

Prüfbericht-Nr.: Test Report No.:	CN2638AX 001	Auftrags-Nr.: Order No.:	326184568	Seite 1 von 20 Page 1 of 20
Kunden-Referenz-Nr.: Client Reference No.:	1288983	Auftragsdatum: Order date.:	2026-04-30	
Auftraggeber: Client:	IKEA of Sweden AB Box 702, SE-343 81, Älmhult, Sweden			
Prüfgegenstand: Test item:	Matter motion sensor			
Bezeichnung / Typ-Nr.: Identification / Type No.:	E2706			
Auftrags-Inhalt: Order content:	TÜV Rheinland EMC service			
Prüfgrundlage: Test specification:	FCC 47 CFR Part 15, Subpart B:2024 Class B ICES-003:2020			
Wareneingangsdatum: Date of receipt:	2026-05-07	Refer to the EUT photos file		
Prüfmuster-Nr.: Test sample No.:	A004265857-001~003			
Prüfzeitraum: Testing period:	2026-05-19			
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>Jiuyu Huang</i> Jiuyu Huang		genehmigt von: / authorized by: <i>JiaYi Zhou</i> JiaYi Zhou		
Datum: / Date: 2026-06-17		Ausstellungsdatum: / Issue date: 2026-06-17		
Stellung: / Position: Project engineer		Stellung: / Position: Authorizer		
Sonstiges / Other:	FCC ID: FHO-E2706 IC: 10912A-E2706 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 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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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 115:2023, 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 bezueglich 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 115:2023, 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>

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Revision history of test report:

Report number	Issue date	Contents and reason for change if appropriate
CN2638AX 001	2026-06-17	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 6 for test and measurement instruments.

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2 General Product Information

2.1 Product Function and Intended Use

The EUT (equipment under test) is a Matter motion sensor. For the further information, refer to the user's manual.

2.2 Ratings and System Details

Rated input : 2*AAA

2.3 Independent Operation Modess

The basic operation mode is on by 2.4 GHz wireless connection.

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 2.4 GHz.

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.

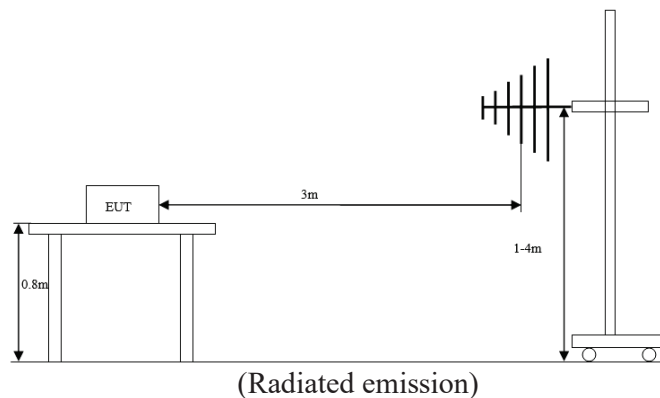
Refer to the related paragraph of this report.

The sequence of testing:

1. Radiated emission tests were performed on 2026-05-19.

3.2 Equipment and cable arrangement

Block diagram for radiated emission test is as follows:



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3.3 Test Software

No special test software was used during the tests.

3.4 Special Accessories and Auxiliary Equipment

During the tests, the below equipment were used.

No.	Equipment	Model	Manufacturer
1	Lamp	KR722	-

3.5 Countermeasures to achieve EMC Compliance

No other special measure is employed to achieve the requirement.

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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.

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5 Test Results EMISSION

5.1 Emission in the Frequency Range above 30 MHz

5.1.1 Radiated emission (30 MHz - 1 GHz)

Result:		Passed
Date of testing	: 2026-05-19	
Test procedure	: FCC 47 CFR Part 15, Subpart B:2024, ICES-003:2020, ANSI C63.4-2014 and CISPR 16-2-3	
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 – 960 MHz, 46 dB μ V/m; Above 960 MHz, 54 dB μ V/m (see Note 1)	
Bandwidth of EMI receiver for final measurement	: 120 kHz	
Measurement time for final measurement	: 1 s	
Kind of test site	: Semi-anechoic chamber	
Operational mode	: Mode as defined in clause 2.3	
Input voltage	: 2*AAA	
Ambient condition	: Temperature: 23.1 °C; Relative humidity: 52.5 %	
Expanded measurement uncertainty ($k=2$)	: 5.40 dB The minimum margin to the limit is 14.4 dB at 32.667500 MHz. The margin is higher than expanded measurement uncertainty.	
Test setup photo	: Photograph 2 of Attachment 1	

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 0.8 m high wooden table above the reference ground plane. The wooden table 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.

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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, “ $\times$ ” means quasi-peak test results.

Note 1: The class B limits of FCC 47 CFR Part 15, Subpart B:2024 is stricter than those ICES-003:2020 for 3 m test distance. Therefore, the former limits are used in following figures and tables.

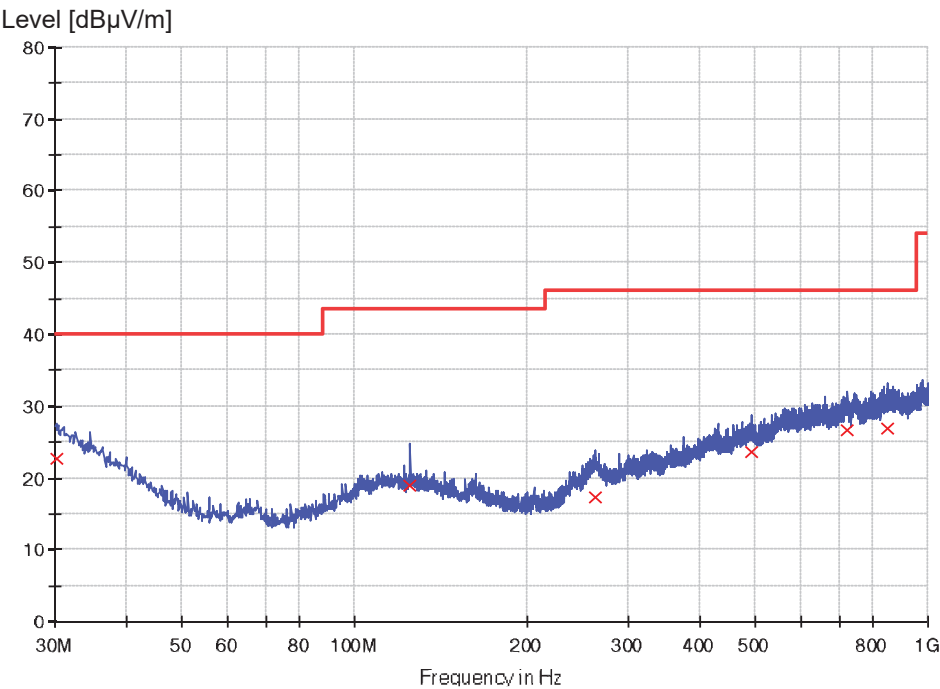
Notes on following tables of radiated emission results and conversions:

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)

Figure 1: Spectral Diagrams and measurement results, horizontal polarization (30 MHz to 1 GHz)



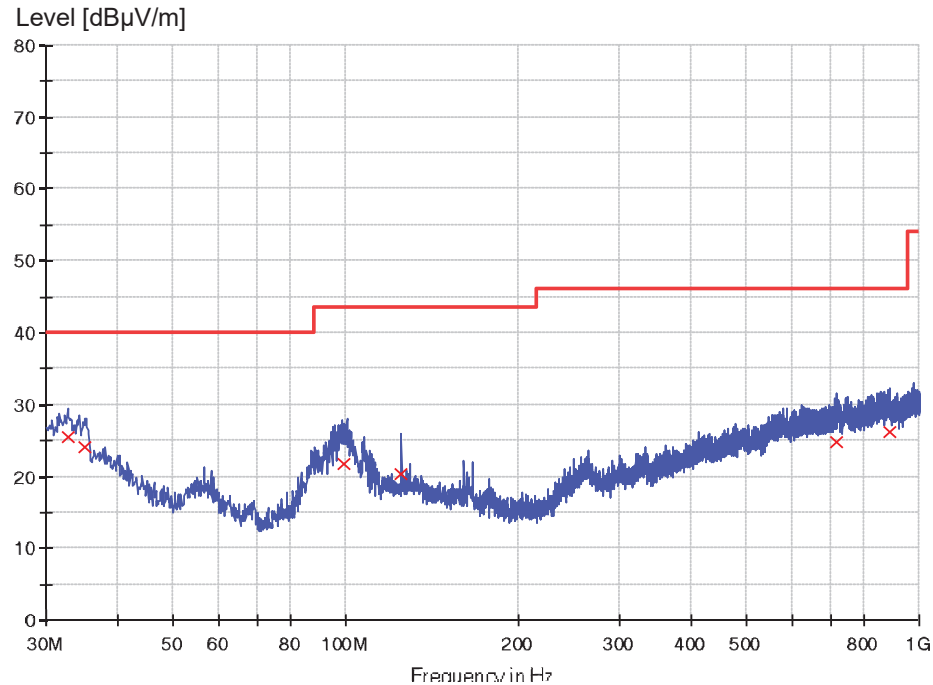
Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
30.121250	22.6	120.000	117.0	H	-88.0	25.3	17.4	40.0
124.938750	19.1	120.000	134.0	H	-111.0	18.7	24.5	43.5
262.315000	17.3	120.000	170.0	H	-60.0	21.6	28.7	46.0
493.902500	23.6	120.000	149.0	H	116.0	25.5	22.4	46.0
723.186250	26.6	120.000	153.0	H	-88.0	28.6	19.4	46.0
847.952500	27.0	120.000	189.0	H	-153.0	29.0	19.0	46.0

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Figure 2: Spectral Diagrams and measurement results, vertical polarization (30 MHz to 1 GHz)



Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV/m)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
32.667500	25.6	120.000	184.0	V	147.0	23.9	14.4	40.0
35.092500	24.1	120.000	135.0	V	-142.0	22.6	15.9	40.0
99.233750	21.7	120.000	136.0	V	-42.0	17.2	21.8	43.5
124.938750	20.3	120.000	146.0	V	-148.0	18.7	23.2	43.5
715.183750	24.8	120.000	147.0	V	-114.0	27.8	21.2	46.0
886.025000	26.1	120.000	167.0	V	-131.0	29.2	19.9	46.0

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5.1.2 Radiated emission (Above 1 GHz)

Result:		Passed
Date of testing	: 2026-05-19	
Port	: Enclosure	
Test procedure	: FCC 47 CFR Part 15, Subpart B:2024, ANSI C63.4-2014 and CISPR 16-2-3 ICES-003:2020	
Limit	: Above 1 GHz, Peak limit: 74 dB μ V/m; Average limit: 54 dB μ V/m	
Frequency range	: 1-18 GHz Note: The highest frequency in the EUT is 2.4 GHz. According to FCC Part 15 subpart B §15.33 (b) (1), the upper frequency for radiated emission measurement is 12 GHz. The actual test frequency is up to 18 GHz.	
Bandwidth of EMI receiver for final measurement	: 1000 kHz	
Measurement time for final measurement	: 1 s	
Test distance	: 3 m	
Kind of test site	: Semi-anechoic chamber	
Operational mode	: Mode as defined in clause 2.3	
Input voltage	: 2*AAA	
Earthing	: No earthing	
Ambient condition	: Temperature: 23.1 °C; Relative humidity: 52.5 %	
Expanded measurement uncertainty ($k=2$)	: 5.08 dB The minimum margin to the limit is 6.1 dB at 17995.218750 MHz and 17977.156250 MHz. The margin is higher than expanded measurement uncertainty.	
Test setup photo	: Photograph 2 of Attachment 1	

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 poly table, which is 0.8 m high. The wooden table was rotated 360° around and 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. The final test was performed with peak detector and average detector at those critical frequencies during the preview test. In the following figure, “ $\times$ ” means measurement results with peak detector and “ $+$ ” means measurement results with average detector.

Notes on following tables of radiated emission results and conversions:

Peak (dB μ V/m): final measurement results by using peak detector

Average (dB μ V/m): final measurement results by using average detector

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

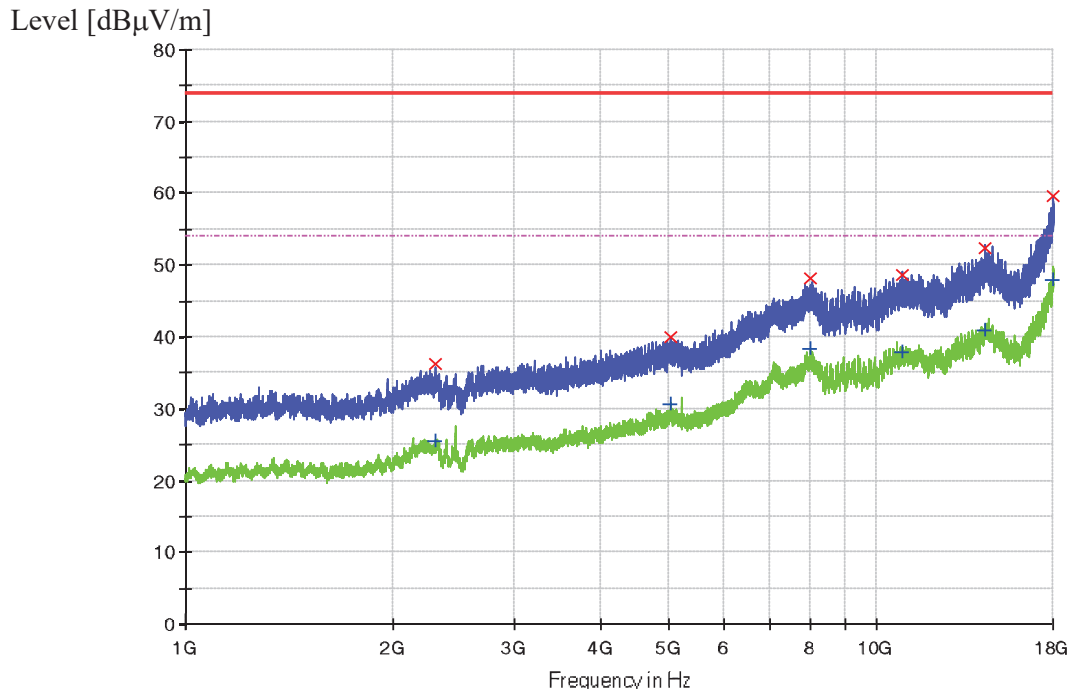
Margin: Limit PK (dB μ V/m) - Peak (dB μ V/m)

Limit CAV (dB μ V/m) – Average (dB μ V/m)

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Figure 3: Spectral Diagrams and measurement results, 1-18 GHz, horizontal polarization



Final Peak measurement results:

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/)
2303.156250	36.2	1000.0	1000.000	127.0	H	30.0	-15.7	37.8	74.0
5021.562500	40.1	1000.0	1000.000	159.0	H	82.0	-10.9	33.9	74.0
8002.406250	48.3	1000.0	1000.000	183.0	H	176.0	-3.3	25.7	74.0
10901.968750	48.6	1000.0	1000.000	180.0	H	73.0	-1.5	25.4	74.0
14351.375000	52.4	1000.0	1000.000	190.0	H	114.0	2.5	21.6	74.0
17995.218750	59.6	1000.0	1000.000	187.0	H	124.0	12.0	14.4	74.0

Final Average measurement results:

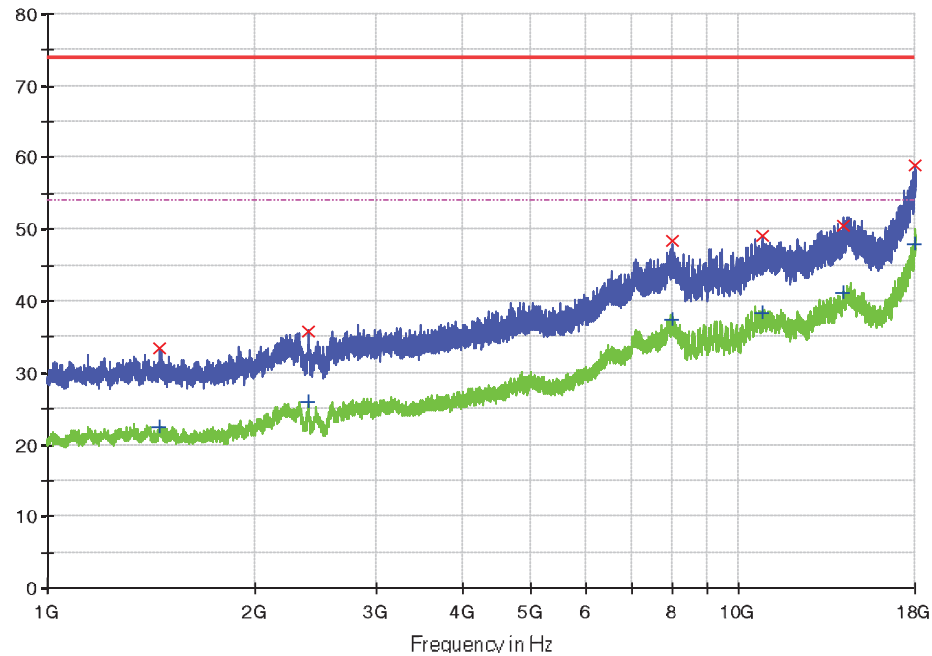
Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBμV/)
2303.156250	25.5	1000.0	1000.000	127.0	H	30.0	-15.7	28.5	54.0
5021.562500	30.5	1000.0	1000.000	159.0	H	82.0	-10.9	23.5	54.0
8002.406250	38.3	1000.0	1000.000	183.0	H	176.0	-3.3	15.7	54.0
10901.968750	37.8	1000.0	1000.000	180.0	H	73.0	-1.5	16.2	54.0
14351.375000	41.0	1000.0	1000.000	190.0	H	114.0	2.5	13.0	54.0
17995.218750	47.9	1000.0	1000.000	187.0	H	124.0	12.0	6.1	54.0

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Figure 4: Spectral Diagrams and measurement results, 1-18 GHz, vertical polarization

Level [dBμV/m]



Final Peak measurement results:

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/)
1449.437500	33.4	1000.0	1000.000	166.0	V	-93.0	-18.6	40.6	74.0
2379.656250	35.9	1000.0	1000.000	115.0	V	63.0	-15.9	38.1	74.0
8039.593750	48.3	1000.0	1000.000	150.0	V	-175.0	-3.5	25.7	74.0
10803.156250	49.0	1000.0	1000.000	124.0	V	-156.0	-2.2	25.0	74.0
14163.843750	50.5	1000.0	1000.000	132.0	V	-45.0	1.6	23.5	74.0
17977.156250	59.0	1000.0	1000.000	107.0	V	130.0	11.7	15.0	74.0

Final Average measurement results:

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBμV/)
1449.437500	22.4	1000.0	1000.000	166.0	V	-93.0	-18.6	31.6	54.0
2379.656250	26.0	1000.0	1000.000	115.0	V	63.0	-15.9	28.0	54.0
8039.593750	37.4	1000.0	1000.000	150.0	V	-175.0	-3.5	16.6	54.0
10803.156250	38.5	1000.0	1000.000	124.0	V	-156.0	-2.2	15.5	54.0
14163.843750	41.1	1000.0	1000.000	132.0	V	-45.0	1.6	12.9	54.0
17977.156250	47.9	1000.0	1000.000	107.0	V	130.0	11.7	6.1	54.0

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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-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	2026-05-20	2027-05-20
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

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End of test report