

Prüfbericht-Nr.: <i>Test report no.:</i>	CN2502FV 001	Auftrags-Nr.: <i>Order no.:</i>	326125062	Seite 1 von 32 <i>Page 1 of 32</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	1288983	Auftragsdatum: <i>Order date:</i>	2025-08-14	
Auftraggeber: <i>Client:</i>	IKEA of Sweden AB Box 702, SE-343 81 Älmhult, Sweden			
Prüfgegenstand: <i>Test item:</i>	LED Lamp			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	J2548			
Auftrags-Inhalt: <i>Order content:</i>	TÜV Rheinland EMC service			
Prüfgrundlage: <i>Test specification:</i>	FCC 47 CFR Part 15, Subpart B:2023 Class B ICES-005:2018			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2025-08-25	Refer to the EUT photos file		
Prüfmuster-Nr.: <i>Test sample no:</i>	A004074342-003			
Prüfzeitraum: <i>Testing period:</i>	2025-08-28			
Ort der Prüfung: <i>Place of testing:</i>	Refer to clause 1.1			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	Jessie Xu		genehmigt von: <i>authorized by:</i>	HeXiong Liu
Datum: <i>Date:</i>	2025-09-24		Ausstellungsdatum: <i>Issue date:</i>	2025-09-24
Stellung / Position:	Project engineer		Stellung / Position:	Authorizer
Sonstiges / Other:	FCC ID: FHO-J2548 Test Firm Name: TUV Rheinland (Shanghai) Co., Ltd. Designation Number: CN1396 Test Firm Registration Number: 930979			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	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
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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Anmerkungen
Remarks

1	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. <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>
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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
CN25O2FV 001	2025-09-24	Initial release.

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1 Test Sites

1.1 Test Facilities

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

Address: Workshop14, 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 LED lamp. For further information, refer to the user's manual.

2.2 Ratings and System Details

Rated input : AC 120 V, 60 Hz

Rated power : 1.5 W, 0.028 A

This product is LED lamp, it powered by approved LED power supply ICPSW5-5NA-1, input: AC 100-240 V, 50/60 Hz Max. 0.2 A, 7 W, output: DC 5.0 V, max. 1.0 A, 5.0 W.

2.3 Independent Operation Modes

The basic operation modes are: "ON" and "OFF".

The test modes are as follows:

Mode 1: EUT powered by LED power supply on max lighting output.

Mode 2: EUT powered by LED power supply on min lighting output.

Mode 3: EUT powered by adapter of laptop on max lighting output.

Mode 4: EUT powered by adapter of laptop on min lighting output.

2.4 Description of interconnecting cables

No.	Interface and name	Shielded or not	Specified length (m)
1	USB power cable	Unshielded	4 m

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, 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.

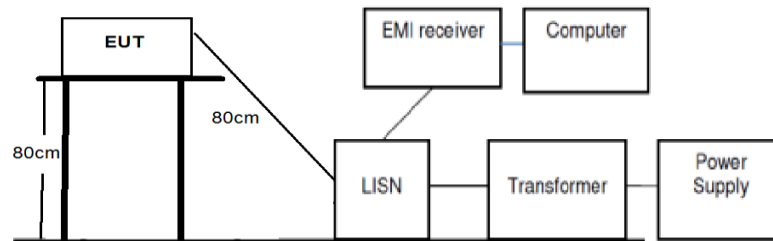
Refer to the related paragraph of this report.

The sequence of testing:

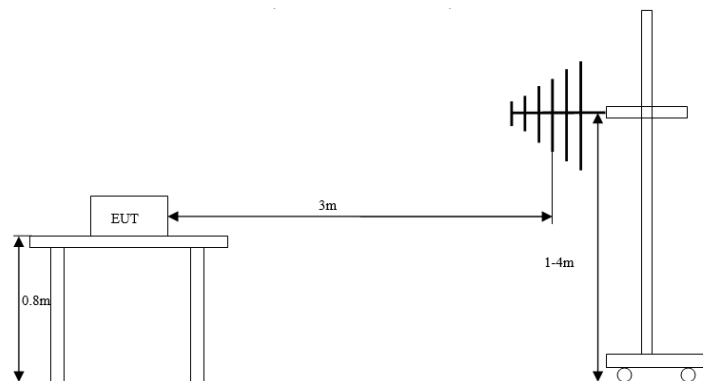
1. Conducted emission tests were performed on 2025-08-28.
2. Radiated emission tests were performed on 2025-08-28.

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 tests.

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3.3 Test Software

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

3.4 Special Accessories and Auxiliary Equipment

During the tests, the laptop (Model: T45, Brand: ThinkPad) was used.

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	: 2025-08-28	
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 for LED power supply and adapter of laptop	
Operational mode	: Mode 1, 2, 3, 4 defined in clause 2.3	
Ambient condition	: Temperature: 23.3 °C; Relative humidity: 57.1 %	
Expanded measurement uncertainty ($k=2$)	: 2.33 dB The minimum margin to the limit is 7.35 dB at 0.435750 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 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.

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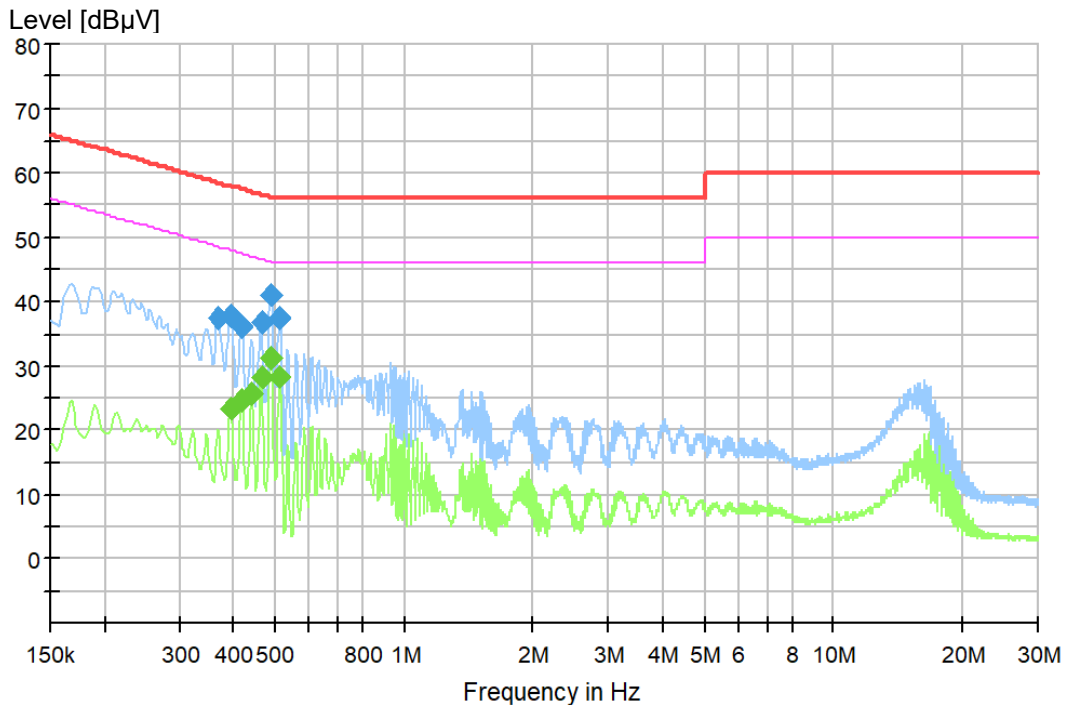
Notes on following tables of conducted emission results and conversions:

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, mode 1

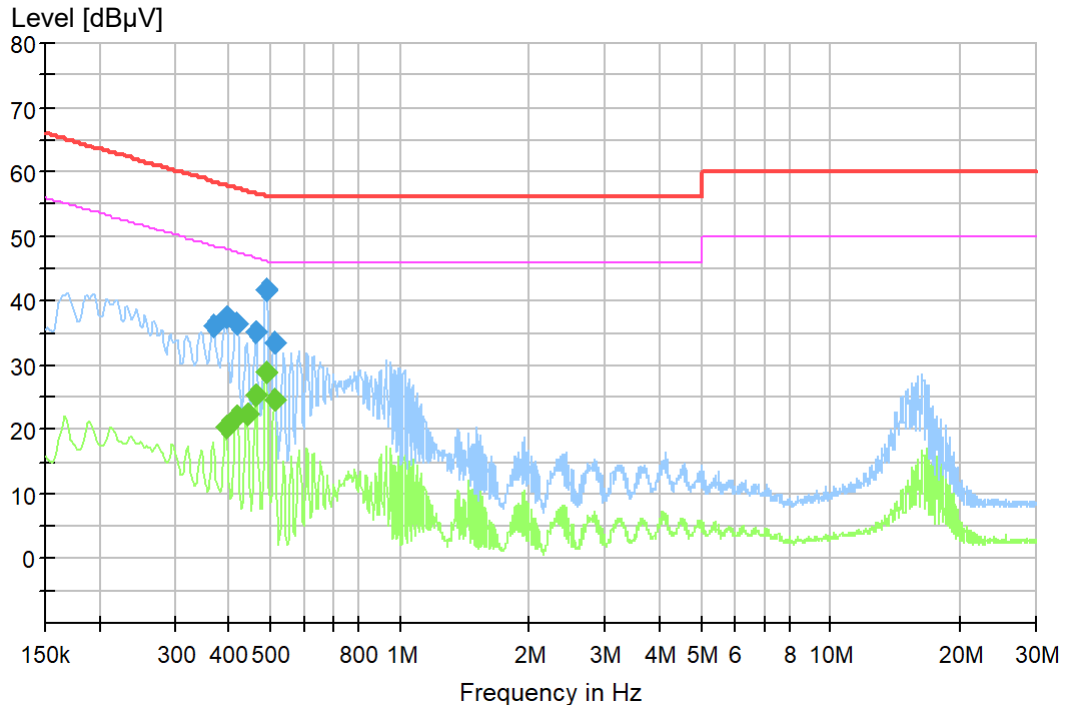


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.368250	37.33	58.54	21.21	1000.0	9.000	L1	10.5
0.393000	37.89	58.00	20.11	1000.0	9.000	L1	10.5
0.417750	36.22	57.49	21.28	1000.0	9.000	L1	10.5
0.465000	36.77	56.60	19.83	1000.0	9.000	L1	10.5
0.489750	41.19	56.17	14.98	1000.0	9.000	L1	10.5
0.512250	37.36	56.00	18.64	1000.0	9.000	L1	10.5

Final average measurement result:

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.393000	23.31	48.00	24.69	1000.0	9.000	L1	10.5
0.417750	24.78	47.49	22.71	1000.0	9.000	L1	10.5
0.440250	25.57	47.06	21.48	1000.0	9.000	L1	10.5
0.465000	28.26	46.60	18.34	1000.0	9.000	L1	10.5
0.489750	31.28	46.17	14.89	1000.0	9.000	L1	10.5
0.512250	28.24	46.00	17.76	1000.0	9.000	L1	10.5

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


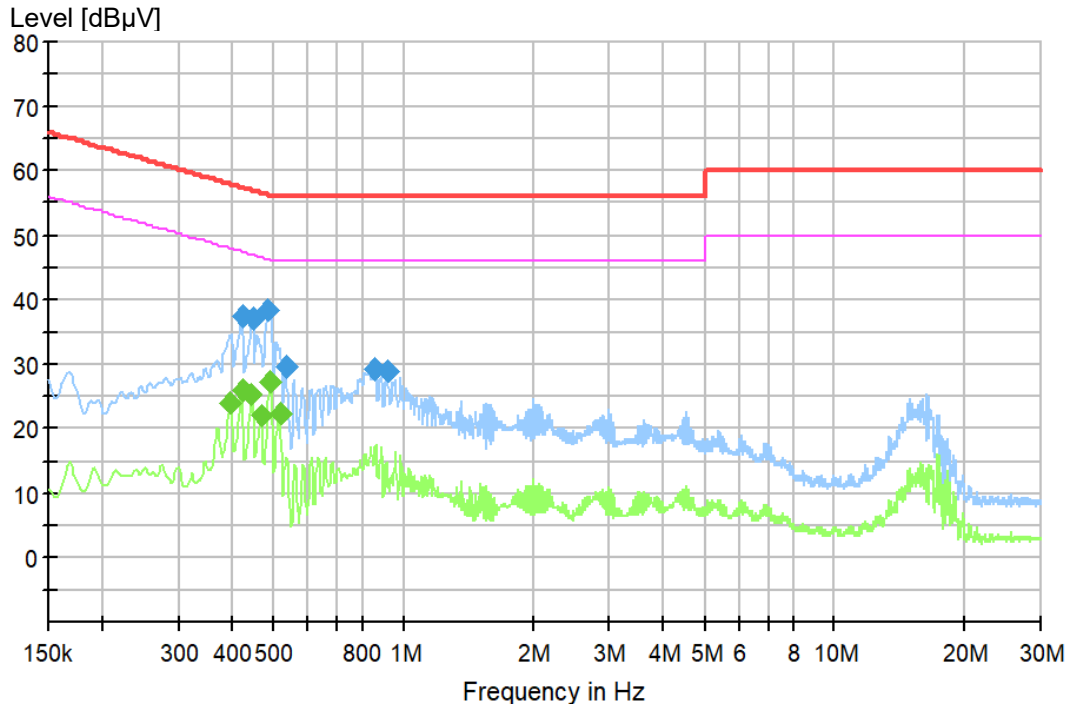
Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.368250	36.23	58.54	22.32	1000.0	9.000	N	10.3
0.393000	37.35	58.00	20.65	1000.0	9.000	N	10.3
0.415500	36.62	57.54	20.92	1000.0	9.000	N	10.3
0.462750	35.14	56.64	21.50	1000.0	9.000	N	10.3
0.487500	41.63	56.21	14.58	1000.0	9.000	N	10.3
0.512250	33.48	56.00	22.52	1000.0	9.000	N	10.3

Final average measurement result:

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.393000	20.38	48.00	27.62	1000.0	9.000	N	10.3
0.415500	22.01	47.54	25.53	1000.0	9.000	N	10.3
0.440250	22.38	47.06	24.67	1000.0	9.000	N	10.3
0.462750	25.26	46.64	21.38	1000.0	9.000	N	10.3
0.487500	28.83	46.21	17.38	1000.0	9.000	N	10.3
0.512250	24.55	46.00	21.45	1000.0	9.000	N	10.3

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

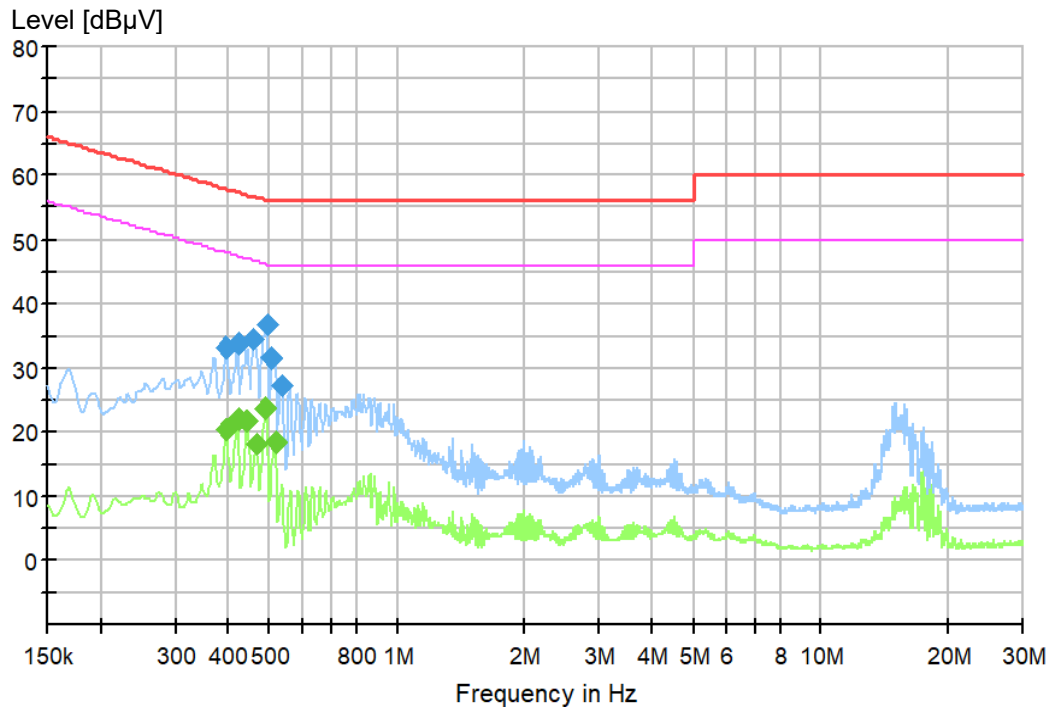


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.420000	37.45	57.45	20.00	1000.0	9.000	L1	10.5
0.444750	37.21	56.97	19.77	1000.0	9.000	L1	10.5
0.483000	38.53	56.29	17.75	1000.0	9.000	L1	10.5
0.532500	29.67	56.00	26.33	1000.0	9.000	L1	10.5
0.858750	29.40	56.00	26.60	1000.0	9.000	L1	10.5
0.915000	28.90	56.00	27.10	1000.0	9.000	L1	10.5

Final average measurement result:

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.395250	24.14	47.95	23.81	1000.0	9.000	L1	10.5
0.420000	25.86	47.45	21.59	1000.0	9.000	L1	10.5
0.442500	25.41	47.02	21.60	1000.0	9.000	L1	10.5
0.467250	21.94	46.56	24.62	1000.0	9.000	L1	10.5
0.489750	27.27	46.17	18.90	1000.0	9.000	L1	10.5
0.514500	22.26	46.00	23.74	1000.0	9.000	L1	10.5

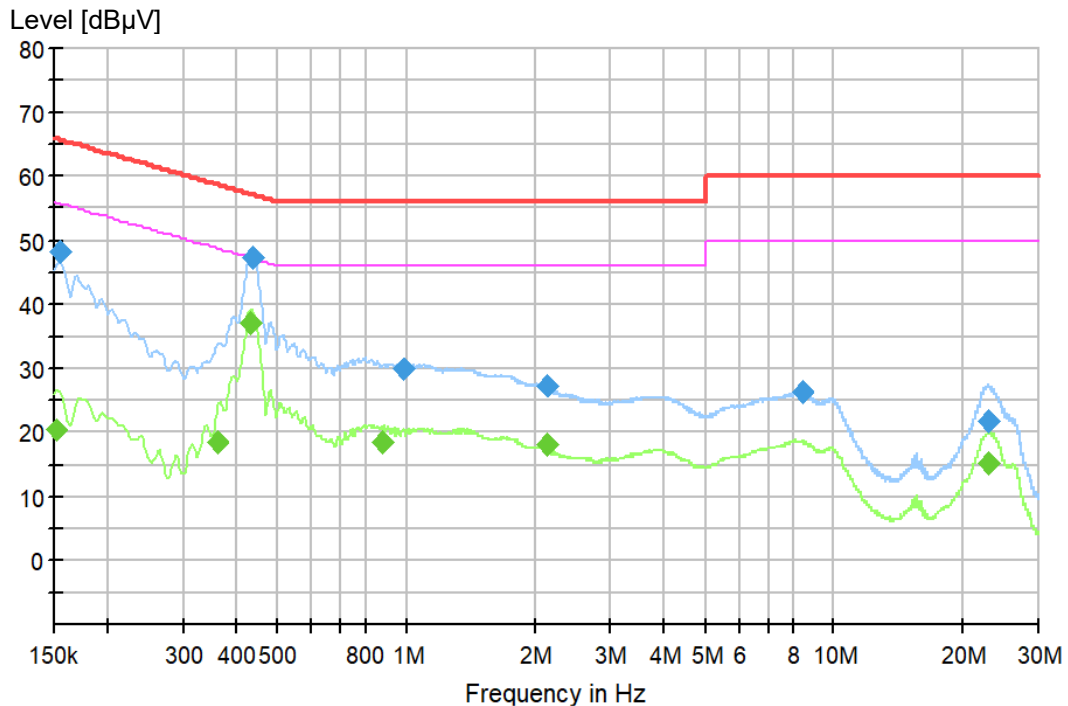
Figure 4: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N, mode 2


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.395250	33.35	57.95	24.60	1000.0	9.000	N	10.3
0.420000	33.91	57.45	23.54	1000.0	9.000	N	10.3
0.458250	34.59	56.72	22.14	1000.0	9.000	N	10.3
0.492000	36.70	56.13	19.44	1000.0	9.000	N	10.3
0.507750	31.69	56.00	24.31	1000.0	9.000	N	10.3
0.532500	27.26	56.00	28.74	1000.0	9.000	N	10.3

Final average measurement result:

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.395250	20.47	47.95	27.48	1000.0	9.000	N	10.3
0.420000	22.21	47.45	25.24	1000.0	9.000	N	10.3
0.442500	21.86	47.02	25.16	1000.0	9.000	N	10.3
0.467250	18.23	46.56	28.33	1000.0	9.000	N	10.3
0.489750	23.60	46.17	22.57	1000.0	9.000	N	10.3
0.514500	18.58	46.00	27.42	1000.0	9.000	N	10.3

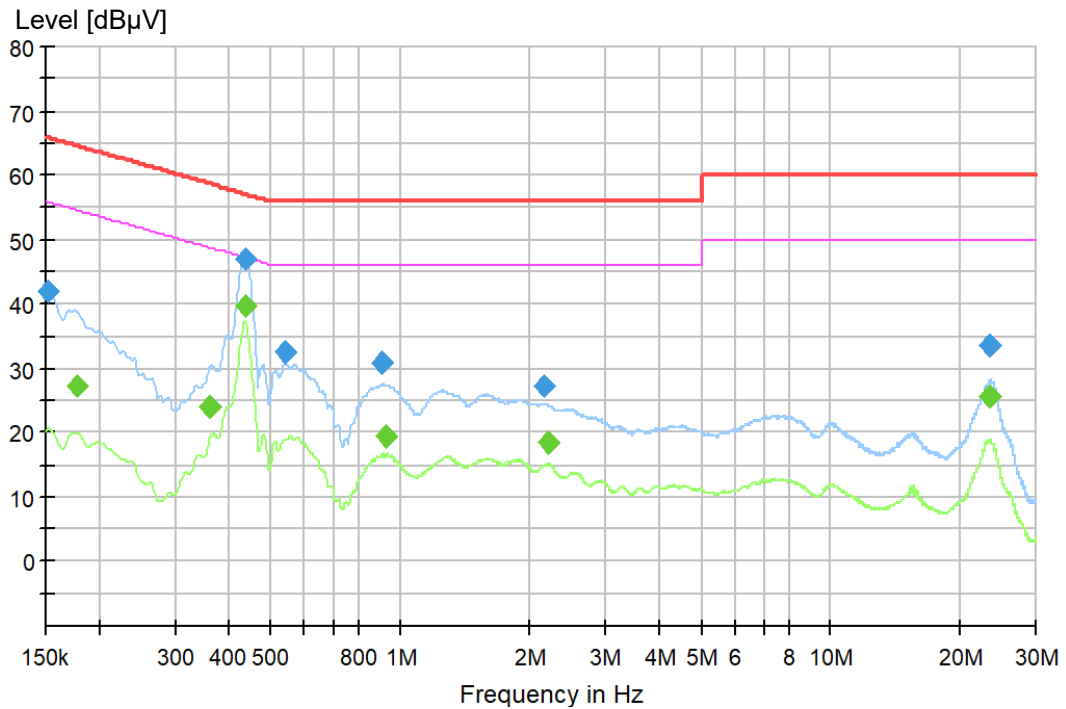
Figure 5: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L, mode 3


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Line	Corr. (dB)
0.154500	48.11	65.75	17.65	1000.0	9.000	L1	10.6
0.435750	47.42	57.14	9.72	1000.0	9.000	L1	10.5
0.980250	29.88	56.00	26.12	1000.0	9.000	L1	10.5
2.141250	27.42	56.00	28.58	1000.0	9.000	L1	10.5
8.432250	26.17	60.00	33.83	1000.0	9.000	L1	10.8
22.879500	21.89	60.00	38.11	1000.0	9.000	L1	11.2

Final average measurement result:

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.152250	20.46	55.88	35.42	1000.0	9.000	L1	10.6
0.361500	18.34	48.69	30.35	1000.0	9.000	L1	10.5
0.433500	37.12	47.19	10.06	1000.0	9.000	L1	10.5
0.881250	18.59	46.00	27.41	1000.0	9.000	L1	10.5
2.143500	18.14	46.00	27.86	1000.0	9.000	L1	10.5
22.976250	15.08	50.00	34.92	1000.0	9.000	L1	11.2

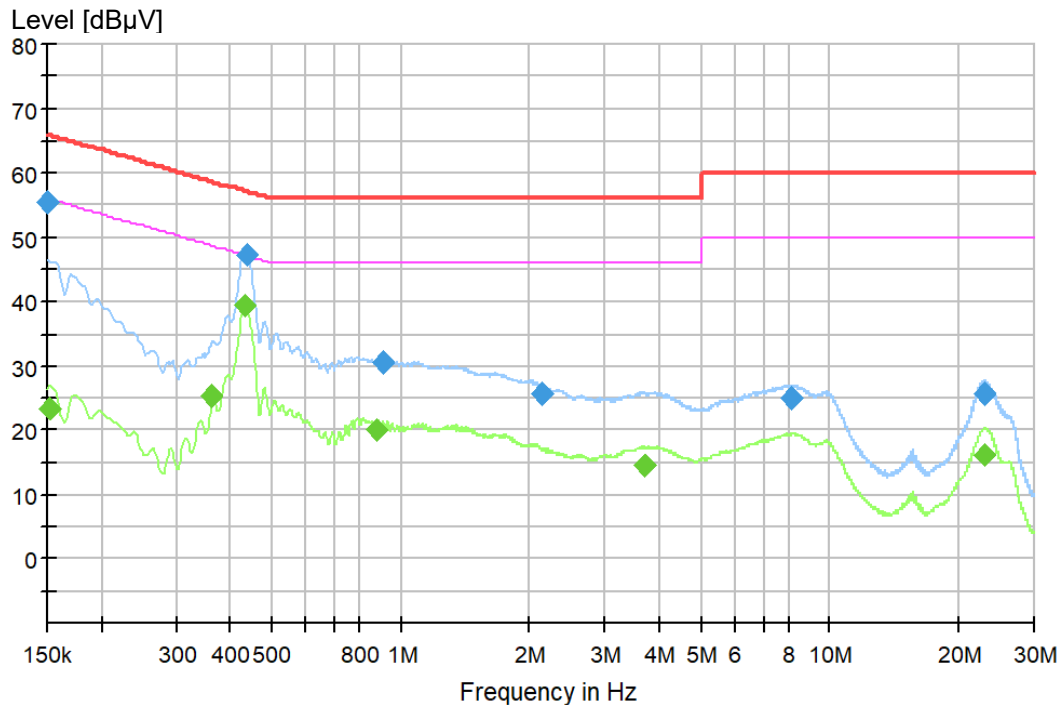
Figure 6: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N, mode 3


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.152250	41.87	65.88	24.00	1000.0	9.000	N	10.3
0.435750	47.06	57.14	10.09	1000.0	9.000	N	10.3
0.541500	32.66	56.00	23.34	1000.0	9.000	N	10.3
0.910500	30.89	56.00	25.11	1000.0	9.000	N	10.3
2.159250	27.47	56.00	28.53	1000.0	9.000	N	10.4
23.473500	33.40	60.00	26.60	1000.0	9.000	N	11.2

Final average measurement result:

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.177000	27.43	54.63	27.19	1000.0	9.000	N	10.3
0.361500	24.13	48.69	24.56	1000.0	9.000	N	10.3
0.435750	39.80	47.14	7.35	1000.0	9.000	N	10.3
0.933000	19.43	46.00	26.57	1000.0	9.000	N	10.3
2.197500	18.46	46.00	27.54	1000.0	9.000	N	10.4
23.392500	25.76	50.00	24.24	1000.0	9.000	N	11.2

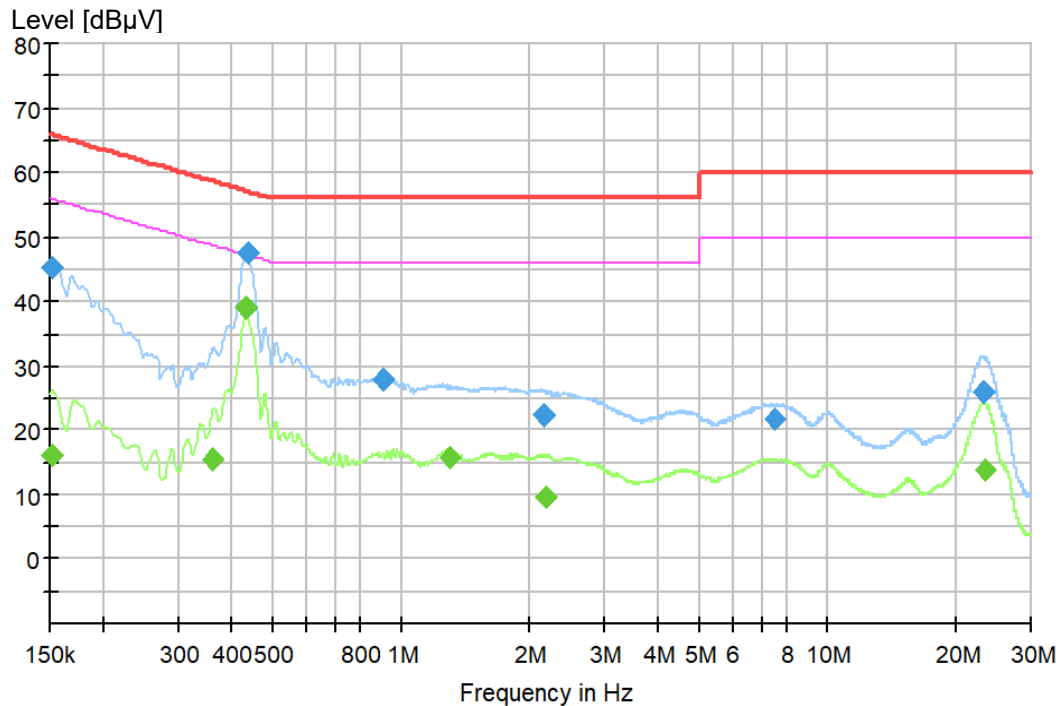
Figure 7: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L, mode 4


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	55.36	66.00	10.64	1000.0	9.000	L1	10.6
0.435750	47.36	57.14	9.79	1000.0	9.000	L1	10.5
0.910500	30.58	56.00	25.42	1000.0	9.000	L1	10.5
2.130000	25.82	56.00	30.18	1000.0	9.000	L1	10.5
8.133000	25.10	60.00	34.90	1000.0	9.000	L1	10.8
22.872750	25.77	60.00	34.23	1000.0	9.000	L1	11.2

Final average measurement result:

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.152250	23.42	55.88	32.46	1000.0	9.000	L1	10.6
0.361500	25.30	48.69	23.39	1000.0	9.000	L1	10.5
0.433500	39.50	47.19	7.69	1000.0	9.000	L1	10.5
0.881250	20.26	46.00	25.74	1000.0	9.000	L1	10.5
3.687000	14.62	46.00	31.38	1000.0	9.000	L1	10.6
22.967250	16.16	50.00	33.84	1000.0	9.000	L1	11.2

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


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.152250	45.23	65.88	20.65	1000.0	9.000	N	10.3
0.435750	47.63	57.14	9.52	1000.0	9.000	N	10.3
0.910500	27.88	56.00	28.12	1000.0	9.000	N	10.3
2.150250	22.28	56.00	33.72	1000.0	9.000	N	10.4
7.485000	21.66	60.00	38.34	1000.0	9.000	N	10.6
23.086500	26.04	60.00	33.96	1000.0	9.000	N	11.2

Final average measurement result:

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.152250	16.28	55.88	39.60	1000.0	9.000	N	10.3
0.361500	15.57	48.69	33.13	1000.0	9.000	N	10.3
0.433500	39.13	47.19	8.06	1000.0	9.000	N	10.3
1.306500	15.95	46.00	30.05	1000.0	9.000	N	10.3
2.190750	9.59	46.00	36.41	1000.0	9.000	N	10.4
23.403750	13.86	50.00	36.14	1000.0	9.000	N	11.2

5.2 Emission in the Frequency Range above 30 MHz

5.2.1 Radiated emission (30-1000 MHz)

Result:	Passed
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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): 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 LED power supply and adapter of laptop
Operational mode	: Mode 1, 2, 3, 4 defined in clause 2.3
Ambient condition	: Temperature: 23.1 °C; Relative humidity: 58.3 %
Expanded measurement uncertainty ($k=2$)	: 5.40 dB The minimum margin to the limit is 16.8 dB at 30.606250 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 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. A preview test was first 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, “x” 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.

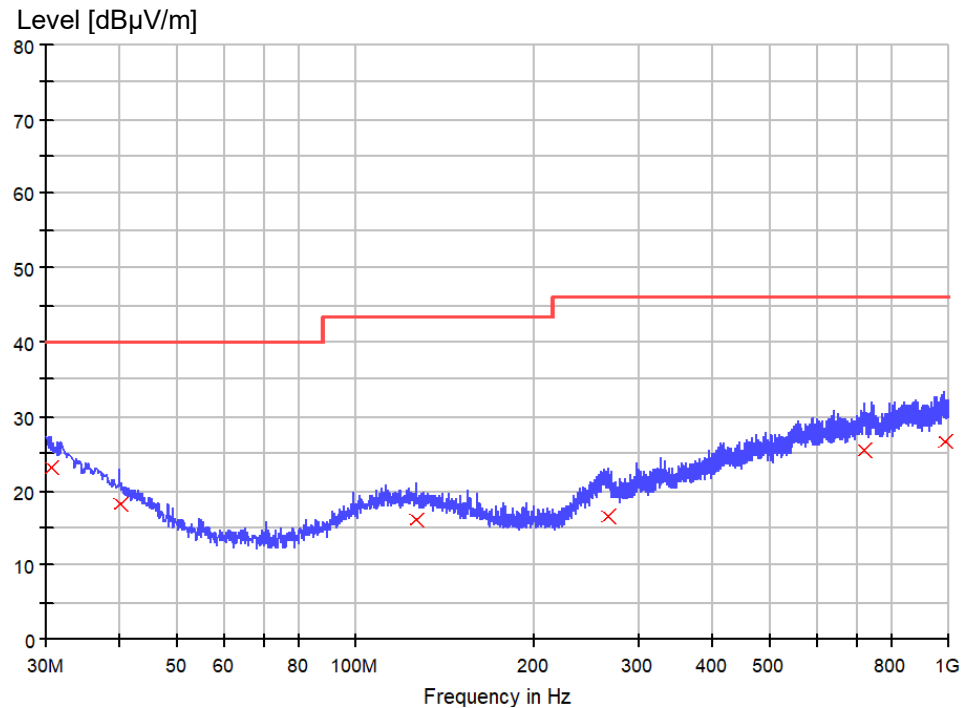
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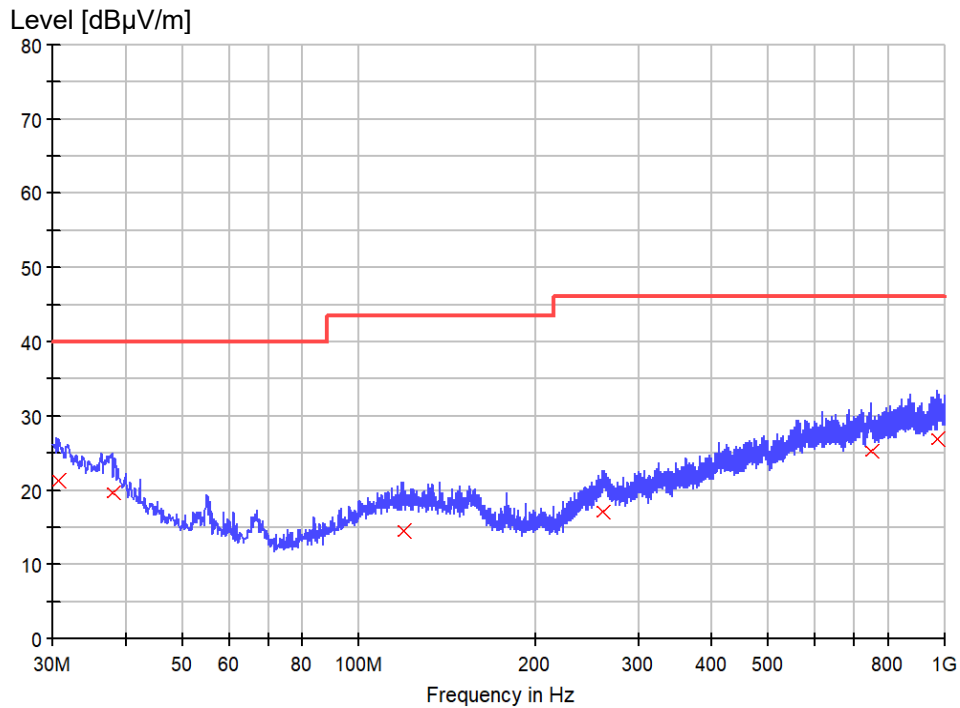
Note 2: The class B limits of ICES-005:2018 is stricter than those FCC 47 CFR Part 15, Subpart B:2023 for 3 m test distance. Therefore, the former limits are used in following figures and tables.

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


Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
30.606250	23.2	1000.0	120.000	109.0	H	154.0	25.1	16.8	40.0
39.942500	18.3	1000.0	120.000	167.0	H	121.0	19.8	21.7	40.0
126.272500	16.2	1000.0	120.000	110.0	H	-148.0	18.7	27.3	43.5
266.558750	16.5	1000.0	120.000	115.0	H	-130.0	21.0	29.5	46.0
723.065000	25.5	1000.0	120.000	104.0	H	85.0	28.6	20.5	46.0
982.176250	26.6	1000.0	120.000	176.0	H	-125.0	29.8	19.4	46.0

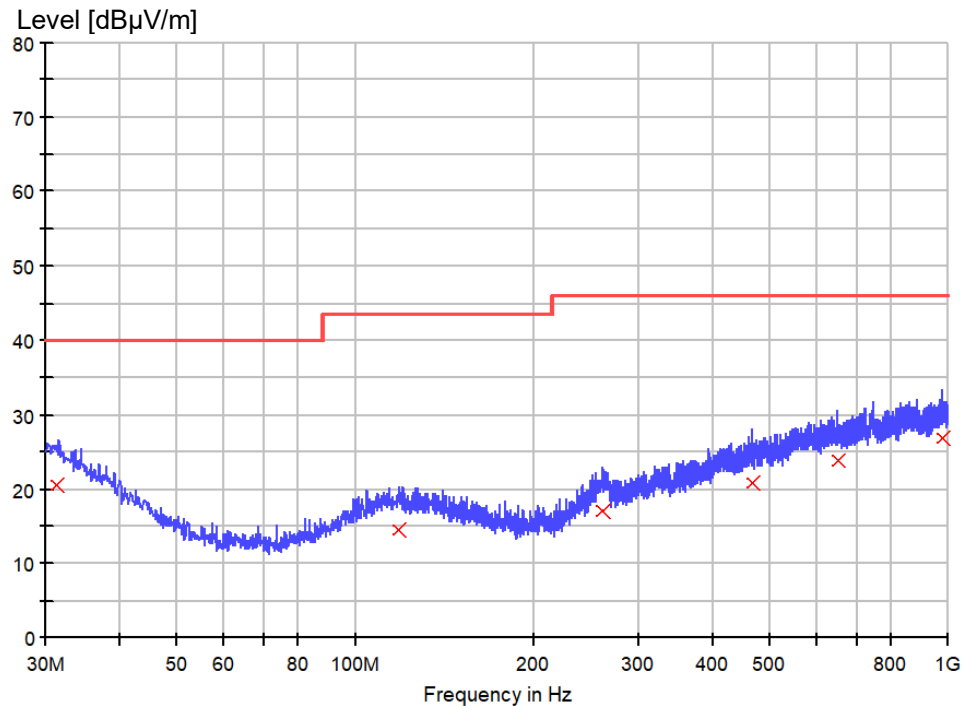
Figure 10: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization, mode 1



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
30.727500	21.3	1000.0	120.000	136.0	V	-144.0	25.0	18.7	40.0
37.881250	19.6	1000.0	120.000	157.0	V	121.0	21.0	20.4	40.0
118.997500	14.5	1000.0	120.000	130.0	V	-127.0	18.8	29.0	43.5
261.708750	17.2	1000.0	120.000	198.0	V	-87.0	21.7	28.8	46.0
747.315000	25.3	1000.0	120.000	144.0	V	79.0	28.8	20.7	46.0
973.203750	27.0	1000.0	120.000	116.0	V	-137.0	30.1	19.1	46.0

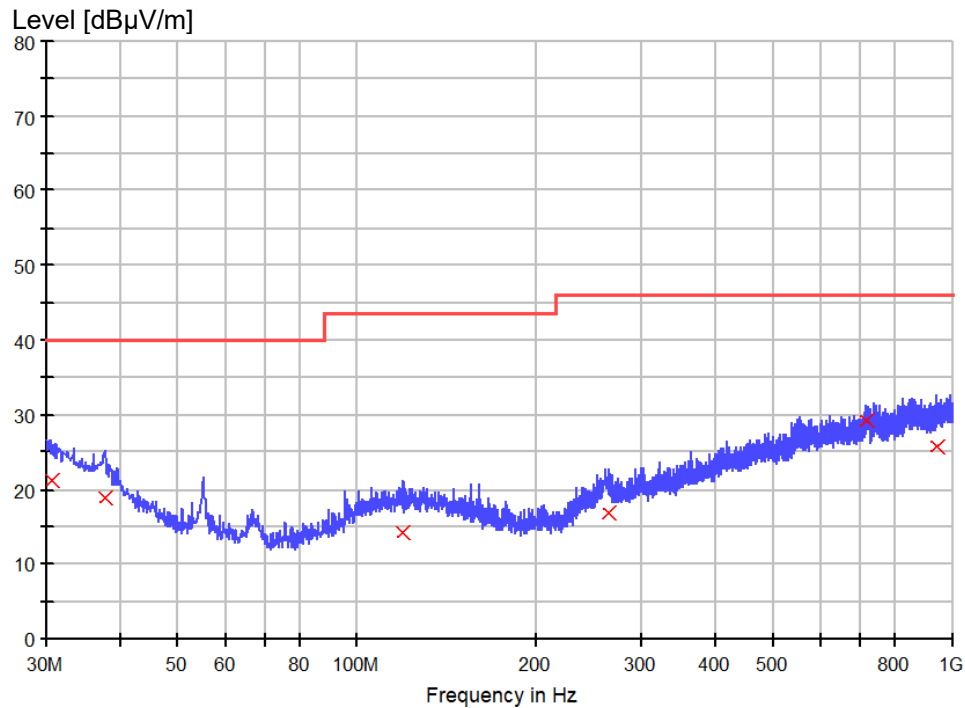
Figure 11: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization, mode 2



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
31.333750	20.7	1000.0	120.000	164.0	H	99.0	24.7	19.3	40.0
118.633750	14.4	1000.0	120.000	189.0	H	104.0	18.8	29.1	43.5
261.102500	17.1	1000.0	120.000	127.0	H	157.0	21.6	28.9	46.0
466.985000	20.8	1000.0	120.000	130.0	H	57.0	24.7	25.2	46.0
650.921250	23.8	1000.0	120.000	129.0	H	134.0	27.0	22.2	46.0
977.932500	26.9	1000.0	120.000	136.0	H	-118.0	30.1	19.1	46.0

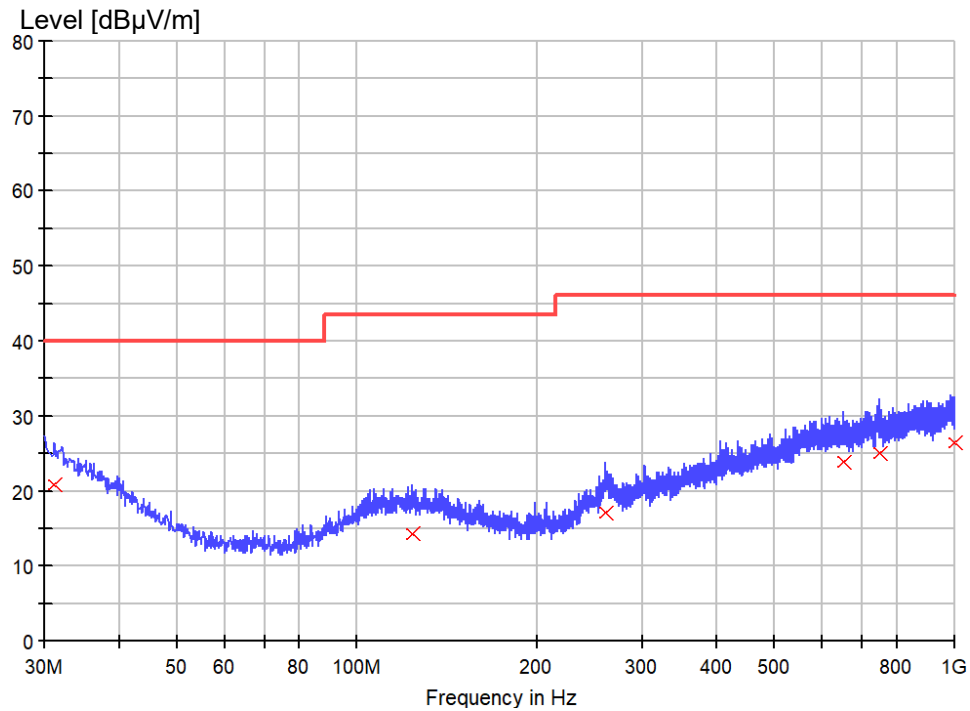
Figure 12: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization, mode 2



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
30.606250	21.2	1000.0	120.000	131.0	V	34.0	25.1	18.8	40.0
37.638750	19.0	1000.0	120.000	118.0	V	-133.0	21.1	21.0	40.0
119.725000	14.4	1000.0	120.000	157.0	V	-53.0	18.7	29.1	43.5
264.740000	16.9	1000.0	120.000	153.0	V	79.0	21.3	29.1	46.0
719.912500	29.1	1000.0	120.000	120.0	V	-133.0	28.2	16.9	46.0
945.437500	25.7	1000.0	120.000	197.0	V	62.0	29.0	20.3	46.0

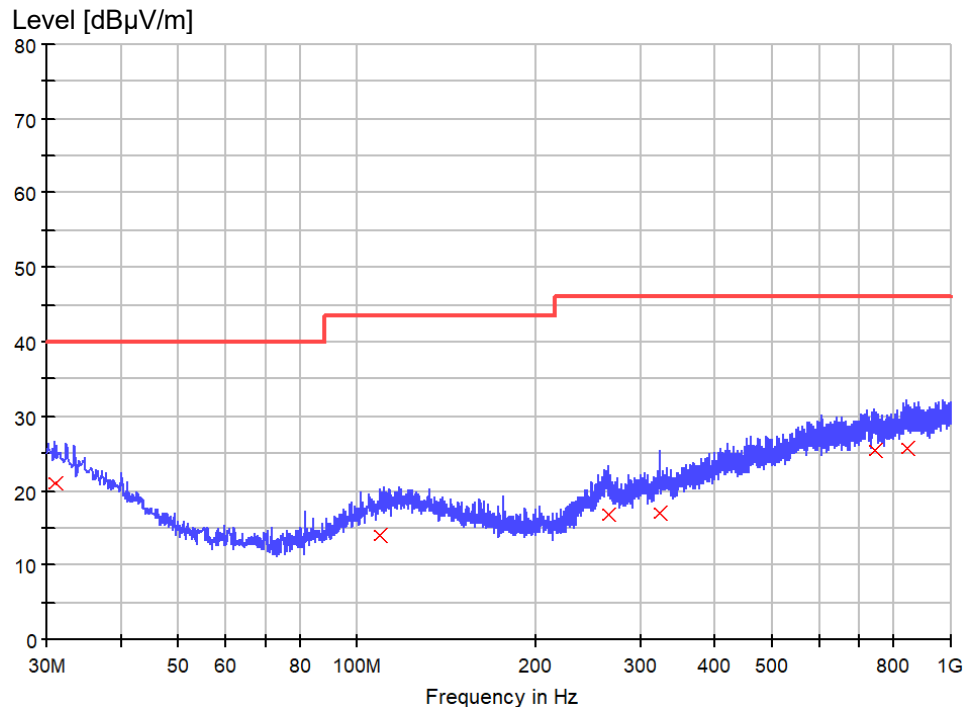
Figure 13: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization, mode 3



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
31.212500	20.8	1000.0	120.000	126.0	H	151.0	24.8	19.2	40.0
123.605000	14.2	1000.0	120.000	183.0	H	-26.0	18.7	29.3	43.5
261.708750	17.2	1000.0	120.000	178.0	H	-60.0	21.7	28.8	46.0
649.708750	23.8	1000.0	120.000	199.0	H	-50.0	27.0	22.2	46.0
752.043750	25.0	1000.0	120.000	143.0	H	-38.0	28.2	21.0	46.0
997.575000	26.5	1000.0	120.000	117.0	H	85.0	29.7	19.5	46.0

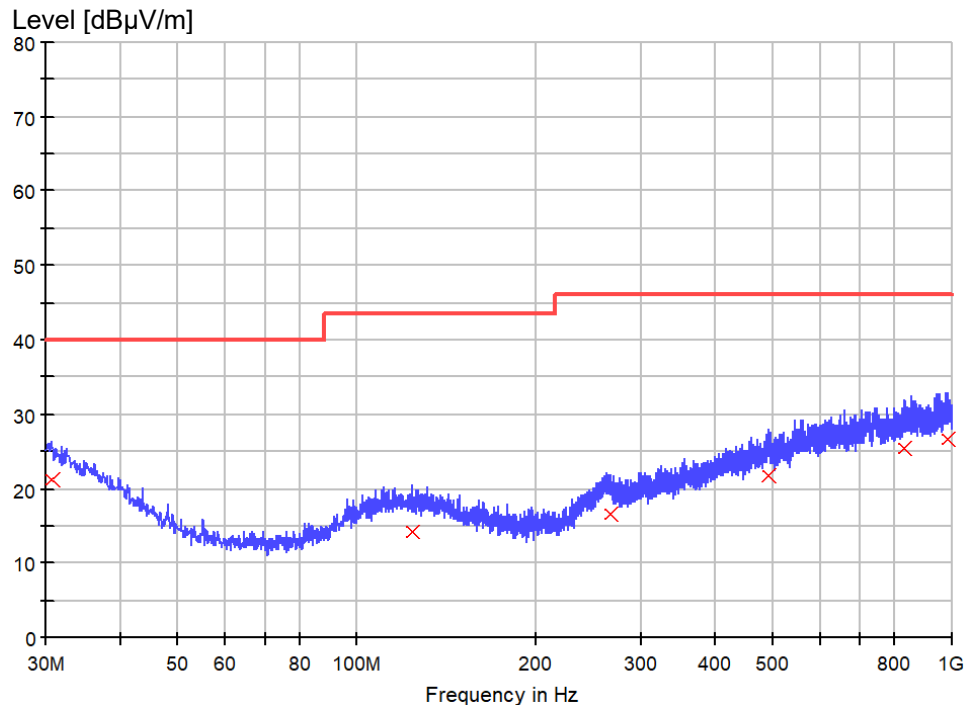
Figure 14: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization, mode 3



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
30.848750	21.0	1000.0	120.000	178.0	V	95.0	25.0	19.0	40.0
109.418750	14.1	1000.0	120.000	181.0	V	119.0	18.6	29.4	43.5
264.740000	16.9	1000.0	120.000	163.0	V	-61.0	21.3	29.1	46.0
322.940000	17.1	1000.0	120.000	122.0	V	-63.0	21.2	28.9	46.0
742.950000	25.6	1000.0	120.000	137.0	V	19.0	28.9	20.4	46.0
844.557500	25.8	1000.0	120.000	105.0	V	21.0	29.0	20.2	46.0

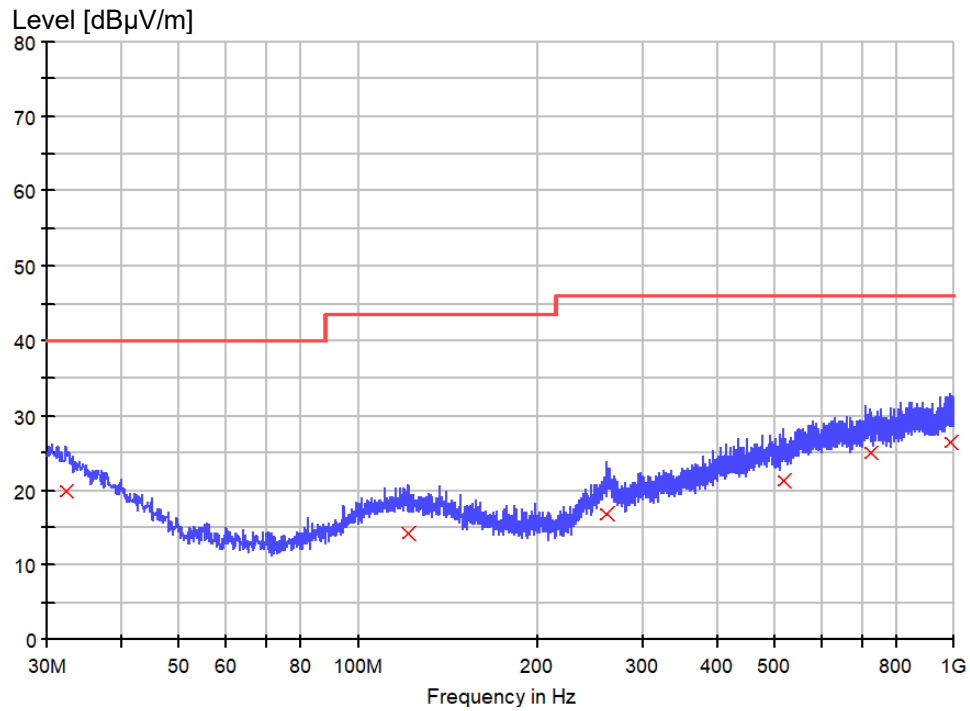
Figure 15: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization, mode 4



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
30.606250	21.2	1000.0	120.000	164.0	H	101.0	25.1	18.8	40.0
124.090000	14.3	1000.0	120.000	107.0	H	55.0	18.7	29.2	43.5
266.437500	16.5	1000.0	120.000	131.0	H	56.0	21.0	29.5	46.0
492.326250	21.8	1000.0	120.000	114.0	H	107.0	25.7	24.2	46.0
834.251250	25.5	1000.0	120.000	126.0	H	170.0	28.8	20.5	46.0
984.237500	26.6	1000.0	120.000	107.0	H	81.0	29.7	19.4	46.0

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



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
32.303750	20.0	1000.0	120.000	193.0	V	66.0	24.1	20.0	40.0
121.422500	14.2	1000.0	120.000	199.0	V	34.0	18.7	29.3	43.5
260.375000	16.8	1000.0	120.000	114.0	V	-175.0	21.5	29.2	46.0
516.818750	21.4	1000.0	120.000	114.0	V	-176.0	25.2	24.6	46.0
720.155000	25.0	1000.0	120.000	124.0	V	95.0	28.2	21.0	46.0
986.541250	26.5	1000.0	120.000	111.0	V	42.0	29.6	19.5	46.0

6 Photographs of the Test Set-Up

Refer to the test setup file.

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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	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