

Prüfbericht-Nr.: <i>Test report no.:</i>	CN26JDSZ 001	Auftrags-Nr.: <i>Order no.:</i>	326176956	Seite 1 von 30 <i>Page 1 of 30</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	1288983	Auftragsdatum: <i>Order date:</i>	2026-03-17	
Auftraggeber: <i>Client:</i>	IKEA of Sweden AB Box 702, SE-343 81 Älmhult, Sweden			
Prüfgegenstand: <i>Test item:</i>	LED Fixed Strip			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	L2501			
Auftrags-Inhalt: <i>Order content:</i>	TÜV Rheinland EMC service			
Prüfgrundlage: <i>Test specification:</i>	FCC 47 CFR Part 15, Subpart B:2024 Class B ICES-005:2018 ICES-003:2020			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2026-03-27	Refer to the EUT photos file		
Prüfmuster-Nr.: <i>Test sample no.:</i>	A004230159-011			
Prüfzeitraum: <i>Testing period:</i>	2026-04-09~2026-04-17			
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>	genehmigt von: <i>authorized by:</i>		HeXiong Liu	
Datum: <i>Date:</i>	Ausstellungsdatum: <i>Issue date:</i>			
Stellung / Position:	Stellung / Position:			
Sonstiges / <i>Other:</i>	FCC ID: FHO-L2501 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 <i>Test item complete and undamaged</i>		
* 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>				

Prüfbericht-Nr.: CN26JDSZ 001
Test report no.:

Seite 2 von 30
Page 2 of 30

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> |
| 2 | <p>Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben. Informationen zur Verifizierung der Authentizität unserer Dokumente erhalten Sie auf folgender Webseite: go.tuv.com/digital-signature</p> <p><i>As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged. For information on verifying the authenticity of our documents, please visit the following website: go.tuv.com/digital-signature</i></p> |
| 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.</i>
<i>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 115:2023, 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 115:2023, 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.: CN26JDSZ 001
Test Report No.:

Seite 3 von 30
Page 3 of 30

Revision history of test report:

Report number	Issue date	Contents and reason for change if appropriate
CN26JDSZ 001	2026-05-28	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 ..	7
2.7	SUBMITTED DOCUMENTS.....	7
3	TEST SET-UP AND OPERATION MODES.....	8
3.1	PRINCIPLE OF CONFIGURATION SELECTION	8
3.2	EQUIPMENT AND CABLE ARRANGEMENT.....	8
3.3	TEST SOFTWARE	9
3.4	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	9
3.5	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE	9
4	CONFORMITY DECISION RULE.....	10
5	TEST RESULTS EMISSION	11
5.1	EMISSION IN THE FREQUENCY RANGE UP TO 30 MHz	11
5.1.1	Conducted emission	11
5.2	EMISSION IN THE FREQUENCY RANGE ABOVE 30 MHz.....	17
5.2.1	Radiated emission (30-1000 MHz).....	17
5.2.2	Radiated Emission (1-18 GHz)	23
6	PHOTOGRAPHS OF THE TEST SET-UP	28
7	LIST OF TEST AND MEASUREMENT INSTRUMENTS	29
8	LIST OF FIGURES.....	30

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 test equipment used 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 fixed strip with wireless dimming function for lighting and similar use. For further information, refer to the user's manual.

2.2 Ratings and System Details

Product : LED Fixed Strip
Model : L2501
Rated input : DC 24 V, 160 mA
Rated power : 32 W
Protection class : III

Product : LED Power Supply
Model : ICPSW24-40-1
Rated input : AC 100-240 V, 50/60 Hz, 0.6 A, 45 W
Rated output : DC 24 V, Max 1.67 A, Max 40 W
Protection class : II

Product : LED Wireless Connection Box
Model : E2500
Rated input : DC 24 V, 1.67 A, 40 W
Rated output : DC 24 V, 1.46 A, 35 W
Protection class : III

2.3 Independent Operation Modes

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

The test modes are as follows:

- Mode 1: EUT was illuminated and shifted color with max. lighting output.
- Mode 2: EUT was illuminated and shifted color with min. lighting output.

2.4 Description of interconnecting cables

No.	Interface and name	Shielded or not	Specified length (m)
1	DC power line	Unshielded	2 m
2	Signal line	Unshielded	1.5 m

2.5 Noise Generating and Noise Suppressing Parts

Refer to the circuit diagram for further information.

Prüfbericht - Nr.: CN26JDSZ 001

Test Report No.:

Seite 7 von 30

Page 7 of 30

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 2480 MHz for wireless module.

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.

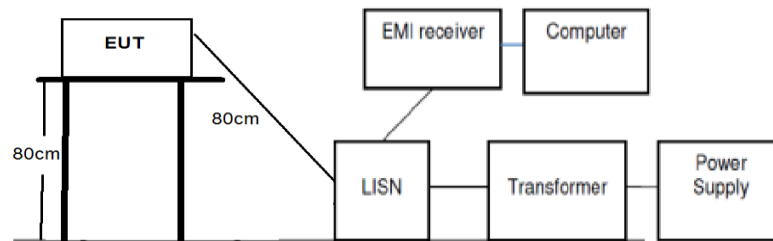
Refer to the related paragraph of this report.

The sequence of testing:

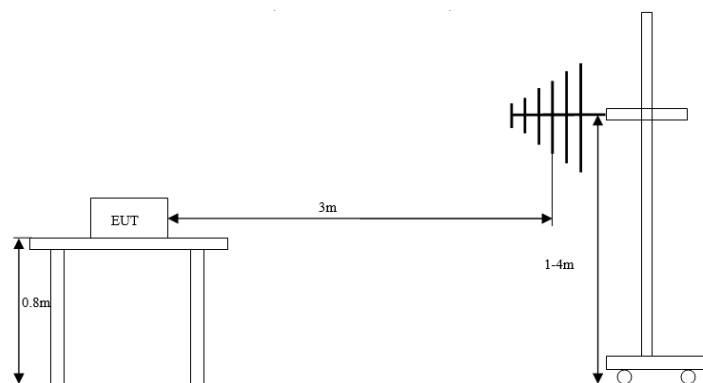
1. Conducted emission tests were performed on 2026-04-09.
2. Radiated emission tests were performed on 2026-04-15~2026-04-17.

3.2 Equipment and cable arrangement

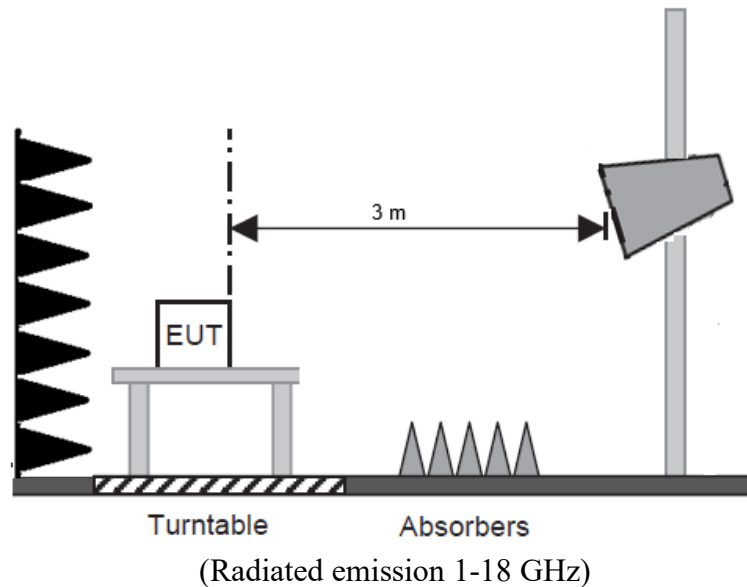
Block diagram for both conducted emission and radiated emission tests is as follows:



(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.

3.3 Test Software

The “Home” APP for iPhone was used during the tests for color shifting and dimming.

3.4 Special Accessories and Auxiliary Equipment

During the tests, the mobile phone (model: iPhone 15, brand: Apple) was used.

3.5 Countermeasures to achieve EMC Compliance

During tests, no special countermeasure was 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	: 2026-04-09	
Test procedure	: FCC 47 CFR Part 15, Subpart B:2024, ICES-005:2018, ICES-003:2020, 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	
Operational mode	: Mode 1~ Mode 2, defined in clause 2.3 (The worst case was found by pre-scanning lighting on, multicolored lighting, sequential lighting with max and min lighting output, only the test data of worst case was recorded in the report)	
Ambient condition	: Temperature: 18.7 °C; Relative humidity: 46.3 %	
Expanded measurement uncertainty ($k=2$)	: 2.33 dB The minimum margin to the limit is 6.84 dB at 0.498750 MHz. The margin is higher than expanded measurement uncertainty.	
Test setup photo	: Photograph 1 of Attachment 3	

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.

Prüfbericht - Nr.: CN26JDSZ 001

Test Report No.:

Seite 12 von 30

Page 12 of 30

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.

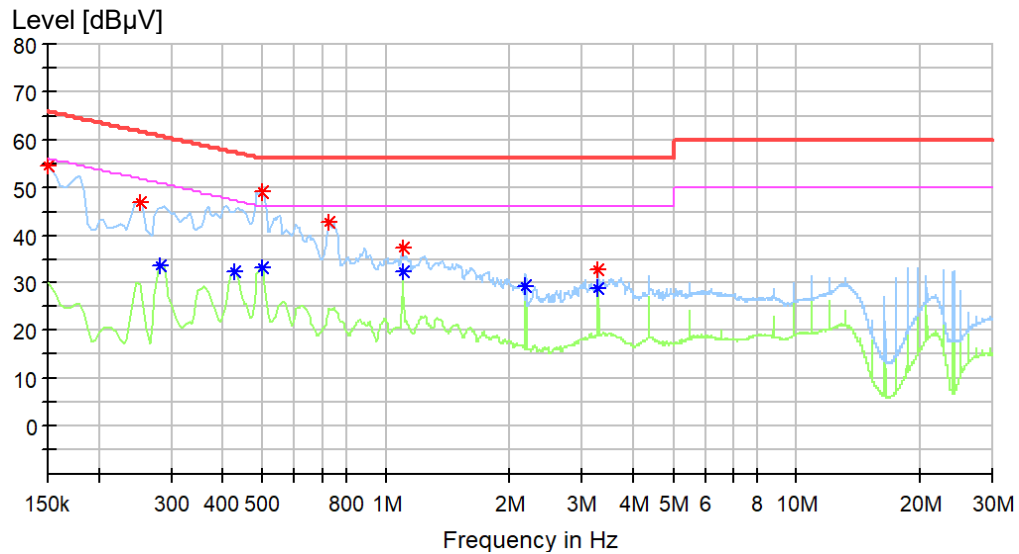
Notes on following tables of conducted emission results and conversions:

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 line, mode 1



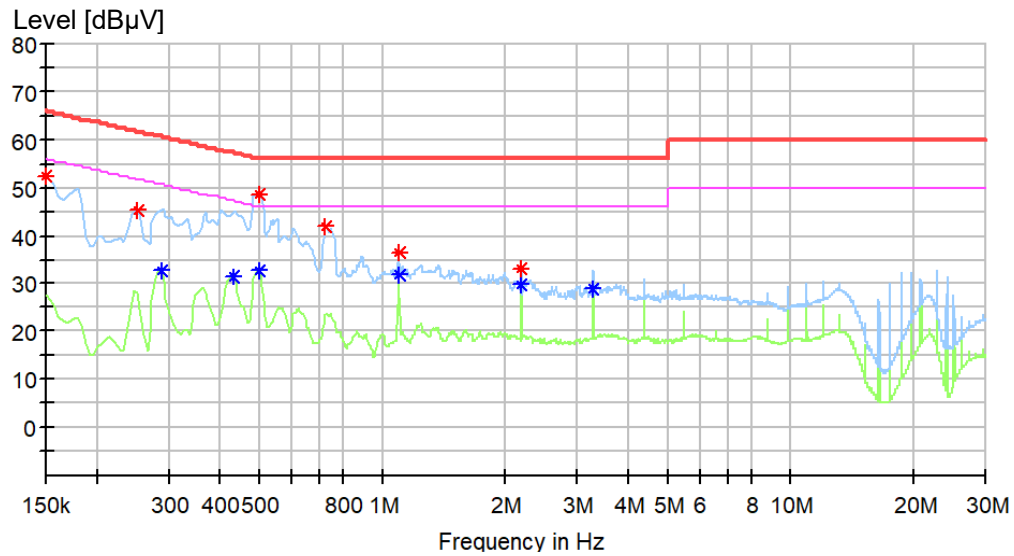
Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.150000	54.26	66.00	11.74	L1
0.251250	47.11	61.72	14.60	L1
0.498750	49.18	56.02	6.84	L1
0.728250	42.56	56.00	13.44	L1
1.097250	37.33	56.00	18.67	L1
3.284250	32.84	56.00	23.16	L1

Final average measurement result:

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.282750	33.60	50.74	17.14	L1
0.426750	32.25	47.32	15.07	L1
0.498750	33.31	46.02	12.71	L1
1.097250	32.08	46.00	13.92	L1
2.190750	29.46	46.00	16.54	L1
3.284250	29.00	46.00	17.00	L1

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



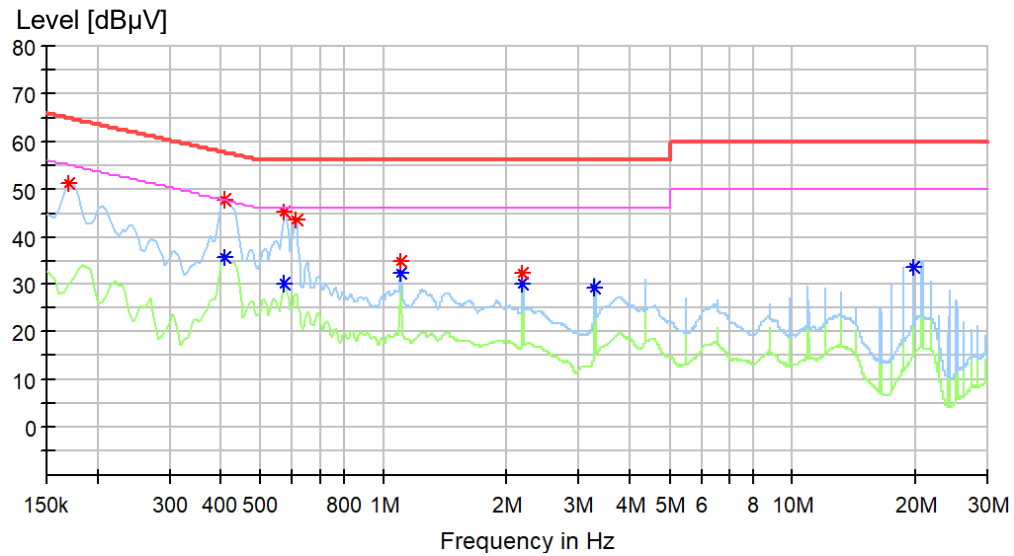
Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.150000	52.31	66.00	13.69	N
0.251250	45.16	61.72	16.55	N
0.498750	48.68	56.02	7.34	N
0.728250	41.86	56.00	14.14	N
1.097250	36.53	56.00	19.47	N
2.190750	33.25	56.00	22.75	N

Final average measurement result:

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.287250	32.54	50.60	18.07	N
0.431250	31.56	47.23	15.67	N
0.498750	32.83	46.02	13.19	N
1.097250	32.01	46.00	13.99	N
2.190750	29.86	46.00	16.14	N
3.288750	28.86	46.00	17.14	N

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



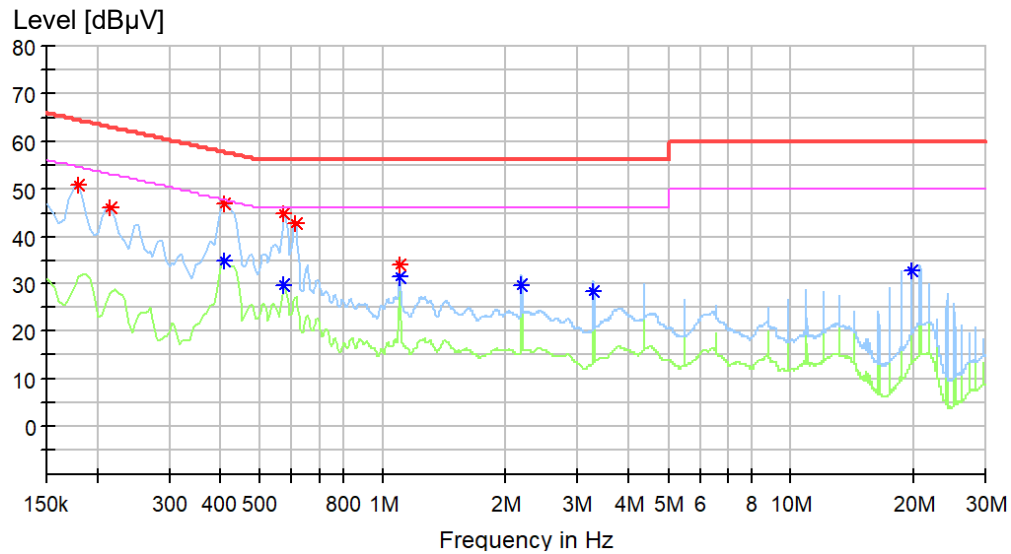
Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	Limit (dBuV)	Margin (dB)	Line
0.170250	51.12	64.95	13.82	L1
0.408750	47.88	57.67	9.80	L1
0.575250	45.06	56.00	10.94	L1
0.611250	43.48	56.00	12.52	L1
1.097250	34.84	56.00	21.16	L1
2.190750	32.48	56.00	23.52	L1

Final average measurement result:

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line
0.408750	35.69	47.67	11.99	L1
0.575250	30.35	46.00	15.65	L1
1.097250	32.17	46.00	13.83	L1
2.190750	30.18	46.00	15.82	L1
3.288750	29.33	46.00	16.67	L1
19.718250	33.51	50.00	16.49	L1

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



Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	Limit (dBuV)	Margin (dB)	Line
0.179250	50.61	64.52	13.91	N
0.215250	46.04	63.00	16.96	N
0.408750	47.13	57.67	10.54	N
0.575250	44.68	56.00	11.32	N
0.611250	42.63	56.00	13.37	N
1.097250	33.93	56.00	22.07	N

Final average measurement result:

Frequency (MHz)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line
0.408750	34.83	47.67	12.84	N
0.575250	29.67	46.00	16.33	N
1.097250	31.57	46.00	14.43	N
2.190750	29.56	46.00	16.44	N
3.288750	28.68	46.00	17.32	N
19.713750	32.68	50.00	17.32	N

5.2 Emission in the Frequency Range above 30 MHz

5.2.1 Radiated emission (30-1000 MHz)

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

Date of testing	: 2026-04-15
Test procedure	: FCC 47 CFR Part 15, Subpart B:2024, ICES-005:2018, ICES-003:2020, ANSI C63.4-2014 and CISPR 16-2-3
Product classification	: Class B
Frequency range	: 30 – 1000 MHz
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)
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
Operational mode	: Mode 1 ~ Mode 2, defined in clause 2.3 (The worst case was found by pre-scanning lighting on, multicolored lighting, sequential lighting with max and min lighting output, only the test data of worst case was recorded in the report)
Ambient condition	: Temperature: 18.1 °C; Relative humidity: 46.2 %
Expanded measurement uncertainty ($k=2$)	: 5.40 dB The minimum margin to the limit is 6.2 dB at 34.971250 MHz and 34.122500 MHz. The margin is higher than expanded measurement uncertainty.
Test setup photo	: Photograph 2 of Attachment 3

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.

Prüfbericht - Nr.: CN26JDSZ 001

Test Report No.:

Seite 18 von 30

Page 18 of 30

Notes on following tables of radiated emission results and conversions:

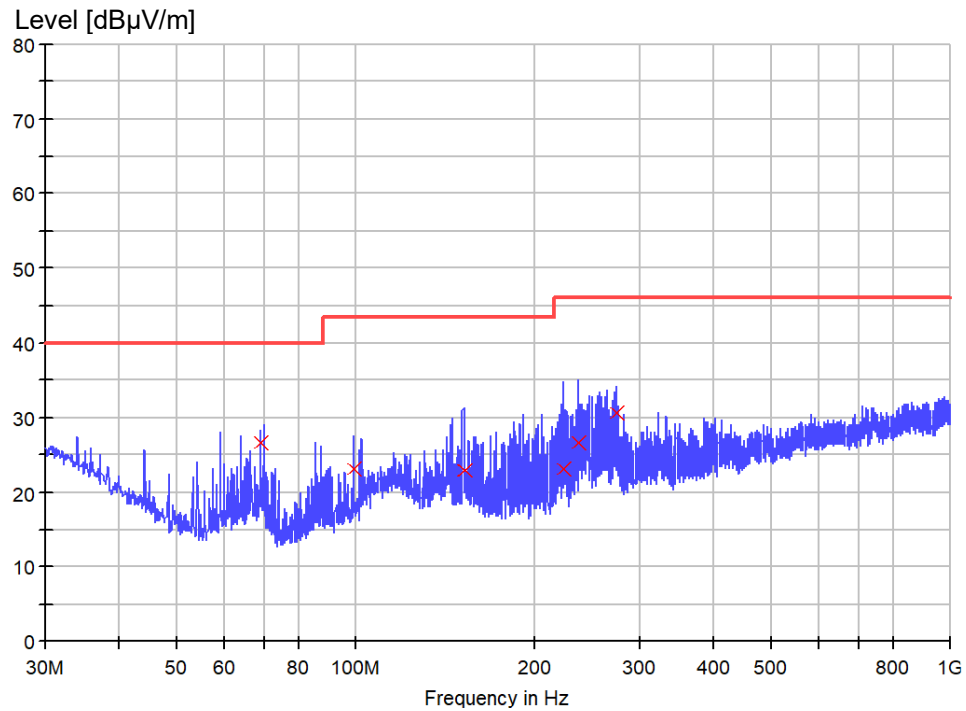
QuasiPeak (dB μ V/m): final measurement results by using quasi-peak detector

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: The class B limits of ICES-005:2018 is stricter than those FCC 47 CFR Part 15, Subpart B:2024 and ICES-003:2020 for 3 m test distance. Therefore, the former limits are used in following figures and tables.

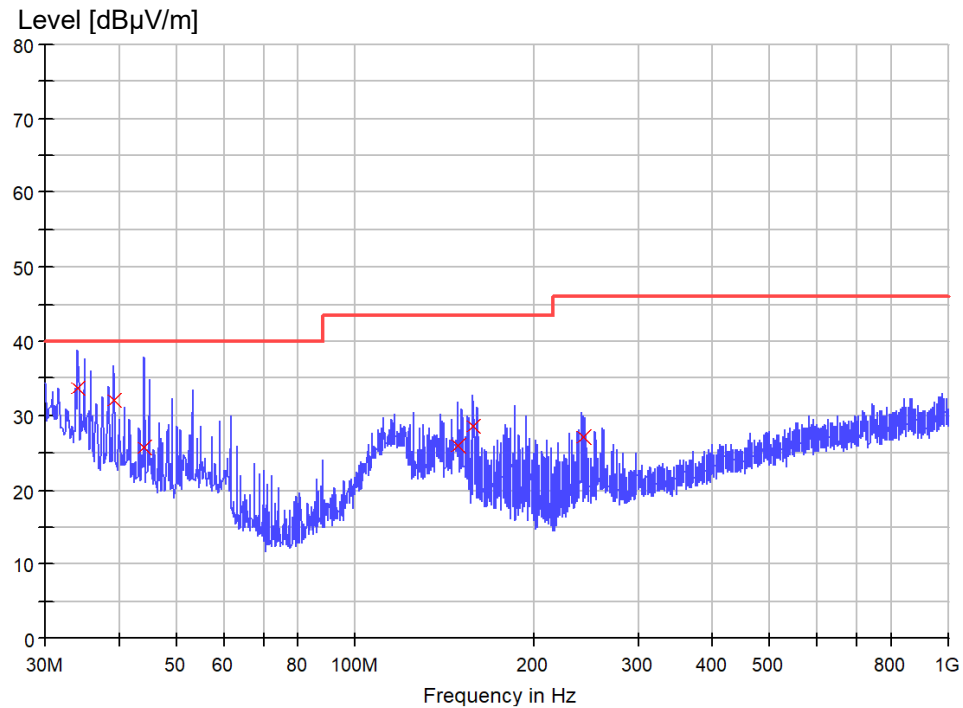
Figure 5: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization, mode 1



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)
69.042500	26.6	120.000	165.0	H	21.0	12.8	13.4	40.0
99.112500	23.1	120.000	171.0	H	-158.0	17.2	20.4	43.5
151.735000	23.0	120.000	126.0	H	115.0	17.0	20.5	43.5
223.393750	23.1	120.000	145.0	H	-54.0	16.4	22.9	46.0
237.458750	26.6	120.000	193.0	H	-97.0	18.5	19.4	46.0
274.197500	30.7	120.000	152.0	H	143.0	19.9	15.3	46.0

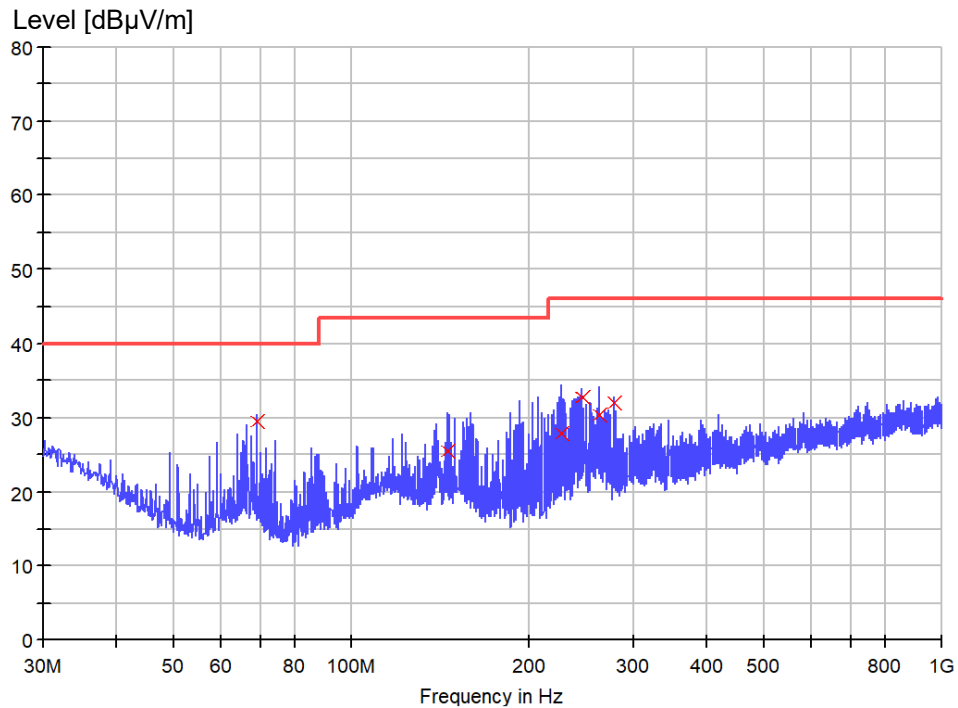
Figure 6: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization, mode 1



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)
34.122500	33.8	120.000	144.0	V	11.0	23.1	6.2	40.0
39.093750	32.1	120.000	197.0	V	112.0	20.3	7.9	40.0
44.065000	25.8	120.000	111.0	V	-94.0	17.6	14.2	40.0
149.188750	25.9	120.000	181.0	V	-37.0	17.2	17.6	43.5
158.282500	28.5	120.000	168.0	V	38.0	16.9	15.0	43.5
241.702500	27.1	120.000	129.0	V	73.0	19.1	18.9	46.0

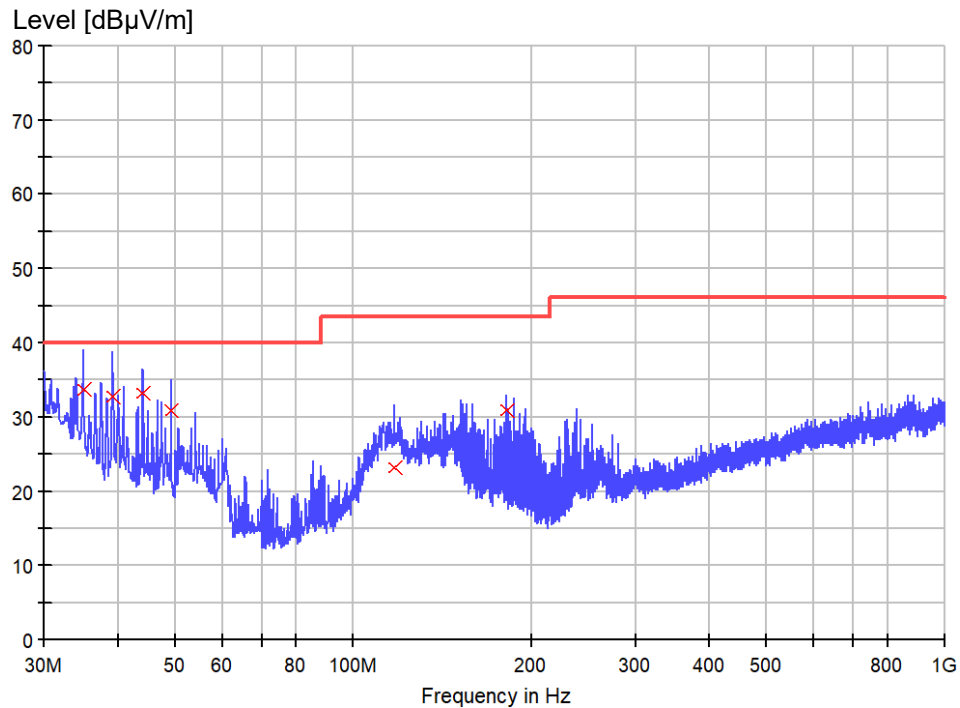
Figure 7: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization, mode 2



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)
69.163750	29.5	120.000	197.0	H	-164.0	12.8	10.5	40.0
145.793750	25.5	120.000	178.0	H	96.0	17.5	18.0	43.5
226.667500	27.9	120.000	198.0	H	-57.0	16.8	18.1	46.0
246.673750	32.8	120.000	105.0	H	163.0	19.2	13.2	46.0
263.285000	30.3	120.000	140.0	H	-130.0	21.5	15.7	46.0
279.168750	32.1	120.000	105.0	H	97.0	19.7	13.9	46.0

Figure 8: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization, 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)
34.971250	33.8	120.000	168.0	V	74.0	22.6	6.2	40.0
39.093750	32.7	120.000	183.0	V	67.0	20.3	7.3	40.0
44.186250	33.2	120.000	124.0	V	126.0	17.5	6.9	40.0
49.157500	30.9	120.000	112.0	V	143.0	15.1	9.1	40.0
117.542500	23.3	120.000	161.0	V	53.0	18.8	20.2	43.5
181.683750	31.0	120.000	167.0	V	-133.0	16.0	12.5	43.5

5.2.2 Radiated Emission (1-18 GHz)

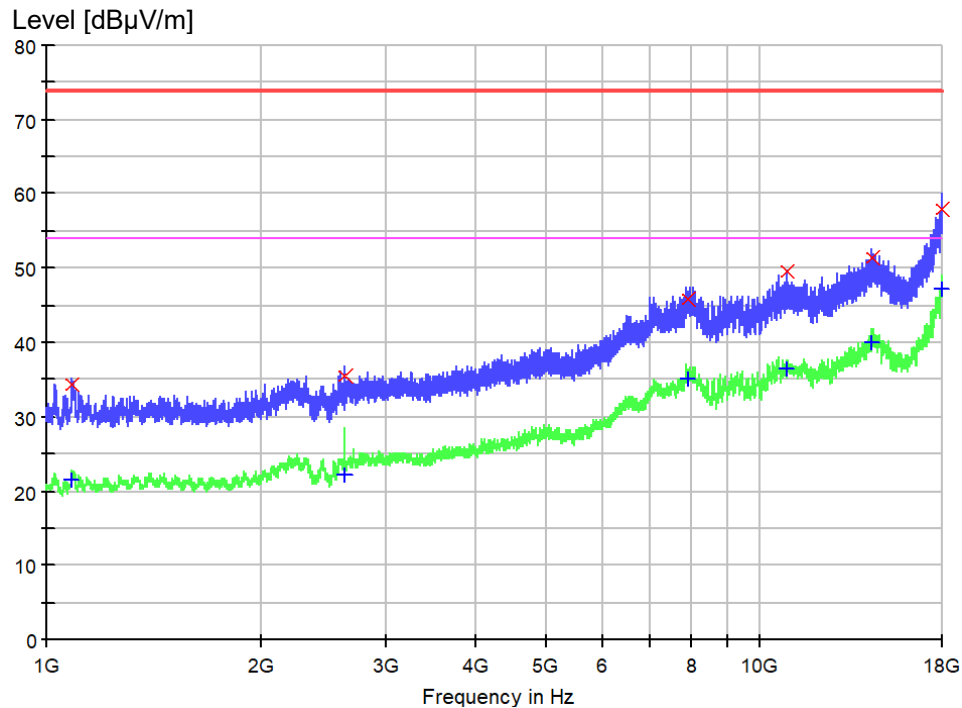
Result:
Passed

Date of testing	: 2026-04-17
Port	: Enclosure
Test procedure	: FCC 47 CFR Part 15, Subpart B:2024, ICES-005:2018, ICES-003:2020, ANSI C63.4-2014 and CISPR 16-2-3
Product classification	: Class B
Limit	: Peak limits (3 m distance): 1 – 18 GHz, 74 dB μ V/m Average limits (3 m distance): 1 – 18 GHz, 54 dB μ V/m
Frequency range	: 1 – 18 GHz (see Note)
Kind of test site	: Absorber-lined semi-anechoic chamber
Test distance	: 3 m
Test voltage	: AC 120 V, 60 Hz
Operational mode	: Mode 1 ~ Mode 2, defined in clause 2.3 (The worst case was found by pre-scanning lighting on, multicolored lighting, sequential lighting with max and min lighting output, only the test data of worst case was recorded in the report)
Earthing	: No earth
Ambient condition	: Temperature: 18.1 °C; Relative humidity: 46.2 %
Expanded measurement uncertainty ($k=2$)	: 5.17 dB (1 GHz~6 GHz) 5.12 dB (6 GHz~18 GHz) The minimum margin to the limit is 6.8 dB at 17969.718750 MHz. The margin is higher than expanded measurement uncertainty.
Test setup photo	: Photograph 2 of Attachment 3

The radiated disturbance test was carried out in an absorber-lined semi-anechoic chamber. The test distance from the receiving antenna to the EUT is 3 m. The site voltage standing wave ratio (S_{VSWR}) of the absorber-lined 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 supporting table. And the supporting table was rotated 360° around, the receiving antenna was kept aiming at the EUT and its height 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 measured by an automatic measurement system. The final test was performed with peak detector and average detector at those critical frequencies during the preview test. In the following figure, “ $\times$ ” and “ $+$ ” means measurement results with peak detector and average detector.

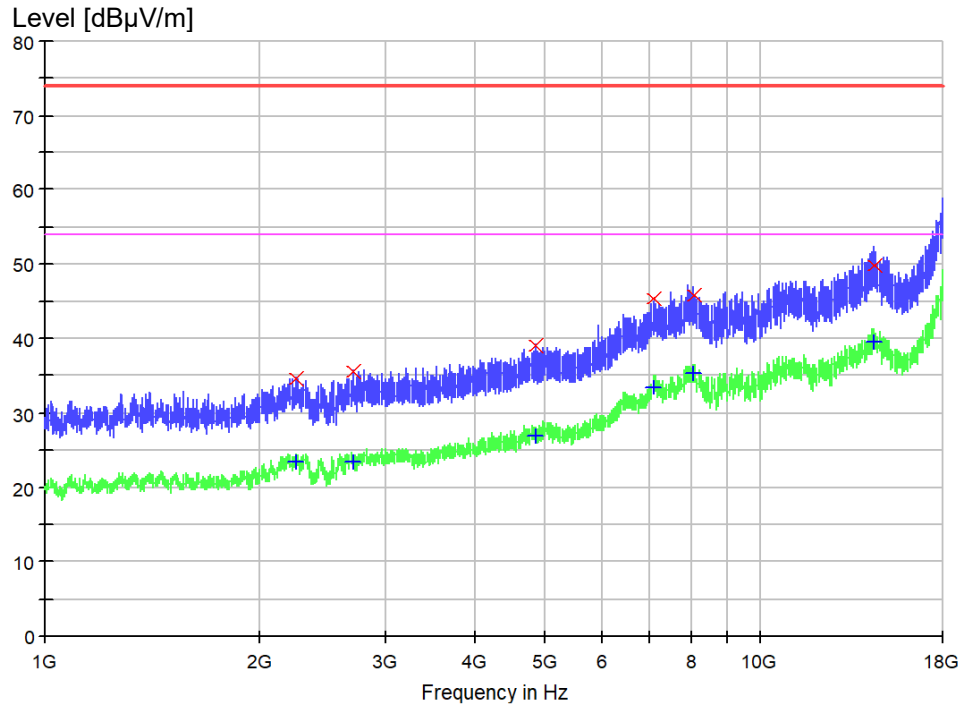
Note: The highest frequency in the EUT is 2480 MHz. According to FCC Part 15 subpart B §15.33 (b) (1) and ICES-003:2020 table 3, the upper frequency for radiated emission measurement is 18 GHz.

Figure 9: Spectral Diagrams and measurement results, 1 GHz – 18 GHz, Horizontal polarization, mode 1

Final peak measurement result:

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
1083.937500	34.4	1000.0	1000.000	177.0	H	-78.0	-19.8	39.6	74.0
2613.406250	35.7	1000.0	1000.000	130.0	H	-24.0	-15.7	38.4	74.0
7926.968750	45.8	1000.0	1000.000	187.0	H	-32.0	-3.6	28.2	74.0
10907.281250	49.6	1000.0	1000.000	131.0	H	-29.0	-1.5	24.4	74.0
14390.156250	51.4	1000.0	1000.000	184.0	H	-65.0	2.7	22.6	74.0
17969.718750	57.9	1000.0	1000.000	132.0	H	19.0	11.6	16.1	74.0

Final average measurement result:

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBμV/m)
1083.937500	21.4	1000.0	1000.000	177.0	H	-78.0	-19.8	32.6	54.0
2613.406250	22.3	1000.0	1000.000	130.0	H	-24.0	-15.7	31.7	54.0
7926.968750	35.0	1000.0	1000.000	187.0	H	-32.0	-3.6	19.0	54.0
10907.281250	36.5	1000.0	1000.000	131.0	H	-29.0	-1.5	17.5	54.0
14390.156250	39.9	1000.0	1000.000	184.0	H	-65.0	2.7	14.1	54.0
17969.718750	47.2	1000.0	1000.000	132.0	H	19.0	11.6	6.8	54.0

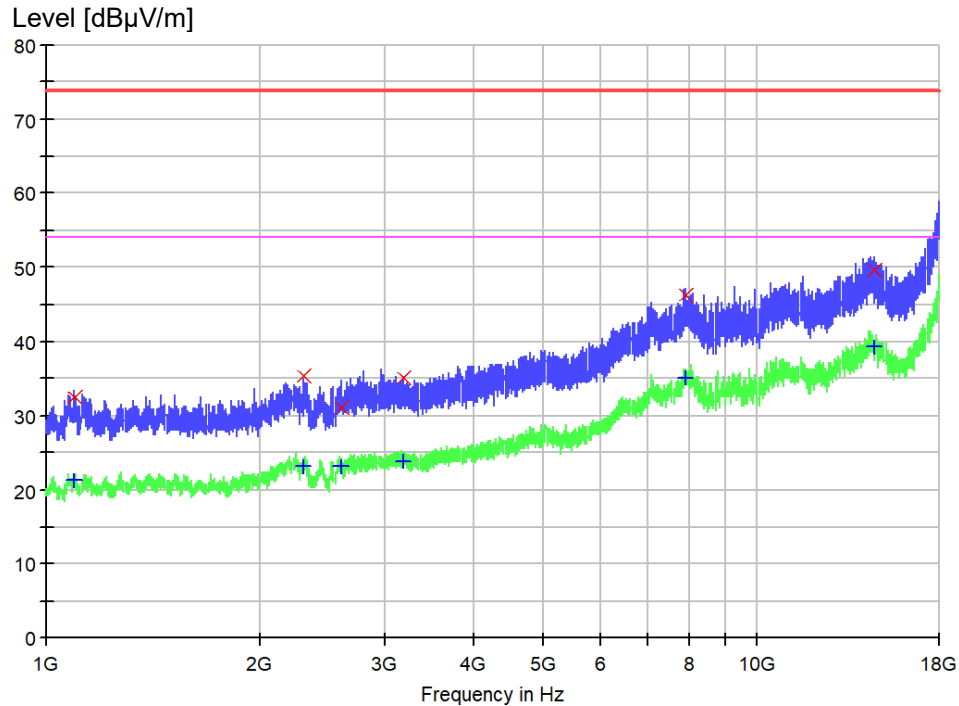
Figure 10: Spectral Diagrams and measurement results, 1 GHz – 18 GHz, Vertical polarization, mode 1

Final peak measurement result:

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
2241.531250	34.6	1000.0	1000.000	163.0	V	165.0	-15.6	39.4	74.0
2702.125000	35.5	1000.0	1000.000	188.0	V	-31.0	-15.4	38.5	74.0
4867.500000	39.2	1000.0	1000.000	166.0	V	-48.0	-11.1	34.8	74.0
7092.375000	45.3	1000.0	1000.000	141.0	V	-97.0	-5.1	28.7	74.0
8073.062500	45.8	1000.0	1000.000	195.0	V	-72.0	-3.7	28.2	74.0
14409.281250	49.8	1000.0	1000.000	196.0	V	122.0	2.7	24.2	74.0

Final average measurement result:

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBμV/m)
2241.531250	23.4	1000.0	1000.000	163.0	V	165.0	-15.6	30.6	54.0
2702.125000	23.4	1000.0	1000.000	188.0	V	-31.0	-15.4	30.6	54.0
4867.500000	26.9	1000.0	1000.000	166.0	V	-48.0	-11.1	27.1	54.0
7092.375000	33.5	1000.0	1000.000	141.0	V	-97.0	-5.1	20.5	54.0
8073.062500	35.4	1000.0	1000.000	195.0	V	-72.0	-3.7	18.6	54.0
14409.281250	39.6	1000.0	1000.000	196.0	V	122.0	2.7	14.4	54.0

Figure 11: Spectral Diagrams and measurement results, 1 GHz – 18 GHz, Horizontal polarization, mode 2



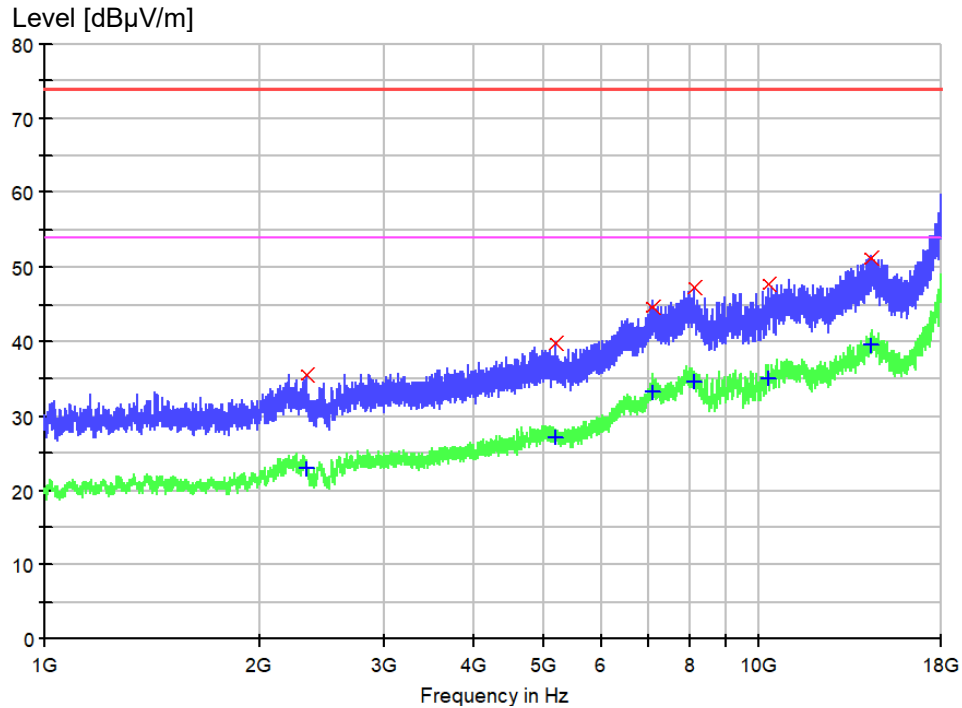
Final peak measurement result:

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
1098.281250	32.5	1000.0	1000.000	127.0	H	-62.0	-19.8	41.5	74.0
2298.375000	35.3	1000.0	1000.000	135.0	H	-22.0	-15.7	38.7	74.0
2594.812500	31.1	1000.0	1000.000	100.0	H	112.0	-15.7	42.9	74.0
3183.968750	35.2	1000.0	1000.000	137.0	H	-173.0	-14.6	38.8	74.0
7937.062500	46.2	1000.0	1000.000	152.0	H	121.0	-3.5	27.8	74.0
14637.187500	49.6	1000.0	1000.000	187.0	H	-176.0	2.4	24.4	74.0

Final average measurement result:

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBμV/m)
1098.281250	21.2	1000.0	1000.000	127.0	H	-62.0	-19.8	32.8	54.0
2298.375000	23.1	1000.0	1000.000	135.0	H	-22.0	-15.7	30.9	54.0
2594.812500	23.2	1000.0	1000.000	100.0	H	112.0	-15.7	30.9	54.0
3183.968750	23.9	1000.0	1000.000	137.0	H	-173.0	-14.6	30.1	54.0
7937.062500	35.1	1000.0	1000.000	152.0	H	121.0	-3.5	18.9	54.0
14637.187500	39.2	1000.0	1000.000	187.0	H	-176.0	2.4	14.8	54.0

Figure 12: Spectral Diagrams and measurement results, 1 GHz – 18 GHz, Vertical polarization, mode 2



Final peak measurement result:

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
2328.125000	35.7	1000.0	1000.000	188.0	V	3.0	-15.8	38.3	74.0
5179.343750	39.8	1000.0	1000.000	200.0	V	-176.0	-11.1	34.2	74.0
7080.156250	44.7	1000.0	1000.000	164.0	V	0.0	-5.3	29.3	74.0
8108.656250	47.2	1000.0	1000.000	173.0	V	82.0	-4.0	26.8	74.0
10325.031250	47.7	1000.0	1000.000	140.0	V	-64.0	-2.2	26.3	74.0
14366.250000	51.2	1000.0	1000.000	165.0	V	-123.0	2.6	22.8	74.0

Final average measurement result:

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBμV/m)
2328.125000	22.9	1000.0	1000.000	188.0	V	3.0	-15.8	31.1	54.0
5179.343750	27.2	1000.0	1000.000	200.0	V	-176.0	-11.1	26.8	54.0
7080.156250	33.1	1000.0	1000.000	164.0	V	0.0	-5.3	20.9	54.0
8108.656250	34.6	1000.0	1000.000	173.0	V	82.0	-4.0	19.4	54.0
10325.031250	35.1	1000.0	1000.000	140.0	V	-64.0	-2.2	18.9	54.0
14366.250000	39.6	1000.0	1000.000	165.0	V	-123.0	2.6	14.4	54.0

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	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	2025-09-02	2026-09-02
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	2025-09-28	2026-09-28
EMC-C-001	3 m semi-anechoic chamber	SAC3	FJ129002	Frankonia	2023-12-03	2026-12-03
EMC-C-175	Preamplifier	EMC051845SE	980612	EMCI Taiwan	2025-07-11	2026-07-11
EMC-C-161	Spectrum analyser	FSV40	101258	Rohde & Schwarz	2025-07-11	2026-07-11
EMC-C-019	Double ridged horn antenna	BBHA 9120 D	9120D-433	Schwarzbeck	2025-02-28	2026-08-28

8 List of Figures

Figure 1: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L line, mode 1	13
Figure 2: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N line, mode 1	14
Figure 3: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L line, mode 2	15
Figure 4: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N line, mode 2	16
Figure 5: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization, mode 1	19
Figure 6: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization, mode 1	20
Figure 7: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization, mode 2	21
Figure 8: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization, mode 2	22
Figure 9: Spectral Diagrams and measurement results, 1 GHz – 18 GHz, Horizontal polarization, mode 1	24
Figure 10: Spectral Diagrams and measurement results, 1 GHz – 18 GHz, Vertical polarization, mode 1	25
Figure 11: Spectral Diagrams and measurement results, 1 GHz – 18 GHz, Horizontal polarization, mode 2	26
Figure 12: Spectral Diagrams and measurement results, 1 GHz – 18 GHz, Vertical polarization, mode 2	27

End of test report