

# EMC TEST REPORT

## No. 2209805STO-101

### Electromagnetic disturbances

#### EQUIPMENT UNDER TEST

Equipment: Air quality sensor  
Tested Type/Model: E2112 Vindstyrka air quality sensor  
Manufacturer: IKEA of Sweden AB  
Tested by request of: IKEA of Sweden AB

#### SUMMARY

Referring to the emission limits, and the operating mode during the tests specified in this report, the equipment complies with the requirements according to the following standards:

FCC 47 CFR Part 15: Radio frequency devices, Subpart B: Unintentional radiators. Class B equipment.

ICES-001 Issue 5: Industrial, Scientific and Medical (ISM) Radio Frequency Generators with emission limits for class B Group 1 equipment

For details, see clause 2 – 4.

Date of issue: November 15, 2022

Tested by:



Anna Näslund

Approved by:



Per Granberg

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

**Revision History**

Test report no.	Release no.	Date of issue	Description
2101144STO-102	1	May 11, 2022	
2209805STO-101	2	November 15, 2022	Updated of report 2101144STO-102 with measurements for FCC part 15 B above 1 GHz. Correction values added to all result tables.

## Terms, definitions and abbreviations

The following terms, definitions and abbreviations may be used throughout the report.

Term/definition/abbreviation	Meaning
<b>AAN</b>	Asymmetrical Artificial Network
<b>AC</b>	Alternating Current
<b>AE</b>	Associated Equipment
<b>AMN</b>	Artificial Mains Network
<b>ANSI</b>	American National Standards Institute
<b>AV</b>	Average
<b>BW</b>	Bandwidth
<b>CAV</b>	CISPR Average
<b>CFR</b>	Code of Federal Regulations
<b>CISPR</b>	Comité international spécial des perbutations radioélectriques
<b>CM</b>	Common Mode
<b>CMAD</b>	Common Mode Absorption Device
<b>DC</b>	Direct Current
<b>DM</b>	Differential Mode
<b>EM</b>	Electromagnetic
<b>EMC</b>	Electromagnetic Compatibility
<b>EUT</b>	Equipment Under Test
<b>F</b>	Fail
<b>FAR</b>	Fully Anechoic Room
<b>FCC</b>	Federal Communications Commission
$F_x$	Highest fundamental frequency generated or used within the EUT, or highest frequency at which it operates
<b>ICES</b>	Interference-Causing Equipment Standard
<b>H</b>	Horizontal
$I_{ref}$	Reference Current
<b>ISN</b>	Impedance Stabilizing Network
<b>MU</b>	Measurement Uncertainty
<b>N/A</b>	Not Applicable
<b>P</b>	Pass
<b>PE</b>	Protective Earth
<b>PK</b>	Peak
<b>Pol.</b>	Polarisation
<b>QP / QPK</b>	Quasi-Peak
<b>RBW</b>	Resolution Bandwidth
<b>RF</b>	Radio Frequency
<b>RGP</b>	Reference Ground Plane
<b>RH</b>	Relative Humidity
<b>RMS</b>	Root Mean Square
<b>Rx</b>	Receiver / Receiving
<b>SAC</b>	Semi-Anechoic Chamber
<b>Tx</b>	Transmitter / Transmitting
<b>V</b>	Vertical
<b>VBW</b>	Video Bandwidth

**CONTENTS**

	<b>Page</b>
1. Client Information .....	5
2. Equipment under test (EUT).....	5
2.1 Identification of the EUT .....	5
2.2 Additional information about the EUT .....	7
2.3 Peripheral/auxiliary equipment.....	8
2.4 Decision rule .....	8
3. Test Specifications .....	9
3.1 Additions, deviations and exclusions from standards and accreditation .....	9
3.2 Test site.....	9
3.3 Mode of operation during the test .....	10
4. Test Summary .....	11
5. Conducted continuous disturbances .....	12
5.1 Test results, Conducted continuous disturbances, AC Power input port, Class B 14	
5.2 Test equipment .....	15
6. Radiated rf Emission in the frequency-range 30 MHz – 1 GHz .....	16
6.1 Test results, 30 – 1000 MHz, FCC, Class B .....	18
6.2 Test results, 30 – 1000 MHz, ICES-001, Group 1, Class B.....	19
6.3 Test equipment .....	21

**1. CLIENT INFORMATION**

The EUT has been tested by request of

<b>Company</b>	IKEA of Sweden AB SE-343 81 Älmhult Sweden
<b>Name of contact</b>	Jeton Salihu
<b>Client observer</b>	-

**2. EQUIPMENT UNDER TEST (EUT)**

**2.1 Identification of the EUT**

<b>Equipment:</b>	Environmental sensor				
<b>Type/Model:</b>	E2112 Vindstyrka air quality sensor				
<b>Brand name:</b>	IKEA				
<b>S/N:</b>	50050				
<b>Manufacturer:</b>	IKEA of Sweden AB				
<b>Highest clock frequency, <math>F_X</math>:</b>	80 MHz				
<b>Transmitting freq.:</b>	2400–2483.5 MHz				
<b>Software version:</b>	1.0.005-532				
<b>Hardware version:</b>	P1.2.1				
<b>Mounting position: (during normal use)</b>	<input checked="" type="checkbox"/> Table-top <input type="checkbox"/> Floor-standing <input type="checkbox"/> Wall/ceiling <input type="checkbox"/> Hand-held <input type="checkbox"/> Other:				
<b>Supplementary information:</b>					
<b>Input ratings</b>	<b>Voltage [V]</b>	<b>Freq. [Hz]</b>	<b>Current [A]</b>	<b>Power [W]</b>	<b>Coupling</b>
<input type="checkbox"/> AC	-	-	-	-	<b>L1</b> <input type="checkbox"/> <b>L2</b> <input type="checkbox"/> <b>L3</b> <input type="checkbox"/> <b>N</b> <input type="checkbox"/> <b>PE</b> <input type="checkbox"/>
<input checked="" type="checkbox"/> DC	5	-	0.2	-	<b>V+</b> <input checked="" type="checkbox"/> <b>V-</b> <input checked="" type="checkbox"/> <b>PE</b> <input type="checkbox"/>
<input type="checkbox"/> Battery					<b>V+</b> <input type="checkbox"/> <b>V-</b> <input type="checkbox"/> <b>PE</b> <input type="checkbox"/>
<input type="checkbox"/> Other:					

Test set up and EUT photos are enclosed in Annex 1 (2209805STO-102) to this test report.



Photo/copy of marking/rating plate

## 2.2 Additional information about the EUT

The EUT is an environmental sensor for both indoor and outdoor values such as temperature, humidity, PM2.5, VOC and Pollen. The outdoor values will be imported from an external source. The sensor can optionally be paired to the IKEA Gateway or to the air purifier STARKVIND.

The EUT consists of the following units:

Unit	Type/model	Description
Air quality sensor	E2112	-

The EUT has the following ports:

Port type	Port name	Shielded
<b>AC I/O</b>		
<input type="checkbox"/> AC power input		<input type="checkbox"/>
<input type="checkbox"/> AC power output		<input type="checkbox"/>
<b>DC I/O</b>		
<input checked="" type="checkbox"/> DC power input	DC input	<input type="checkbox"/>
<input type="checkbox"/> DC power output	DC output	<input type="checkbox"/>
<b>Signal/control I/O</b>		
<input type="checkbox"/> Telecom/network		<input type="checkbox"/>
<input type="checkbox"/> Signal/control		<input type="checkbox"/>
<b>Supplementary information:</b>		

The EUT ports were connected according to the following:

Port name	Cable type	Connected to
DC input	Two-core USB-C	AC/DC adapter

### 2.3 Peripheral/auxiliary equipment

#### Auxiliary

Equipment needed for correct operation of the EUT and is part of the system under test.

Equipment	Manufacturer	Type/Model	S/N
AC/DC adapter	IKEA	ICPSW5-5EU-1	2114

### 2.4 Decision rule

The statements of conformity are reported as:

Passed – When the measured values are within the specified limits.

Failed – When one or more measures values are outside the specified limits.



### 3. TEST SPECIFICATIONS

#### 3.1 Additions, deviations and exclusions from standards and accreditation

The following editions of basic standards were applied instead of the standards referenced in FCC 47 CFR Part 15 and ICES-001:

Referenced	Applied
CSA CISPR 11:19	CISPR 11:2015 + A1:2016
ANSI C63.4-2014	ANSI C63.4-2014

#### 3.2 Test site

Measurements were performed at:

Intertek Semko AB.  
 Torshamnsgatan 43,  
 P.O. Box 1103  
 SE-164 22 Kista

Intertek Semko AB is an FCC listed test site with site registration number 90913  
 Intertek Semko AB is an FCC accredited conformity assessment body with designation number SE0002

Intertek Semko AB is an Industry Canada listed test facility with IC assigned code 2042G

Measurement chambers

Measurement Chamber	Type of chamber	IC Site filing #
<input checked="" type="checkbox"/> STORA HALLEN	Semi-anechoic 10 m and 3 m	2042G-2
<input checked="" type="checkbox"/> BJÖRKHALLEN	Semi-anechoic 3 m	2042G-1
<input type="checkbox"/> 5 m CHAMBER	Semi-anechoic 5 m	2042G-3

**Mode of operation during the test**

Mode no.	Supply	Description
1	120V/60Hz	The EUT measures humidity, temperature and amount of particles in the air and displays the value on the LED screen.

Test	Mode of operation
Conducted continuous emission	1
Radiated emission of EM fields	1

**TEST SUMMARY**

The test has been carried out at the Intertek Semko AB premises in Kista, Sweden.

The results in this report apply only to sample tested.

Result: P – F – N/A

<b>EMISSION TESTS</b>					
<b>Chapter</b>	<b>Standard(s)</b>	<b>Description</b>	<b>Port type(s)</b>	<b>Note(s)</b>	<b>Verdict</b>
5	ANSI C63.4	Conducted continuous emission	AC input	-	P
5	CISPR 11	Conducted continuous emission	AC input	-	P
6	ANSI C63.4	Radiated emission of EM fields	Enclosure	-	P
6	CISPR 11	Radiated emission of EM fields	Enclosure	-	P
<b>Supplementary information:</b>					

4. CONDUCTED CONTINUOUS DISTURBANCES

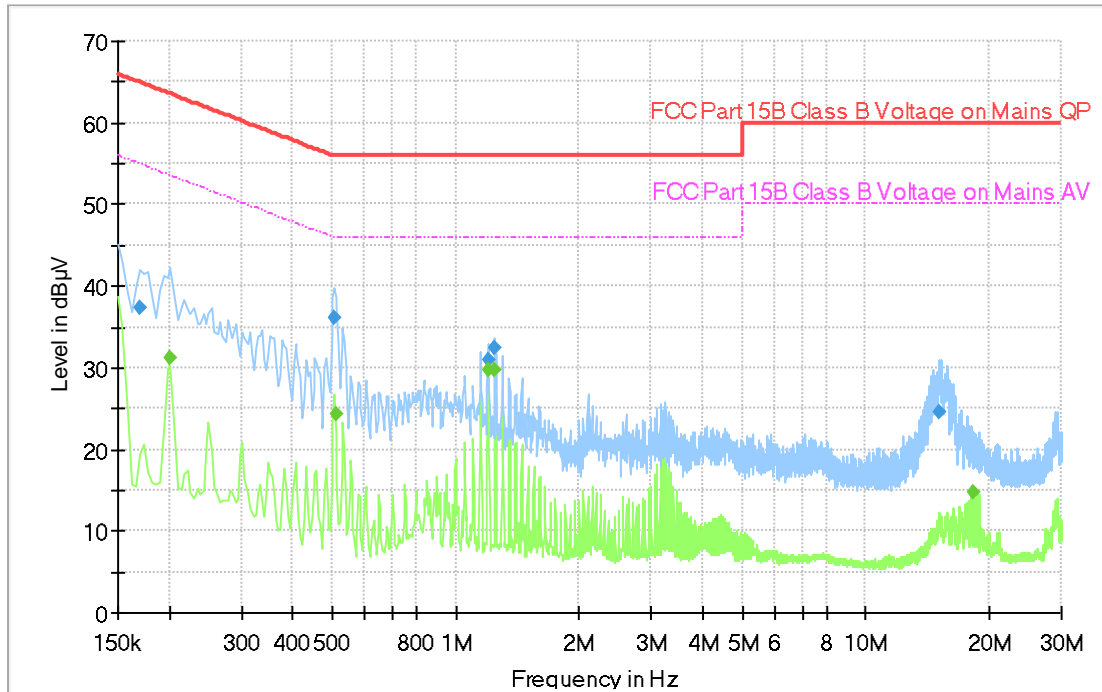
Date of test	Temp. [°C]	Humidity [%RH]	Tested by
January 5, 2022	21	22	Leo Doma

<b>Test setup and procedure:</b>	EUT was placed 0.8 m from the AMN / ISN. Overview sweeps were performed for each lead of the cable(s). AE requiring mains power to operate was/were connected to AMN / ISN terminated with 50 Ω, when applicable.		
<b>EUT position:</b>	<input checked="" type="checkbox"/> Table-top (EUT 0.4 m from the RGP) <input type="checkbox"/> Floor-standing (EUT 12 mm from the RGP) <input type="checkbox"/> Other:		
Tested port type(s):	Coupling device	Measurement uncertainty	
		Frequency range	Value
<input checked="" type="checkbox"/> AC power	<input checked="" type="checkbox"/> AMN	0.15 – 30 MHz	± 3.3 dB
<b>Supplementary information:</b> Measurement uncertainty is calculated in accordance with CISPR 16-4-2:2011. The measurement uncertainty is given with a confidence of 95 %.			

Port	Frequency [MHz]	Voltage limits [dBμV] (2)	
		QP	AV
<b>Limits FCC Part 15 subpart B</b>			
<input type="checkbox"/> AC power input Class A	0.15 – 0.50	79	66
	0.50 – 30.0	73	60
<input checked="" type="checkbox"/> AC power input Class B	0.15 – 0.50	66 – 56 (1)	56 – 46 (1)
	0.50 – 5.00	56	46
	5.00 – 30.0	60	50
<b>Supplementary information:</b> (1) The limits decrease linearly with the logarithm of the frequency. (2) At transitional frequencies the lower limit applies.			

Port	Frequency [MHz]	Rated input power of $\leq 20$ kVA (2)		Rated input power of $> 20$ kVA (2),(3)	
		QP dB( $\mu$ V)	AV dB( $\mu$ V)	QP dB( $\mu$ V)	AV dB( $\mu$ V)
<b>Limits ICES-001, Class A group 1 according to CISPR 11</b>					
<input type="checkbox"/> AC power	0.15 – 0.50	79	66	100	90
	0.50 – 5.00	73	60	86	76
	5.00 – 30.0	73	60	90-73 (1)	80-60 (1)
<b>Limits ICES-001, Class B group 1 according to CISPR 11</b>					
<input checked="" type="checkbox"/> AC power	0.15 – 0.50	66-56 (1)	56-46 (1)	66-56 (1)	56-46 (1)
	0.50 – 5.00	56	46	56	46
	0.50 – 30.0	60	50	60	50
<b>Supplementary information:</b> (1) The limits decrease linearly with the logarithm of the frequency. (2) At transitional frequencies the lower limit applies. (3) These limits apply to equipment with a rated input power $> 20$ kVA and intended to be powered by a dedicated power transformer or generator, and which is not connected to Low Voltage (LV) overhead power lines. For equipment not intended to be powered by a user specific power transformer, the limits for $\leq 20$ kVA apply. The manufacturer and/or supplier shall provide information on installation measures that can be used to reduce emissions from the installed equipment. In particular, it shall be indicated that this equipment is intended to be powered by a dedicated power transformer or generator and not by LV overhead power lines.					

4.1 Test results, Conducted continuous disturbances, AC Power input port, Class B



Diagram, Peak and AV overview sweep

Measurement results, Quasi-peak

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.169000	37.33	65.01	27.68	1000.0	9.000	N	GND	10.0
0.506000	36.20	56.00	19.80	1000.0	9.000	N	GND	10.1
1.200000	30.94	56.00	25.06	1000.0	9.000	L1	GND	10.1
1.250000	32.47	56.00	23.53	1000.0	9.000	N	GND	10.1
15.054000	24.51	60.00	35.49	1000.0	9.000	N	GND	10.8

Measurement results, Average

Frequency (MHz)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.200000	31.21	53.61	22.40	1000.0	9.000	N	GND	10.0
0.511000	24.20	46.00	21.80	1000.0	9.000	N	GND	10.1
1.200000	29.80	46.00	16.20	1000.0	9.000	N	GND	10.1
1.250000	29.60	46.00	16.40	1000.0	9.000	N	GND	10.1
18.333000	14.85	50.00	35.15	1000.0	9.000	N	GND	11.0

All other measured disturbances have a margin of more than 20 dB to the limits.  
 Result [dBµV] = Analyser reading [dBµV] + cable loss [dB] + LISN insertion loss [dB]

#### 4.2 Test equipment

Equipment type	Manufacturer	Model	Inv. No.	Last Cal. date	Cal. interval
Measurement software	Rohde & Schwarz	EMC32	--	--	--
Receiver	Rohde & Schwarz	ESCI 3	12741	July-2021	1 year
Pulse limiter	Rohde & Schwarz	ESH3-Z2	32798	July-2021	1 year
AMN	Rohde & Schwarz	ESH3-Z5	5875	July-2021	1 year
Coaxial cable	Suhner	RG 223/U	9786	February-2021	1 year
Coaxial cable	Suhner	G 03232 D-01	39069	September-2021	1 year

5. RADIATED RF EMISSION IN THE FREQUENCY-RANGE 30 MHz – 1 GHz

Date of test	Temp. [°C]	Humidity [%RH]	Tested by
January 7, 2022	21	23	Leo Doma
November 9, 2022	21	48	Anna Näslund

<b>Test setup and procedure:</b>	The EUT was placed on a non-conductive support on the RGP. Overview sweeps were performed with the measurement receiver in max hold mode and the peak detector activated in the frequency range 30 – 1000 MHz. Above 1 GHz, both the peak and average detectors were activated, when applicable. During height scan above 1 GHz the EUT was kept in antennas cone of radiation.	
<b>EUT position:</b>	<input checked="" type="checkbox"/> Table-top (EUT 0.8 m from the RGP) <input type="checkbox"/> Floor-standing (EUT 12 mm from the RGP) <input type="checkbox"/> Other:	
<b>Highest measured frequency:</b>	<input type="checkbox"/> $F_x \leq 108$ MHz: 1 GHz <input type="checkbox"/> $108$ MHz < $F_x \leq 500$ MHz: 2 GHz <input type="checkbox"/> $500$ MHz < $F_x \leq 1$ GHz: 5 GHz <input checked="" type="checkbox"/> $F_x > 1$ GHz: $5 \times F_x$ up to a max. of 40 GHz <input type="checkbox"/> $F_x$ is unknown: 40 GHz	
<b>Frequency range:</b>	<b>Measuring distance</b>	<b>Measurement uncertainty</b>
<input type="checkbox"/> 30 to 1000 MHz	3 m	± 5.1 dB
<input checked="" type="checkbox"/> 30 to 1000 MHz	10 m	± 5.0 dB
<input checked="" type="checkbox"/> 1.0 to 18 GHz	3 m	± 4.5 dB
<input type="checkbox"/> 18 to 26 GHz	3 m	± 4.8 dB
<input type="checkbox"/> 26 to 40 GHz	3 m	± 5.7 dB
<b>Supplementary information:</b> Measurement uncertainty is calculated in accordance with CISPR 16-4-2:2011. The measurement uncertainty is given with a confidence of 95 %.		

Test	Freq. [MHz]	Meas. angle [°]	Antenna			RBW [kHz]			VBW [kHz]
			Type	Height	Pol.	QP	PK	AV	PK
Preview	30 – 1000	0 – 359	Bilog	1 – 4 m	V and H	-	120	-	1000
Final						120	-	-	
Preview	1000 – 40000	0 – 359	Horn	1 – 4 m		-	1000	1000	3000
Final						-	1000	1000	-



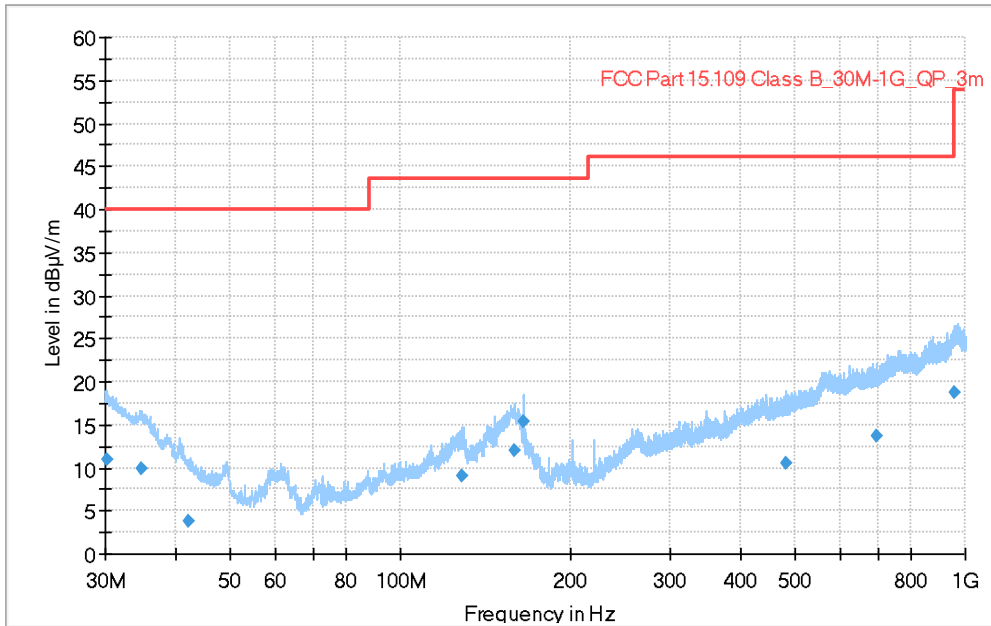
Measurement distance [m]	Frequency [MHz]	Limits [dBµV/m]		
		QP	PK	AV
<b>Limits, FCC, Class A</b>				
<input type="checkbox"/> 3 / <input type="checkbox"/> 10	30 – 88	49.5 / 39.1	-	-
	88 – 216	54.0 / 43.5	-	-
	216 – 960	56.9 / 46.4	-	-
	960 – 1000	60.0 / 49.5	-	-
<input type="checkbox"/> 3	Above 1000	-	80.0	60.0
<b>Limits, FCC, Class B</b>				
<input type="checkbox"/> 3 / <input checked="" type="checkbox"/> 10	30 – 88	40.0 / 29.5	-	-
	88 – 216	43.5 / 33.1	-	-
	216 – 960	46.0 / 35.6	-	-
	960 – 1000	54.0 / 43.5	-	-
<input checked="" type="checkbox"/> 3	Above 1000	-	74.0	54.0

Test facility & measurement distance	Frequency [MHz]	Limits [dBµV/m]	
		Rated input power ≤ 20 kVA	Rated input power > 20 kVA (1)
		QP	QP
<b>Limits ICES-001, Class A group 1 according to Cispr 11</b>			
<input type="checkbox"/> SAC, 10 m	30 – 230	40	50
	230 – 1000	47	50
<input type="checkbox"/> SAC, 3 m	30 – 230	50	60
	230 – 1000	57	60
<b>Limits ICES-001, Class B group 1 according to Cispr 11</b>			
<input checked="" type="checkbox"/> SAC, 10 m	30 – 230	30	30
	230 – 1000	37	37
<input type="checkbox"/> SAC, 3 m	30 – 230	40	40
	230 – 1000	47	47

**Supplementary information:**

(1): These limits apply to equipment with a rated input power of > 20 kVA and intended to be used at locations where there is a distance greater than 30 m between the equipment and third party sensitive radio communications. The manufacturer shall indicate in the technical documentation that this equipment is intended to be used at locations where the separation distance to third party sensitive radio services is > 30 m. If the manufacturer does not include the particular conditions of use of the equipment in the technical documentation for the user, then the limits for equipment with a rated input power of ≤ 20 kVA shall apply

5.1 Test results, 30 – 1000 MHz, FCC, Class B



Diagram, Peak overview sweep

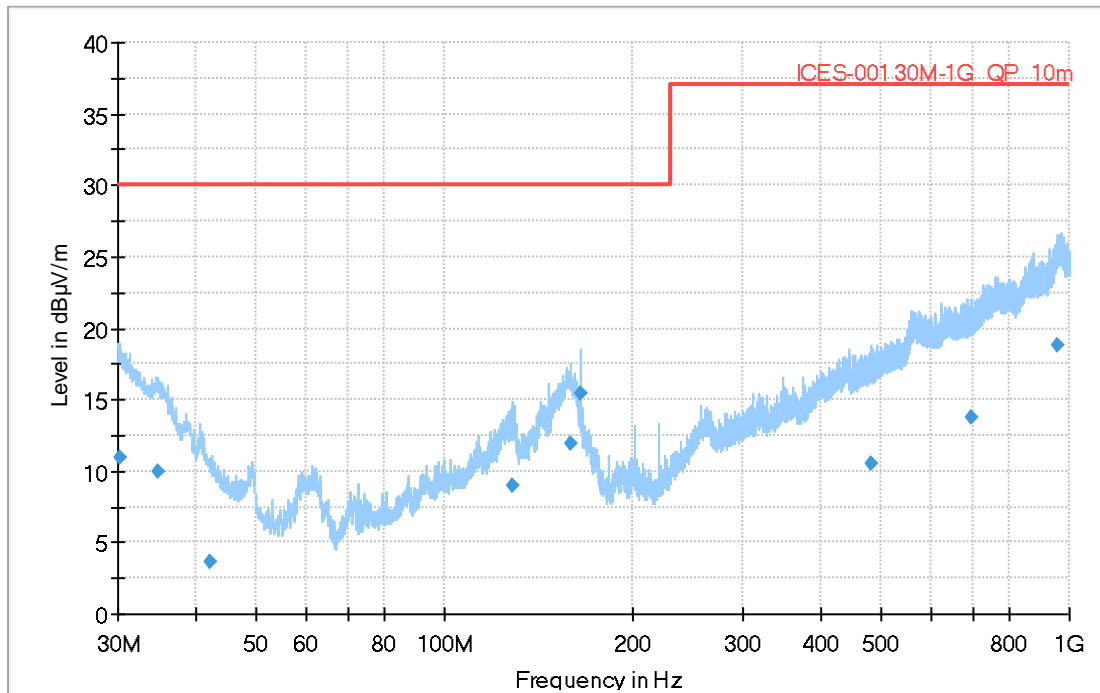
Measurement results, Quasi-peak

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
30.120	11.01	40.00	28.99	1000.0	120.0	218.0	H	25.0	-15
34.710	9.91	40.00	30.09	1000.0	120.0	100.0	V	173.0	-17
42.240	3.71	40.00	36.29	1000.0	120.0	339.0	V	278.0	-21
128.340	8.99	43.52	34.53	1000.0	120.0	111.0	V	90.0	-21
158.580	11.92	43.52	31.60	1000.0	120.0	100.0	V	186.0	-22
165.060	15.38	43.52	28.14	1000.0	120.0	100.0	V	132.0	-23
482.040	10.50	46.02	35.52	1000.0	120.0	198.0	H	147.0	-14
694.260	13.77	46.02	32.25	1000.0	120.0	239.0	V	87.0	-10
959.340	18.78	46.02	27.24	1000.0	120.0	120.0	V	231.0	-5

All other measured disturbances have a margin of more than 20 dB to the limits.

Result [dBµV/m] = Analyser reading [dBµV] + Antenna factor [1/m] - Amplifier gain [dB] + Cable loss [dB]

5.2 Test results, 30 – 1000 MHz, ICES-001, Group 1, Class B



Diagram, Peak overview sweep

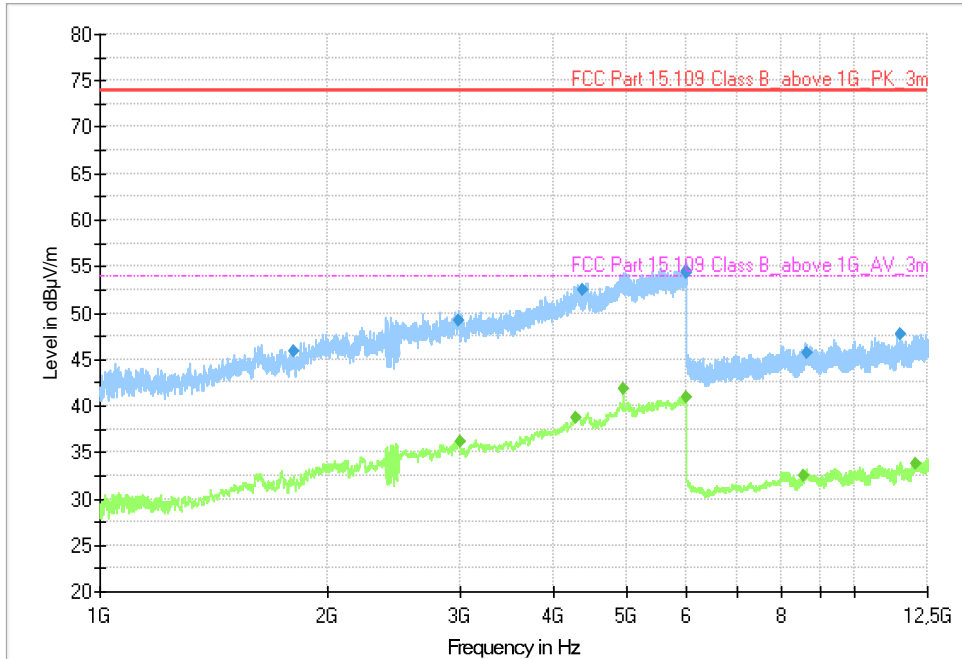
Measurement results, Quasi-peak

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
30.120	11.01	30.00	18.99	1000.0	120.0	218.0	H	25.0	-15
34.710	9.91	30.00	20.09	1000.0	120.0	100.0	V	173.0	-17
42.240	3.71	30.00	26.29	1000.0	120.0	339.0	V	278.0	-21
128.340	8.99	30.00	21.01	1000.0	120.0	111.0	V	90.0	-21
158.580	11.92	30.00	18.08	1000.0	120.0	100.0	V	186.0	-22
165.060	15.38	30.00	14.62	1000.0	120.0	100.0	V	132.0	-23
482.040	10.50	37.00	26.50	1000.0	120.0	198.0	H	147.0	-14
694.260	13.77	37.00	23.23	1000.0	120.0	239.0	V	87.0	-10
959.340	18.78	37.00	18.22	1000.0	120.0	120.0	V	231.0	-5

All other measured disturbances have a margin of more than 20 dB to the limits.

Result [dBµV/m] = Analyser reading [dBµV] + Antenna factor [1/m] - Amplifier gain [dB] + Cable loss [dB]

5.3 Test results, 1 – 12.5 GHz, FCC, Class B



Diagram, Peak and Average overview sweep

Measurement results, MaxPeak and Average

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1803.000	45.81	---	74.0	28.2	1000	1000.000	163.0	H	195.0	-4.4
2982.500	49.18	---	74.0	24.8	1000	1000.000	286.0	V	108.0	1.5
2996.250	---	36.16	54.0	17.8	1000	1000.000	247.0	V	150.0	1.8
4261.750	---	38.71	54.0	15.3	1000	1000.000	181.0	H	300.0	9.5
4369.000	52.39	---	74.0	21.6	1000	1000.000	110.0	H	111.0	9.7
4942.750	---	41.82	54.0	12.2	1000	1000.000	102.0	H	159.0	11.6
5974.250	---	41.00	54.0	13.0	1000	1000.000	119.0	H	38.0	12.2
5987.000	54.39	---	74.0	19.6	1000	1000.000	263.0	V	319.0	12.2
5987.750	54.45	---	74.0	19.6	1000	1000.000	150.0	V	287.0	12.2
8581.000	---	32.42	54.0	21.6	1000	1000.000	165.0	V	315.0	2.0
8639.500	45.71	---	74.0	28.3	1000	1000.000	257.0	H	52.0	2.1
11483.000	47.75	---	74.0	26.3	1000	1000.000	282.0	V	144.0	2.3
12059.750	---	33.84	54.0	20.2	1000	1000.000	101.0	H	81.0	3.2

**5.4 Test equipment**

Equipment type	Manufacturer	Model	Inv. No.	Last Cal. date	Cal. interval
Measurement software	Rohde & Schwarz	EMC32	--	--	--
Measurement Receiver	Rohde & Schwarz	ESW 44	33890	July-2021	1 year
Antenna	Teseq	CBL 6111D	34200	March-2020	3 year
Preamplifier	Semko	AM1331	S7992	September-2021	1 year
Measurement cable	Huber & Suhner	Sucoflex 106	39122	May-2021	1 year
Measurement cable	Rosenberger	LA5-S003-10000	39163	February-2021	1 year
Measurement cable	Rosenberger	LA5-S003-8500 (UFB293C)	39148	May-2021	1 year
Measurement Receiver	Rohde & Schwarz	ESW44	34030	July-2022	1 year
Antenna	Rohde & Schwarz	HF907	32307	September-2021	3 year
Preamplifier	Rohde & Schwarz	TS-PRE1	32306	October-2022	1 year
Measurement cable	Rosenberger	LA5-S003-8500 (UFB 293C)	39149	June-2022	1 year
Measurement cable	Rosenberger	LU7-S074-300 (UFA2 10A)	39167	May-2022	1 year
Measurement cable	Rosenberger	LU7-S083-3000	39184	July-2022	1 year
Measurement cable	MEGAPHASE	GC12-K1K 1-140	39232	April-2022	1 year
Filter	Wainwright Ins tr. GmbH	WRCGV10 -2381-240 1-2479-24 99-40SS	34448	December-2021	1 year