



Certificate #4301.01

Prüfbericht-Nr.: Test Report No.:	CN21E7KM 001	Auftrags-Nr.: Order No.:	244351032	Seite 1 von 30 Page 1 of 30
Kunden-Referenz-Nr.: Client Reference No.:	1774198	Auftragsdatum: Order date.:	2021-08-03	
Auftraggeber: Client:	IKEA of Sweden AB Box 702, SE-343 81 Älmhult, Sweden			
Prüfgegenstand: Test item:	SYMFONISK Charging Shelf			
Bezeichnung / Typ-Nr.: Identification / Type No.:	E2122			
Auftrags-Inhalt: Order content:	TÜV Rheinland EMC service			
Prüfgrundlage: Test specification:	FCC 47 CFR Part 15, Subpart B:2020 Class B ICES-003:2020			
Wareneingangsdatum: Date of receipt:	2021-08-06	Refer to the EUT photos file		
Prüfmuster-Nr.: Test sample No.:	A003102223-001			
Prüfzeitraum: Testing period:	Refer to the 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: Jessie Xu		genehmigt von: / authorized by: Hexiong Liu		
Datum: / Date: 2022-03-15 <i>Jessie Xu</i>		Datum: / Date: 2022-03-15 <i>Hexiong Liu</i>		
Stellung: / Position: Project manager		Stellung: / Position: Department manager		
Sonstiges / Other:	FCC ID: FHO-E2122 Test Firm Registration Number: 958801			
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 a. m. 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>				

V05

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TEST SUMMARY

5.1.1 CONDUCTED EMISSION

Result:

Passed

5.2.1 RADIATED EMISSION (30-1000 MHz)

Result:

Passed

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1 Test Sites

1.1 Test Facilities

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

Address: No.177, 178, Lane 777 West Guangzhong Road, Jing'an District, Shanghai, 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 charging shelf for household and similar use. For the further information, refer to the user's manual.

2.2 Ratings and System Details

Rated input	: AC 100-240 V, 50/60 Hz, Max 2.5 A
AC output	: AC 100-240 V, 50/60 Hz, 1 A
Type C output	: DC 5.0 V=3 A 15.0 W; DC 9.0 V=2 A 18.0 W DC 12.0 V=1.5 A 18.0 W; DC 15.0 V=1.2 A 18.0 W
qi Wireless output	: 5 W
Protecting class	: II

2.3 Independent Operation Modes

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

2.4 Description of interconnecting cables

No.	Interface and name	Shielded or not	Specified length
1	AC power line	Unshielded	27 cm

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 less than 108 MHz.

2.7 Submitted Documents

Rating labels, circuit diagram and user's manual.

3 Test Set-up and Operation Modes

3.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible emission level. The test conditions were adapted accordingly in reference to the instructions for use.

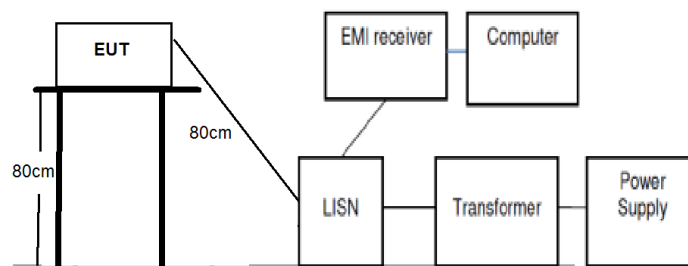
Refer to the related paragraph of this report.

The sequence of testing:

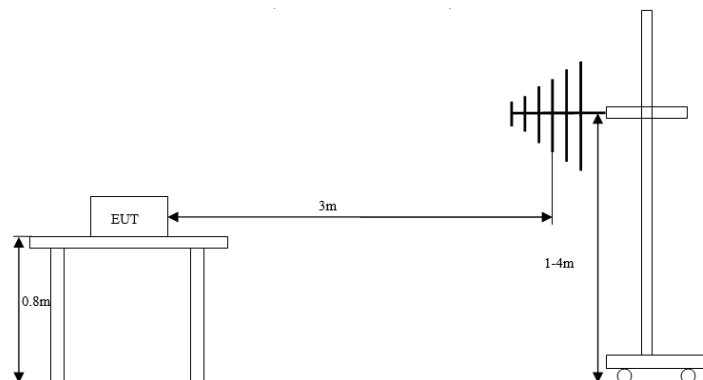
1. Conducted emission tests were performed on 2021-08-16
2. Radiated emission tests were performed on 2021-08-16

3.2 Equipment and cable arrangement

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



(Conducted emission)



(Radiated emission)

Also refer to photographs on clause 6 for test setups for conducted emission and radiated emission tests.

3.3 Test Software

No special test software was used during the tests.

3.4 Special Accessories and Auxiliary Equipment

During the tests, the resistive load was connected with the USB port of EUT, and the multimeter was used to monitor the DC output. The speaker was connected with the AC output as load.

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	: 2021-08-16	
Test procedure	: FCC 47 CFR Part 15, Subpart B:2020, ICES-003:2020, ANSI C63.4-2014 and CISPR 16-1 series standards	
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: Power on and USB port connected with DC 5 V, 3 A resistive load. Mode 2: Power on and USB port connected with DC 9 V, 2 A resistive load. Mode 3: Power on and USB port connected with DC 12 V, 1.5 A resistive load. Mode 4: Power on and USB port connected with DC 15 V, 1.2 A resistive load.	
Ambient condition	: Temperature: 21.1 °C; Relative humidity: 48.5 %	
Expanded measurement uncertainty ($k=2$)	: 3.39 dB	

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.

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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, “♦” and “*” means Quasi-Peak Value and “♦” and “*” means Average Value results.

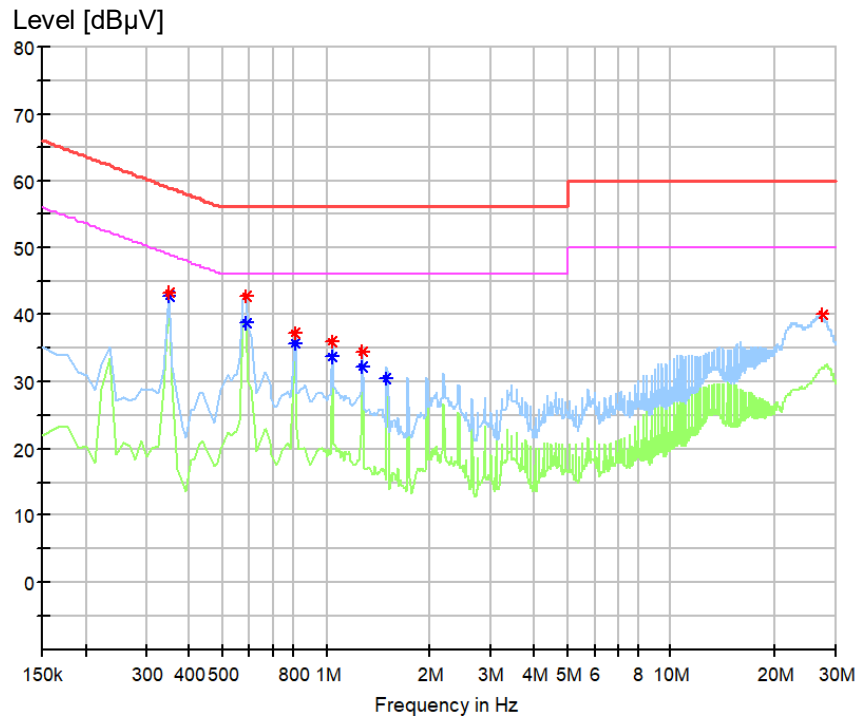
Notes on following tables of conducted emission results and conversions:

Level (dBμV): final measurement results by using quasi-peak detector and average detector

Transd (dB): transducer factor including cable loss, insertion loss of artificial mains network and gain of pre-amplifier (if used)

Margin: Limit (dBμV) - Level (dBμV)

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



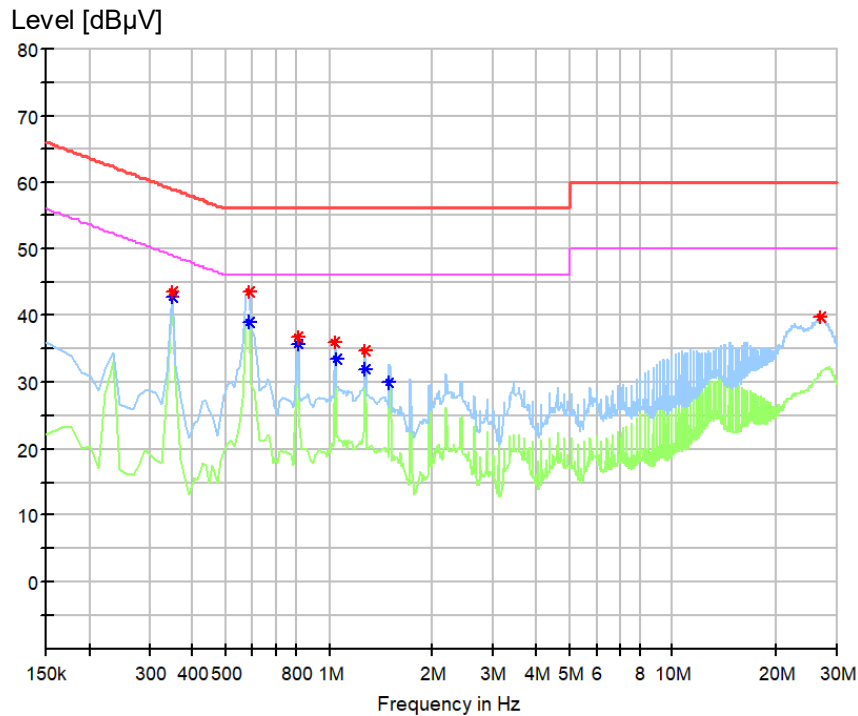
Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	43.32	59.04	15.71	L1
0.583125	42.74	56.00	13.26	L1
0.808125	37.14	56.00	18.86	L1
1.033125	35.99	56.00	20.01	L1
1.269375	34.37	56.00	21.63	L1
27.279375	40.03	60.00	19.97	L1

Final Average measurement result:

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	42.79	49.04	6.24	L1
0.583125	38.66	46.00	7.34	L1
0.808125	35.83	46.00	10.17	L1
1.033125	33.73	46.00	12.27	L1
1.269375	32.17	46.00	13.83	L1
1.494375	30.47	46.00	15.53	L1

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



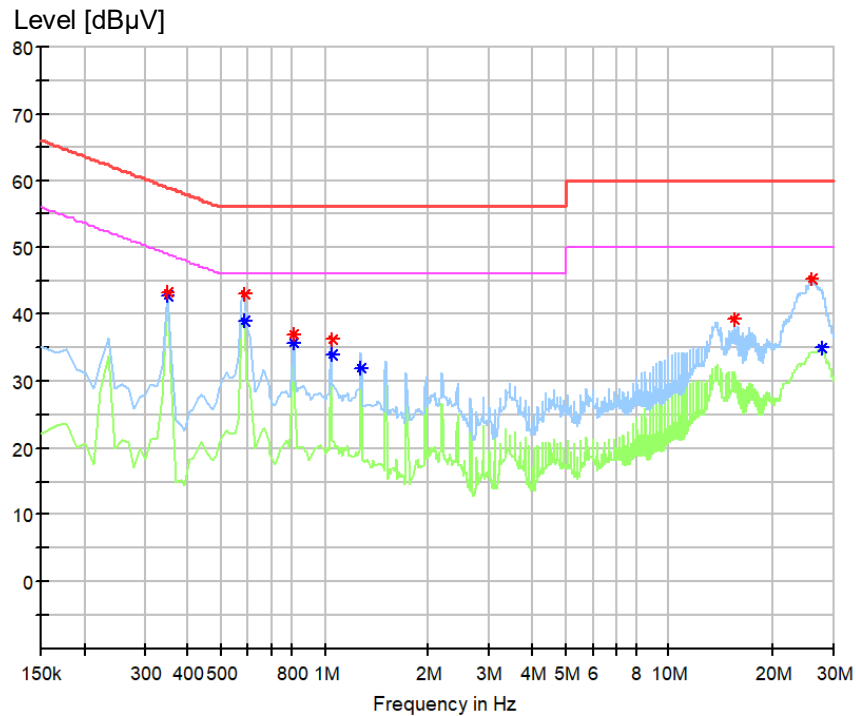
Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line
0.346875	43.43	59.04	15.61	N
0.583125	43.58	56.00	12.42	N
0.808125	36.84	56.00	19.16	N
1.033125	35.94	56.00	20.06	N
1.269375	34.68	56.00	21.32	N
26.863125	39.84	60.00	20.16	N

Final Average measurement result:

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line
0.346875	43.43	59.04	15.61	N
0.583125	43.58	56.00	12.42	N
0.808125	36.84	56.00	19.16	N
1.033125	35.94	56.00	20.06	N
1.269375	34.68	56.00	21.32	N
26.863125	39.84	60.00	20.16	N

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



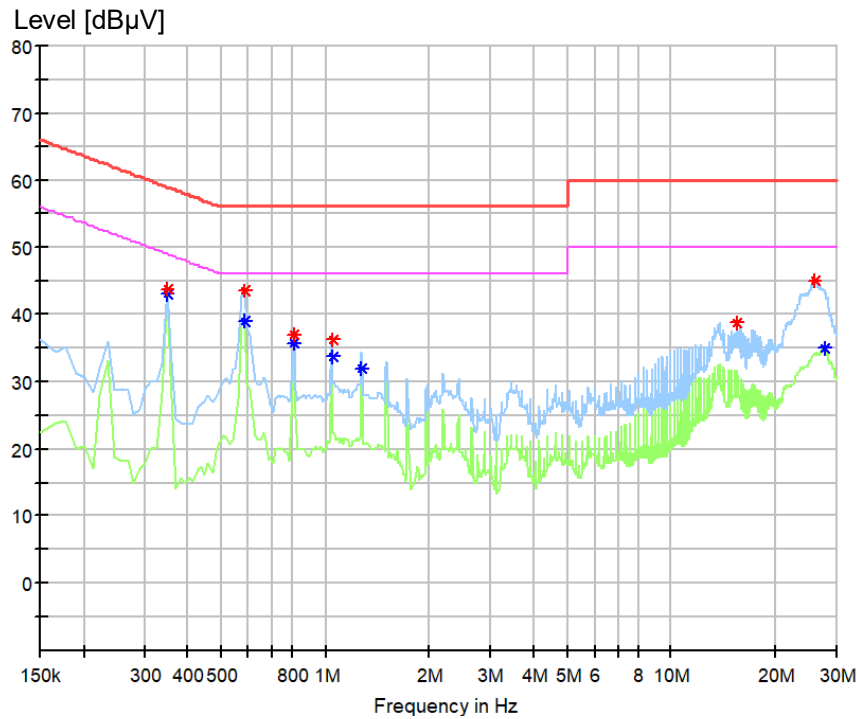
Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	43.41	59.04	15.62	L1
0.583125	42.97	56.00	13.03	L1
0.808125	37.01	56.00	18.99	L1
1.044375	36.26	56.00	19.74	L1
15.466875	39.39	60.00	20.61	L1
25.861875	45.27	60.00	14.73	L1

Final Average measurement result:

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	42.76	49.04	6.28	L1
0.583125	38.96	46.00	7.04	L1
0.808125	35.66	46.00	10.34	L1
1.044375	33.98	46.00	12.02	L1
1.269375	31.93	46.00	14.07	L1
27.583125	34.98	50.00	15.02	L1

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



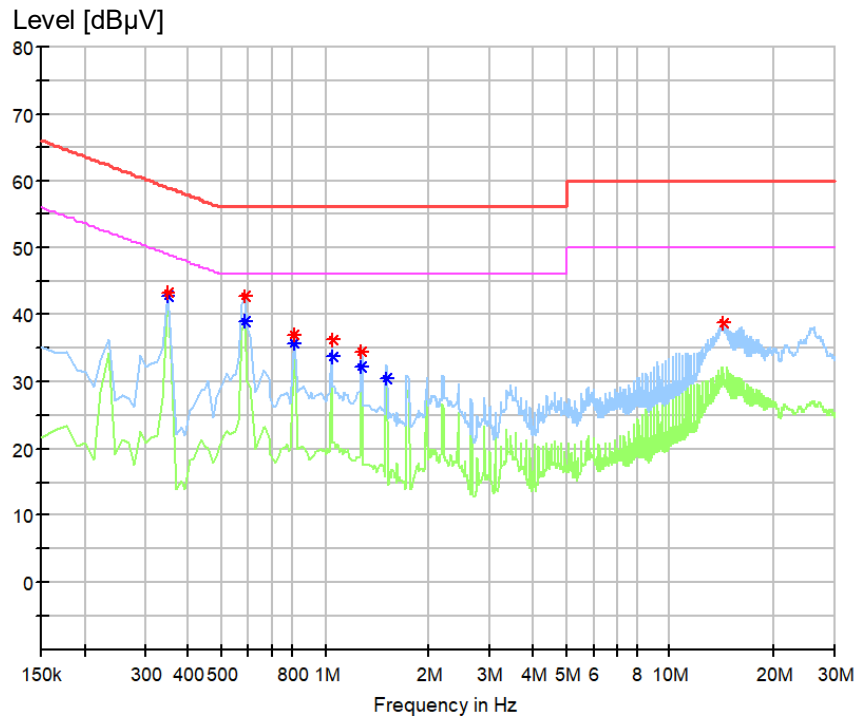
Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	43.69	59.04	15.34	N
0.583125	43.64	56.00	12.36	N
0.808125	36.94	56.00	19.06	N
1.044375	36.30	56.00	19.70	N
15.455625	38.82	60.00	21.18	N
26.064375	45.03	60.00	14.97	N

Final Average measurement result:

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	42.94	49.04	6.10	N
0.583125	39.12	46.00	6.88	N
0.808125	35.70	46.00	10.30	N
1.044375	33.83	46.00	12.17	N
1.269375	31.88	46.00	14.12	N
27.583125	34.93	50.00	15.07	N

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



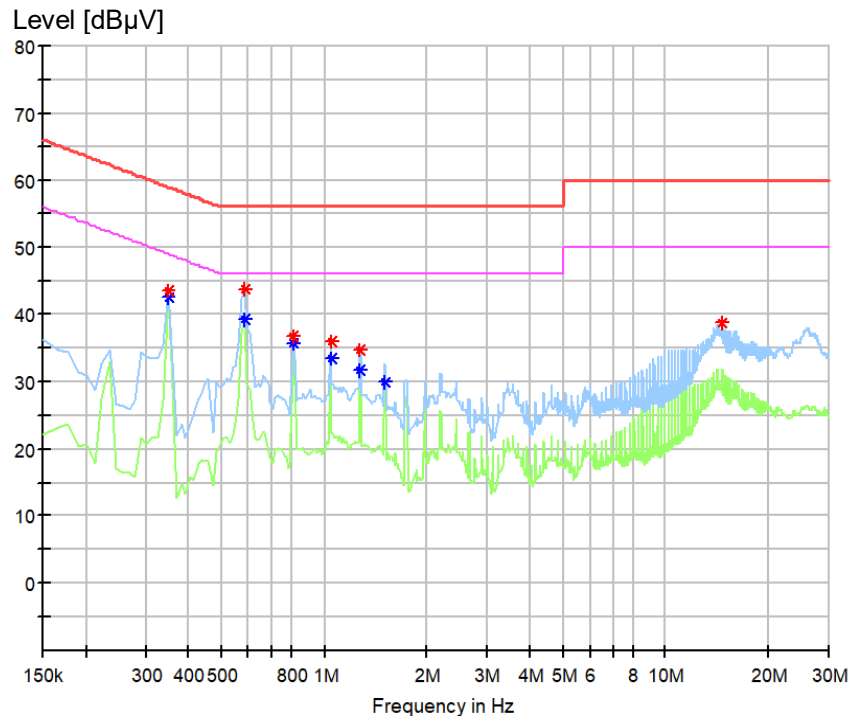
Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	43.41	59.04	15.63	L1
0.583125	42.87	56.00	13.13	L1
0.808125	36.99	56.00	19.01	L1
1.044375	36.14	56.00	19.86	L1
1.269375	34.57	56.00	21.43	L1
14.319375	38.66	60.00	21.34	L1

Final Average measurement result:

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	42.70	49.04	6.33	L1
0.583125	39.00	46.00	7.00	L1
0.808125	35.74	46.00	10.26	L1
1.044375	33.86	46.00	12.14	L1
1.269375	32.30	46.00	13.70	L1
1.505625	30.43	46.00	15.57	L1

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



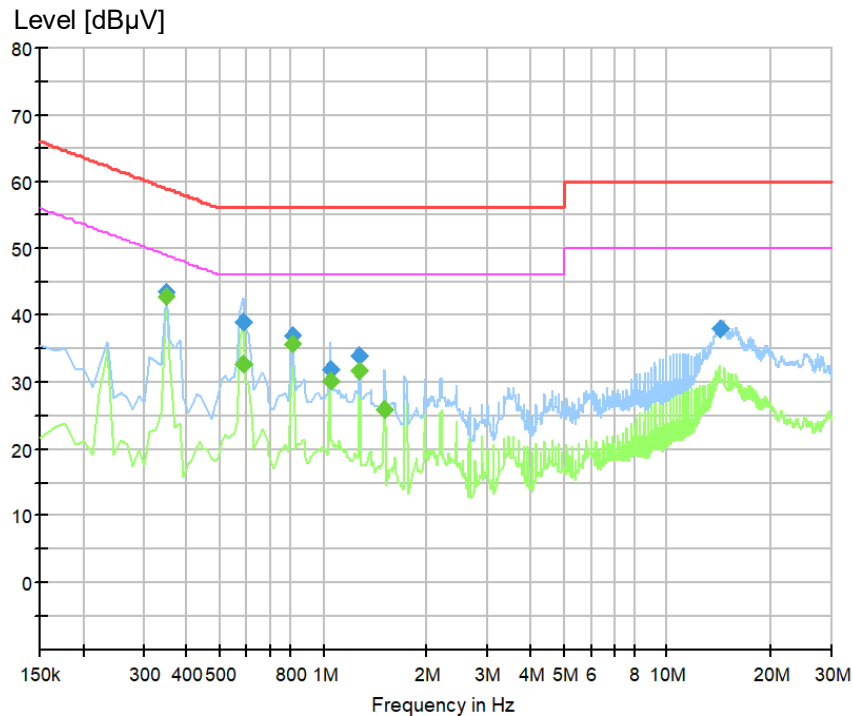
Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	43.49	59.04	15.54	N
0.583125	43.80	56.00	12.20	N
0.808125	36.82	56.00	19.18	N
1.044375	35.92	56.00	20.08	N
1.269375	34.66	56.00	21.34	N
14.555625	38.67	60.00	21.33	N

Final Average measurement result:

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	42.66	49.04	6.38	N
0.583125	39.17	46.00	6.83	N
0.808125	35.66	46.00	10.34	N
1.044375	33.50	46.00	12.50	N
1.269375	31.65	46.00	14.35	N
1.505625	29.91	46.00	16.09	N

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



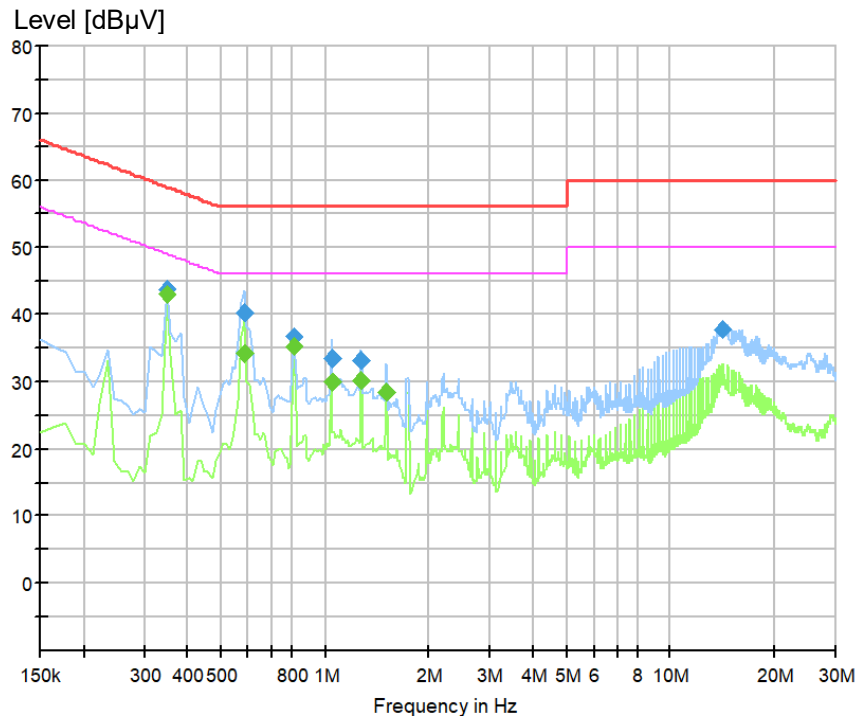
Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	43.54	59.04	15.50	L1
0.583125	38.96	56.00	17.04	L1
0.808125	37.07	56.00	18.93	L1
1.044375	32.03	56.00	23.97	L1
1.269375	33.96	56.00	22.04	L1
14.341875	38.12	60.00	21.88	L1

Final Average measurement result:

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	42.83	49.04	6.21	L1
0.583125	32.68	46.00	13.32	L1
0.808125	35.76	46.00	10.24	L1
1.044375	30.34	46.00	15.66	L1
1.269375	31.68	46.00	14.32	L1
1.505625	25.94	46.00	20.06	L1

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



Final Quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	43.74	59.04	15.30	N
0.583125	40.38	56.00	15.62	N
0.808125	36.64	56.00	19.36	N
1.044375	33.40	56.00	22.60	N
1.269375	33.17	56.00	22.83	N
14.116875	37.67	60.00	22.33	N

Final Average measurement result:

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line
0.346875	42.98	49.04	6.06	N
0.583125	34.13	46.00	11.87	N
0.808125	35.30	46.00	10.70	N
1.044375	30.01	46.00	15.99	N
1.269375	30.21	46.00	15.79	N
1.505625	28.50	46.00	17.50	N

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	: 2021-08-16
Test procedure	: FCC 47 CFR Part 15, Subpart B:2020, ICES-003:2020, ANSI C63.4-2014 and CISPR 16-1 series standards
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 – 960 MHz, 46 dB μ V/m; Above 960 MHz, 54 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
Operational mode	: Mode 1: Power on and USB port connected with DC 5 V, 3 A resistive load. Mode 2: Power on and USB port connected with DC 9 V, 2 A resistive load. Mode 3: Power on and USB port connected with DC 12 V, 1.5 A resistive load. Mode 4: Power on and USB port connected with DC 15 V, 1.2 A resistive load.
Ambient condition	: Temperature: 23.6 °C; Relative humidity: 52.5 %
Expanded measurement uncertainty ($k=2$)	: 5.49 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 10 cm wooden support above the reference ground plane. The wooden support 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.

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

Note 2: The class B limits of FCC 47 CFR Part 15, Subpart B:2020 is stricter than those ICES-003:2020 Table 2 for 3 m test distance. Therefore, the former limits are used in following figures and tables.

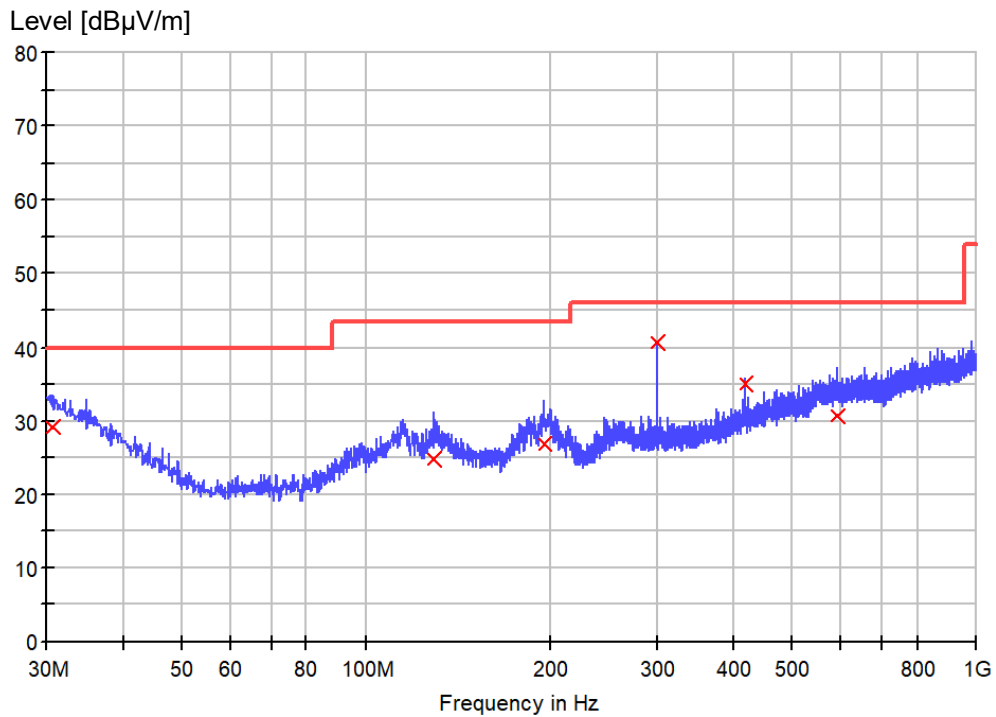
Notes on following tables of radiated emission results and conversions:

QuasiPeak (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)

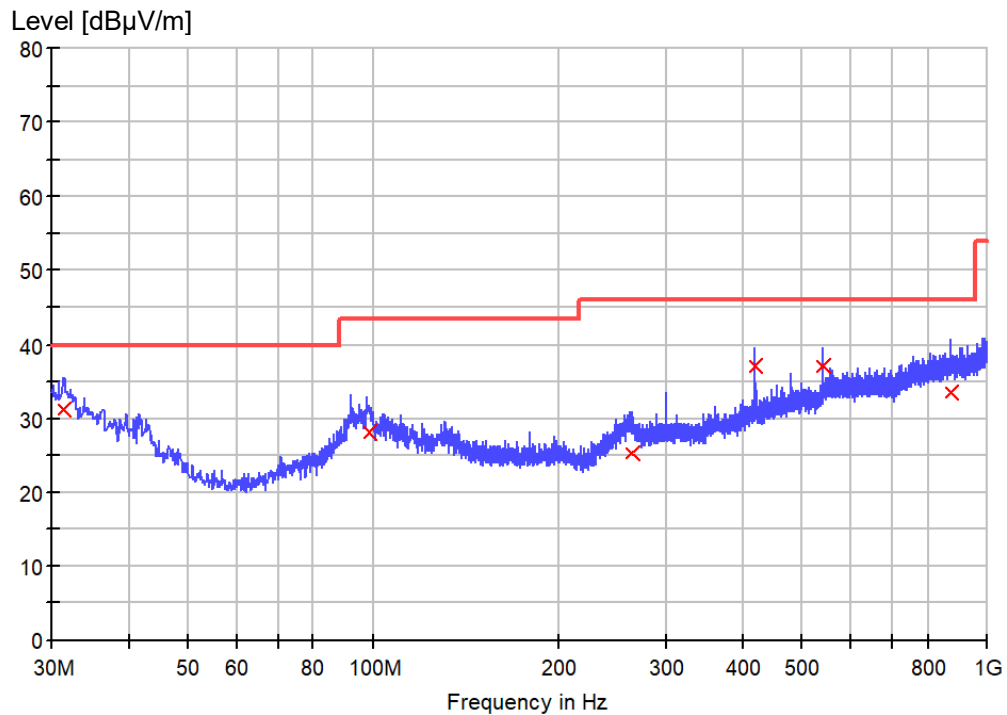
Figure 9: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization for mode 1



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	29.1	1000.0	120.000	150.0	H	-44.0	25.0	10.9	40.0
128.940000	24.8	1000.0	120.000	160.0	H	-107.0	18.7	18.7	43.5
196.233750	26.7	1000.0	120.000	135.0	H	49.0	16.1	16.8	43.5
299.781250	40.5	1000.0	120.000	100.0	H	-180.0	20.0	5.5	46.0
419.697500	35.0	1000.0	120.000	120.0	H	180.0	23.4	11.0	46.0
593.206250	30.8	1000.0	120.000	100.0	H	-85.0	26.2	15.2	46.0

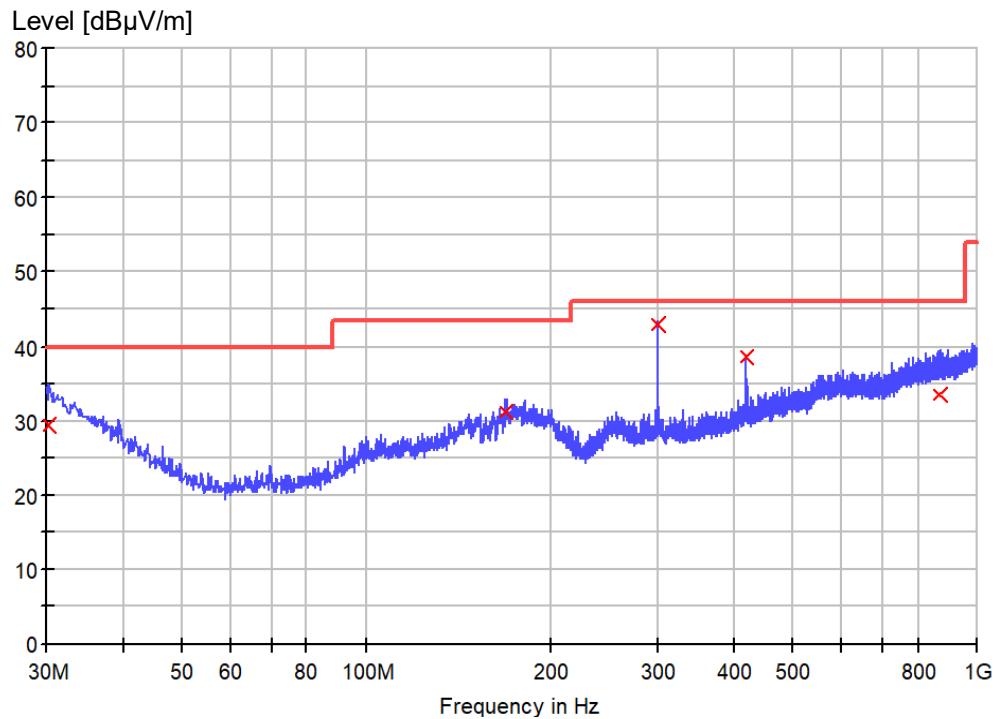
Figure 10: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization for mode 1



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)
31.333750	31.2	1000.0	120.000	135.0	V	-107.0	24.8	8.8	40.0
98.385000	28.2	1000.0	120.000	160.0	V	-62.0	17.2	15.3	43.5
263.285000	25.3	1000.0	120.000	110.0	V	-10.0	20.7	20.7	46.0
419.697500	37.1	1000.0	120.000	100.0	V	-113.0	23.4	9.0	46.0
539.613750	37.1	1000.0	120.000	160.0	V	83.0	25.4	8.9	46.0
874.385000	33.5	1000.0	120.000	150.0	V	14.0	28.0	12.5	46.0

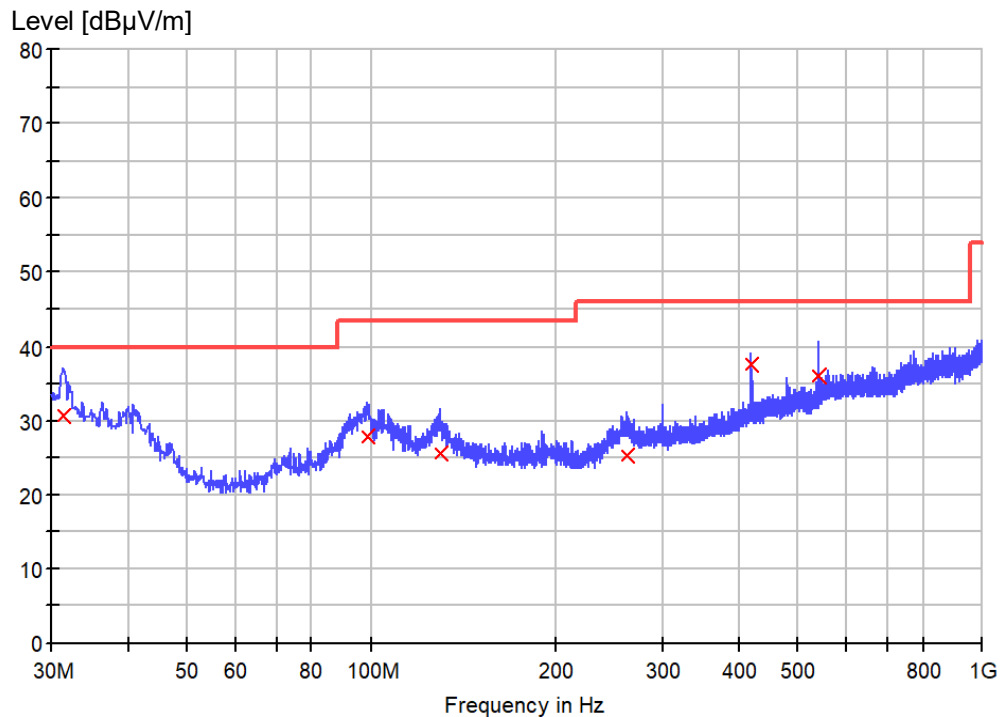
Figure 11: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization for mode 2



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)
30.242500	29.3	1000.0	120.000	100.0	H	37.0	25.3	10.7	40.0
169.558750	31.2	1000.0	120.000	120.0	H	56.0	16.3	12.3	43.5
299.781250	43.0	1000.0	120.000	160.0	H	27.0	20.0	3.0	46.0
419.697500	38.6	1000.0	120.000	145.0	H	180.0	23.4	7.4	46.0
869.413750	33.4	1000.0	120.000	110.0	H	35.0	27.9	12.6	46.0

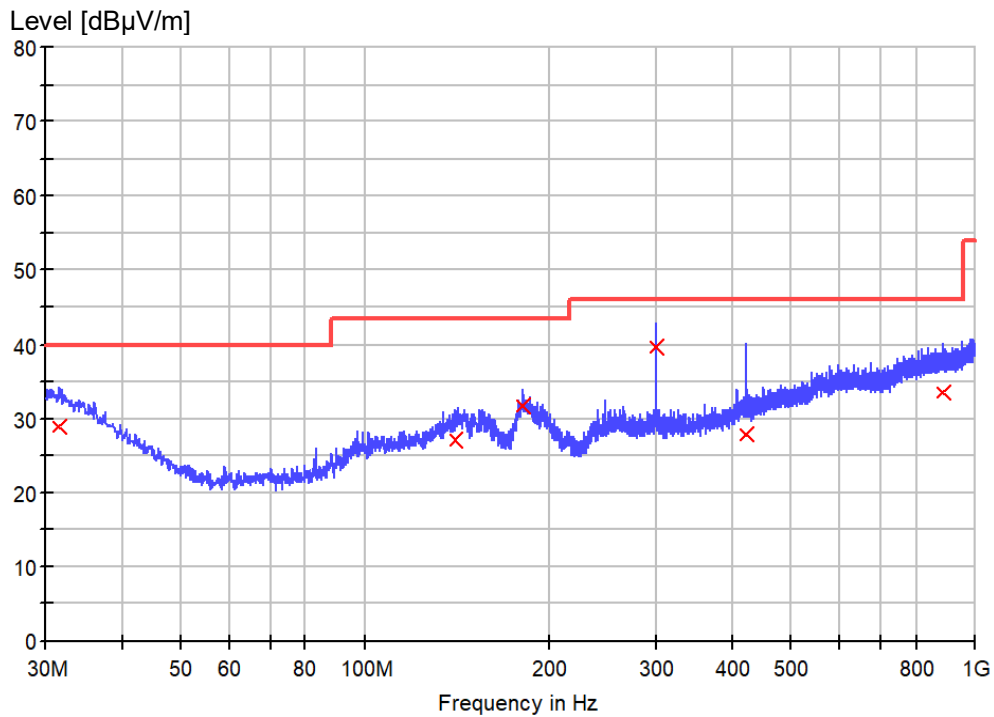
Figure 12: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization for mode 2



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	30.8	1000.0	120.000	100.0	V	-180.0	24.8	9.2	40.0
98.870000	27.9	1000.0	120.000	120.0	V	-28.0	17.3	15.6	43.5
130.273750	25.6	1000.0	120.000	160.0	V	-53.0	18.7	17.9	43.5
261.951250	25.3	1000.0	120.000	110.0	V	48.0	20.7	20.7	46.0
419.697500	37.7	1000.0	120.000	120.0	V	-59.0	23.4	8.3	46.0
539.613750	36.1	1000.0	120.000	145.0	V	22.0	25.4	9.9	46.0

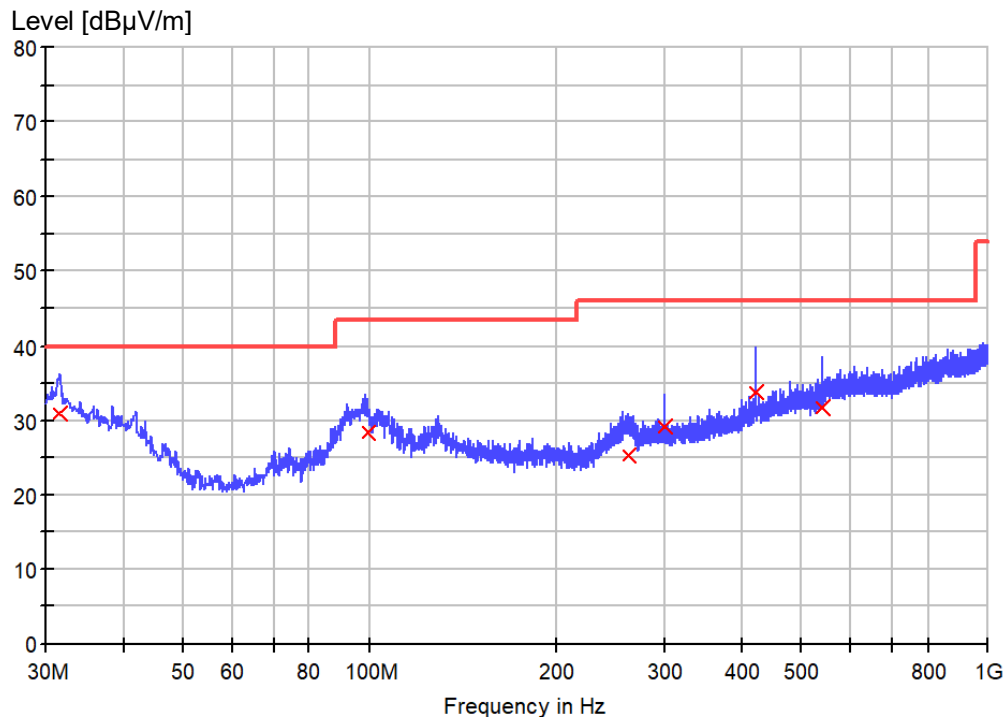
Figure 13: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization for mode 3



Final quasi-peak measurement results:

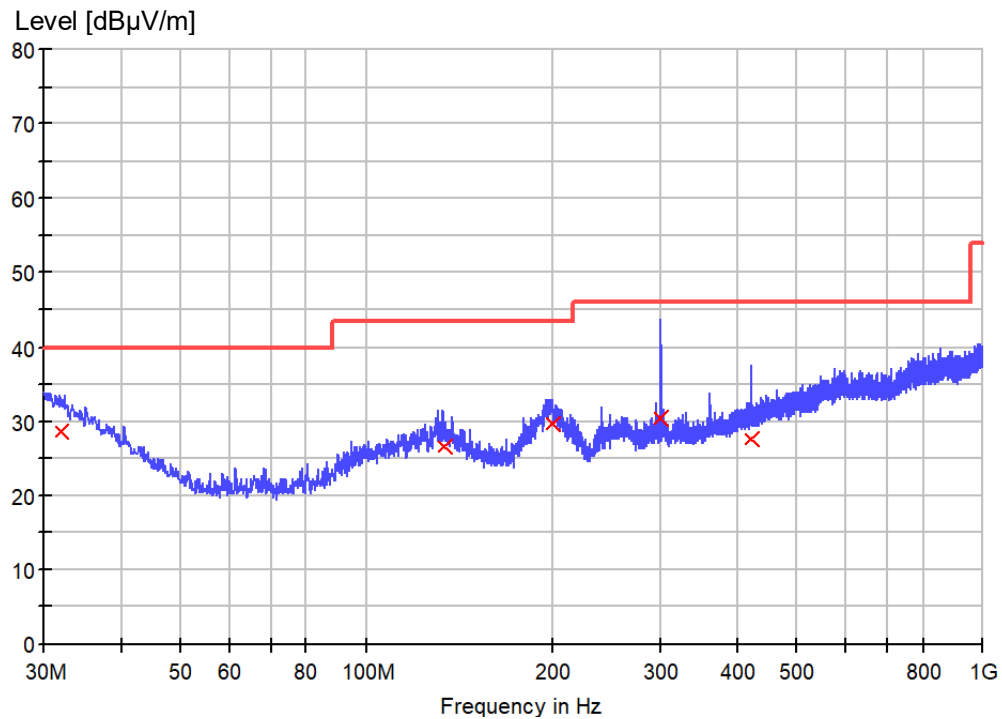
Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBμV/m)
31.576250	28.8	1000.0	120.000	100.0	H	58.0	24.7	11.2	40.0
140.943750	27.2	1000.0	120.000	165.0	H	-34.0	18.1	16.3	43.5
181.562500	31.7	1000.0	120.000	110.0	H	-180.0	15.9	11.8	43.5
300.266250	39.6	1000.0	120.000	120.0	H	-180.0	20.0	6.4	46.0
420.546250	27.8	1000.0	120.000	180.0	H	54.0	23.4	18.2	46.0
886.146250	33.5	1000.0	120.000	130.0	H	-79.0	28.0	12.5	46.0

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



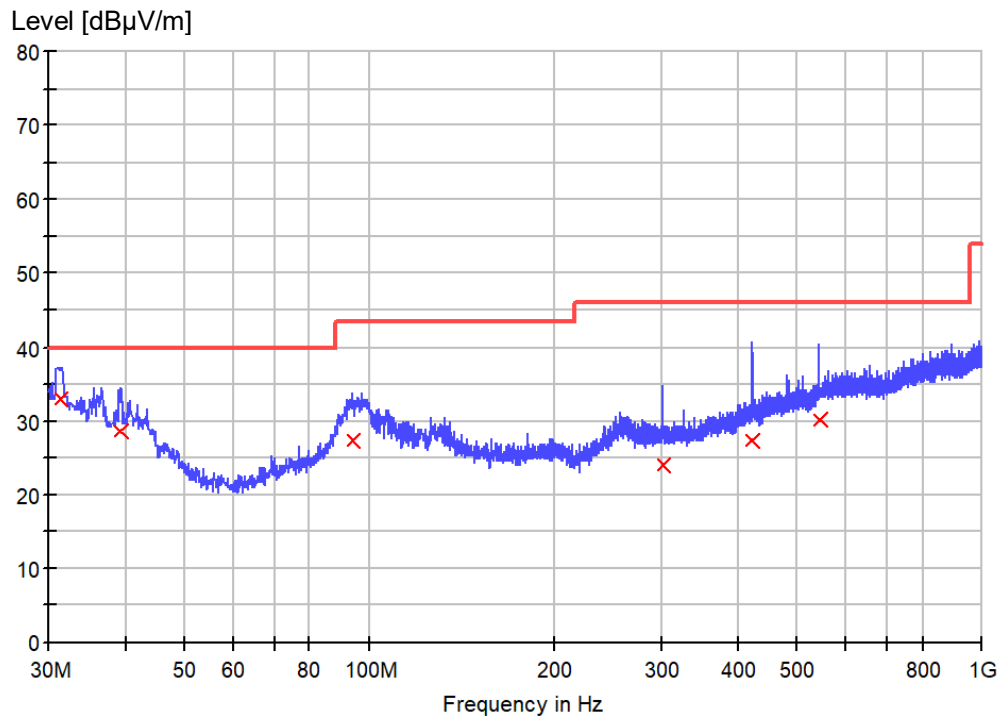
Final quasi-peak measurement results:

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)
31.455000	30.8	1000.0	120.000	100.0	V	125.0	24.7	9.2	40.0
98.991250	28.4	1000.0	120.000	100.0	V	-171.0	17.3	15.1	43.5
262.072500	25.4	1000.0	120.000	160.0	V	-180.0	20.7	20.6	46.0
300.145000	29.1	1000.0	120.000	180.0	V	-146.0	20.0	16.9	46.0
420.182500	33.6	1000.0	120.000	150.0	V	-91.0	23.4	12.4	46.0
540.220000	31.7	1000.0	120.000	110.0	V	147.0	25.5	14.3	46.0

Figure 15: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Horizontal polarization for 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)
31.940000	28.6	1000.0	120.000	100.0	H	-24.0	24.5	11.4	40.0
133.426250	26.7	1000.0	120.000	160.0	H	-72.0	18.5	16.8	43.5
199.750000	29.8	1000.0	120.000	125.0	H	180.0	16.2	13.7	43.5
300.751250	30.5	1000.0	120.000	200.0	H	-141.0	20.0	15.5	46.0
421.152500	27.7	1000.0	120.000	145.0	H	-180.0	23.4	18.3	46.0

Figure 16: Spectral Diagrams, Radiated Emission, 30 MHz – 1000 MHz, Vertical polarization for 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)
31.333750	33.0	1000.0	120.000	150.0	V	47.0	24.8	7.0	40.0
39.336250	28.5	1000.0	120.000	100.0	V	38.0	20.4	11.5	40.0
93.898750	27.3	1000.0	120.000	130.0	V	-68.0	16.3	16.2	43.5
301.842500	24.1	1000.0	120.000	100.0	V	-83.0	20.0	21.9	46.0
422.728750	27.3	1000.0	120.000	135.0	V	-180.0	23.4	18.7	46.0
543.493750	30.1	1000.0	120.000	110.0	V	122.0	25.8	15.9	46.0

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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.	Description	Model	Manufacturer	Last Date DD.MM.YYYY	Due Date DD.MM.YYYY
9023229	EMI test receiver	ESR3	Rohde&Schwarz	22.03.2021	22.03.2022
G1811403	Artificial mains network	ENV216	Rohde&Schwarz	23.11.2020	23.11.2021
G1811378	3m modified semi-anechoic chamber	SAC3	Frankonia	27.06.2019	27.06.2022
G1811402	EMI test receiver	ESCI	Rohde&Schwarz	18.09.2020	18.09.2021
G1811425	Bilog antenna	CBL 6112D	Teseq	10.03.2020	10.03.2023
G1824845	EMC measurement software	EMC32 (Ver 10.20.01)	Rohde&Schwarz	N/A	N/A

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End of test report