

TEST REPORT

Ref. n.	FCCTR_188242-0	Issue Date:	25/09/2026	Pages:	24
Test object	Type test according to Standards 47 CFR FCC Part 15 Subpart C §15.207, §15.209, §15.225				
Applicant	FATROMED SRL Via Case Rosse 22 - 84131 Salerno - Italy Phone. +39 089 381339				
Trade mark	FATROMED				
Manufacturer	FATROMED SRL				
Product	Car air freshener				
Tested model	ATUM				
FCC Identification number	2BW8P-ATUM-01-USA				
Date of test samples receipt	22/06/2026				
No. of tested samples	1 – Sampled by the Applicant				
Test date	From 10/09/2026 to 11/09/2026				
Testing site	PRSLAB S.r.l. Unipersonale - Via Campagna 92 - 22020 Faloppio - Como - Italy				
FCC designation number	IT0012				
Test results	PASS				
Verifications carried out by	Daniele Aosani Laboratory Engineer				
Approved by	Luana Parisi Reviewer				

The test results reported in this test report shall refer only to the samples tested.

The sample has been provided by the Applicant and the results apply to the sample as received.

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PRSLAB refuses any responsibility about information provided by the Applicant contained in this test report.

Any not Accredited test methods are clearly identified in the test report.

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0. RELEASE CONTROL RECORD

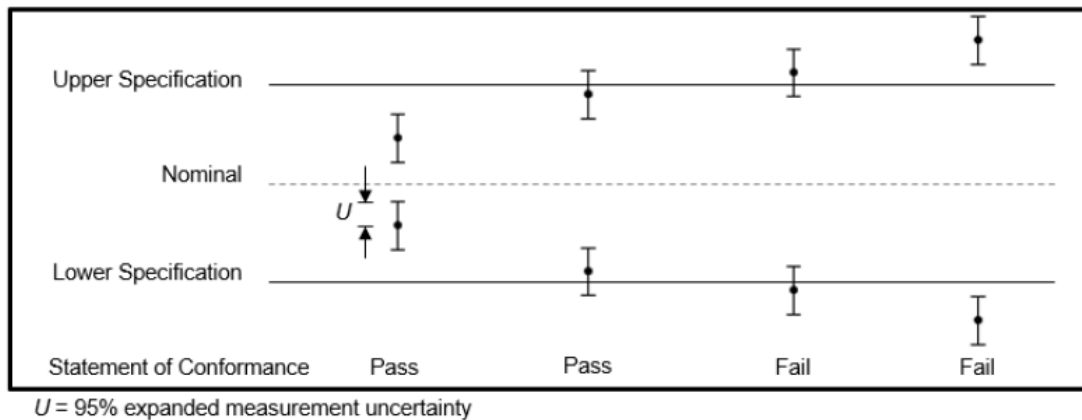
TEST REPORT NUMBER	REASON OF CHANGE	DATE OF ISSUE
FCCTR_188242-0	Original release	25/09/2026

This document is valid in last revision that deletes and replaces the previous one

1. DECISION RULE

PRs LAB specifies that, if the decision rules of conformity of the test results are not indicated in detail in the standard/s object of tests, it takes as a decision rule for the declaration of conformity the simple binary system ($w = 0$) stated in the ILAC-G8-09:2019 document.

The decision rule is applicable for all parts of standard



Statements of conformity are reported as:

- Pass: the measured value is below the acceptance limit, $AL=TL$.
- Fail: the measured value is above the acceptance limit, $AL=TL$.

Definitions

- Guard Band (w): interval between a tolerance limit and a corresponding acceptance limit where length $w=|TL-AL|$.
- Tolerance Limit (TL) (Specification Limit): specified upper or lower bound of permissible values of a property.
- Acceptance Limit (AL): specified upper or lower bound of permissible measured quantity values.

2. INFORMATION PROVIDED BY APPLICANT

- None

3. GENERAL REMARKS

- None

4. TECHNICAL INFORMATION OF EQUIPMENT UNDER TEST (EUT)

4.1 EUT Identification

DESCRIPTION	Car air freshener
MODEL NAME	ATUM
FCC ID	2BW8P-ATUM-01-USA
SERIAL NO.	ATU-M0320202600001
PRS LAB INTERNAL REFERENCE	BC169/2026 1/1
TRADEMARK	FATROMED
MANUFACTURER	FATROMED SRL
COUNTRY OF MANUFACTURER	Italy
SINGLE UNIT OR SYSTEM	Single
POWER SOURCE	Internal battery AC/DC adapter (model JSY-0502000) powered at 100-240V ~ 50-60Hz
POWER SUPPLY NOMINAL VOLTAGE	3,7V C.C. 2500mAh LIPO Rechargeable Battery separately approved UN38.3
MAX ABSORBED CURRENT OR MAX POWER	4.75W
OPERATING TEMPERATURE	0°C ÷ +40°C
FIRMWARE VERSION (Information provided by Applicant)	R2.2.2
HARDWARE VERSION (Information provided by Applicant)	1.1
DIMENSIONS	Ø84 x H 161 Weight 1.2kg
EUT STANDING	☐ WALL; ☐ CEILING; ☐ TABLE; ☐ FLOOR; ☐ RACK MOUNTED; ☐ BODY WORN; ☐ HANDELD; ☐ PORTABLE; ☐ MOBILE; ☒ VEHICLE
HIGHEST INTERNAL FREQUENCY (Information provided by Applicant)	☐ <108MHz; ☒ 108MHz<F<500MHz; ☐ 500MHz<F<1GHz; ☐ F>1GHz
FCC CLASSIFICATION	Class B

4.2 RFIDmodule technical data

CHIP MANUFACTURER	
MODEL NAME	MFRC52202HN1
ETS CATEGORY	Radio-Frequency Identification (RFID)
FREQUENCY BAND	13.553-13.567MHz
OPERATING FREQUENCY	13.56MHz
TRANSMITTER MAX POWER	25.98dBμV/m Peak@3m distance
TYPE OF MODULATION	ASK
ANTENNA TYPE (Information provided by Applicant)	PCB Near-Field Inductive Loop Antenna (Magnetic Loop)
ANTENNA DIMENSION (Information provided by Applicant)	Outer diameter 66mm Inner hole diameter 30mm
ANTENNA GAIN (Information provided by Applicant)	0dBi

4.3 Ports identification

	PORT	DESCRIPTION	CONNECTION	NOTES
☒	Enclosure	Metal	Pressure	---
☒	AC power port	AC/DC adapter for charging 115V ~ 60Hz	USB type C	<3m
☒	DC power port	Internal battery	---	---
☐	Signal/control port	Port not present	---	---
☐	Telecommunication port	Port not present	---	---
☒	Antenna port	Internal battery	---	---

Note: During the tests all cables must be what provided the manufacturer or the same that used in the real employment of the EUT.

4.4 Modifications incorporated in E.U.T.

The following items are the modifications introduced in the equipment under test:

- None

4.5 Auxiliary equipment

- None

5. OPERATING MODES AND TEST CONDITIONS

In the following table there are the operating conditions adopted during tests identified by an indicator (#) at which has been referred the item "Operating condition of the equipment under test"

OPERATING CONDITION	DESCRIPTION
#1	EUT in maximum RFID output power. Radiated measurements were performed with the reader placed above the base; it produced worst case emissions and output power, therefore this alignment was used for all measurements.

Special Test Software: None

Special Hardware Used: None

Transmitter Test Antenna: The EUT has been tested with the antenna fitted in a manner typical of normal intended use as integral antenna equipment as described with the test results.

6. REFERENCE STANDARDS

CODE OF FEDERAL REGULATIONS	DESCRIPTION
Title 47 Part 15 Subpart C	Radio frequency devices - Intentional Radiators
Title 47 Part 15 Subpart C § 15.207	Radio frequency devices - Intentional Radiators Conducted Limits
Title 47 Part 15 Subpart C § 15.209	Radio frequency devices - Intentional Radiators Radiated emission limits; general requirements.
Title 47 Part 15 Subpart C § 15.225	Radio frequency devices - Intentional Radiators Operation within the band 13.110-14.010MHz.
ANSI C63.4: 2014; ANSI C63.4a: 2017	American National Standard for Methods of Measuring of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz
ANSI C63.10:2020	American National Standard for Testing Unlicensed Wireless Devices

7. UNITS OF MEASUREMENTS

Conducted EMI Data is in dBμV; dB referenced to one microvolt

Radiated EMI Data is in dBμV/m; dB/m referenced to one microvolt per meter

Sample Calculation:

RFS = Radiated Field Strength,

FSM = Field Strength Measured,

A.F. = Receive antenna factor,

Gain = amplification gains and/or cable losses.

$$\text{RFS (dB}\mu\text{V/m @ 3m)} = \text{FSM (dB}\mu\text{V)} + \text{A.F. (dB/m)} - \text{Gain (dB)}$$

8. SUMMARY OF TEST RESULTS

EUT PORT	DESCRIPTION OF PHENOMENA	BASIC STANDARD	OPERATING CONDITION ¹	RESULTS
Enclosure / Antenna port	Antenna requirement	Title 47 Part 15 Subpart C §15.203	---	PASS
	Transmitter Radiated Emissions <1GHz	Title 47 Part 15 Subpart C § 15.209(a) & §15.225(d)	#1	PASS
	Radiated Field Emissions Mask	Title 47 Part 15 Subpart C §15.225(a)(b)(c)	#1	PASS
	Frequency Tolerance	Title 47 Part 15 Subpart C §15.225(e)	#1	PASS
AC main ²	Conducted emission	Title 47 Part 15 Subpart C §15.207	#1	PASS

Note: ¹ Ref. Tab. Of Section 5

² Used AC/DC adapter and EUT in charge mode

9. TESTS RESULTS

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TEST 1.	ANTENNA REQUIREMENTS
REFERENCE DOCUMENT	According to §15.203 / 15.204 An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sec. 15.211, Sec. 15.213, Sec. 15.217, Sec. 15.219, or Sec. 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Sec. 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded

Antenna Requirements
The EUT has PCB Near-Field Inductive Loop Antenna (Magnetic Loop) and uses a proprietary coupling, ensuring compliance with the requirements.
RESULT: PASS

TEST 2.	TRANSMITTER RADIATED EMISSIONS < 1GHZ
REFERENCE DOCUMENT	According to § 15.225 (d) and § 15.209 (a) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

• TEST LOCATION	Semi-Anechoic Chamber					
• DISTANCE OF MEASUREMENT	3m					
• TYPE OF MEASUREMENT	Radiated					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	MXE Emi Receiver	Keysight	N9038A	MY57290150	01/2026	01/2027
	Semi-Anechoic Chamber	Siemens	B83117-D6019-T232	003-005-134/94C	02/2026	02/2027
	Loop antenna	Rohde & Schwarz	HFH 2-Z2	841801/012	01/2025	01/2028
	Bi-log antenna	Chase	CBL6111C	2717	06/2025	06/2028
	Software EMC	Rohde & Schwarz	EMC32-E	V 8.40.0	N.A.	
• TESTED PORT	Enclosure					
• TEST METHOD	ANSI C63.10:2020 section 6.5 and 6.10					
• FREQUENCY RANGE	9kHz – 1GHz					
• LIMITS	Acc. To ref. Std.					
• UNCERTAINTY OF MEASURE	Level of confidence = 95% (k=2) Expanded uncertainty 9kHz – 30MHz = 3.85dB Expanded uncertainty 30MHz – 1GHz = 6.00dB					

TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	23°C
Ambient humidity	25 - 75%rH	39%
Pressure	86 - 106kPa (860mbar - 1060mbar)	1012mbar

OPERATING CONDITION: #1

RESULT: PASS

MEASUREMENT PARAMETER

Frequency Range:	9kHz – 150kHz	150kHz-30MHz	30MHz – 1GHz
RBW:	300Hz	10kHz	120kHz
Video bandwidth:	1kHz	30kHz	300kHz
Span:	See plots below	See plots below	See plots below
Sweep time	Auto couple	Auto couple	Auto couple
Detector:	Peak	Peak	Peak
Trace-Mode:	Max. hold	Max. hold	Max. hold

TEST DESCRIPTION

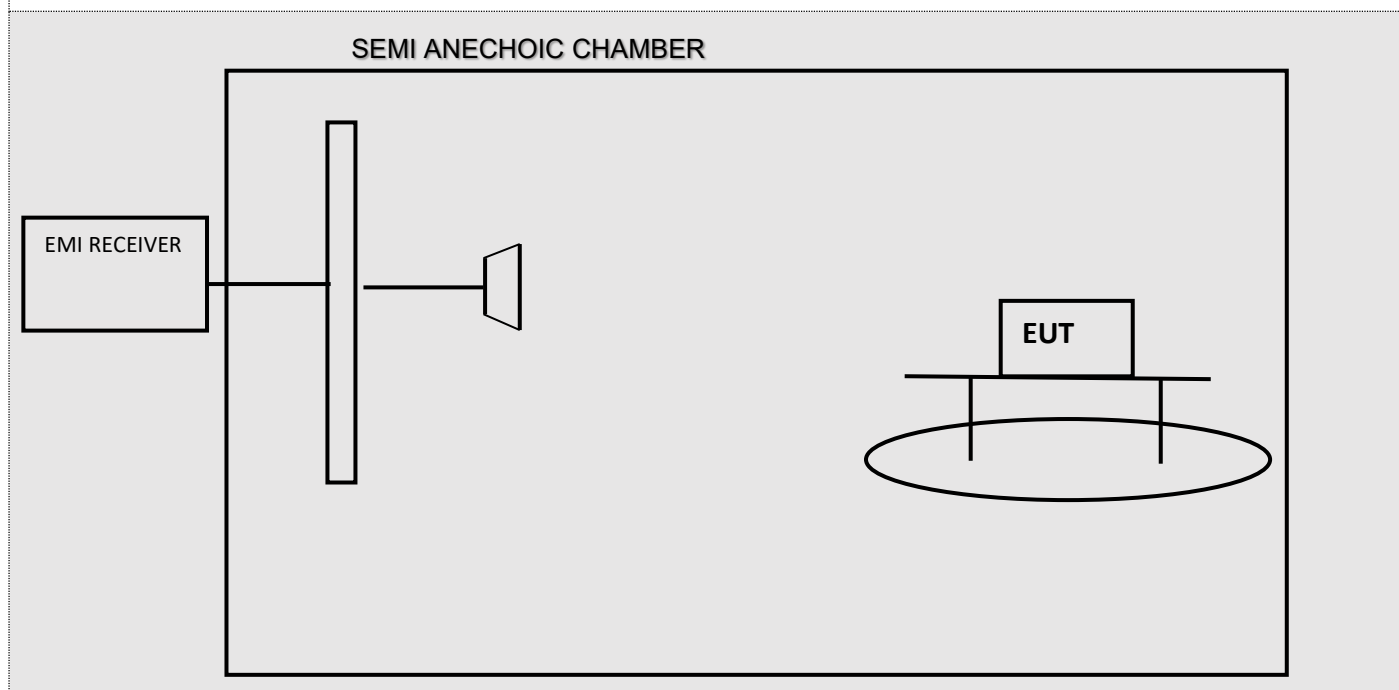
Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously - rotating, remotely - controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency.

The EUT is placed at test table height is 80 cm above the reference ground plane.

Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m~4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3m.

This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

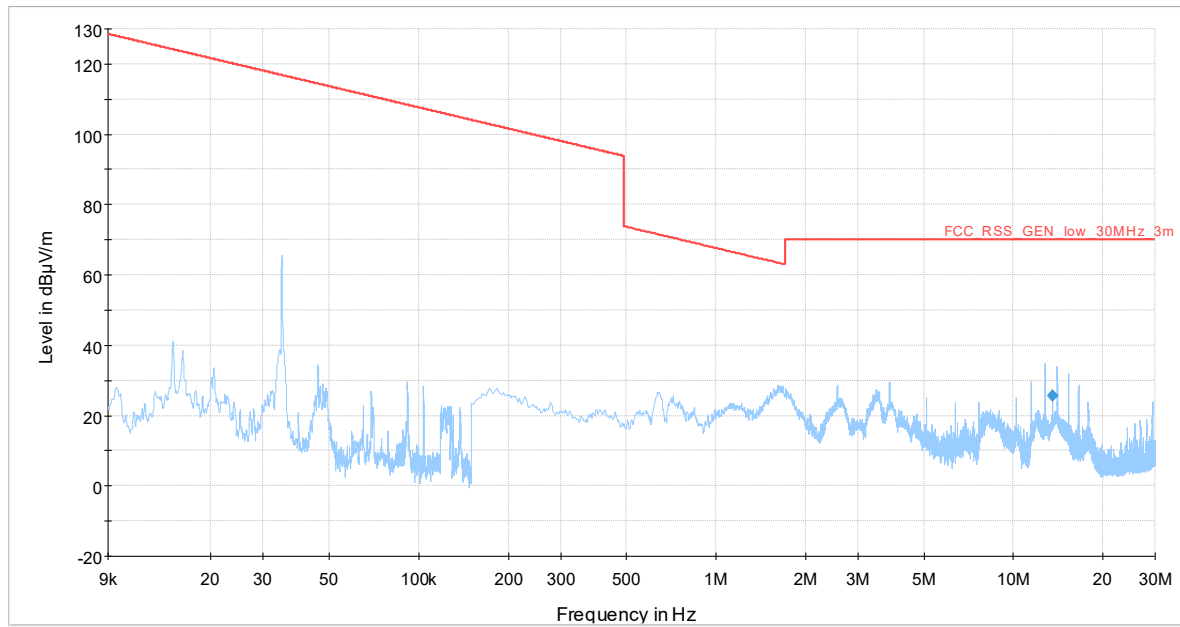
TEST SETUP BLOCK DIAGRAM



TEST RESULTS

RX Antenna Polarization: ---

Frequency Range: 9kHz – 30MHz

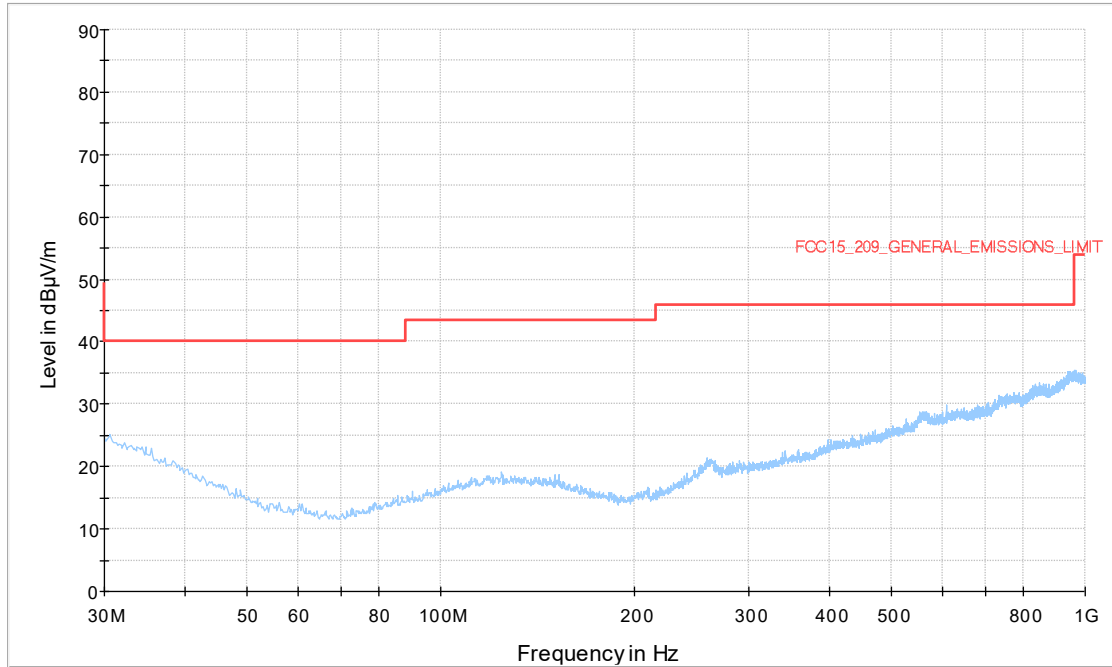


Final Result:

Frequency (MHz)	Average (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
13.560000	25.98	104.8	0.0	44.02	70.0

RX Antenna Polarization: Vertical

Frequency Range: 30MHz – 1GHz

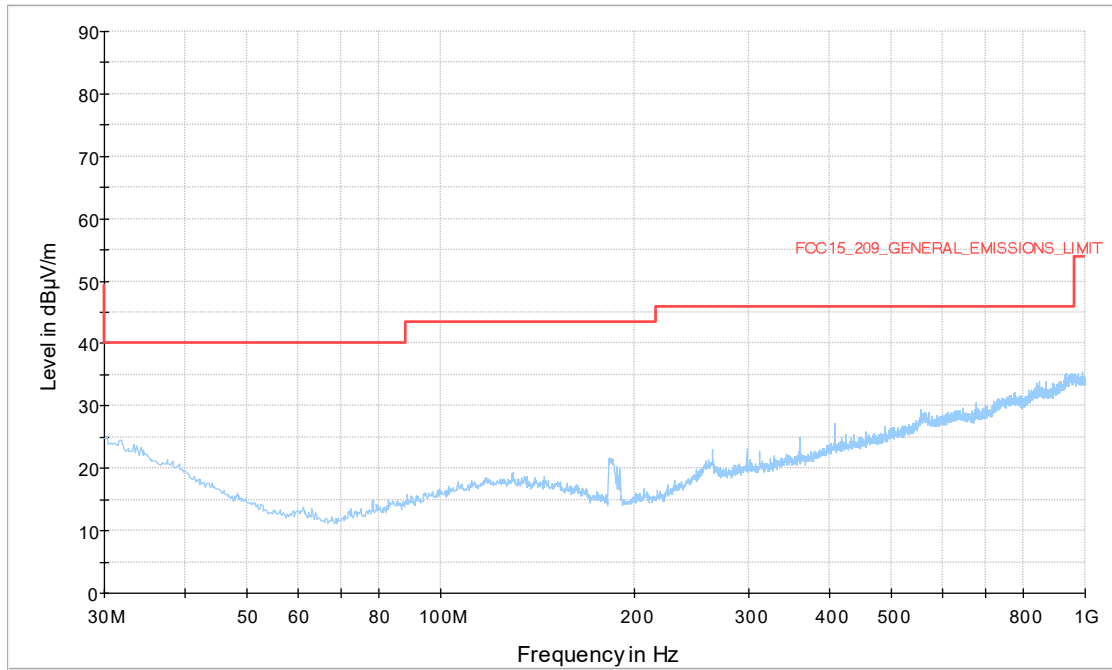


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Horizontal

Frequency Range: 30MHz – 1GHz



Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

TEST 3.	RADIATED FIELD EMISSIONS MASK
REFERENCE DOCUMENT	According to § 15.225(a)(b)(c) (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters. (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

• TEST SETUP	Acc. To ref. Std.					
• TEST LOCATION	Semi-Anechoic Chamber					
• DISTANCE OF MEASUREMENT	3m					
• TYPE OF MEASUREMENT	Radiated					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	MXE Emi Receiver	Keysight	N9038A	MY57290150	01/2026	01/2027
	Semi-Anechoic Chamber	Siemens	B83117-D6019-T232	003-005-134/94C	02/2026	02/2027
	Loop antenna	Rohde & Schwarz	HFH 2-Z2	841801/012	01/2025	01/2028
	Software EMC	Rohde & Schwarz	EMC32-E	V 8.40.0	N.A.	
• TESTED PORT	Antenna					
• TEST METHOD	ANSI C63.10:2020 section 6.6 and 6.10					
• FREQUENCY RANGE	13.410MHz – 14.010MHz					
• LIMITS	Acc. To ref. Std.					
• UNCERTAINTY OF MEASURE	Level of confidence = 95% (k=2)					
	Expanded uncertainty 9kHz – 30MHz = 3.85dB					

TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	24°C
Ambient humidity	25 - 75%rH	45%
Pressure	86 - 106kPa (860mbar - 1060mbar)	1012mbar

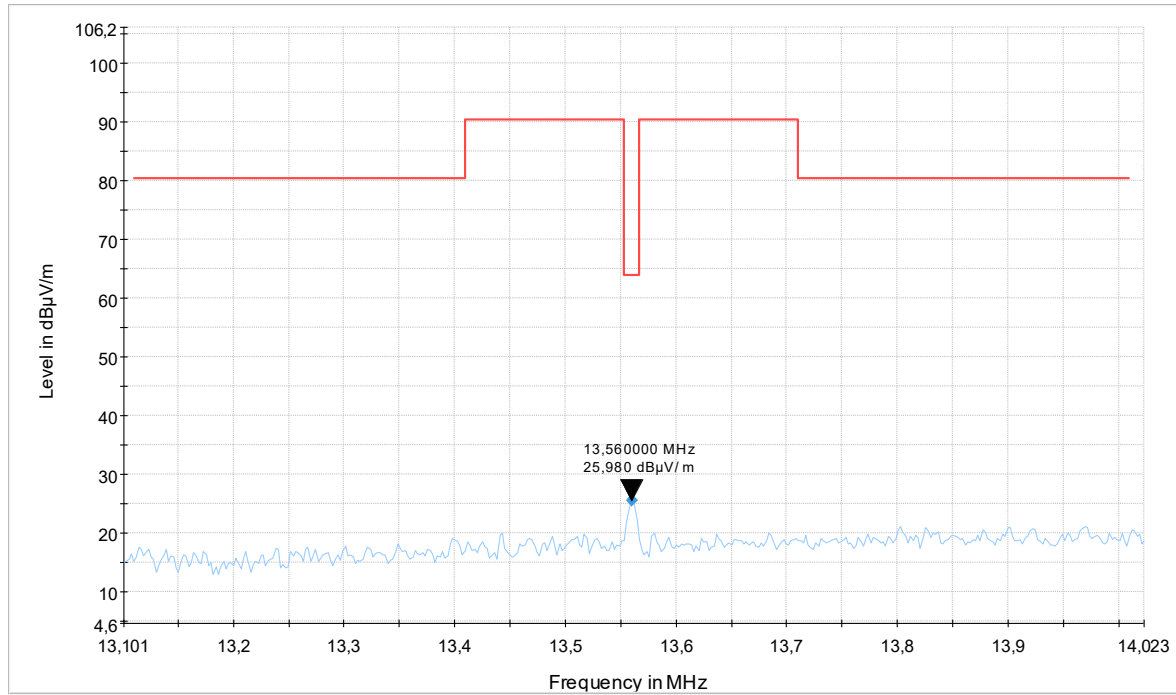
OPERATING CONDITION: #1

RESULT: PASS

MEASUREMENT PARAMETER	
Resolution bandwidth	10kHz
Video bandwidth	30kHz
Span	600kHz
Sweep time	Auto couple
Detector	Peak
Trace-Mode	Max. hold

TEST RESULTS

Frequency Range: 13.410MHz – 14.010MHz



Final Results:

Frequency (MHz)	Average (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
13.560000	25.98	104.8	0.0	38.02	64.0

TEST 4.	CONDUCTED EMISSION
REFERENCE DOCUMENT	According to §15,207

• TEST SETUP	According to reference standard					
• TEST LOCATION	Shielded room					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	MXE Emi Receiver	Keysight	N9038A	MY57290150	01/2026	01/2027
	LISN	Rohde & Schwarz	ESH3-Z5	838576/009	07/2026	07/2028
	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100837	05/2025	05/2027
	Software EMC	Rohde & Schwarz	EMC32-E	V 8.40.0	N.A.	
• TESTED PORT	Antenna					
• TEST METHOD	ANSI C63.10:2020 section 6.2					
• FREQUENCY RANGE	150kHz - 30MHz					
• LIMITS	Acc. To § 15.207 (a)					
• UNCERTAINTY OF MEASURE	Level of confidence = 95% (k=2)					
	Expanded uncertainty 150kHz – 30 MHz = 2.81dB					

TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	24°C
Ambient humidity	25 - 75%rH	45%
Pressure	86 - 106kPa (860mbar - 1060mbar)	1012mbar
Voltage		115V ~ 60Hz

OPERATING CONDITION: #1

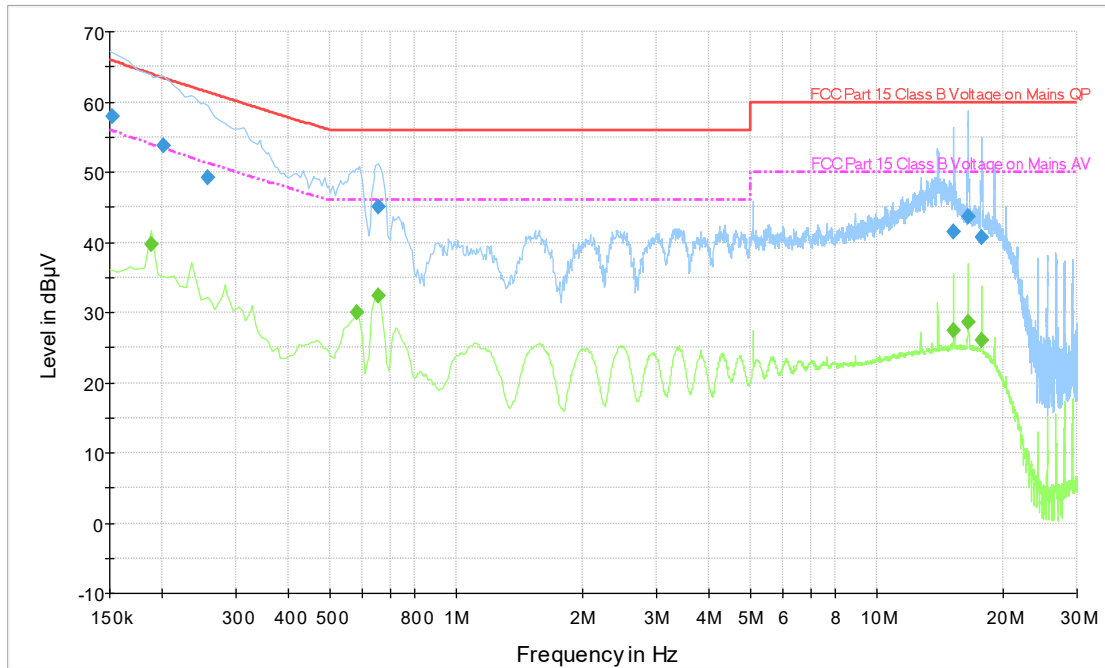
RESULT: PASS

MEASUREMENT PARAMETER – 150kHz – 30MHz	
Resolution bandwidth	9kHz
Video bandwidth	30kHz
Span	29.850MHz
Sweep time	Auto couple
Detector	Quasi Peak - Average
Trace-Mode	Max. hold

TEST RESULTS

Line: L

Frequency Range: 150MHz – 30MHz



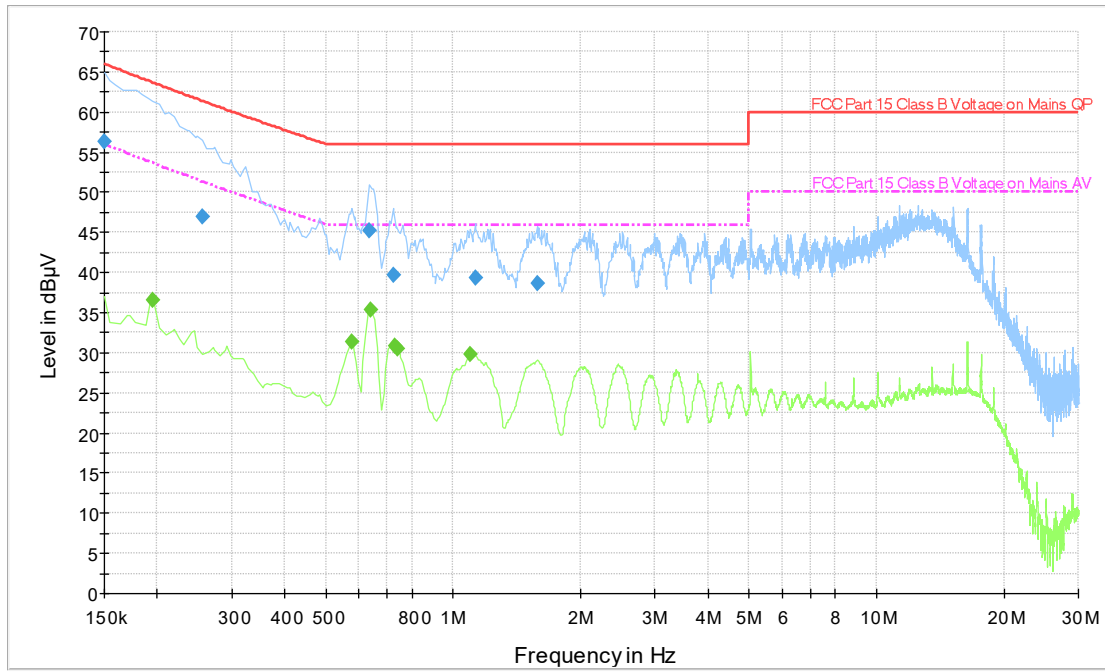
Final Results:

Frequency (MHz)	QuasiPeak (dBμV)	PE	Margin (dB)	Limit (dBμV)
0.152250	57.9	GND	8.0	65.9
0.201750	53.8	GND	9.6	63.4
0.255750	49.2	GND	12.2	61.4
0.651750	45.0	GND	11.0	56.0
15.279000	41.4	GND	18.6	60.0
16.545750	43.7	GND	16.3	60.0
17.821500	40.8	GND	19.2	60.0

Frequency (MHz)	Average (dBμV)	PE	Margin (dB)	Limit (dBμV)
0.188250	39.8	GND	14.2	54.0
0.582000	30.0	GND	16.0	46.0
0.651750	32.4	GND	13.6	46.0
15.272250	27.5	GND	22.5	50.0
16.543500	28.7	GND	21.3	50.0
17.821500	26.0	GND	24.0	50.0

Line: N

Frequency Range: 150MHz – 30MHz



Final Results:

Frequency (MHz)	QuasiPeak (dBμV)	PE	Margin (dB)	Limit (dBμV)
0.150000	56.3	GND	9.7	66.0
0.255750	46.9	GND	14.5	61.4
0.633750	45.2	GND	10.8	56.0
0.721500	39.6	GND	16.4	56.0
1.128750	39.3	GND	16.7	56.0
1.578750	38.6	GND	17.4	56.0

Frequency (MHz)	Average (dBμV)	PE	Margin (dB)	Limit (dBμV)
0.195000	36.5	GND	17.2	53.7
0.577500	31.3	GND	14.7	46.0
0.638250	35.4	GND	10.6	46.0
0.730500	30.8	GND	15.2	46.0
0.737250	30.4	GND	15.6	46.0
1.099500	29.9	GND	16.1	46.0

TEST 5.

FREQUENCY TOLERANCE

REFERENCE DOCUMENT

According to §15.225(e)

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+ 50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

• TEST LOCATION	Radio test area					
• TYPE OF MEASUREMENT	Radiated					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	Emi Receiver	Rohde & Schwarz	ESU 40	100111	06/2026	06/2027
• TESTED PORT	Antenna					
• TEST METHOD	ANSI C63.10:2020 section 6.8					
• FREQUENCY RANGE	Carrier					

OPERATING CONDITION: #1

RESULT: **PASS**

LIMITS

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

TEST RESULTS

Voltage ¹ (V)	Temperature (°C)	Frequency (MHz)	Variation at the reference value (MHz)	Variation at the reference value (%)	Maximum variation	Result
115	+20	13.559804510	---	---	$\pm 0.01\%$	PASS
	-20	13.559820450	-0.00001594	-0.0002		
	+50	13.559813450	-0.00000894	-0.0001		
97.75	+20	13.559817500	-0.00001299	-0.0001		
132.25	+20	13.559851550	-0.00004704	+0.00004		

¹Voltage of AC/DC adapter.

END OF TEST REPORT