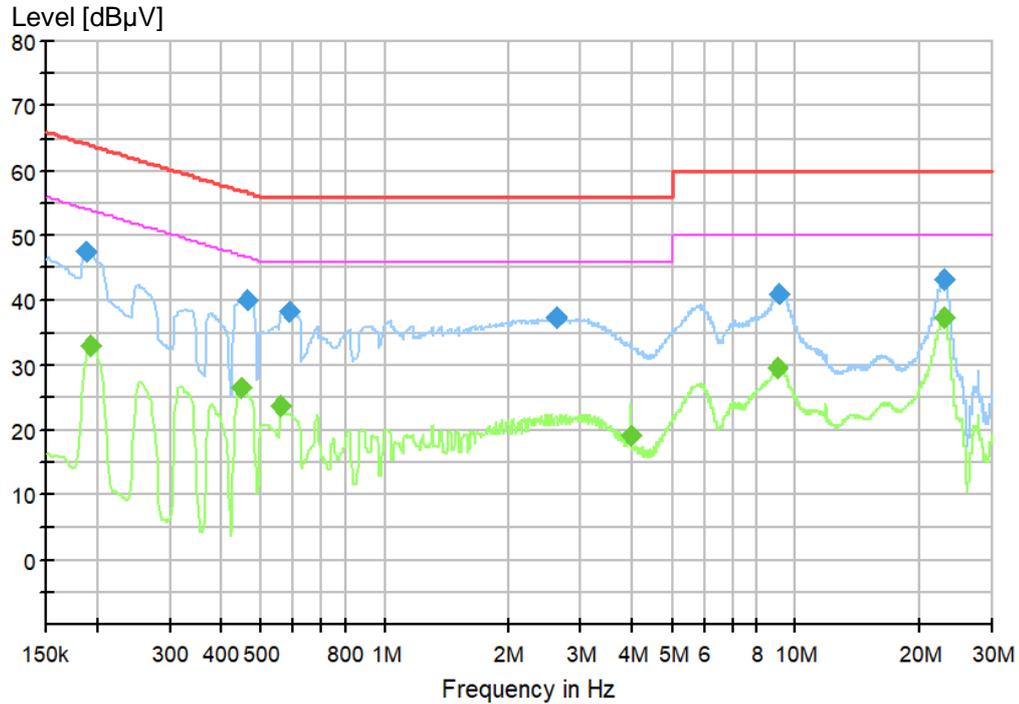
Figure 6: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N on mode 3


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Margin (dB)	Line	Corr. (dB)
0.188250	48.94	15.17	N	10.7
0.480750	39.67	16.66	N	10.2
0.496500	40.77	15.29	N	10.2
0.618000	41.38	14.62	N	10.3
0.960000	40.38	15.62	N	10.4
9.114000	44.89	15.11	N	10.9

Final average measurement result:

Frequency (MHz)	CAverage (dBµV)	Margin (dB)	Line	Corr. (dB)
0.379500	28.57	19.72	N	10.4
0.503250	26.44	19.56	N	10.2
0.620250	26.73	19.27	N	10.3
0.748500	26.79	19.21	N	10.4
9.260250	33.80	16.20	N	11.0
22.679250	29.95	20.05	N	11.4

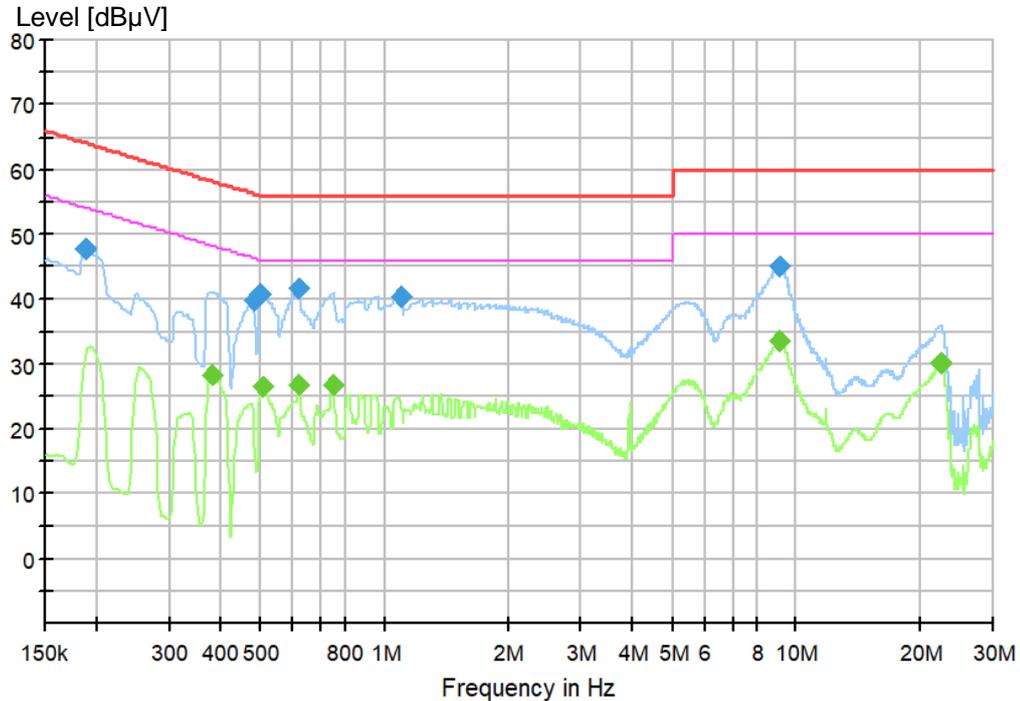
Figure 7: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L on mode 4


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Margin (dB)	Line	Corr. (dB)
0.188250	47.50	16.61	L1	10.3
0.460500	40.20	16.49	L1	10.3
0.584250	38.21	17.79	L1	10.3
2.609250	37.30	18.70	L1	10.1
9.150000	41.10	18.90	L1	10.8
22.866000	43.13	16.87	L1	11.1

Final average measurement result:

Frequency (MHz)	CAverage (dBµV)	Margin (dB)	Line	Corr. (dB)
0.192750	33.00	20.92	L1	10.3
0.444750	26.40	20.57	L1	10.3
0.561750	23.74	22.26	L1	10.3
3.952500	18.93	27.07	L1	10.2
9.053250	29.59	20.41	L1	10.8
22.827750	37.29	12.71	L1	11.1

Figure 8: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N on mode 4


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Margin (dB)	Line	Corr. (dB)
0.188250	47.81	16.30	N	10.7
0.480750	39.76	16.57	N	10.2
0.498750	40.75	15.27	N	10.2
0.620250	41.50	14.50	N	10.3
1.099500	40.44	15.56	N	10.4
9.116250	45.05	14.95	N	10.9

Final average measurement result:

Frequency (MHz)	CAverage (dBµV)	Margin (dB)	Line	Corr. (dB)
0.379500	28.46	19.83	N	10.4
0.503250	26.41	19.59	N	10.2
0.620250	26.88	19.12	N	10.3
0.750750	26.89	19.11	N	10.4
9.118500	33.75	16.25	N	10.9
22.290000	30.18	19.82	N	11.4

5.2 Emission in the Frequency Range above 30 MHz

5.2.1 Radiated emission (30-1000 MHz)

Result:
Passed

Date of testing	: 2025-04-09
Test procedure	: FCC 47 CFR Part 15, Subpart B:2023, ICES-005:2018, ANSI C63.4-2014 and CISPR 16-2-3
Product classification	: Class B
Frequency range	: 30 – 1000 MHz (see Note 1)
Limits	: Quasi-peak limits (3 m distance): 30 – 88 MHz, 40 dB μ V/m; 88 – 216 MHz, 43.5 dB μ V/m; 216 – 1000 MHz, 46 dB μ V/m (see Note 2)
Bandwidth of EMI receiver for final measurement	: 120 kHz
Measurement time for final measurement	: 1 s
Kind of test site	: Semi-anechoic chamber
Input voltage	: AC 120 V, 60 Hz for adapter and power supply of laptop DC 7.2 V for internal battery
Operational mode	: Mode 1: EUT was powered by adapter and lighting on with max lighting output Mode 2: EUT was powered by adapter and lighting on with min lighting output Mode 3: EUT was powered by laptop and lighting on with max lighting output Mode 4: EUT was powered by laptop and lighting on with min lighting output Mode 5: EUT was powered by internal battery and lighting on with max lighting output Mode 6: EUT was powered by internal battery and lighting on with min lighting output
Ambient condition	: Temperature: 18.2 °C; Relative humidity: 52.3 %
Expanded measurement uncertainty ($k=2$)	: 5.40 dB The minimum margin to the limit is 9.2 dB at 35.335000 MHz. The margin is higher than expanded measurement uncertainty.

The radiated disturbance test was carried out in a semi-anechoic chamber. The test distance from the receiving antenna to the EUT is 3 m. The normalized site attenuation of the semi-anechoic chamber is regularly calibrated to ensure the radiated disturbance test results are valid. During the test, the EUT was placed on an 80 cm wooden support above the reference ground plane. The wooden support was rotated 360° around and the height of the antenna was varied from 1 m to 4 m to find the maximum disturbance. The test was performed with the antenna both in its horizontal and vertical polarizations.

The following figures and tables were those measured by an automatic measurement system.

Prüfbericht - Nr.: CN25BCPY 001**Seite 21 von 36**

Test Report No.:

Page 21 of 36

A preview test was firstly performed with peak detector. The final test was performed with quasi-peak at those critical frequencies during the preview test. In the following spectral diagram, “×” means quasi-peak test results.

Notes on following tables of radiated emission results and conversions:

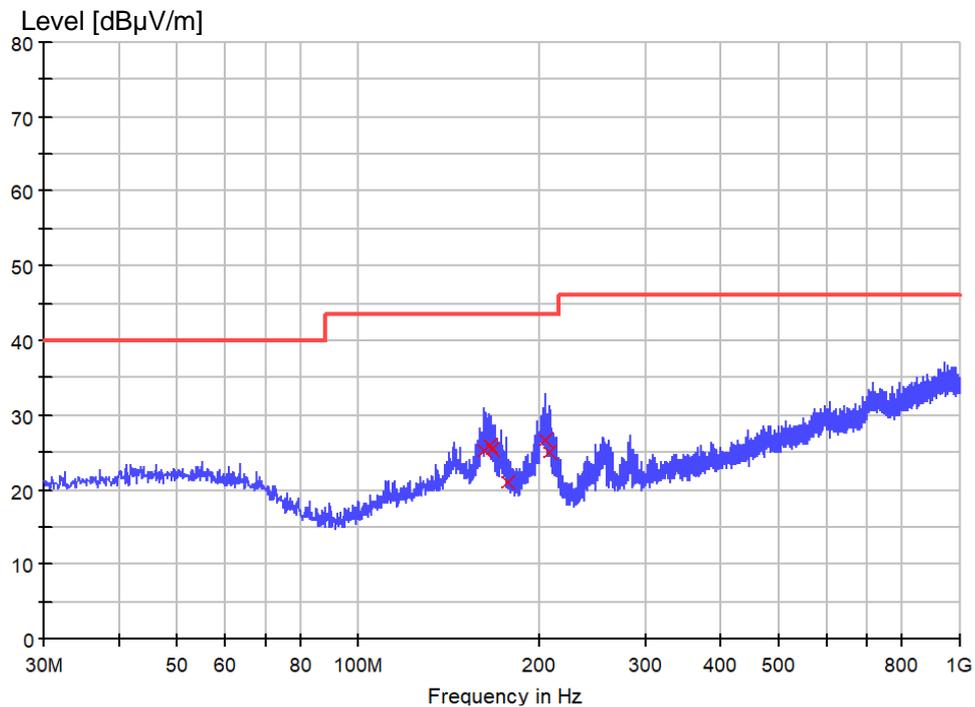
QuasiPeak (dB μ V/m): final measurement results by using quasi-peak detector

Corr. (dB): correction factor including: antenna factor, cable loss, and gain of pre-amplifier (if used)

Margin: Limit (dB μ V/m) - QuasiPeak (dB μ V/m)

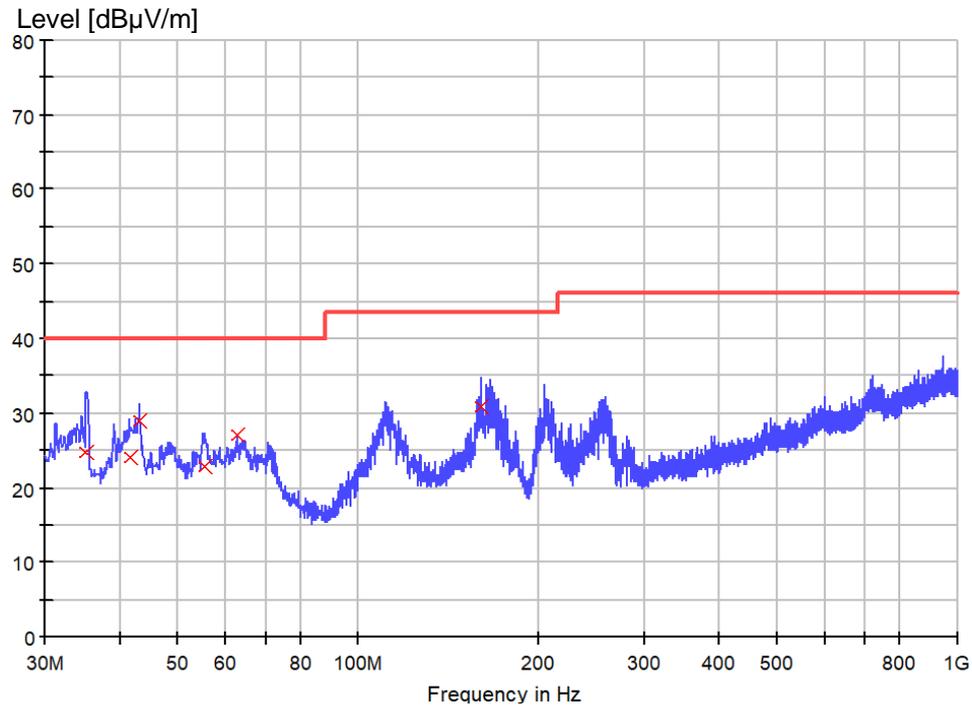
Note 1: The highest frequency in the EUT is less than 108 MHz. According to FCC Part 15 subpart B §15.33 (b) (1), the upper frequency for radiated emission measurement is 1000 MHz.

Note 2: The class B limits of ICES-005:2018 is stricter than those FCC 47 CFR Part 15, Subpart B:2023 for 3 m test distance. Therefore, the former limits are used in following figures and tables.

Figure 9: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 1


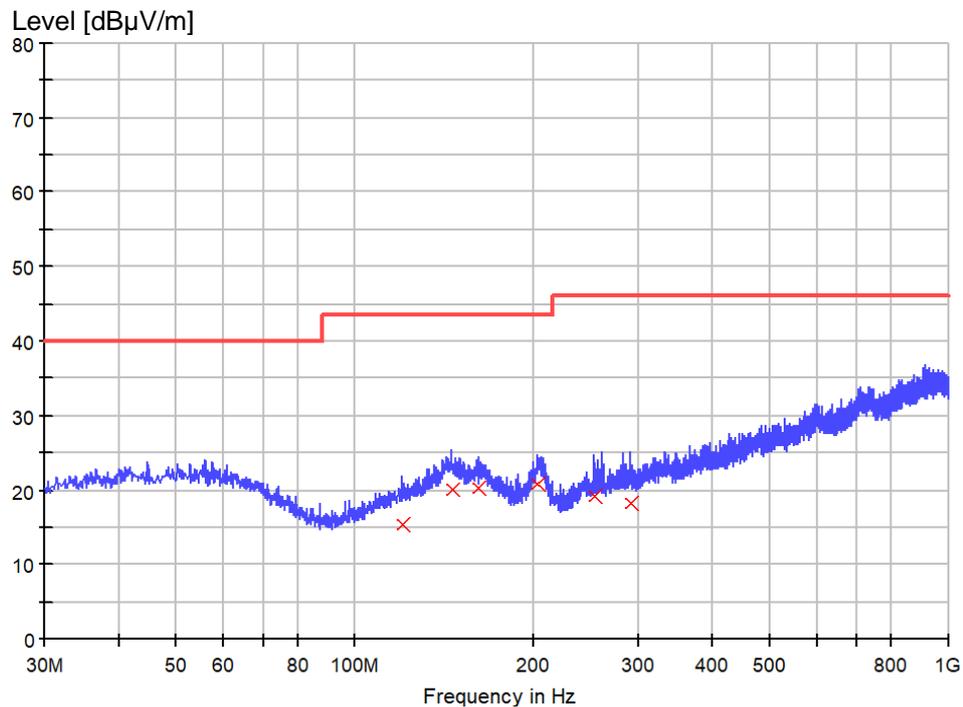
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
161.798750	25.3	120.000	129.0	H	-104.0	14.2	18.2	43.5
164.587500	25.9	120.000	121.0	H	70.0	14.1	17.6	43.5
166.406250	25.4	120.000	162.0	H	-47.0	14.0	18.1	43.5
176.712500	21.1	120.000	110.0	H	117.0	13.1	22.4	43.5
204.236250	26.6	120.000	160.0	H	158.0	10.9	16.9	43.5
208.237500	25.1	120.000	100.0	H	60.0	10.6	18.4	43.5

Figure 10: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 1


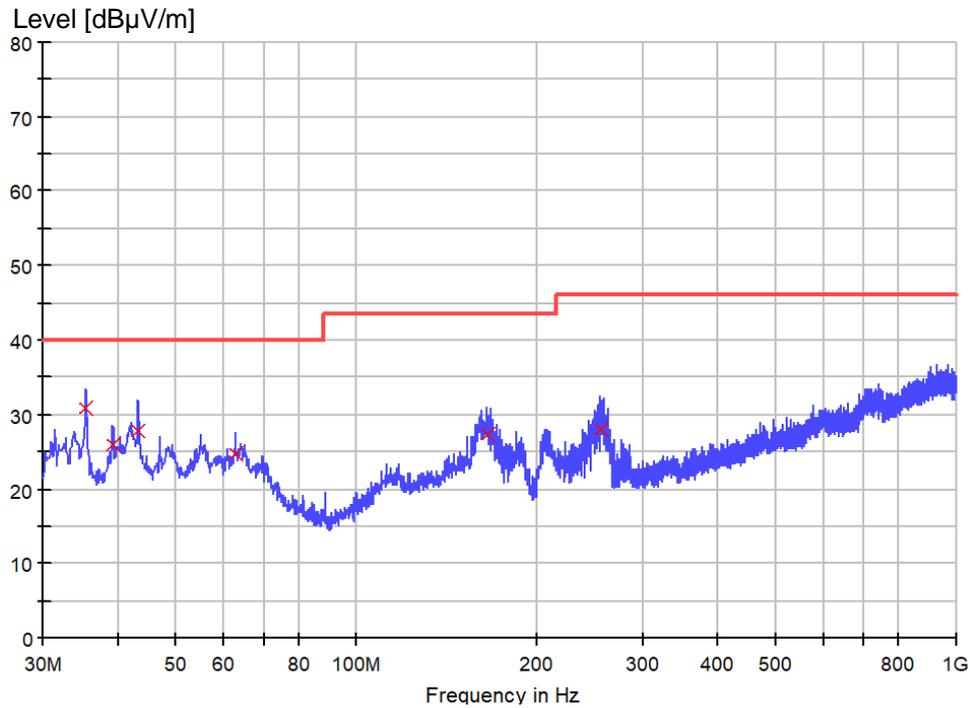
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
35.092500	24.7	120.000	191.0	V	141.0	13.4	15.3	40.0
41.518750	24.2	120.000	110.0	V	-132.0	14.1	15.8	40.0
43.095000	29.1	120.000	109.0	V	82.0	14.2	10.9	40.0
55.341250	22.9	120.000	132.0	V	-11.0	14.1	17.1	40.0
62.616250	27.1	120.000	131.0	V	-86.0	13.4	12.9	40.0
160.586250	30.8	120.000	129.0	V	66.0	14.2	12.7	43.5

Figure 11: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 2


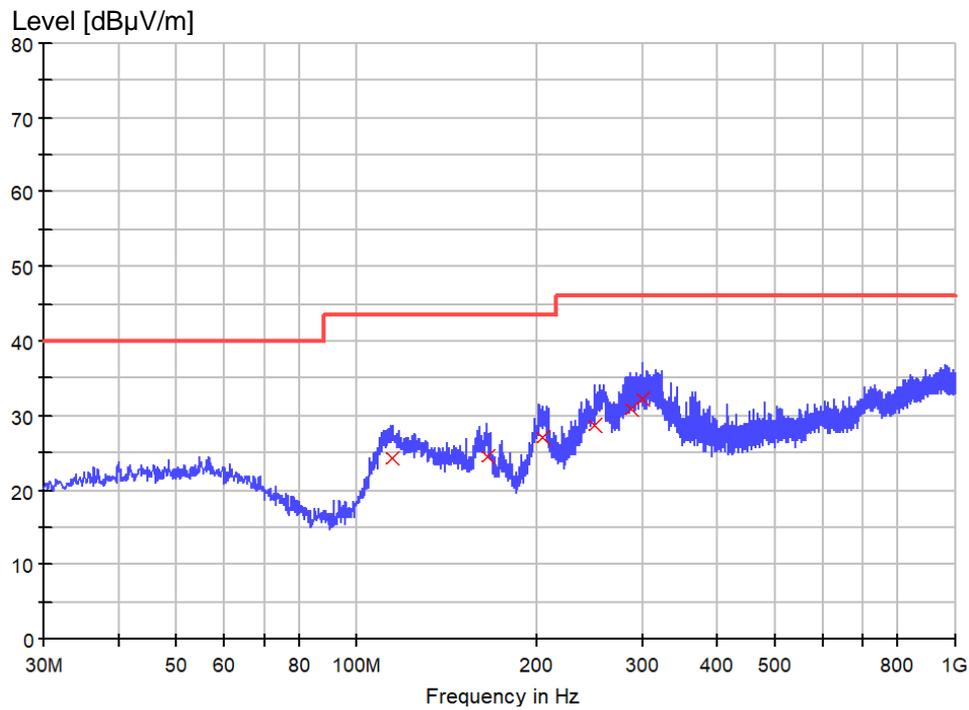
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
120.452500	15.5	120.000	107.0	H	-122.0	12.0	28.0	43.5
145.672500	20.1	120.000	181.0	H	-5.0	14.0	23.4	43.5
160.950000	20.4	120.000	109.0	H	-30.0	14.2	23.1	43.5
202.538750	20.8	120.000	115.0	H	128.0	11.0	22.7	43.5
253.827500	19.1	120.000	129.0	H	-23.0	13.3	26.9	46.0
291.415000	18.3	120.000	148.0	H	-141.0	14.6	27.7	46.0

Figure 12: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 2


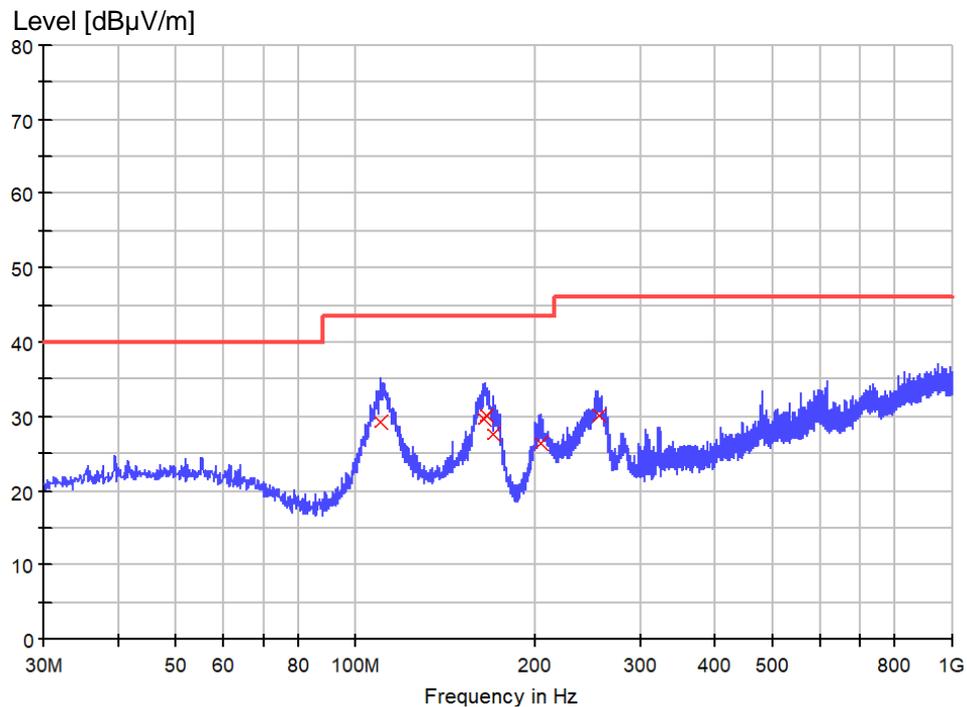
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
35.335000	30.9	120.000	161.0	V	-98.0	13.4	9.2	40.0
39.215000	25.9	120.000	170.0	V	-171.0	13.8	14.1	40.0
43.216250	28.0	120.000	187.0	V	138.0	14.2	12.1	40.0
62.737500	24.9	120.000	142.0	V	-139.0	13.4	15.1	40.0
165.193750	27.3	120.000	104.0	V	13.0	14.0	16.2	43.5
255.525000	28.0	120.000	130.0	V	77.0	13.4	18.0	46.0

Figure 13: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 3


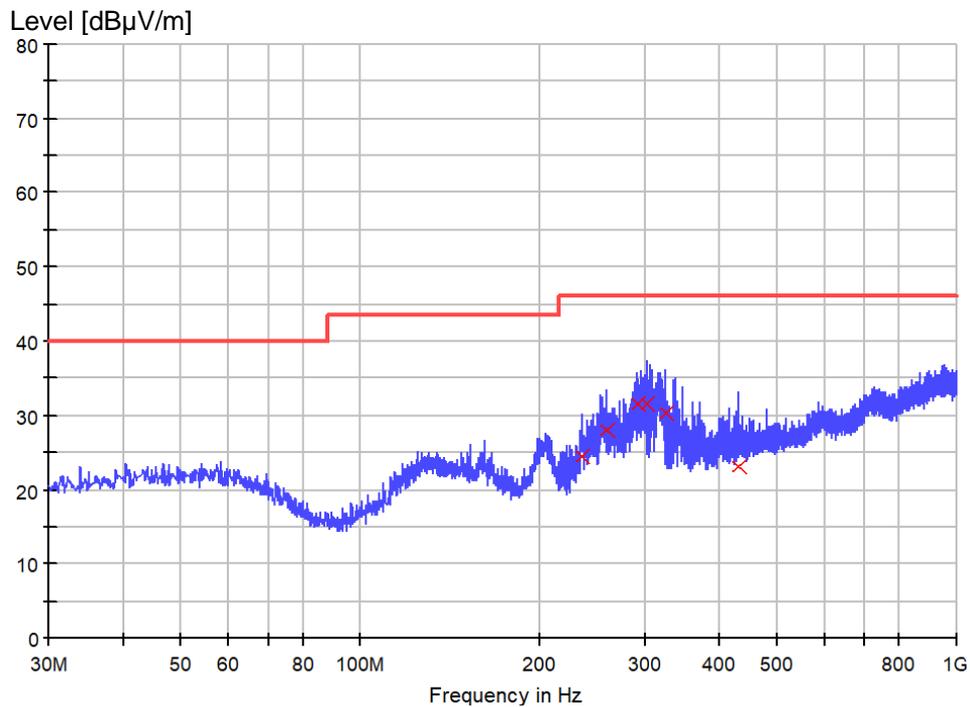
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
114.390000	24.4	120.000	138.0	H	149.0	11.4	19.1	43.5
165.193750	24.6	120.000	186.0	H	62.0	14.0	18.9	43.5
205.085000	27.1	120.000	195.0	H	-162.0	10.8	16.4	43.5
249.098750	28.7	120.000	103.0	H	-41.0	13.0	17.3	46.0
287.777500	31.0	120.000	182.0	H	-176.0	14.5	15.0	46.0
300.630000	32.2	120.000	119.0	H	-9.0	14.4	13.8	46.0

Figure 14: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 3


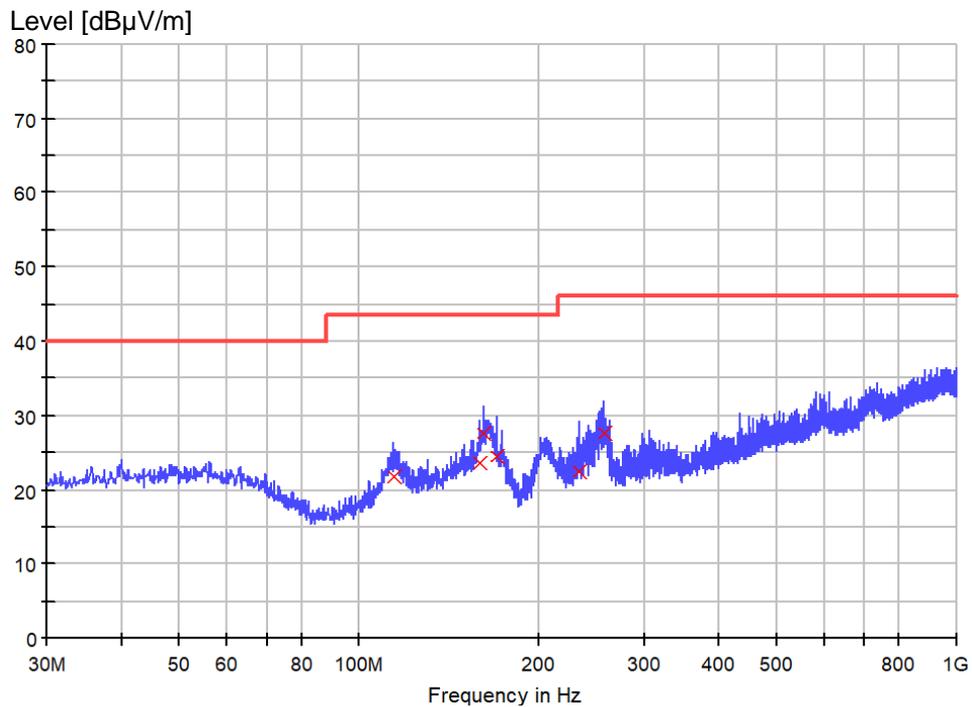
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
110.146250	29.2	120.000	158.0	V	137.0	10.9	14.3	43.5
163.375000	29.6	120.000	133.0	V	27.0	14.1	13.9	43.5
165.315000	30.1	120.000	132.0	V	-128.0	14.0	13.4	43.5
169.558750	27.6	120.000	142.0	V	29.0	13.8	15.9	43.5
204.721250	26.4	120.000	147.0	V	-26.0	10.9	17.2	43.5
255.888750	30.1	120.000	143.0	V	116.0	13.4	15.9	46.0

Figure 15: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 4


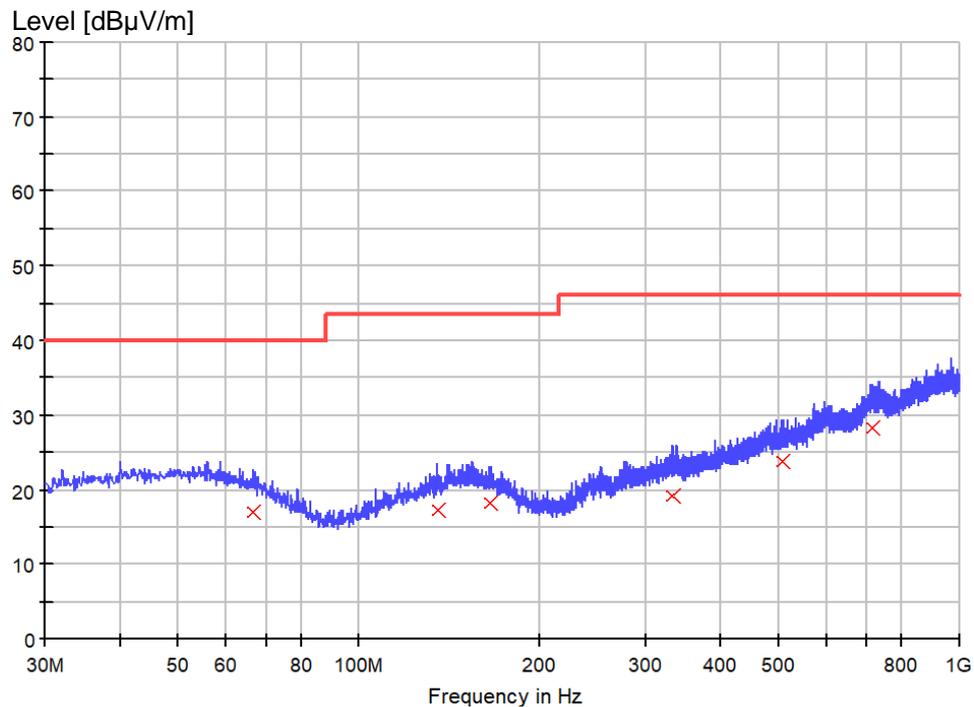
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
235.640000	24.6	120.000	129.0	H	-9.0	12.5	21.4	46.0
258.192500	28.0	120.000	117.0	H	112.0	13.4	18.0	46.0
292.385000	31.5	120.000	150.0	H	-177.0	14.5	14.5	46.0
303.418750	31.7	120.000	118.0	H	-102.0	14.6	14.4	46.0
325.001250	30.4	120.000	158.0	H	26.0	15.6	15.6	46.0
431.095000	23.2	120.000	144.0	H	51.0	17.8	22.8	46.0

Figure 16: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 4


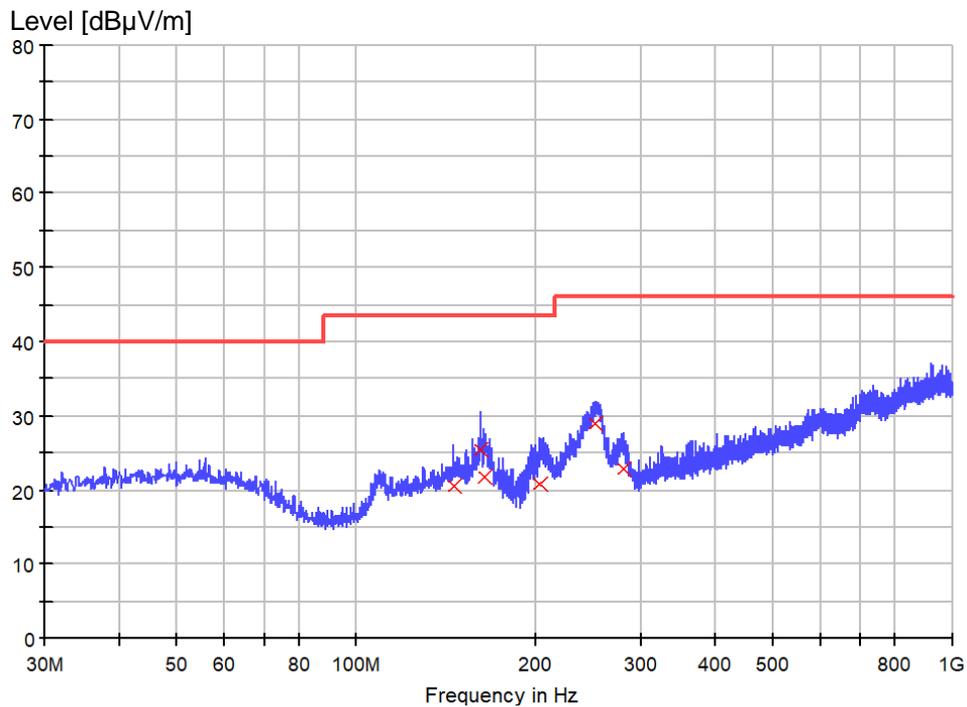
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
114.390000	21.7	120.000	102.0	V	112.0	11.4	21.9	43.5
159.010000	23.7	120.000	160.0	V	-11.0	14.3	19.8	43.5
161.677500	27.5	120.000	135.0	V	2.0	14.2	16.0	43.5
169.558750	24.5	120.000	105.0	V	-162.0	13.8	19.0	43.5
233.821250	22.3	120.000	151.0	V	-73.0	12.2	23.7	46.0
256.252500	27.5	120.000	184.0	V	155.0	13.4	18.5	46.0

Figure 17: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 5


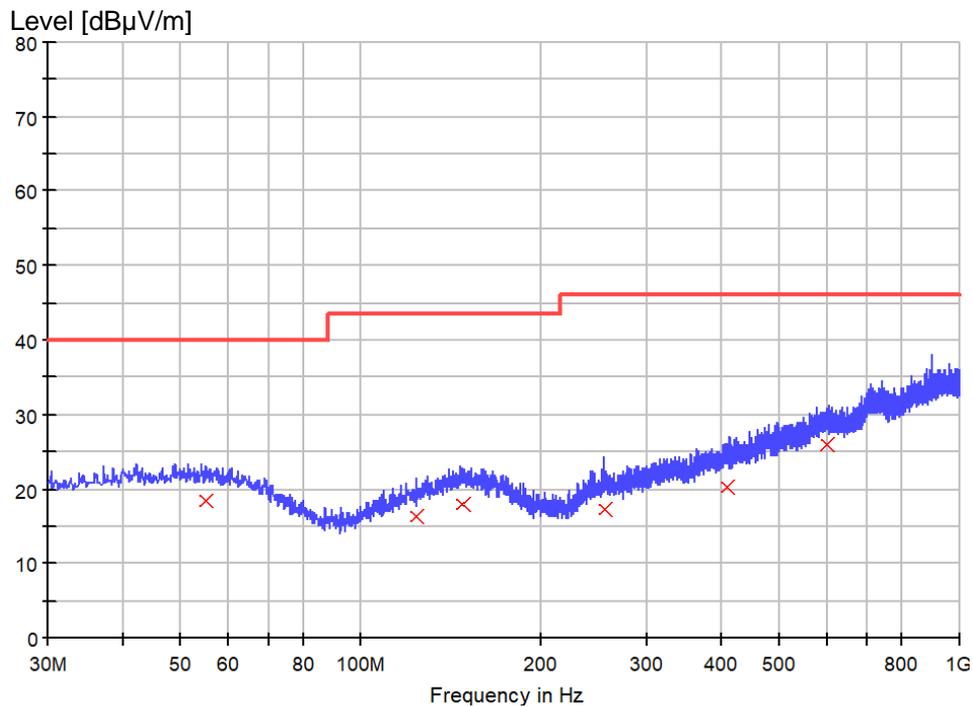
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
66.496250	17.1	120.000	157.0	H	-40.0	12.9	22.9	40.0
135.487500	17.3	120.000	116.0	H	-44.0	13.3	26.2	43.5
164.708750	18.2	120.000	129.0	H	-43.0	14.1	25.3	43.5
334.095000	19.1	120.000	199.0	H	-99.0	15.8	26.9	46.0
506.148750	23.8	120.000	159.0	H	-128.0	19.7	22.2	46.0
717.851250	28.4	120.000	146.0	H	-32.0	24.8	17.6	46.0

Figure 18: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 5


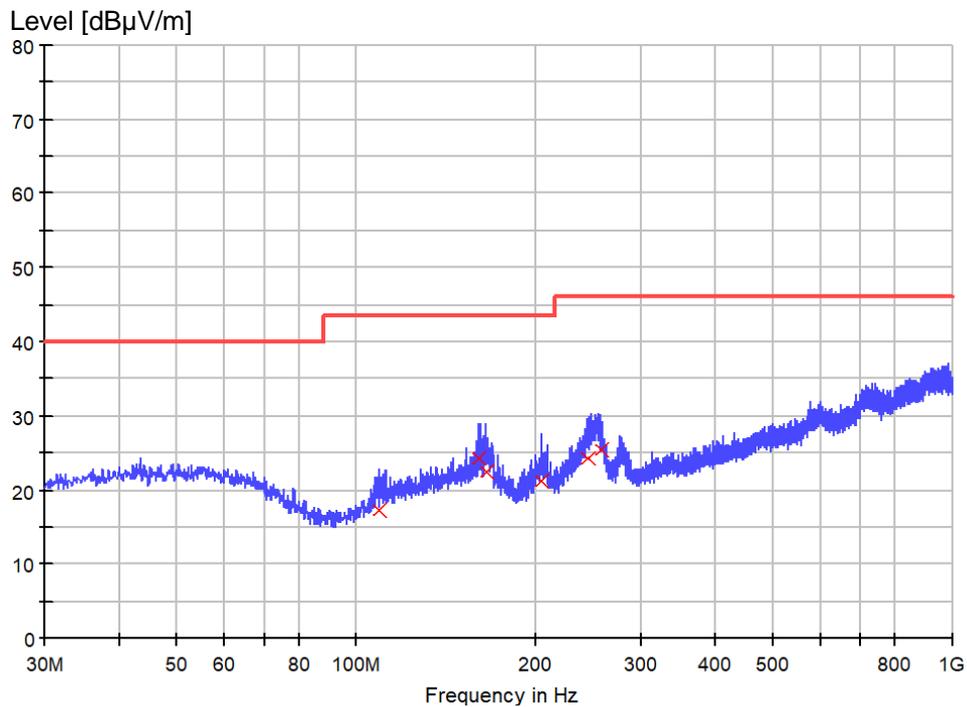
Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
145.551250	20.6	120.000	141.0	V	81.0	14.0	22.9	43.5
161.192500	25.6	120.000	169.0	V	-148.0	14.2	17.9	43.5
164.223750	21.8	120.000	192.0	V	179.0	14.1	21.7	43.5
202.781250	20.9	120.000	142.0	V	160.0	11.0	22.6	43.5
252.372500	28.9	120.000	193.0	V	60.0	13.1	17.1	46.0
280.866250	22.8	120.000	195.0	V	-28.0	14.2	23.2	46.0

Figure 19: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 6


Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
55.098750	18.5	120.000	193.0	H	98.0	14.2	21.6	40.0
123.847500	16.4	120.000	174.0	H	-60.0	12.3	27.1	43.5
147.612500	18.1	120.000	106.0	H	116.0	14.1	25.4	43.5
255.040000	17.4	120.000	175.0	H	180.0	13.4	28.6	46.0
410.725000	20.4	120.000	144.0	H	126.0	17.2	25.6	46.0
599.511250	25.9	120.000	158.0	H	144.0	22.1	20.1	46.0

Figure 20: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 6


Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
108.812500	17.4	120.000	197.0	V	88.0	10.7	26.1	43.5
160.707500	24.3	120.000	138.0	V	151.0	14.2	19.3	43.5
165.315000	22.5	120.000	108.0	V	-109.0	14.0	21.0	43.5
204.236250	21.3	120.000	139.0	V	57.0	10.9	22.2	43.5
243.521250	24.3	120.000	139.0	V	11.0	13.5	21.8	46.0
256.737500	25.6	120.000	196.0	V	107.0	13.4	20.4	46.0

6 Photographs of the Test Set-Up

Refer to the test setup file.

7 List of Test and Measurement Instruments

Equip. no.	Equipment name	Model	Serial no.	Manufacturer	Cal. date	Due date
EMC-S-028	EMI measurement software	EMC32-E+ (10.60.20)	100150	Rohde & Schwarz	N/A	N/A
EMC-C-366	Thermohygrometer	608-H1	2485149174	testo	2024-07-26	2025-07-26
EMC-C-195	EMI test receiver	ESR3	102794	Rohde & Schwarz	2024-08-03	2025-08-03
EMC-C-190	Artificial mains network	ENV432	101514	Rohde & Schwarz	2024-10-11	2025-10-11
EMC-S-032	EMI measurement software	EMC32-MEB (10.60.20)	100697	Rohde & Schwarz	N/A	N/A
EMC-C-373	Trilog broadband antenna	VULB 9168	1771	Schwarzbeck	2024-11-23	2025-11-23
EMC-C-121	Thermohygrometer	608-H1	1241320265	testo	2024-06-25	2025-06-25
EMC-C-066	EMI test receiver	ESCI	100280	Rohde & Schwarz	2024-10-17	2025-10-17
EMC-C-001	3 m semi-anechoic chamber	SAC3	FJ129002	Frankonia	2023-12-03	2026-12-03

8 List of Figures

Figure 1: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L on mode 1	12
Figure 2: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N on mode 1	13
Figure 3: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L on mode 2	14
Figure 4: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N on mode 2	15
Figure 5: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L on mode 3	16
Figure 6: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N on mode 3	17
Figure 7: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L on mode 4	18
Figure 8: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N on mode 4	19
Figure 9: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 1	22
Figure 10: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 1	23
Figure 11: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 2	24
Figure 12: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 2	25
Figure 13: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 3	26
Figure 14: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 3	27
Figure 15: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 4	28
Figure 16: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 4	29
Figure 17: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 5	30
Figure 18: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 5	31
Figure 19: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization on mode 6	32
Figure 20: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization on mode 6	33

End of test report