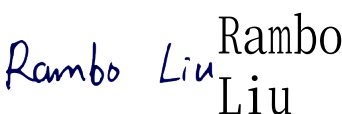




Certificate #4301.01

Prüfbericht-Nr.: Test Report No.:	CN257QYP 001	Auftrags-Nr.: Order No.:	326126263	Seite 1 von 19 Page 1 of 19
Kunden-Referenz-Nr.: Client Reference No.:	1288983	Auftragsdatum: Order date.:	2025-08-22	
Auftraggeber: Client:	IKEA of Sweden AB Box 702, SE-343 81 Älmhult, Sweden			
Prüfgegenstand: Test item:	Fixed Luminaires			
Bezeichnung / Typ-Nr.: Identification / Type No.:	J2554			
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 receipt:	2025-08-26	Refer to the EUT photos file		
Prüfmuster-Nr.: Test sample No.:	A004077276-005			
Prüfzeitraum: Testing period:	2025-08-28			
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:	genehmigt von: authorized by:			
Datum: Date: 2025-09-24				
Stellung: / Position	Project engineer	Stellung: / Position:	Authorizer	
Sonstiges / Other:	FCC ID: FHO- J2554 Test Firm Name: TUV 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 specifications(s) F(ail) = failed a.m. test specifications(s) N/A = not applicable N/T = not tested				
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TÜV Rheinland (Shanghai) Co., Ltd. 1st Floor of No. 10, No.153, 165, 177, 179, 189, Lane 777, West Guangzhong Road, Jingan District, Shanghai.

Mail: service-gc@tuv.com · Web: www.tuv.com

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3	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. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	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. <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>

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Revision history of test report:

Report number	Issue date	Contents and reason for change if appropriate
CN257QYP 001	2025-09-24	Initial release.

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1 Test Sites

1.1 Test Facilities

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

Address: No.14 building and north half of No.10 workshop building, No.525, Yuewang Lingang South Road, Pingqian (Taicang) Modern Industrial Park, Shaxi Town, Taicang City, Jiangsu Province, 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 fixed luminaires for lighting and similar use. For the further information, refer to the user's manual.

2.2 Ratings and System Details

Rated voltage	: DC 5 V
Rated power	: 0.13 W
Rated input of power supply	: AC 100-240 V, 50/60 Hz, Max 0.2 A, 7 W
Rated output of power supply	: DC 5 V, Max 1 A, 5 W

2.3 Independent Operation Modes

The basic operation modes are: "On" or "Off".

2.4 Description of interconnecting cables

None.

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 100 kHz.

2.7 Submitted Documents

Circuit diagram, label and user's manual.

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.

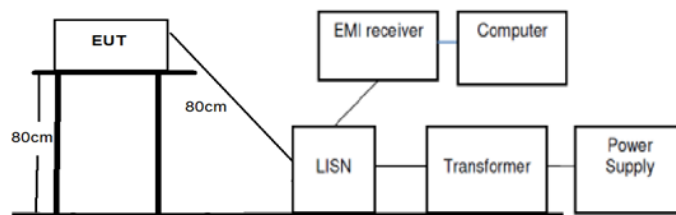
Refer to the related paragraph of this report.

The sequence of testing:

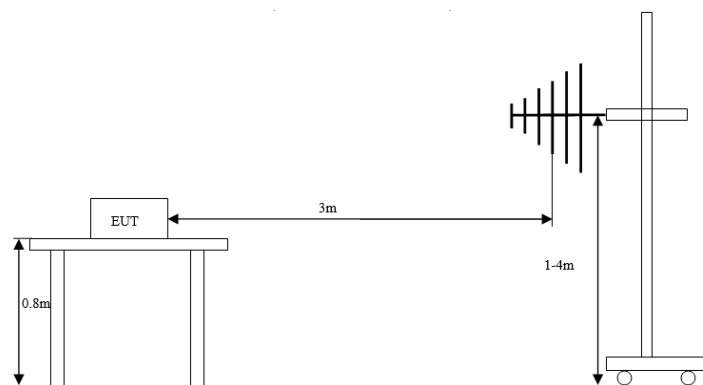
1. Conducted emission tests were performed on 2025-08-28.
2. Radiated emission tests were performed on 2025-08-28.

3.2 Equipment and cable arrangement

Block diagram for conduct 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.

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3.3 Physical Configuration for Testing

Refer to the related paragraph of this report.

3.4 Test Operation and Test Software

Refer to the related paragraph of this report. No software was used.

3.5 Special Accessories and Auxiliary Equipment

None.

3.6 Countermeasures to achieve EMC Compliance

No special measure is employed to achieve the requirement.

4 Conformity Decision Rule

For all EMI tests (when 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	: 2025-08-28
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 (powered by Power supply)
Operational mode	: Lighting on
Ambient condition	: Temperature: 24.8 °C; Relative humidity: 65.6 %
Expanded measurement uncertainty ($k=2$)	: 2.33 dB The minimum margin to the limit is 13.72 dB at 0.494250 MHz. The margin is higher than the 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.

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Both quasi-peak and average measurements were performed. In the following spectral diagram, “*” means Quasi-Peak Value and “*” means Average Value results.

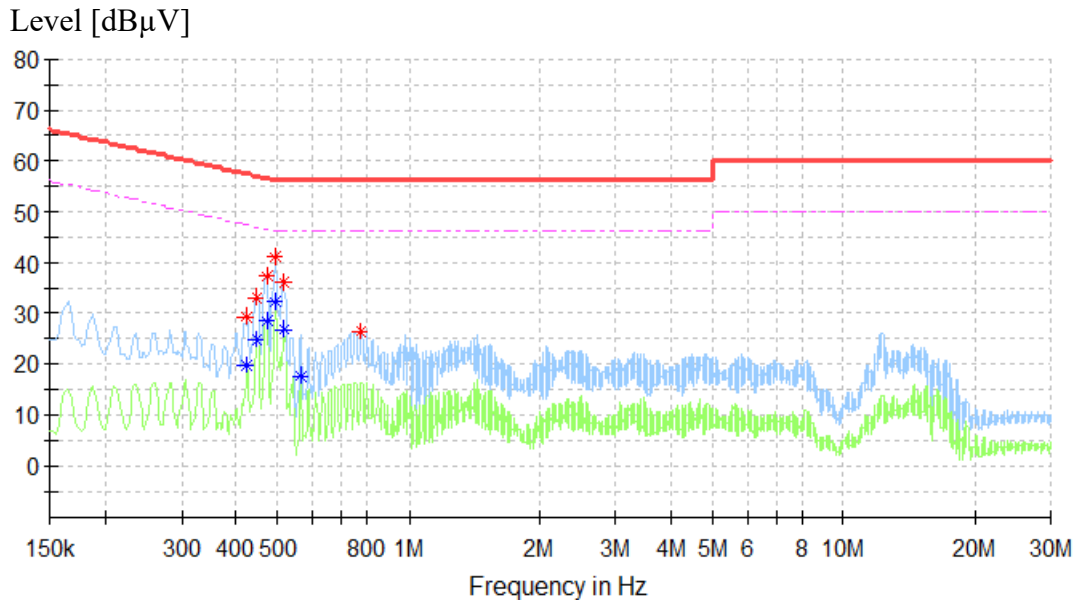
Notes on following tables of conducted emission results and conversions:

Level (dBμV): 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 (dBμV) - Level (dBμV)

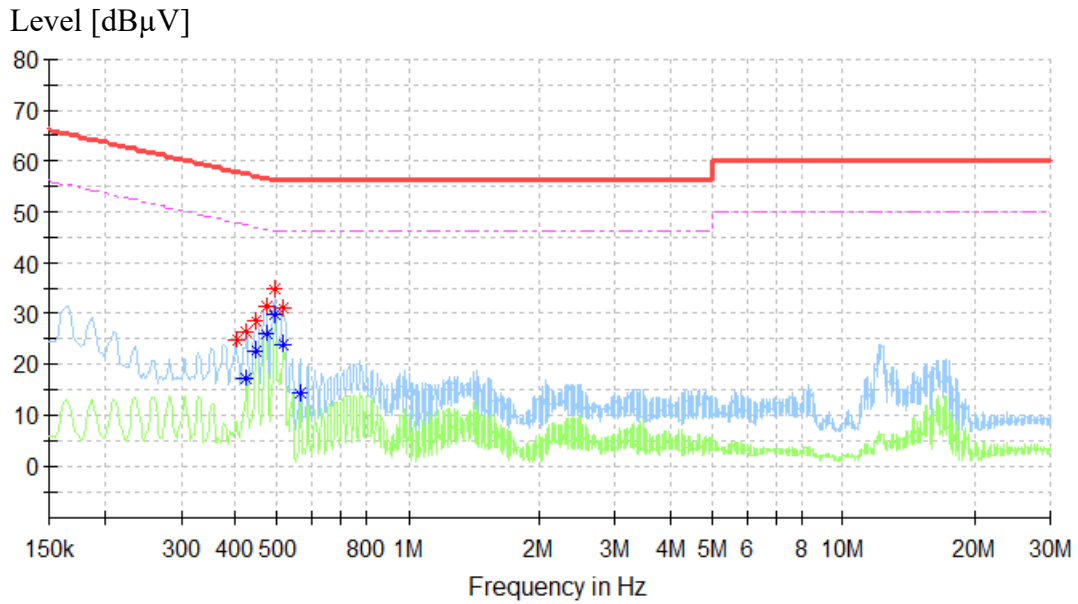
Figure 1: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, Line L



Final measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.424500	29.48	---	57.36	27.88	L1	10.5
0.424500	---	19.80	47.36	27.56	L1	10.5
0.447000	33.29	---	56.93	23.64	L1	10.5
0.447000	---	24.89	46.93	22.04	L1	10.5
0.471750	37.25	---	56.48	19.23	L1	10.5
0.471750	---	28.66	46.48	17.82	L1	10.5
0.494250	---	32.38	46.10	13.72	L1	10.5
0.494250	40.92	---	56.10	15.18	L1	10.5
0.514500	36.13	---	56.00	19.87	L1	10.5
0.516750	---	26.74	46.00	19.26	L1	10.5
0.564000	---	17.83	46.00	28.17	L1	10.5
0.777750	26.33	---	56.00	29.67	L1	10.5

Figure 2: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, Line N



Final measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr. (dB)
0.402000	24.66	---	57.81	33.15	N	10.3
0.424500	26.45	---	57.36	30.91	N	10.3
0.424500	---	17.30	47.36	30.06	N	10.3
0.447000	28.56	---	56.93	28.38	N	10.3
0.447000	---	22.47	46.93	24.46	N	10.3
0.471750	31.32	---	56.48	25.16	N	10.3
0.471750	---	26.04	46.48	20.45	N	10.3
0.494250	34.79	---	56.10	21.31	N	10.3
0.494250	---	29.65	46.10	16.45	N	10.3
0.516750	31.11	---	56.00	24.89	N	10.3
0.516750	---	23.74	46.00	22.26	N	10.3
0.564000	---	14.45	46.00	31.55	N	10.3

5.2 Emission in the Frequency Range above 30 MHz

5.2.1 Radiated Emission (30 – 1000 MHz)

Result:	Passed
----------------	---------------

Date of testing	: 2025-08-28
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): (see Note 2) 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
Bandwidth of EMI receiver for final measurement	: 120 kHz
Measurement time for final measurement	: 1 s
Kind of test site	: Semi-anechoic chamber
Supply voltage	: AC 120 V, 60 Hz (powered by Power supply)
Operational mode	: Lighting on
Ambient condition	: Temperature: 24.7 °C; Relative humidity: 66.5 %
Expanded measurement uncertainty ($k=2$)	: 5.40 dB The minimum margin to the limit is 16.09 dB at 34.607500 MHz. The margin is higher than the 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 a 0.1 m high wooden table above the reference ground plane. The wooden table was rotated 360° around and the height of the antenna 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 measured by an automatic measurement system. Before final measurement, a survey was conducted with EUT's speed control adjusted to determine in which state the maximum disturbance was obtained. The final measurement was made in the state the maximum disturbance was obtained. In the following spectral diagram, “◆” means quasi-peak test results.

Notes on the following tables of radiated emission results and conversions:

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

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

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

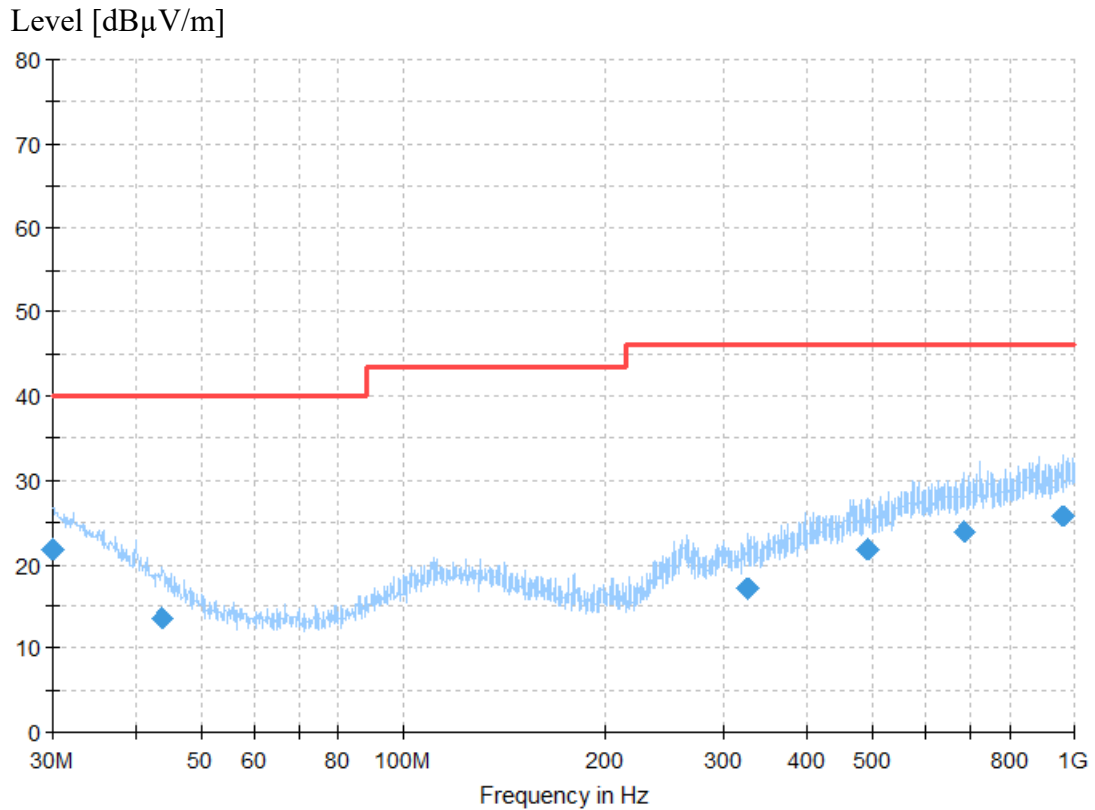
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Note 1: The highest frequency in the EUT is less than 108 MHz. According to FCC Part 15 subpart B §15.33 (b) (1), the upper frequency for radiated emission measurement is 1000 MHz.

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 the following figures and tables.

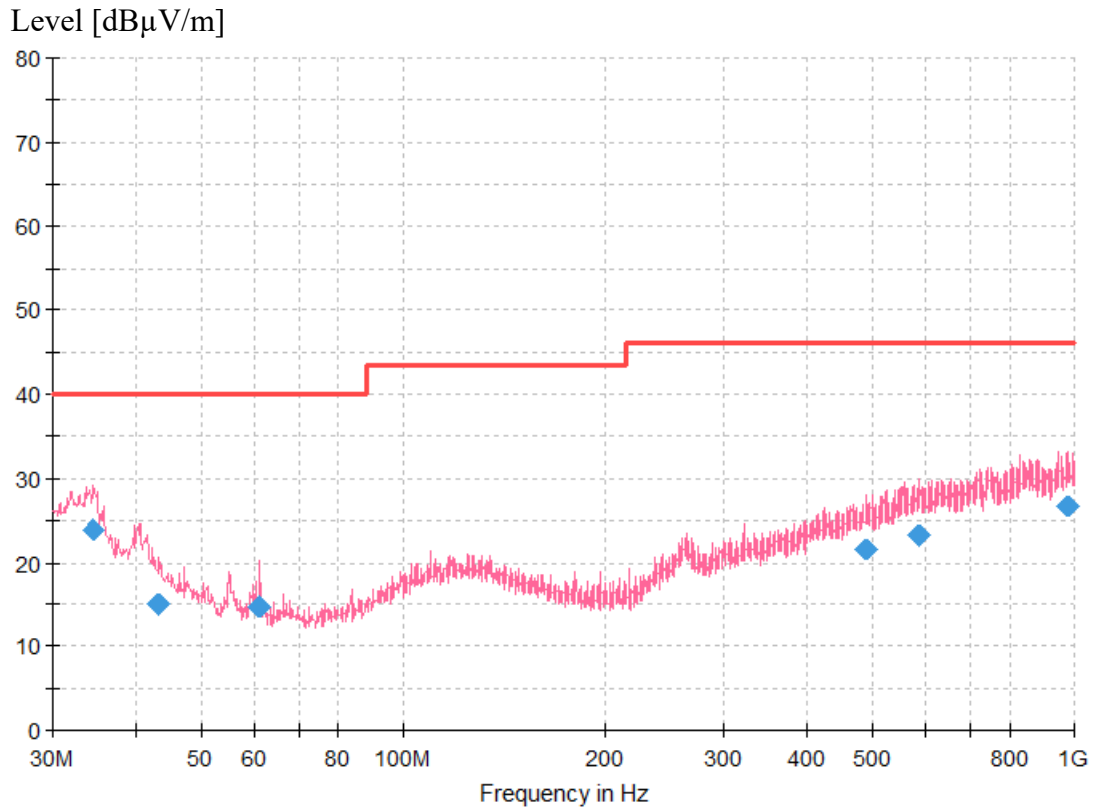
Figure 3: Spectral diagrams and measurement results, 30-1000 MHz, Horizontal polarization



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
30.000000	21.66	40.00	18.34	1000.0	120.000	130.0	H	-121.0	25.4
43.822500	13.52	40.00	26.48	1000.0	120.000	170.0	H	151.0	17.7
326.335000	17.06	46.00	28.94	1000.0	120.000	230.0	H	-9.0	21.3
492.205000	21.67	46.00	24.33	1000.0	120.000	230.0	H	-175.0	25.7
688.023750	23.78	46.00	22.22	1000.0	120.000	220.0	H	40.0	27.0
966.656250	25.81	46.00	20.19	1000.0	120.000	100.0	H	-28.0	29.1

Figure 4: Spectral diagrams and measurement results, 30-1000 MHz, Vertical polarization



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
34.607500	23.91	40.00	16.09	1000.0	120.000	100.0	V	-37.0	22.8
43.216250	14.97	40.00	25.03	1000.0	120.000	100.0	V	180.0	18.0
60.918750	14.70	40.00	25.30	1000.0	120.000	100.0	V	-90.0	12.6
489.295000	21.47	46.00	24.53	1000.0	120.000	104.0	V	-1.0	25.4
589.326250	23.09	46.00	22.91	1000.0	120.000	130.0	V	151.0	26.5
979.993750	26.71	46.00	19.29	1000.0	120.000	100.0	V	-180.0	29.9

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6 Photographs of the Test Set-Up

Refer to the test setup file.

7 List of Test and Measurement Instruments

Equipment no	Name	Model	Serial no	Manufacturer	Calibration 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	2025-07-11	2026-07-11
EMC-C-195	EMI test receiver	ESR3	102794	Rohde & Schwarz	2025-08-02	2026-08-02
EMC-C-190	Artificial mains network	ENV432	101514	Rohde & Schwarz	2025-08-02	2026-08-02
EMC-S-032	EMI measurement software	EMC32-MEB (10.60.20)	100697	Rohde & Schwarz	N/A	N/A
EMC-C-155	BiLog antenna	CBL 6112D	40530	Teseq	2025-03-24	2026-09-24
EMC-C-121	Thermohygrometer	608-H1	1241320265	testo	2025-06-05	2026-06-05
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

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End of test report