Prüfbericht-Nr.: *Test Report No.:*	**CN24OPM6 001**	**Auftrags-Nr.:** *Order No.:*	**326066359**	**Seite 1 von 28** *Page 1 of 28*
Kunden-Referenz-Nr.: *Client Reference No.:*	**1288983**	**Auftragsdatum:** *Order date.:*	**2024-12-02**	
Auftraggeber: *Client:*	**IKEA of Sweden AB** Box 702, SE-343 81, Älmhult, Sweden			
Prüfgegenstand: *Test item:*	**Matter Air Quality Sensor**			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	**E2495**			
Auftrags-Inhalt: *Order content:*	**TÜV Rheinland EMC service**			
Prüfgrundlage: *Test specification:*	**FCC 47 CFR Part 15, Subpart B:2023 Class B** **ICES-003:2020**			

Wareneingangsdatum: *Date of receipt:*	**2024-12-20**	Refer to the EUT photos file
Prüfmuster-Nr.: *Test sample No.:*	**A003888552-004~006** **A003923564-001**	
Prüfzeitraum: *Testing period:*	**Refer to test report**	
Ort der Prüfung: *Place of testing:*	**Refer to clause 1.1**	
Prüflaboratorium: *Testing laboratory:*	**TÜV Rheinland (Shanghai) Co., Ltd.**	
Prüfergebnis*: *Test result*:*	**Pass**	

geprüft von: / *tested by:*

Jiuyu Huang

Datum: / *Date:* 2025-03-14

Stellung: / *Position:* Jiuyu Huang/Project engineer

genehmigt von: / *authorized by:*

Jiayi Zhou

Datum: / *Date:* 2025-03-14

Stellung: / *Position:* Jiayi Zhou/Authorizer

Sonstiges / *Other:*	FCC ID: FHO-E2495 IC: 10912A-E2495 Test Firm Name: TUV Rheinland (Shanghai) Co., Ltd. Designation Number: CN1396 Test Firm Registration Number: 930979

Zustand des Prüfgegenstandes bei Anlieferung: **Prüfmuster vollständig und unbeschädigt**
Condition of the test item at delivery: *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

Prüfbericht - Nr.: CN24OPM6 001

Test Report No.:

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. *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.*
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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. *Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report.* *Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.*
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnisen 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 bezueglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. *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.*

Revision history of test report:

Report number	Issue date	Contents and reason for change if appropriate
CN24OPM6 001	2025-03-14	Initial release.

Contents

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.

2 General Product Information

2.1 Product Function and Intended Use

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

2.2 Ratings and System Details

Rated input	:	DC 5 V, 0.3 A (USB-C)
Protection class	:	III

2.3 Independent Operation Modess

The basic operation modes are following:
Mode 1: Continuously working powered by computer.
Mode 2: Continuously working powered by adapter.

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

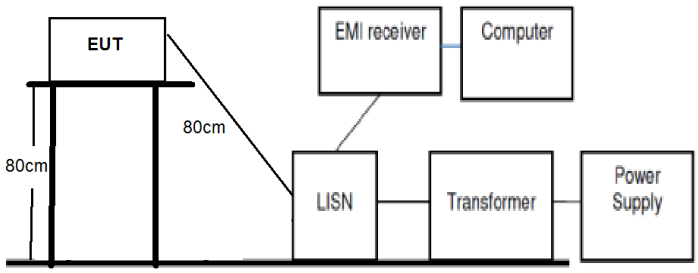
3.1 Principle of Configuration Selection

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.

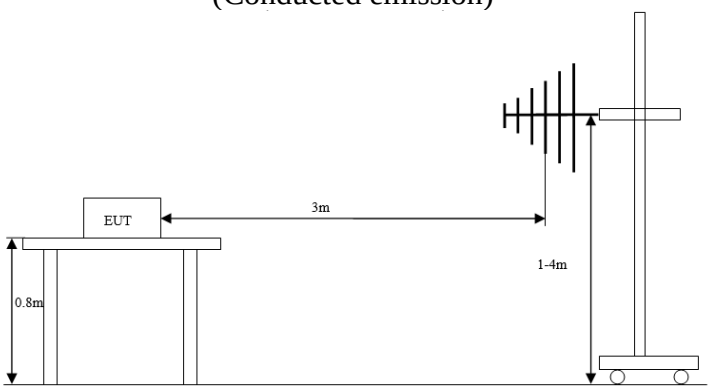
Refer to the related paragraph of this report.
The sequence of testing:
1. Radiated emission tests were performed on 2025-02-08.
2. Conducted emission tests were performed on 2025-02-22.

3.2 Equipment and cable arrangement

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



(Conducted emission)



(Radiated emission)

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	Laptop	T450	lenovo
2	Mobile phone	iPhone 15	Apple
3	Charger	ICPSW5-5NA-1	IKEA

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 E M I S S I O N

5.1 Emission in the Frequency Range up to 30 MHz

5.1.1 Mains Terminal Continuous Disturbance Voltage

Result:	**Passed**

Date of testing	:	2025-02-22
Test procedure	:	FCC 47 CFR Part 15, Subpart B:2023, 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 dBµV (decrease with the logarithm of frequency); 0.5 - 5 MHz, 56 dBµV; 5 - 30 MHz, 60 dBµV Average limit: 0.15 - 0.5 MHz, 56 to 46 dBµV (decrease with the logarithm of frequency); 0.5 – 5 MHz, 46 dBµV; 5 – 30 MHz, 50 dBµV
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 as defined in clause 2.3
Ambient condition	:	Temperature: 21.5 °C; Relative humidity: 48.0 %
Expanded measurement uncertainty (k=2)	:	2.33 dB

The measurement setup was made according to ANSI C63.4-2014 in a shielded room.

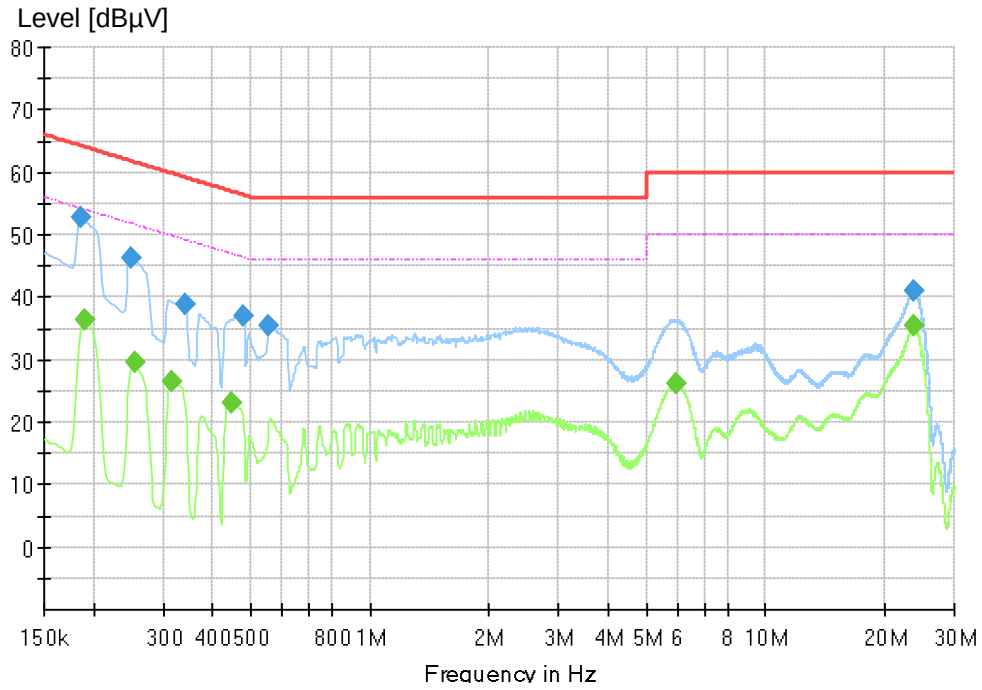
The measurement equipment like test rece1ivers, quasi-peak detector and artificial mains network (AMN) are in compliance with CISPR 16-1 series standards.
The tested object was set-up on a wooden support. The EUT was set 0.8 m away from the AMN. The cord longer than necessary to be connected to the AMN was folded forth and back parallel so as to form a bundle with a length between 0.3 m and 0.4 m.
The disturbance voltage test was performed on the neutral line and phase line of the power supply of the EUT respectively.

The following figures and tables were those measured by an automatic measuring system. Both quasi-peak and average measurements were performed. In the following spectral diagram, "◆" mean Quasi-Peak Value and "◆" mean 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)

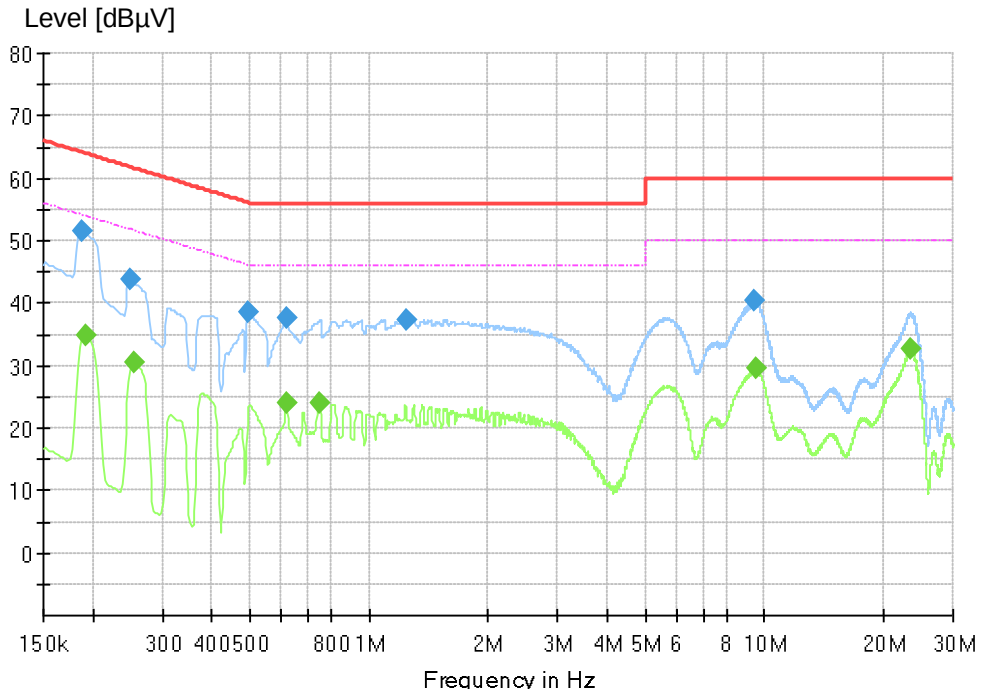
Figure 1: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L line, mode 1



Final measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.186000	52.87	---	64.21	11.35	1000.0	9.000	L1	10.3
0.249000	46.29	---	61.79	15.50	1000.0	9.000	L1	10.3
0.341250	38.74	---	59.17	20.43	1000.0	9.000	L1	10.3
0.478500	37.16	---	56.37	19.20	1000.0	9.000	L1	10.3
0.555000	35.59	---	56.00	20.41	1000.0	9.000	L1	10.3
23.745750	41.06	---	60.00	18.94	1000.0	9.000	L1	11.1
0.190500	---	36.43	54.02	17.59	1000.0	9.000	L1	10.3
0.253500	---	29.48	51.64	22.16	1000.0	9.000	L1	10.3
0.316500	---	26.59	49.80	23.21	1000.0	9.000	L1	10.3
0.444750	---	23.02	46.97	23.95	1000.0	9.000	L1	10.3
5.964000	---	26.32	50.00	23.68	1000.0	9.000	L1	10.6
23.743500	---	35.49	50.00	14.51	1000.0	9.000	L1	11.1

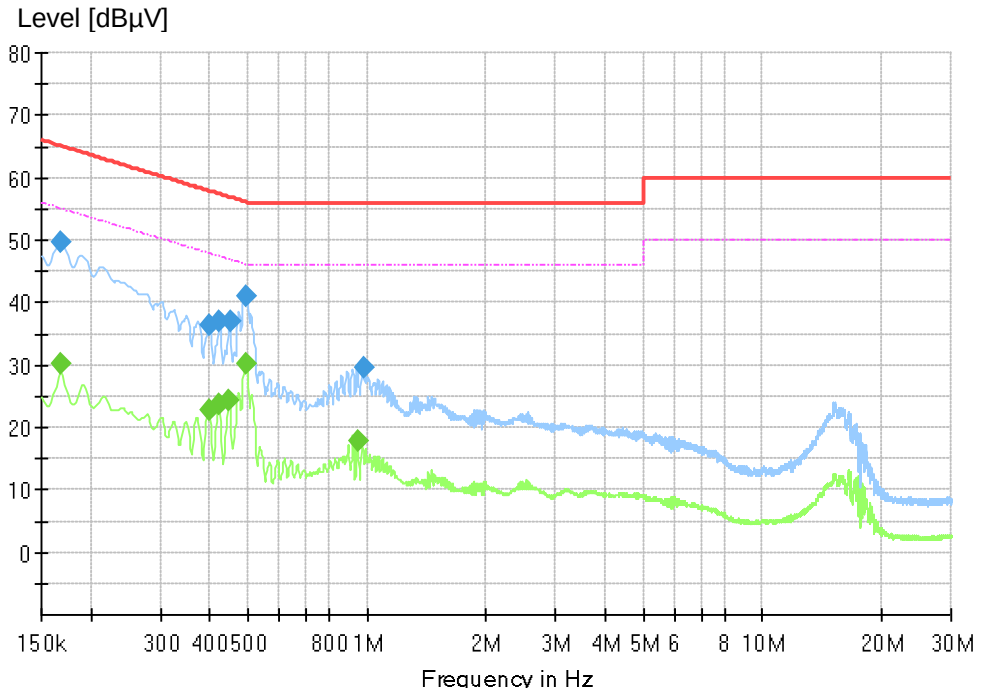
Figure 2: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, N line, mode 1



Final measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.188250	51.64	---	64.11	12.48	1000.0	9.000	N	10.7
0.249000	43.88	---	61.79	17.91	1000.0	9.000	N	10.7
0.494250	38.45	---	56.10	17.65	1000.0	9.000	N	10.2
0.615750	37.55	---	56.00	18.45	1000.0	9.000	N	10.3
1.236750	37.27	---	56.00	18.73	1000.0	9.000	N	10.4
9.408750	40.33	---	60.00	19.67	1000.0	9.000	N	11.0
0.192750	---	34.73	53.92	19.19	1000.0	9.000	N	10.7
0.253500	---	30.51	51.64	21.13	1000.0	9.000	N	10.6
0.615750	---	23.98	46.00	22.02	1000.0	9.000	N	10.3
0.748500	---	24.08	46.00	21.92	1000.0	9.000	N	10.4
9.550500	---	29.62	50.00	20.38	1000.0	9.000	N	11.0
23.466750	---	32.60	50.00	17.40	1000.0	9.000	N	11.4

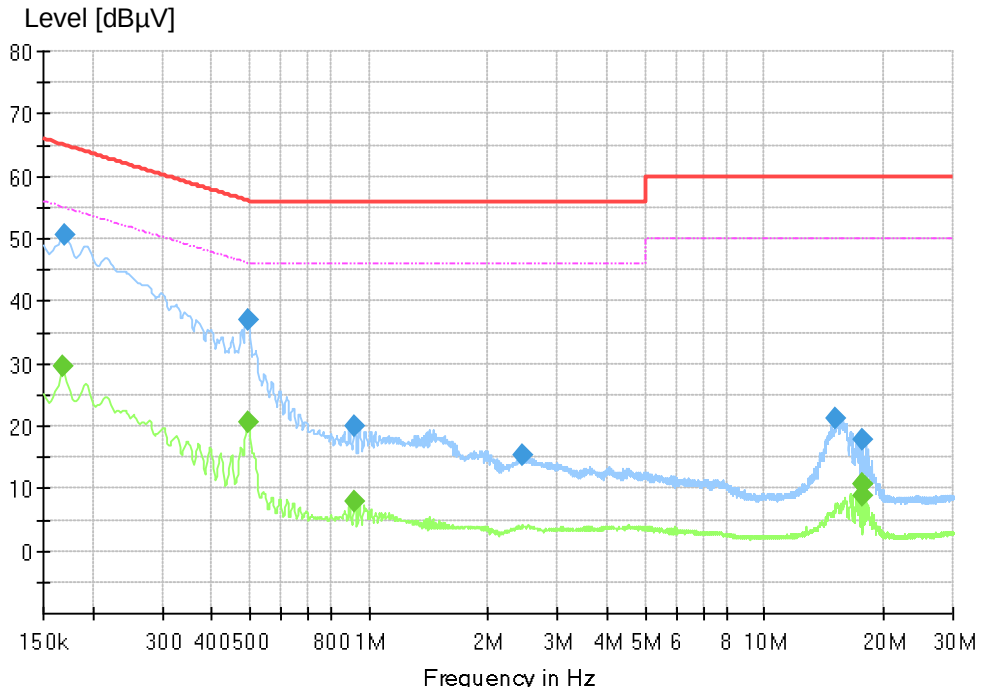
Figure 3: Spectral Diagrams, Conducted Emission, 150 kHz – 30 MHz, L line, mode 2



Final measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.168000	49.60	---	65.06	15.46	1000.0	9.000	L1	10.3
0.397500	36.50	---	57.91	21.41	1000.0	9.000	L1	10.3
0.424500	36.87	---	57.36	20.49	1000.0	9.000	L1	10.3
0.449250	37.16	---	56.89	19.73	1000.0	9.000	L1	10.3
0.492000	41.06	---	56.13	15.08	1000.0	9.000	L1	10.3
0.978000	29.53	---	56.00	26.47	1000.0	9.000	L1	10.7
0.168000	---	30.12	55.06	24.94	1000.0	9.000	L1	10.3
0.397500	---	22.81	47.91	25.09	1000.0	9.000	L1	10.3
0.422250	---	23.66	47.40	23.74	1000.0	9.000	L1	10.3
0.447000	---	24.25	46.93	22.68	1000.0	9.000	L1	10.3
0.494250	---	30.15	46.10	15.94	1000.0	9.000	L1	10.3
0.946500	---	17.85	46.00	28.15	1000.0	9.000	L1	10.7

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



Final measurement result:

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.170250	50.68	---	64.95	14.27	1000.0	9.000	N	10.5
0.492000	36.93	---	56.13	19.21	1000.0	9.000	N	10.2
0.917250	19.96	---	56.00	36.04	1000.0	9.000	N	10.4
2.445000	15.24	---	56.00	40.76	1000.0	9.000	N	10.6
15.189000	21.31	---	60.00	38.69	1000.0	9.000	N	11.1
17.679750	17.94	---	60.00	42.06	1000.0	9.000	N	11.2
0.168000	---	29.52	55.06	25.54	1000.0	9.000	N	10.4
0.494250	---	20.52	46.10	25.58	1000.0	9.000	N	10.2
0.919500	---	7.86	46.00	38.14	1000.0	9.000	N	10.4
17.632500	---	9.01	50.00	40.99	1000.0	9.000	N	11.2
17.655000	---	10.80	50.00	39.20	1000.0	9.000	N	11.2
17.679750	---	10.87	50.00	39.13	1000.0	9.000	N	11.2

5.2 Emission in the Frequency Range above 30 MHz

5.2.1 Radiated emission （30 MHz - 1 GHz）

Result:	**Passed**

Date of testing	:	2025-02-08
Test procedure	:	FCC 47 CFR Part 15, Subpart B:2023, 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 dBµV/m; 88 – 216 MHz, 43.5 dBµV/m; 216 – 1000 MHz, 46 dBµV/m
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	:	AC 120 V; 60 Hz
Ambient condition	:	Temperature: 20.5 °C; Relative humidity: 45.0 %
Expanded measurement uncertainty (k=2)	:	5.40 dB

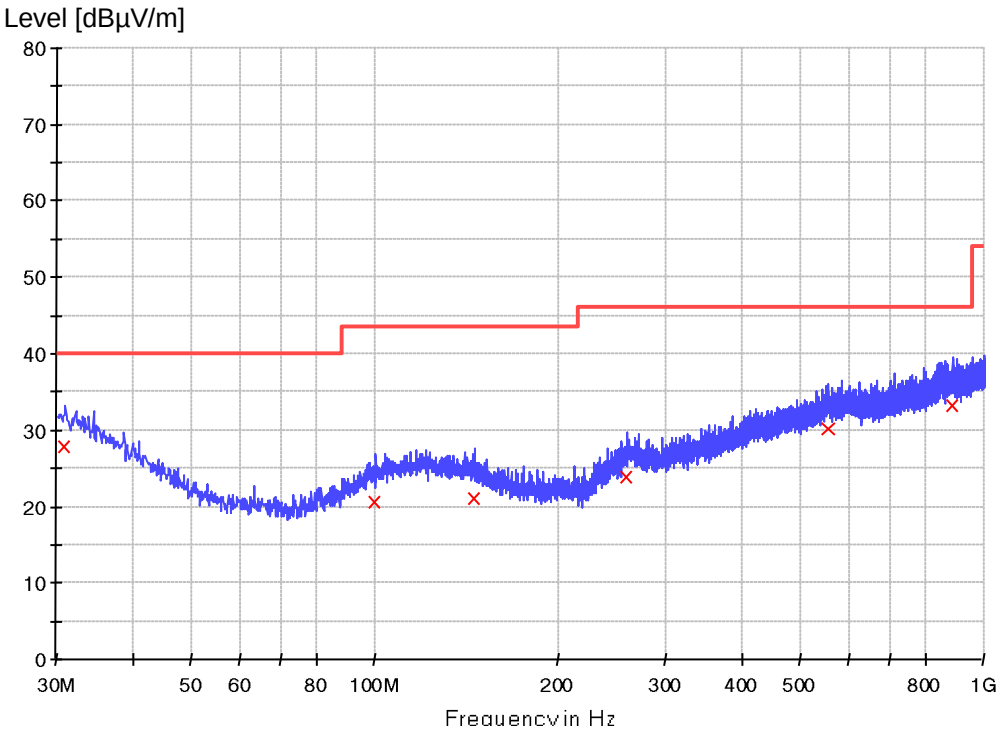
The radiated disturbance test was carried out in a semi-anechoic chamber. The test distance from the receiving antenna to the EUT is 3 m. The normalized site attenuation of the semi-anechoic chamber is regularly calibrated to ensure the radiated disturbance test results are valid. During the test, the 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. A preview test was firstly performed with peak detector. The final test was performed with quasi-peak at those critical frequencies during the preview test. In the following spectral diagram, "×" means quasi-peak test results.

Notes on following tables of radiated emission results and conversions:

QuasiPeak (dBµV/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 (dBµV/m) - QuasiPeak (dBµV/m)

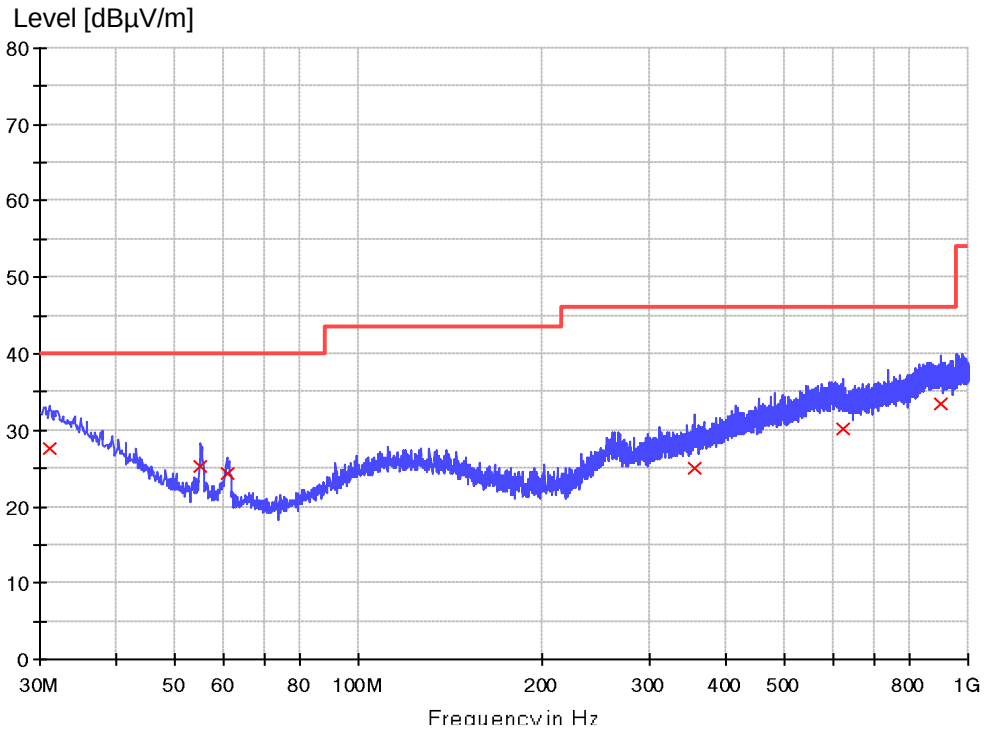
Figure 5: Spectral Diagrams and measurement results, 30 MHz - 1 GHz, horizontal polarization, mode 1



Final Quasi-peak measurement result:

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)
30.970000	27.8	1000.0	120.000	200.0	H	-56.0	24.4	12.2	40.0
100.203750	20.7	1000.0	120.000	170.0	H	-78.0	17.6	22.9	43.5
145.430000	21.0	1000.0	120.000	100.0	H	-49.0	17.8	22.5	43.5
259.647500	23.9	1000.0	120.000	180.0	H	-15.0	20.7	22.1	46.0
552.708750	30.3	1000.0	120.000	200.0	H	-147.0	26.7	15.7	46.0
889.783750	33.3	1000.0	120.000	190.0	H	45.0	28.7	12.7	46.0

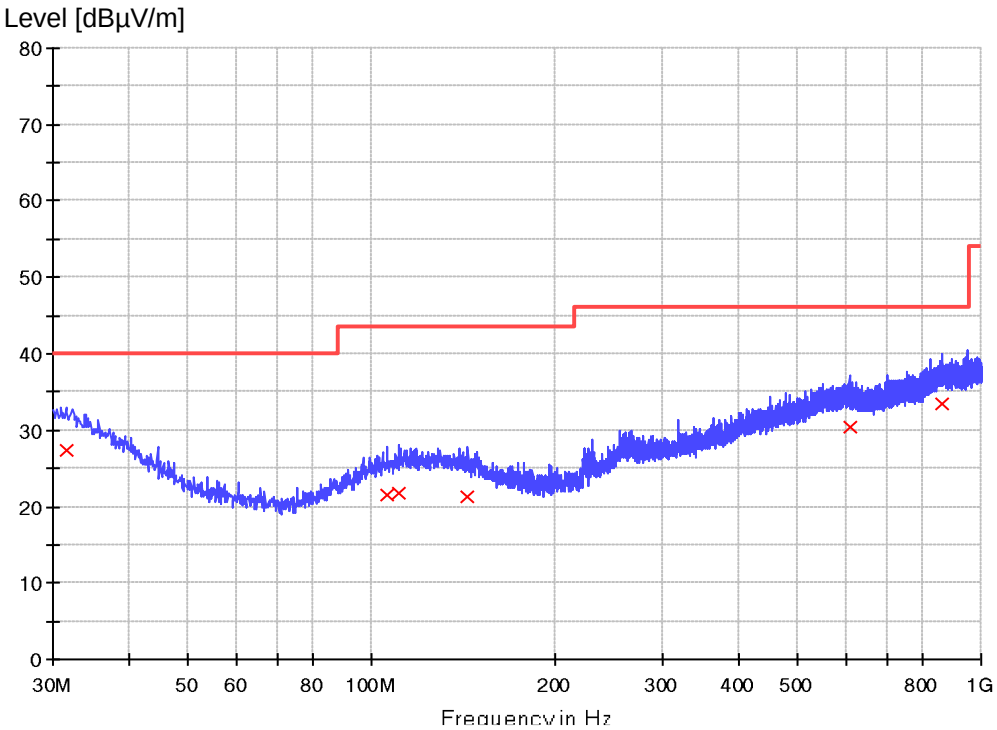
Figure 6: Spectral Diagrams and measurement results, 30 MHz - 1 GHz, vertical polarization, mode 1



Final Quasi-peak measurement result:

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)
31.091250	27.7	1000.0	120.000	120.0	V	55.0	24.3	12.3	40.0
55.098750	25.2	1000.0	120.000	110.0	V	76.0	13.7	14.8	40.0
60.797500	24.2	1000.0	120.000	100.0	V	23.0	12.9	15.8	40.0
355.556250	25.0	1000.0	120.000	200.0	V	-51.0	21.8	21.0	46.0
624.973750	30.3	1000.0	120.000	130.0	V	-148.0	26.7	15.8	46.0
902.515000	33.4	1000.0	120.000	130.0	V	12.0	28.9	12.6	46.0

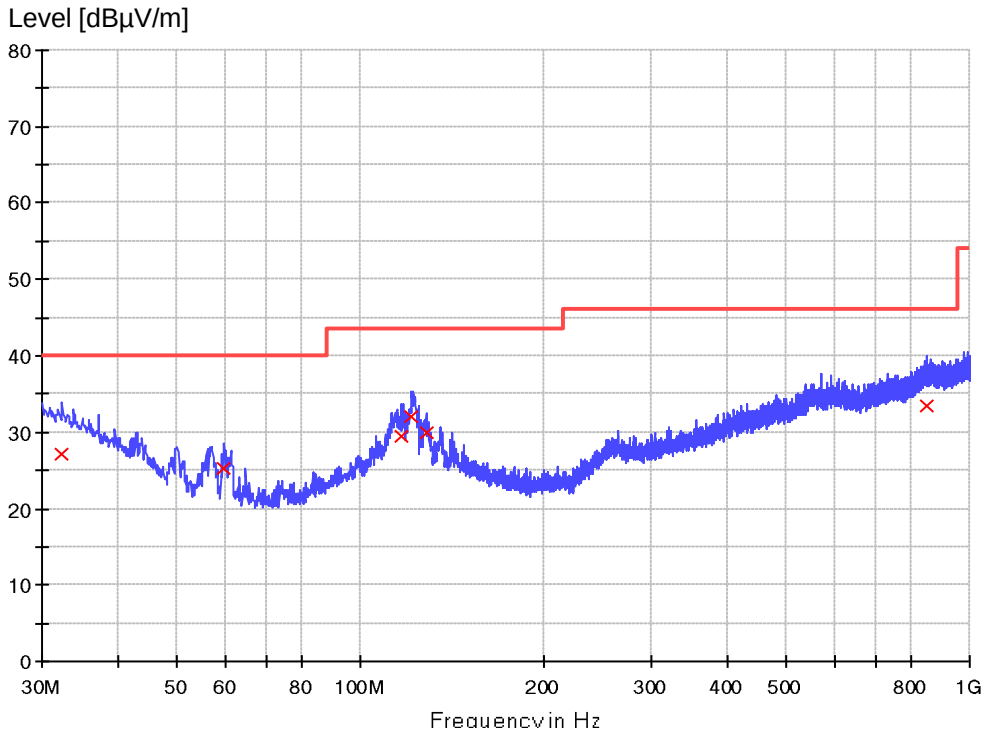
Figure 7: Spectral Diagrams and measurement results, 30 MHz - 1 GHz, horizontal polarization, mode 2



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)
31.576250	27.4	120.000	200.0	H	-55.0	24.1	12.6	40.0
105.902500	21.5	120.000	180.0	H	-36.0	18.4	22.1	43.5
110.873750	21.7	120.000	190.0	H	145.0	18.7	21.8	43.5
143.975000	21.3	120.000	200.0	H	112.0	17.9	22.2	43.5
607.635000	30.5	120.000	100.0	H	178.0	27.0	15.5	46.0
860.198750	33.4	120.000	170.0	H	-5.0	28.9	12.6	46.0

Figure 8: Spectral Diagrams and measurement results, 30 MHz - 1 GHz, vertical polarization, mode 2



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)
32.303750	27.1	120.000	110.0	V	23.0	23.7	12.9	40.0
59.706250	25.4	120.000	120.0	V	112.0	13.0	14.6	40.0
116.815000	29.6	120.000	110.0	V	114.0	18.9	14.0	43.5
121.180000	32.0	120.000	100.0	V	156.0	18.8	11.5	43.5
128.212500	29.9	120.000	120.0	V	171.0	18.7	13.6	43.5
852.802500	33.4	120.000	110.0	V	154.0	29.0	12.6	46.0

5.2.2 Radiated emission (Above 1 GHz)

Result:	**Passed**

Date of testing	:	2025-02-08
Port	:	Enclosure
Test procedure	:	FCC 47 CFR Part 15, Subpart B:2023, ANSI C63.4-2014 and CISPR 16-2-3 ICES-003:2020
Limit	:	Above 1 GHz, Peak limit: 74 dBµV/m; Average limit: 54 dBµV/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	:	AC 120 V; 60 Hz
Earthing	:	No earthing
Ambient condition	:	Temperature: 20.5 °C; Relative humidity: 45.0 %

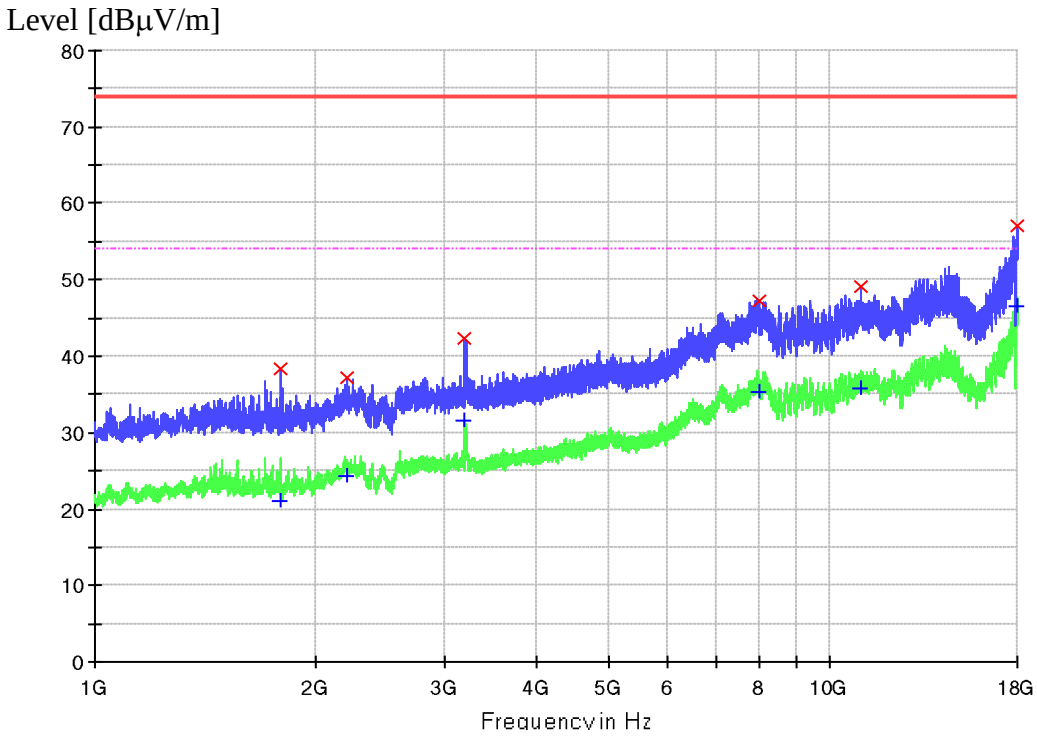
The radiated disturbance test was carried out in a semi-anechoic chamber. The test distance from the receiving antenna to the EUT is 3 m. The normalized site attenuation of the semi-anechoic chamber is regularly calibrated to ensure the radiated disturbance test results are valid. During the test, the 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, "× (red)" means measurement results with peak detector and "+ (blue)" means measurement results with average detector.

Notes on following tables of radiated emission results and conversions:

Peak (dBµV/m): final measurement results by using peak detector
Average (dBµV/m): final measurement results by using average detector
Corr. (dB): correction factor including: antenna factor, cable loss, and gain of pre-amplifier (if used)
Margin: Limit PK (dBµV/m) - Peak (dBµV/m)
Limit CAV (dBµV/m) – Average (dBµV/m

Figure 9: Spectral Diagrams and measurement results, 1-18 GHz, horizontal polarization, mode 1



Final Peak measurement results:

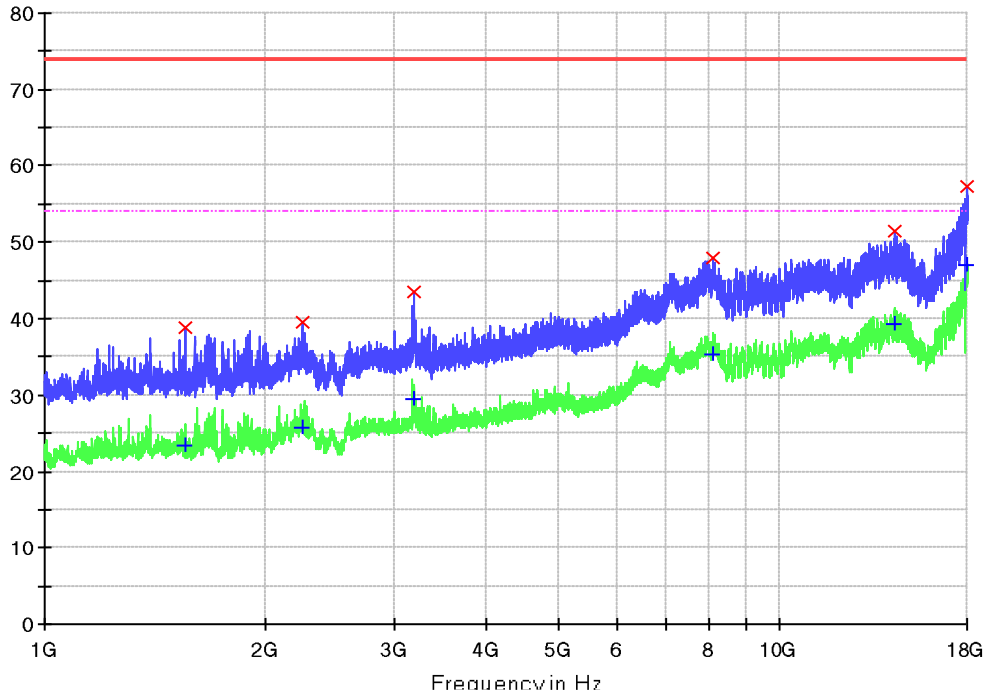
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
1793.156250	38.3	1000.0	1000.000	200.0	H	123.0	-18.8	35.7	74.0
2202.218750	37.1	1000.0	1000.000	100.0	H	65.0	-15.8	36.9	74.0
3185.562500	42.3	1000.0	1000.000	100.0	H	66.0	-14.7	31.7	74.0
7996.562500	47.2	1000.0	1000.000	200.0	H	-89.0	-3.5	26.8	74.0
11029.468750	49.0	1000.0	1000.000	200.0	H	-78.0	-2.3	25.0	74.0
17961.218750	57.1	1000.0	1000.000	100.0	H	-97.0	11.7	16.9	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/m)
1793.156250	21.0	1000.0	1000.000	200.0	H	123.0	-18.8	33.0	54.0
2202.218750	24.3	1000.0	1000.000	100.0	H	65.0	-15.8	29.8	54.0
3185.562500	31.6	1000.0	1000.000	100.0	H	66.0	-14.7	22.4	54.0
7996.562500	35.3	1000.0	1000.000	200.0	H	-89.0	-3.5	18.7	54.0
11029.468750	35.7	1000.0	1000.000	200.0	H	-78.0	-2.3	18.3	54.0
17961.218750	46.5	1000.0	1000.000	100.0	H	-97.0	11.7	7.5	54.0

Figure 10: Spectral Diagrams and measurement results, 1-18 GHz, vertical polarization, mode 1

Level [dBµV/m]



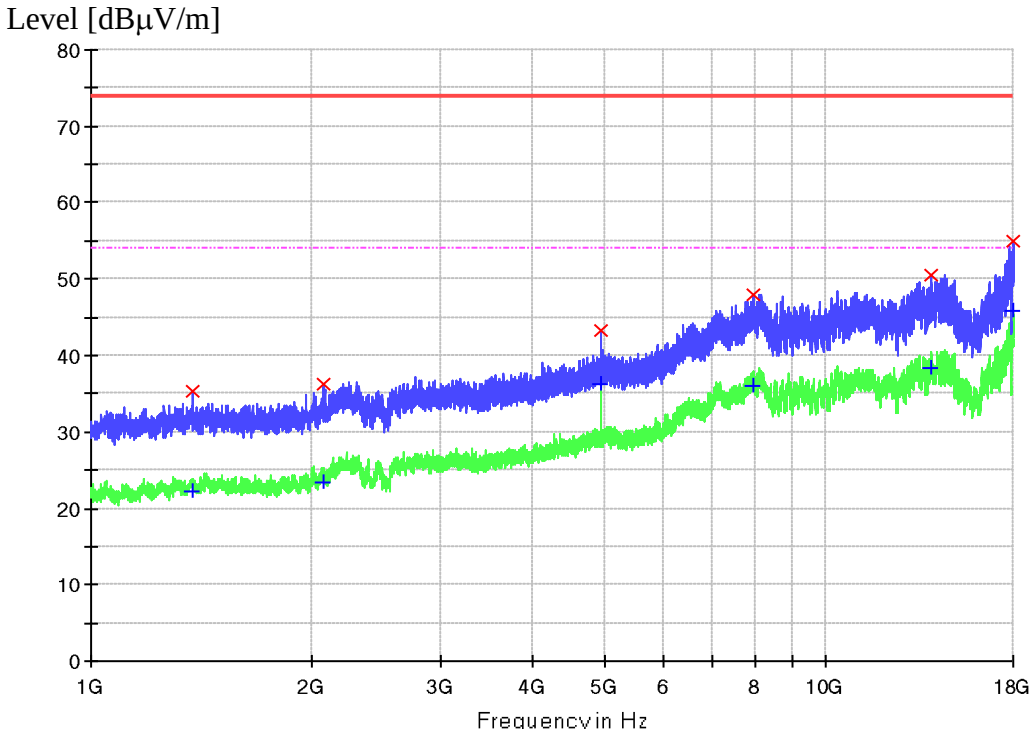
Final Peak measurement results:

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
1551.968750	38.9	1000.0	1000.000	200.0	V	78.0	-18.9	35.1	74.0
2238.343750	39.5	1000.0	1000.000	200.0	V	123.0	-15.6	34.5	74.0
3181.843750	43.6	1000.0	1000.000	150.0	V	-124.0	-14.7	30.4	74.0
8133.093750	48.1	1000.0	1000.000	150.0	V	-176.0	-4.3	25.9	74.0
14363.593750	51.4	1000.0	1000.000	150.0	V	-23.0	2.3	22.6	74.0
17977.156250	57.2	1000.0	1000.000	100.0	V	77.0	12.0	16.8	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/m)
1551.968750	23.4	1000.0	1000.000	200.0	V	78.0	-18.9	30.6	54.0
2238.343750	25.6	1000.0	1000.000	200.0	V	123.0	-15.6	28.4	54.0
3181.843750	29.5	1000.0	1000.000	150.0	V	-124.0	-14.7	24.5	54.0
8133.093750	35.3	1000.0	1000.000	150.0	V	-176.0	-4.3	18.7	54.0
14363.593750	39.4	1000.0	1000.000	150.0	V	-23.0	2.3	14.6	54.0
17977.156250	47.0	1000.0	1000.000	100.0	V	77.0	12.0	7.1	54.0

Figure 11: Spectral Diagrams and measurement results, 1-18 GHz, horizontal polarization, mode 2



Final Peak measurement results:

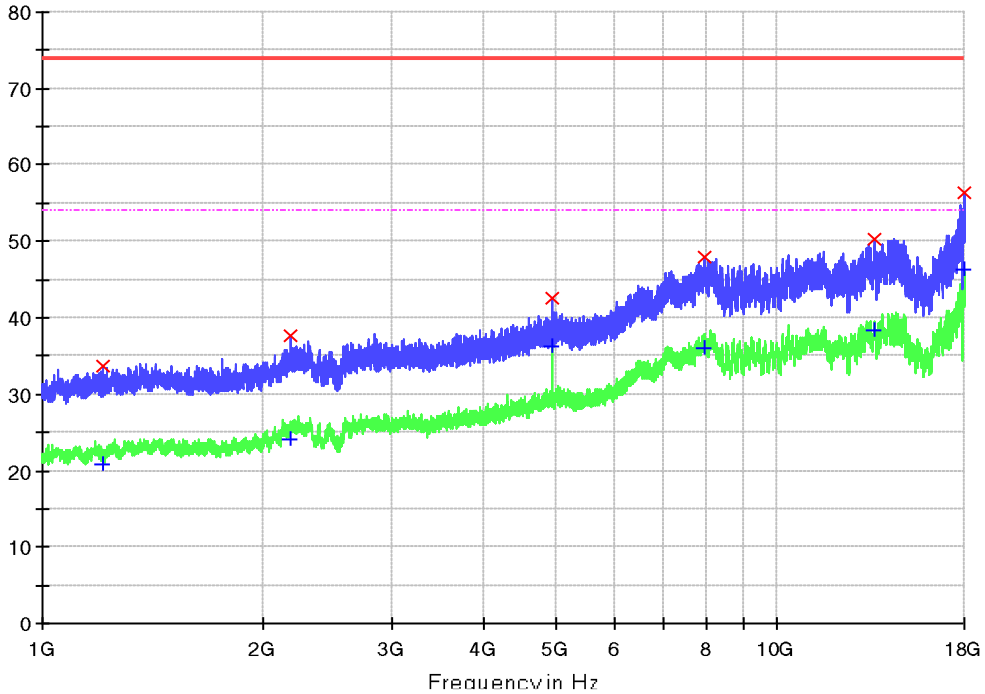
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
1375.062500	35.2	1000.0	1000.000	100.0	H	-48.0	-18.7	38.8	74.0
2067.812500	36.3	1000.0	1000.000	200.0	H	25.0	-17.2	37.7	74.0
4952.500000	43.4	1000.0	1000.000	150.0	H	115.0	-11.2	30.6	74.0
7953.000000	48.0	1000.0	1000.000	150.0	H	89.0	-3.7	26.0	74.0
13887.062500	50.5	1000.0	1000.000	200.0	H	147.0	0.5	23.5	74.0
17979.812500	54.9	1000.0	1000.000	200.0	H	-8.0	12.0	19.1	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/m)
1375.062500	22.2	1000.0	1000.000	100.0	H	-48.0	-18.7	31.8	54.0
2067.812500	23.5	1000.0	1000.000	200.0	H	25.0	-17.2	30.5	54.0
4952.500000	36.3	1000.0	1000.000	150.0	H	115.0	-11.2	17.7	54.0
7953.000000	36.0	1000.0	1000.000	150.0	H	89.0	-3.7	18.0	54.0
13887.062500	38.5	1000.0	1000.000	200.0	H	147.0	0.5	15.5	54.0
17979.812500	46.0	1000.0	1000.000	200.0	H	-8.0	12.0	8.1	54.0

Figure 12: Spectral Diagrams and measurement results, 1-18 GHz, vertical polarization, mode 2

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/m)
1208.250000	33.8	1000.0	1000.000	200.0	V	145.0	-19.7	40.2	74.0
2171.406250	37.7	1000.0	1000.000	150.0	V	171.0	-16.0	36.3	74.0
4952.500000	42.7	1000.0	1000.000	200.0	V	112.0	-11.2	31.3	74.0
7977.437500	48.0	1000.0	1000.000	150.0	V	25.0	-3.6	26.0	74.0
13601.781250	50.2	1000.0	1000.000	20.0	V	36.0	0.4	23.8	74.0
17970.781250	56.4	1000.0	1000.000	150.0	V	25.0	11.9	17.6	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/m)
1208.250000	20.8	1000.0	1000.000	200.0	V	145.0	-19.7	33.2	54.0
2171.406250	24.2	1000.0	1000.000	150.0	V	171.0	-16.0	29.8	54.0
4952.500000	36.2	1000.0	1000.000	200.0	V	112.0	-11.2	17.8	54.0
7977.437500	35.9	1000.0	1000.000	150.0	V	25.0	-3.6	18.1	54.0
13601.781250	38.5	1000.0	1000.000	20.0	V	36.0	0.4	15.6	54.0
17970.781250	46.3	1000.0	1000.000	150.0	V	25.0	11.9	7.7	54.0

6 List of Test and Measurement Instruments

Equip.	Description	Model	Manufacturer	Last Date DD.MM.YYYY	Due Date DD.MM.YYYY
G1811378	3m semi-anechoic chamber	SAC3	Frankonia	03.12.2023	03.12.2026
G1811391	EMI test receiver	ESCI	Rohde&Schwarz	17.10.2024	17.10.2025
G1811425	Bilog antenna	CBL 6112D	Teseq	20.04.2023	20.04.2026
9062745	EMI measurement software	EMC32-MEB (10.60.20)	Rohde&Schwarz	NA*	NA*
G1822702	Spectrum analyser	FSV40	Rohde&Schwarz	15.07.2024	15.07.2025
G1825371	Preamplifier	EMC051845SE	Taiwan EMCI	24.07.2024	24.07.2025
G1822694	Double ridged broadband horn antenna	BBHA 9120 D	Schwarzbeck	24.03.2021	24.03.2026
9061503	Shielded enclosure	10.055x3.605x3.000	Frankonia	08.11.2023	08.11.2028
9023229	EMI test receiver	ESR3	Rohde&Schwarz	03.08.2024	03.08.2025
G1824248	Dual display multimeter	F45	Fluke	28.06.2024	28.06.2025
9062744	EMI measurement software	EMC32-E+ (10.60.20)	Rohde&Schwarz	NA*	NA*
G1830003	Artificial mains network	ENV432	Rohde&Schwarz	11.10.2024	11.10.2025

7 List of Figures

End of test report