

TEST REPORT

Test report no.: 1-7412_24-01-04-A



Testing laboratory

cetecom advanced GmbH

Untertuerkheimer Strasse 6 – 10

66117 Saarbruecken / Germany

Phone: + 49 681 5 98 - 0

Fax: + 49 681 5 98 - 9075

Internet: <https://cetecomadvanced.com>

e-mail: mail@cetecomadvanced.com

Accredited Testing Laboratory:

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2018-03) by the Deutsche Akkreditierungsstelle GmbH (DAkkS).

The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number:

D-PL-12047-01-00.

ISED Testing Laboratory Recognized Listing Number: DE0001

FCC designation number: DE0002

Applicant

WSAUD A/S

Nymøllevej 6

DK-3540 Lyngby / DENMARK

Phone: +45 4435 5600

Contact: Richard Rose

e-mail: richard.rose@wsa.com

Manufacturer

WSAUD A/S

Nymøllevej 6

DK-3540 Lyngby / DENMARK

Test standard/s

FCC - Title 47 CFR Part 15

FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices

RSS - 210 Issue 11

Spectrum Management and Telecommunications Radio Standards

Specification - Licence-Exempt Radio Apparatus: Category I Equipment

For further applied test standards please refer to section 3 of this test report.

Test Item

Kind of test item:	RF Module
Model name:	RFM009
FCC ID:	2AXDT-RFM009
ISED certification number:	26428-RFM009
Frequency:	3.27 MHz
Technology tested:	Proprietary
Antenna:	Integrated antenna
Power supply:	3.3 V to 4.2 V DC by Li Ion battery
Temperature range:	0°C to +50°C

This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test report authorized:

On behalf of

Christoph Schneider
Lab Manager
Radio Labs

Test performed:

On behalf of

Tobias Wittenmeier
Testing Manager
Radio Labs

1 Table of contents

1	Table of contents.....	2
2	General information.....	3
2.1	Notes and disclaimer.....	3
2.2	Application details.....	3
2.3	Test laboratories sub-contracted.....	3
3	Test standard/s, references and accreditations.....	4
4	Reporting statements of conformity – decision rule	5
5	Test environment.....	6
6	Test item	6
6.1	General description	6
6.2	Additional information.....	6
7	Description of the test setup	7
7.1	Shielded semi anechoic chamber.....	8
7.2	Shielded fully anechoic chamber	10
7.3	Radiated measurements RF laboratory.....	11
8	Sequence of testing	12
8.1	Sequence of testing radiated spurious 9 kHz to 30 MHz.....	12
8.2	Sequence of testing radiated spurious 30 MHz to 1 GHz	13
9	Measurement uncertainty	14
10	Summary of measurement results	15
11	Additional comments	15
12	Measurement results	16
12.1	Occupied bandwidth.....	16
12.2	Field strength of the fundamental.....	19
12.3	Field strength of the harmonics and spurious	21
13	Observations.....	28
14	Glossary.....	29
15	Document history	30

2 General information

2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. cetecom advanced GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of cetecom advanced GmbH.

The testing service provided by cetecom advanced GmbH has been rendered under the current "General Terms and Conditions for cetecom advanced GmbH".

cetecom advanced GmbH will not be liable for any loss or damage resulting from false, inaccurate, inappropriate or incomplete product information provided by the customer.

Under no circumstances does the cetecom advanced GmbH test report include any endorsement or warranty regarding the functionality, quality or performance of any other product or service provided.

Under no circumstances does the cetecom advanced GmbH test report include or imply any product or service warranties from cetecom advanced GmbH, including, without limitation, any implied warranties of merchantability, fitness for purpose, or non-infringement, all of which are expressly disclaimed by cetecom advanced GmbH.

All rights and remedies regarding vendor's products and services for which cetecom advanced GmbH has prepared this test report shall be provided by the party offering such products or services and not by cetecom advanced GmbH.

In no case this test report can be considered as a Letter of Approval.

This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

This test report replaces the test report with the number 1-7412_24-01-04 and dated 2024-03-19.

2.2 Application details

Date of receipt of order:	2024-02-06
Date of receipt of test item:	2024-03-04
Start of test:*	2024-03-05
End of test:*	2024-03-12
Person(s) present during the test:	-/-

*Date of each measurement, if not shown in the plot, can be requested. Dates are stored in the measurement software.

2.3 Test laboratories sub-contracted

None

3 Test standard/s, references and accreditations

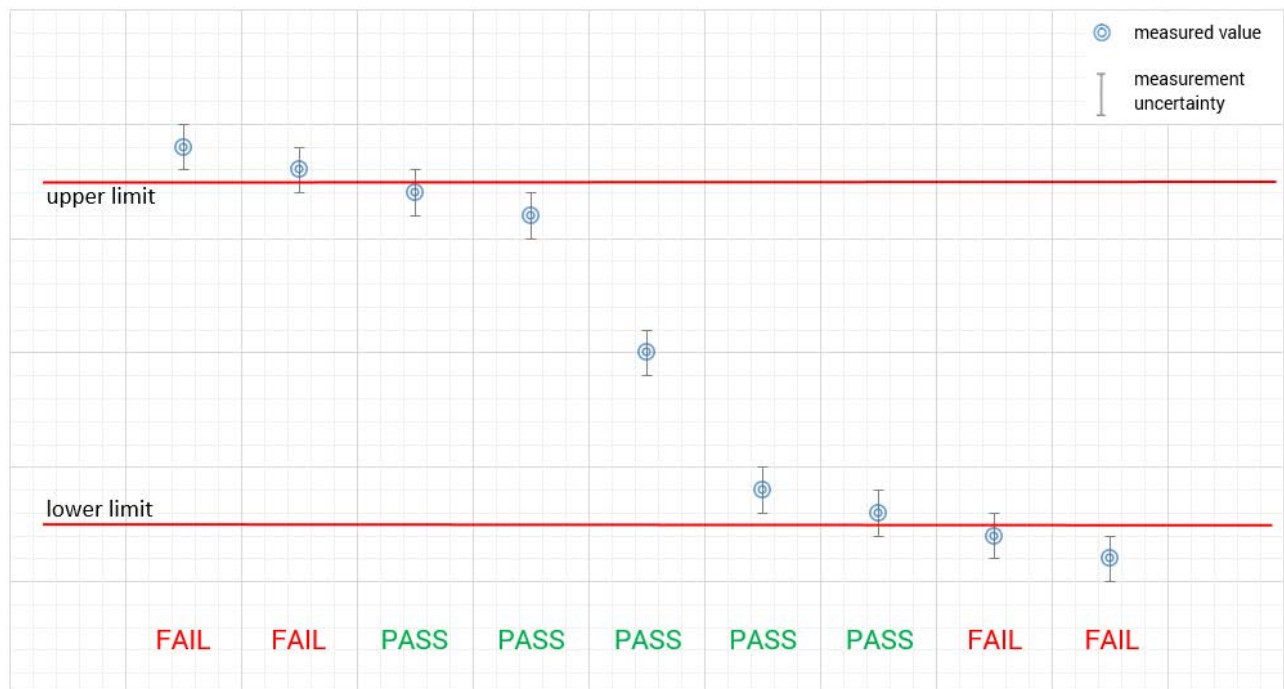
Test standard	Date	Description
FCC - Title 47 CFR Part 15		FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 210 Issue 11	June 2024	Spectrum Management and Telecommunications Radio Standards Specification - Licence-Exempt Radio Apparatus: Category I Equipment
RSS - Gen Issue 5 incl. Amendment 1 & 2	February 2021	Spectrum Management and Telecommunications Radio Standards Specification - General Requirements for Compliance of Radio Apparatus
Guidance	Version	Description
ANSI C63.4-2014	-/-	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10-2013	-/-	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

4 Reporting statements of conformity – decision rule

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed in chapter 3.

The measurement uncertainty is mentioned in this test report, see chapter 9, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong."

measured value, measurement uncertainty, verdict



5 Test environment

Temperature	:	T_{nom} T_{max} T_{min}	+22 °C during room temperature tests +50 °C during high temperature tests 0 °C during low temperature tests
Relative humidity content	:		55 %
Barometric pressure	:		1021 hpa
Power supply	:	V_{nom} V_{max} V_{min}	3.85 V DC by Li Ion battery 4.2 V 3.3 V

6 Test item

6.1 General description

Kind of test item	:	RF Module
Model name	:	RFM009
HMN	:	-/-
PMN	:	RF Module 9
HVIN	:	RFM009
FVIN	:	-/-
S/N serial number	:	JDQ4319
Hardware status	:	11.10.60
Software status	:	-/-
Firmware status	:	11.10.60
Frequency band	:	3.27 MHz
Type of radio transmission	:	TDMA
Use of frequency spectrum	:	
Type of modulation	:	QPSK
Number of channels	:	1
Antenna	:	Integrated antenna
Power supply	:	3.3 V to 4.2 V DC by Li Ion battery
Temperature range	:	0°C to +50°C

6.2 Additional information

The content of the following annexes is defined in the QA. It may be that not all of the listed annexes are necessary for this report, thus some values in between may be missing.

Test setup and EUT photos are included in test report:

1-7412_24-01-01_AnnexA
1-7412_24-01-01_AnnexB
1-7412_24-01-01_AnnexF

7 Description of the test setup

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, RF generating and signaling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Lab/Item).

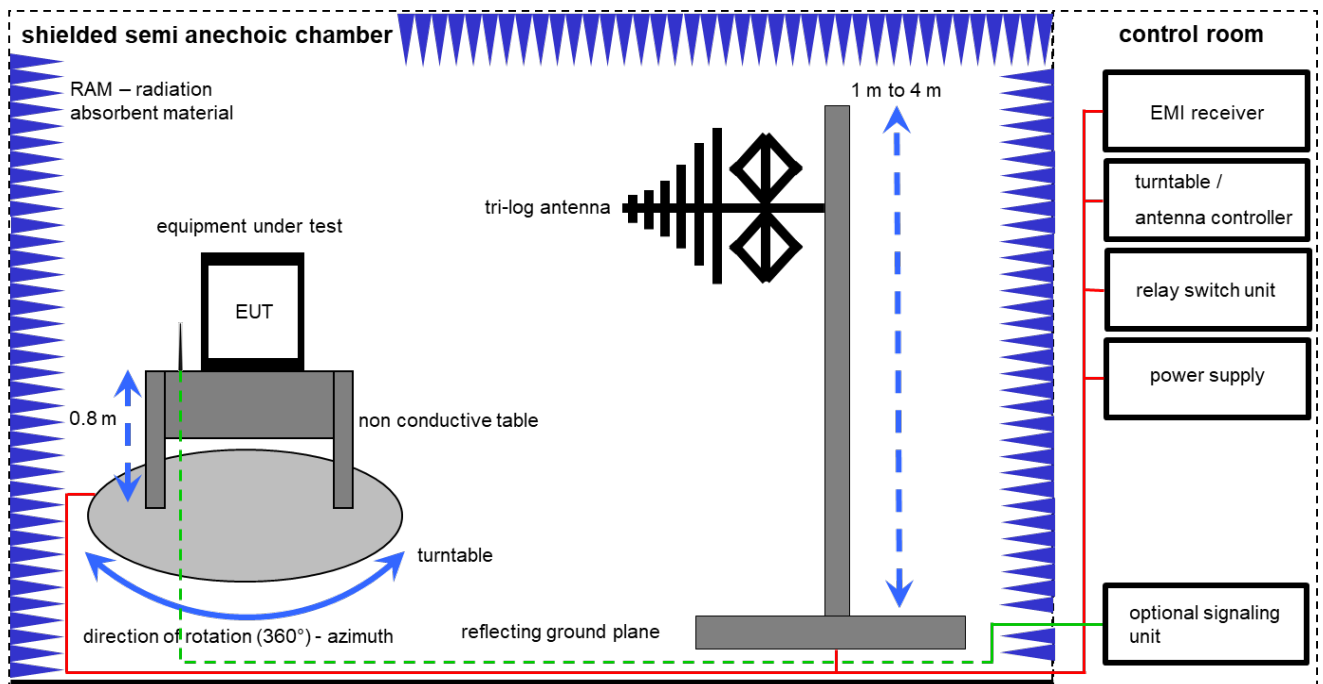
Each block diagram listed can contain several test setup configurations. All devices belonging to a test setup are identified with the same letter syntax. For example: Column Setup and all devices with an A.

Agenda: Kind of Calibration

k	calibration / calibrated	EK	limited calibration
ne	not required (k, ev, izw, zw not required)	zw	cyclical maintenance (external cyclical maintenance)
ev	periodic self verification	izw	internal cyclical maintenance
Ve	long-term stability recognized	g	blocked for accredited testing
vlk!	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress

7.1 Shielded semi anechoic chamber

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 30 MHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are conform to specifications ANSI C63. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analyzers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.



Measurement distance: tri-log antenna 10 meter
EMC32 software version: 10.59.00

FS = UR + CL + AF
(FS-field strength; UR-voltage at the receiver; CL-loss of the cable; AF-antenna factor)

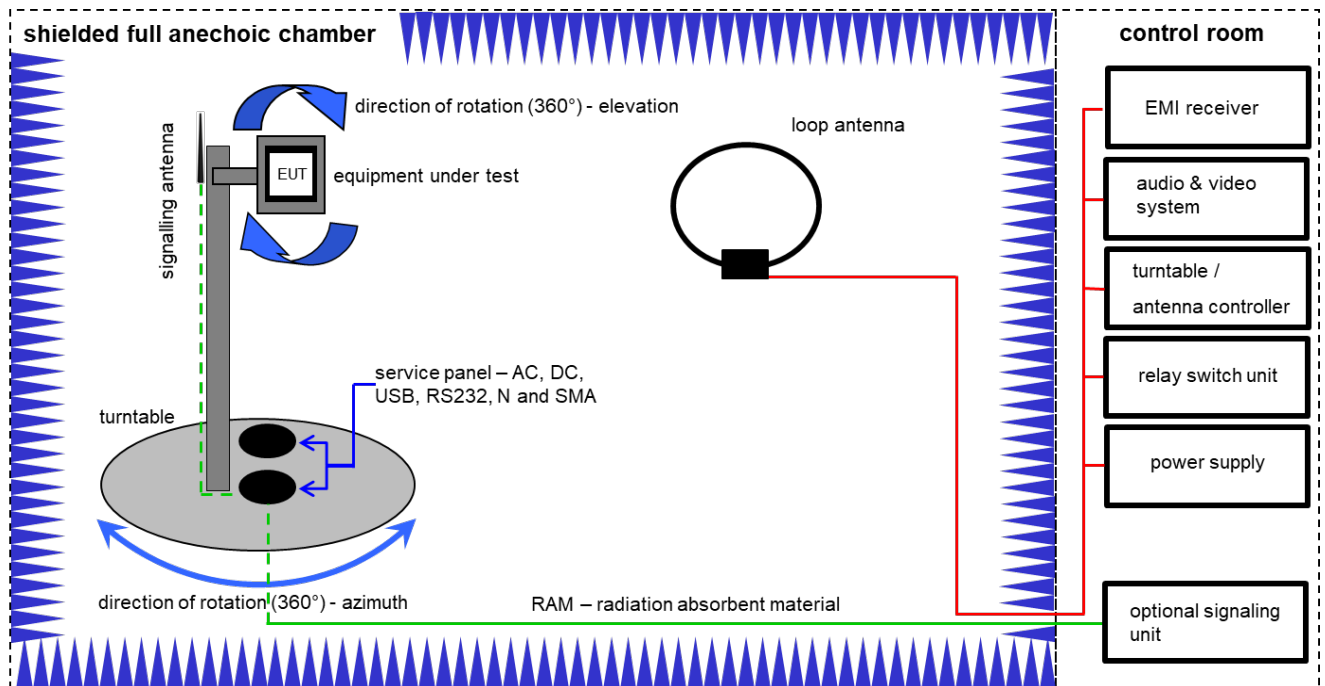
Example calculation:

FS [dB μ V/m] = 12.35 [dB μ V/m] + 1.90 [dB] + 16.80 [dB/m] = 31.05 [dB μ V/m] (35.69 μ V/m)

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Switch-Unit	3488A	HP	2719A14505	300000368	ev	-/-	-/-
2	A	Semi anechoic chamber	3000023	MWB AG		300000551	ne	-/-	-/-
3	A	Analyzer-Reference-System (Harmonics and Flicker)	ARS 16/1	SPS	A3509 07/0 0205	300003314	NK!	-/-	-/-
4	A	Antenna Tower	Model 2175	ETS-Lindgren	64762	300003745	izw	-/-	-/-
5	A	Positioning Controller	Model 2090	ETS-Lindgren	64672	300003746	izw	-/-	-/-
6	A	Turntable Interface-Box	Model 105637	ETS-Lindgren	44583	300003747	izw	-/-	-/-
7	A	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck Mess - Elektronik	318	300003696	vKI!	31.01.2024	30.01.2026
8	A	Turntable	2089-4.0	EMCO		300004394	ne	-/-	-/-
9	A	PC	TecLine	F+W		300004388	ne	-/-	-/-
10	A	EMI Test Receiver	ESR3	Rohde & Schwarz	102587	300005771	k	06.12.2023	31.12.2024

7.2 Shielded fully anechoic chamber



Measurement distance: loop antenna 3 meter / 1 meter

FS = UR + CA + AF

(FS-field strength; UR-voltage at the receiver; CA-loss of the signal path; AF-antenna factor)

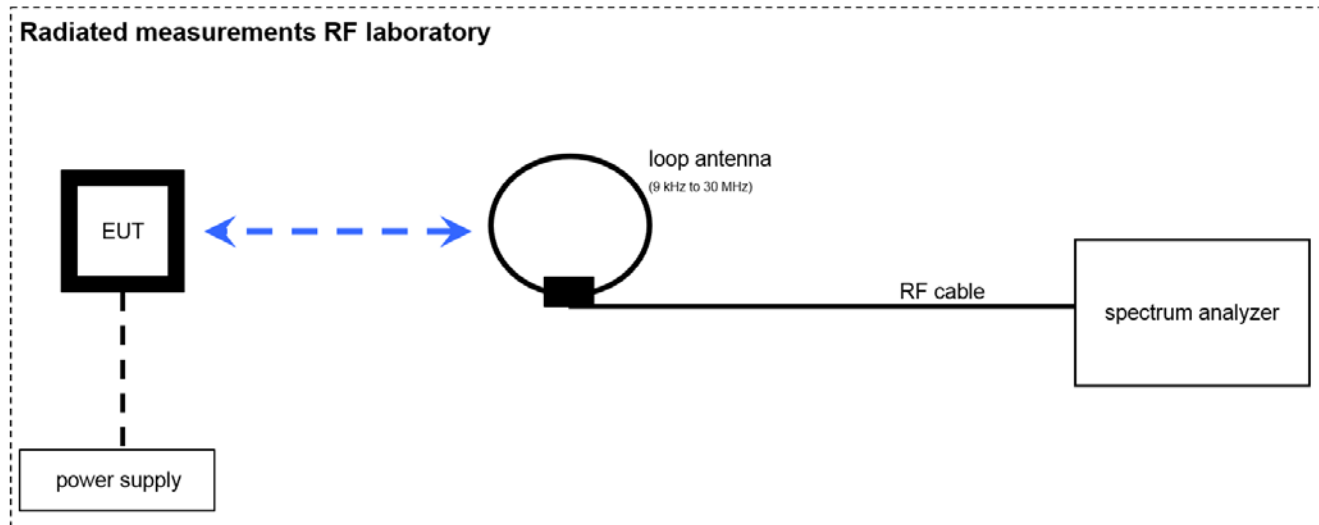
Example calculation:

FS [dBμV/m] = 40.0 [dBμV/m] + (-35.8) [dB] + 32.9 [dB/m] = 37.1 [dBμV/m] (71.61 μV/m)

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Active Loop Antenna 9 kHz to 30 MHz	6502	EMCO	2210	300001015	vIKI!	02.08.2023	31.08.2025
2	A	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev	-/-	-/-
3	A	Switch / Control Unit	3488A	HP	*	300000199	ne	-/-	-/-
4	A	EMI Test Receiver 20Hz- 26,5GHz	ESU26	R&S	100037	300003555	k	11.12.2023	31.12.2024
5	A	4U RF Switch Platform	L4491A	Agilent Technologies	MY50000037	300004509	ne	-/-	-/-
6	A	NEXIO EMV- Software	BAT EMC V2022.0.32.0	Nexio		300004682	ne	-/-	-/-

7.3 Radiated measurements RF laboratory



Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Signal analyzer	FSW26	Rohde&Schwarz	101455	300004528	k	14.12.2023	31.12.2024
2	A	Loop Antenna		ZEG TS Steinfurt		400001208	ev	-/-	-/-
3	A	RF Cable BNC	RG58	Huber & Suhner		400001209	ev	-/-	-/-

8 Sequence of testing

8.1 Sequence of testing radiated spurious 9 kHz to 30 MHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- If the EUT is a tabletop system, it is placed on a table with 0.8 m height.
- If the EUT is a floor standing device, it is placed directly on the turn table.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measurement distance is 3 m (see ANSI C 63.4) – see test details.
- EUT is set into operation.

Premeasurement*

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna height is 1 m.
- At each turntable position the analyzer sweeps with positive-peak detector to find the maximum of all emissions.

Final measurement

- Identified emissions during the pre-measurement are maximized by the software by rotating the turntable from 0° to 360°.
- Loop antenna is rotated about its vertical axis for maximum response at each azimuth about the EUT. (For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT)
- The final measurement is done in the position (turntable and elevation) causing the highest emissions with quasi-peak (as described in ANSI C 63.4).
- Final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. A plot with the graph of the premeasurement and the limit is stored.

*)Note: The sequence will be repeated three times with different EUT orientations.

8.2 Sequence of testing radiated spurious 30 MHz to 1 GHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measurement distance is 10 m or 3 m (see ANSI C 63.4) – see test details.
- EUT is set into operation.

Premeasurement

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1 m to 3 m.
- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement

- The final measurement is performed for at least six highest peaks according to the requirements of the ANSI C63.4.
- Based on antenna and turntable positions at which the peak values are measured the software maximize the peaks by changing turntable position $\pm 45^\circ$ and antenna height between 1 and 4 m.
- The final measurement is done with quasi-peak detector (as described in ANSI C 63.4).
- Final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit are recorded. A plot with the graph of the premeasurement with marked maximum final results and the limit is stored.

9 Measurement uncertainty

Measurement uncertainty	
Test case	Uncertainty
Occupied bandwidth	$\pm$ used RBW
Field strength of the fundamental	$\pm$ 3 dB
Field strength of the harmonics and spurious	$\pm$ 3 dB
Receiver spurious emissions and cabinet radiations	$\pm$ 3 dB
Conducted limits	$\pm$ 2.6 dB

10 Summary of measurement results

☒	No deviations from the technical specifications were ascertained
☐	There were deviations from the technical specifications ascertained
☐	This test report is only a partial test report. The content and verdict of the performed test cases are listed below.

TC Identifier	Description	Verdict	Date	Remark
RF-Testing	CFR Part 15 RSS 210 Issue 11 RSS Gen Issue 5	See table!	2024-09-13	-/-

Test specification clause	Test case	Temperature conditions	Power source conditions	C	NC	NA	NP	Remark
RSS Gen Issue 5 (6.7)	Occupied bandwidth	Nominal	Nominal	☒	☐	☐	☐	-/-
§ 15.209 RSS-210, Issue 11, B.3 Band a.	Field strength of the fundamental	Nominal	Nominal	☒	☐	☐	☐	-/-
§ 15.209 RSS Gen Issue 5 (6.13)	Field strength of the harmonics and spurious	Nominal	Nominal	☒	☐	☐	☐	-/-
§15.107 §15.207 RSS Gen Issue 5 (7.2)	Conducted limits	Nominal	Nominal	☐	☐	☒	☐	Battery powered only!

Note: NA = Not applicable; NP = Not performed; C = Compliant; NC = Not compliant

11 Additional comments

Reference documents: None

Special test descriptions: The EUT supports 3 different TX modes (MI e2eAudioHi mode, MI e2eAudioLo mode and MI e2eData mode). All modes were tested.

Configuration descriptions: None

12 Measurement results

12.1 Occupied bandwidth

Measurement:

The emission bandwidth (x dB) is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated x dB below the maximum in-band spectral density of the modulated signal.

Measurement parameters	
Detector:	Peak
Resolution bandwidth:	1 % – 5 % of the occupied bandwidth
Video bandwidth:	≥ 3x RBW
Trace mode:	Max hold
Analyser function:	99 % power function
Used test setup:	See sub clause 7.3 – A
Measurement uncertainty:	See sub clause 9

Limit:

IC
for RSP-100 test report coversheet only

Result:

MI e2eAudioHi mode

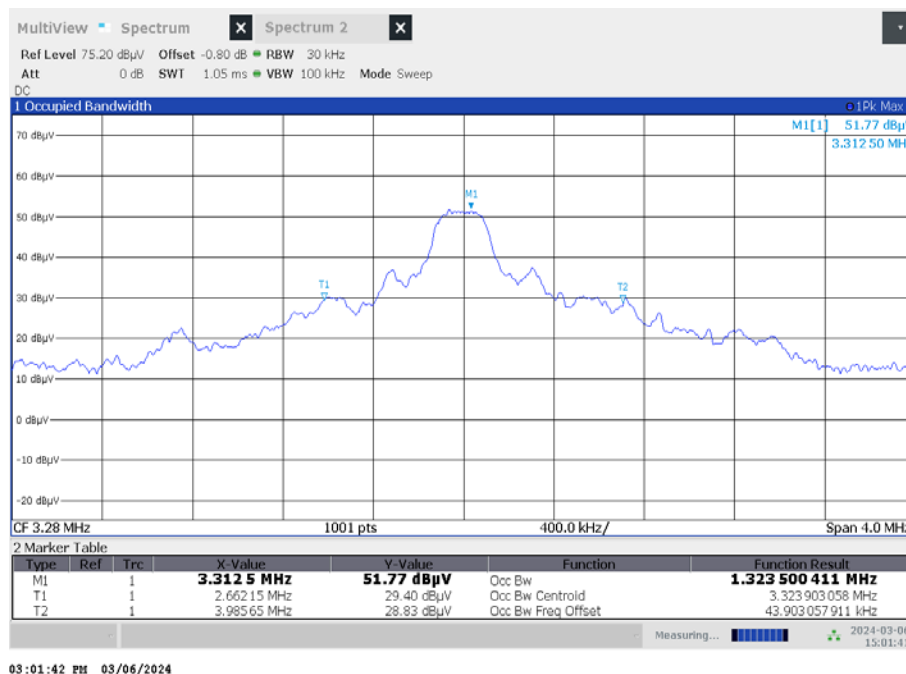
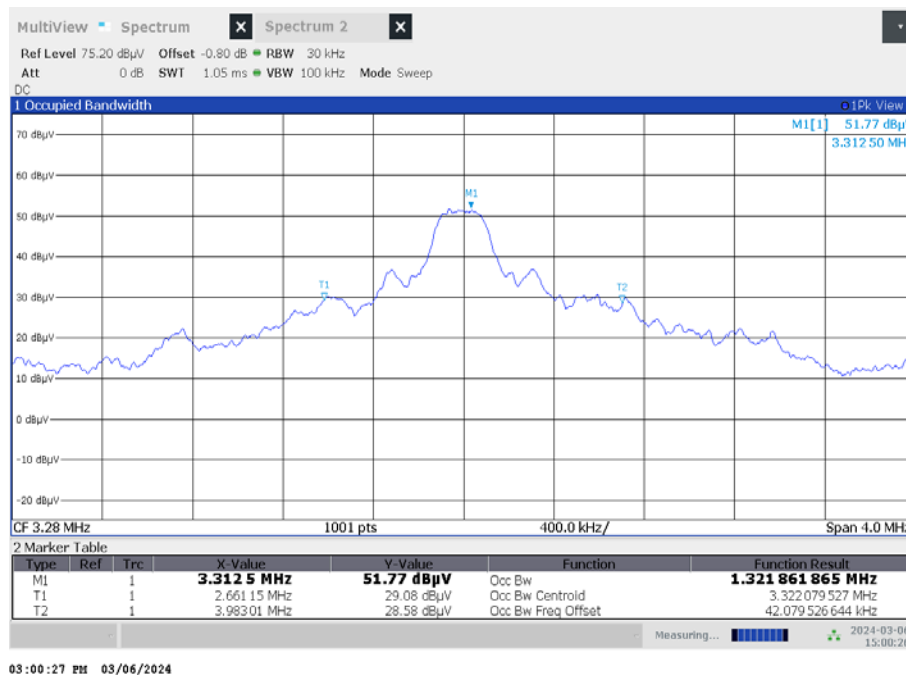
99% emission bandwidth
1323.5 kHz

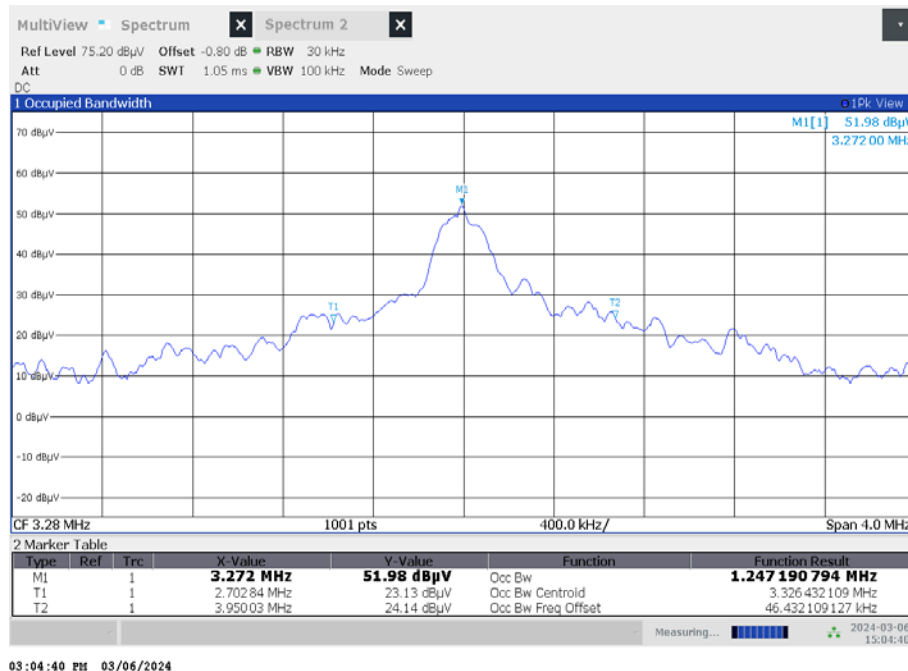
MI e2eAudioLo mode

99% emission bandwidth
1321.9 kHz

MI e2eData mode

99% emission bandwidth
1247.2 kHz

Plot:**Plot 1: 99 % emission bandwidth MI e2eAudioHi mode****Plot 2: 99 % emission bandwidth MI e2eAudioLo mode**

Plot 3: 99 % emission bandwidth MI e2eData mode

12.2 Field strength of the fundamental

Measurement:

The maximum detected field strength for the carrier signal.

Measurement parameters	
Detector:	average
Resolution bandwidth:	9 kHz
Video bandwidth:	≥ 3x RBW
Trace mode:	Max hold
Used test setup	See sub clause 7.2 – A
Measurement uncertainty:	See sub clause 8

Limit:

FCC & IC		
Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
1.705 – 30.0	30	30

IC		
Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
1.705 – 10.0	100	30

Recalculation:

According to ANSI C63.10		
Frequency	Formula	Correction value
3.27 MHz	$FS_{\text{limit}} = FS_{\text{max}} - 40 \log \left(\frac{d_{\text{nearfield}}}{d_{\text{measure}}} \right) - 20 \log \left(\frac{d_{\text{limit}}}{d_{\text{nearfield}}} \right)$ FS_{limit} is the calculation of field strength at the limit distance, expressed in dBμV/m FS_{max} is the measured field strength, expressed in dBμV/m $d_{\text{near field}}$ is the $\lambda/2\pi$ distance d_{measure} is the distance of the measurement point from EUT d_{limit} is the reference limit distance	-52.8 dB from 1 m to 30 m

Result:

MI e2eAudioHi mode

Field strength of the fundamental		
Frequency	3.28 MHz	
Distance	@ 1 m	@ 30 m
Measured / calculated value (peak measurement)	51.8 dB μ V/m	-1.0 dB μ V/m
Measured / calculated value (QP measurement)	49.2 dB μ V/m	-2.6 dB μ V/m

MI e2eAudioLo mode

Field strength of the fundamental		
Frequency	3.28 MHz	
Distance	@ 1 m	@ 30 m
Measured / calculated value (peak measurement)	51.8 dB μ V/m	-1.0 dB μ V/m
Measured / calculated value (QP measurement)	46.9 dB μ V/m	-5.9 dB μ V/m

MI e2eData mode

Field strength of the fundamental		
Frequency	3.28 MHz	
Distance	@ 1 m	@ 30 m
Measured / calculated value (peak measurement)	51.0 dB μ V/m	-1.8 dB μ V/m
Measured / calculated value (QP measurement)	43.6 dB μ V/m	-9.2 dB μ V/m

12.3 Field strength of the harmonics and spurious

Measurement:

The maximum detected field strength for the harmonics and spurious.

Measurement parameters	
Detector:	Quasi peak / average or peak (worst case – pre-scan)
Resolution bandwidth:	F < 150 kHz: 200 Hz 150 kHz < F < 30 MHz: 9 kHz 30 MHz < F < 1 GHz: 120 kHz
Video bandwidth:	F < 150 kHz: 1 kHz 150 kHz < F < 30 MHz: 100 kHz 30 MHz < F < 1 GHz: 300 kHz
Trace mode:	Max hold
Used test setup:	9 kHz to 30 MHz: see sub clause 7.2 – A 30 MHz to 1 GHz: see sub clause 7.1 – A
Measurement uncertainty:	See sub clause 9

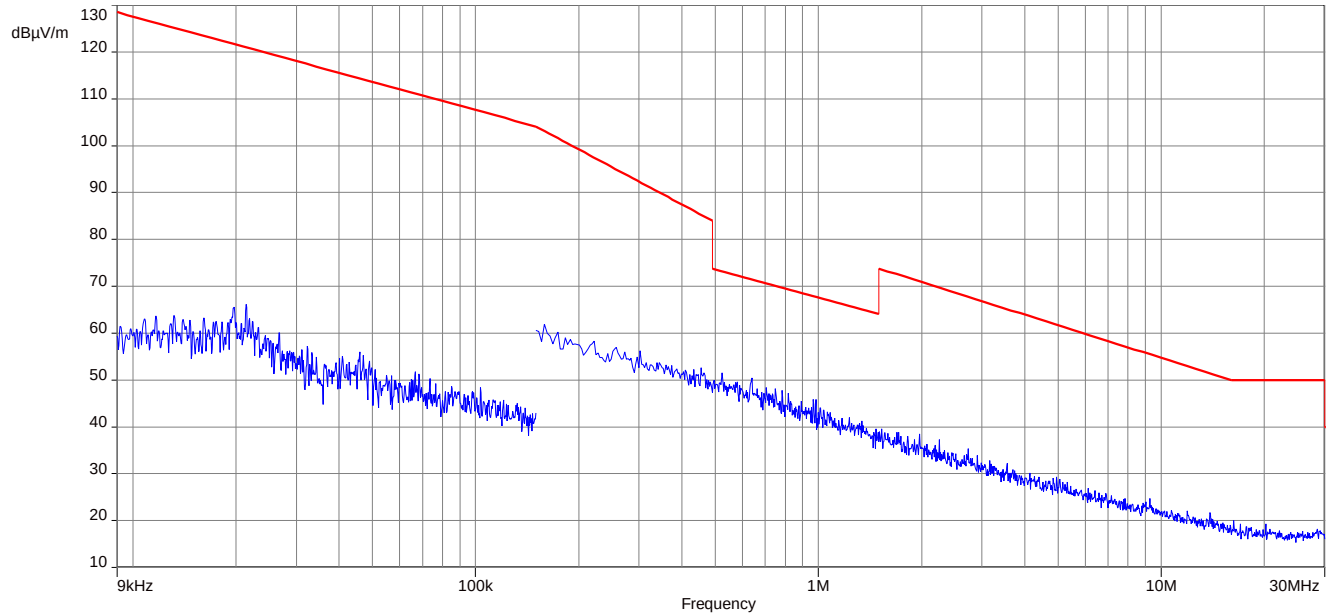
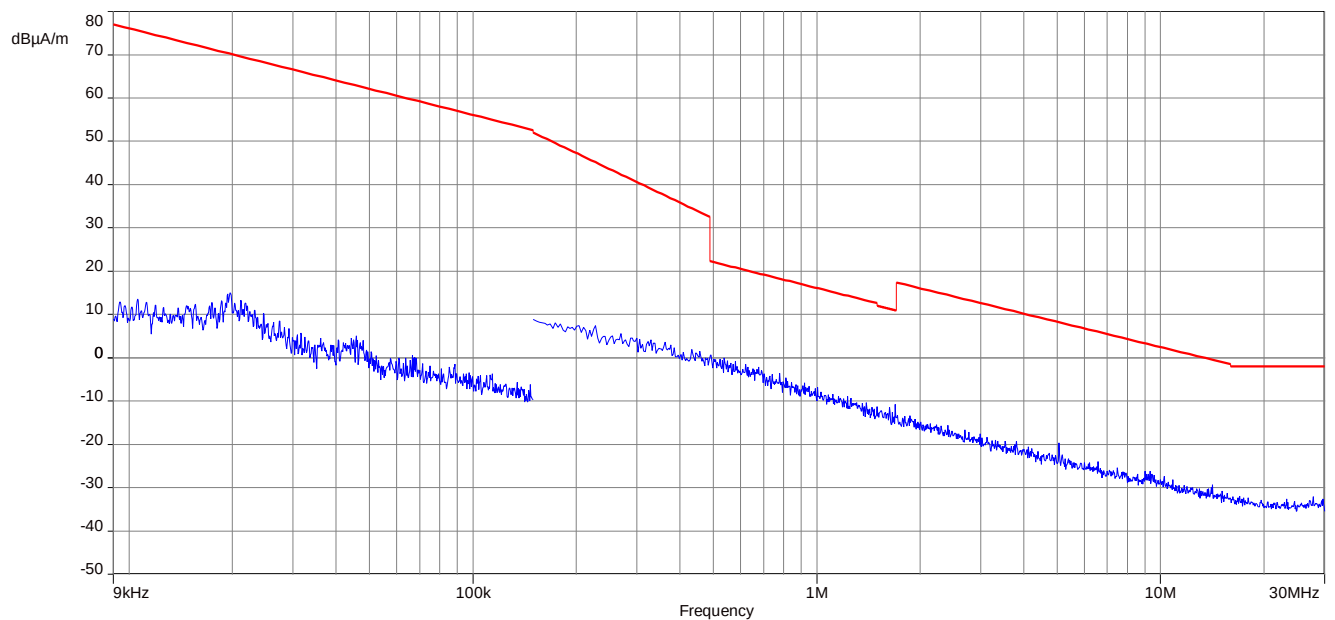
Limit:

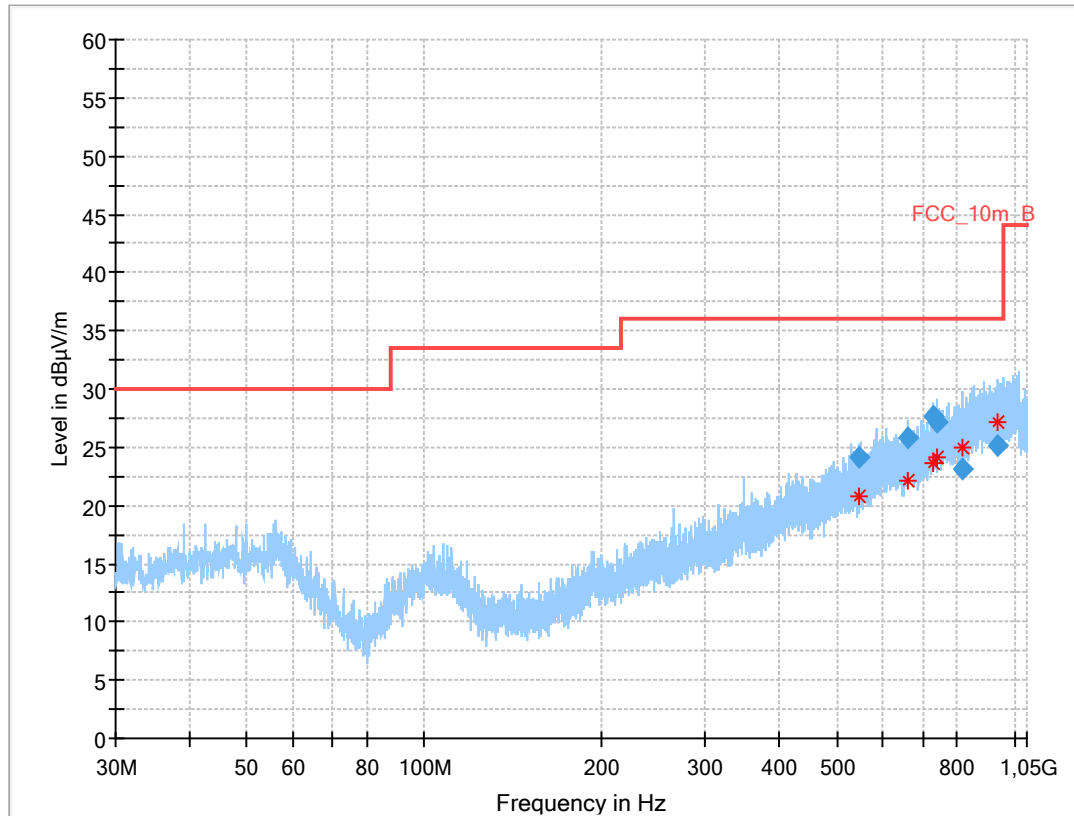
FCC		
Frequency (MHz)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30 (29.5 dB μ V/m)	30
30 – 88	100 (40 dB μ V/m)	3
88 – 216	150 (43.5 dB μ V/m)	3
216 – 960	200 (46 dB μ V/m)	3

IC		
Frequency (MHz)	Field strength (μ A/m)	Measurement distance (m)
0.009 – 0.490	6.37/F (F in kHz)	300
0.490 – 1.705	63.7/F (F in kHz)	30
1.705 – 30	0.08 (-22 dB μ A/m)	30

Result:

Detected emissions			
Frequency (MHz)	Detector	Resolution bandwidth (kHz)	Detected value
All detected peak emissions below 30 MHz are more than 20 dB below the average limit.			
For emissions above 30 MHz, please look at the table below the 1 GHz plot.			

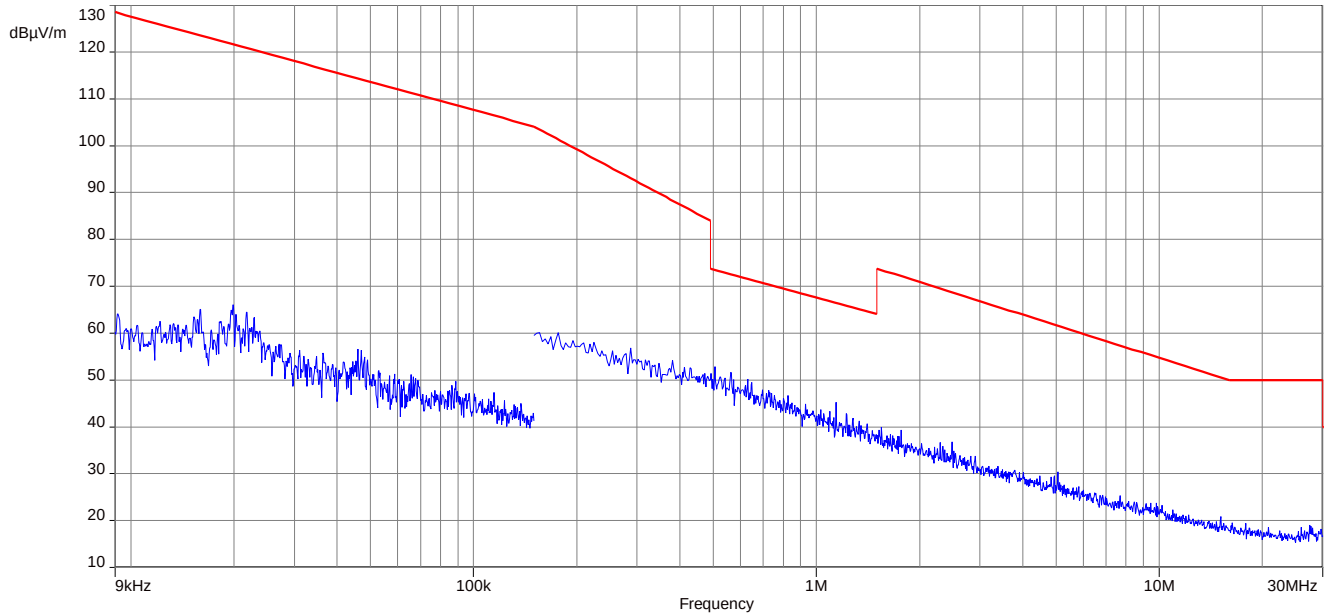
Plots: MI e2eAudioHi mode**Plot 1:** 9 kHz – 30 MHz, magnetic spurious emissions FCC**Plot 2:** 9 kHz – 30 MHz, magnetic spurious emissions IC

Plot 3: 30 MHz – 1 GHz, vertical and horizontal polarization**Final_Result**

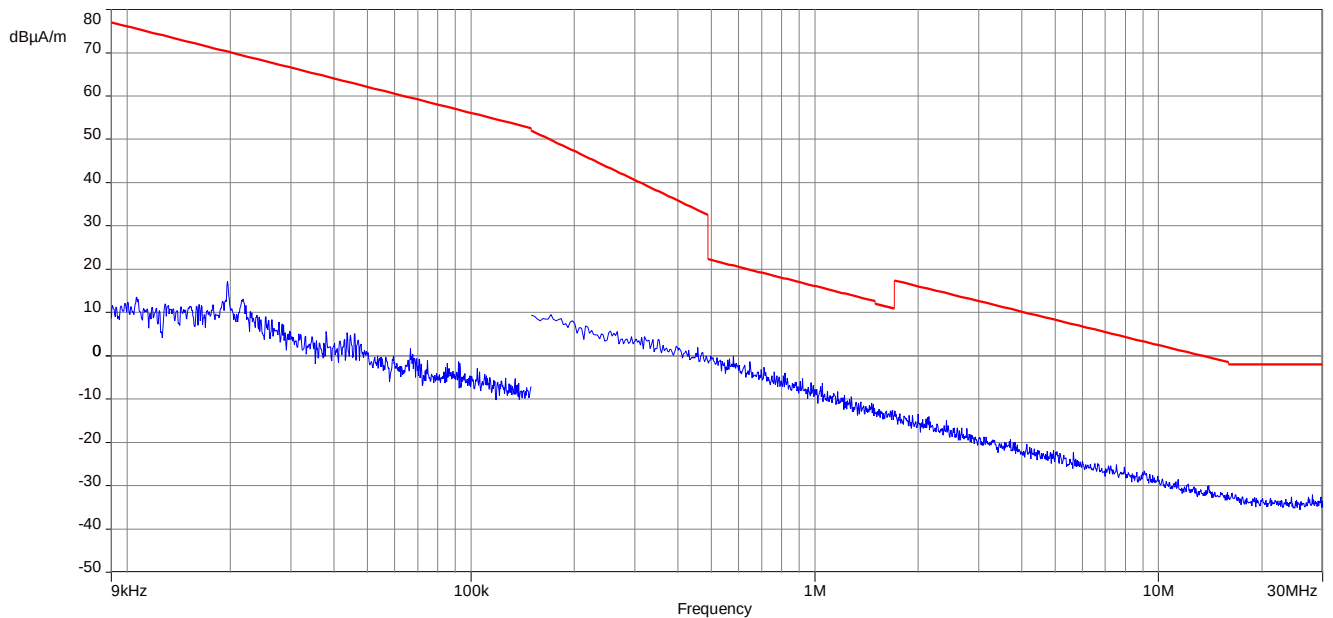
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
544.743	24.13	36.0	11.9	1000	120.0	195.0	H	285	20
659.895	25.77	36.0	10.2	1000	120.0	153.0	V	24	22
728.529	27.60	36.0	8.4	1000	120.0	195.0	H	150	23
738.054	27.08	36.0	8.9	1000	120.0	195.0	V	142	23
815.519	23.13	36.0	12.9	1000	120.0	139.0	H	232	24
938.333	25.06	36.0	10.9	1000	120.0	104.0	V	52	25

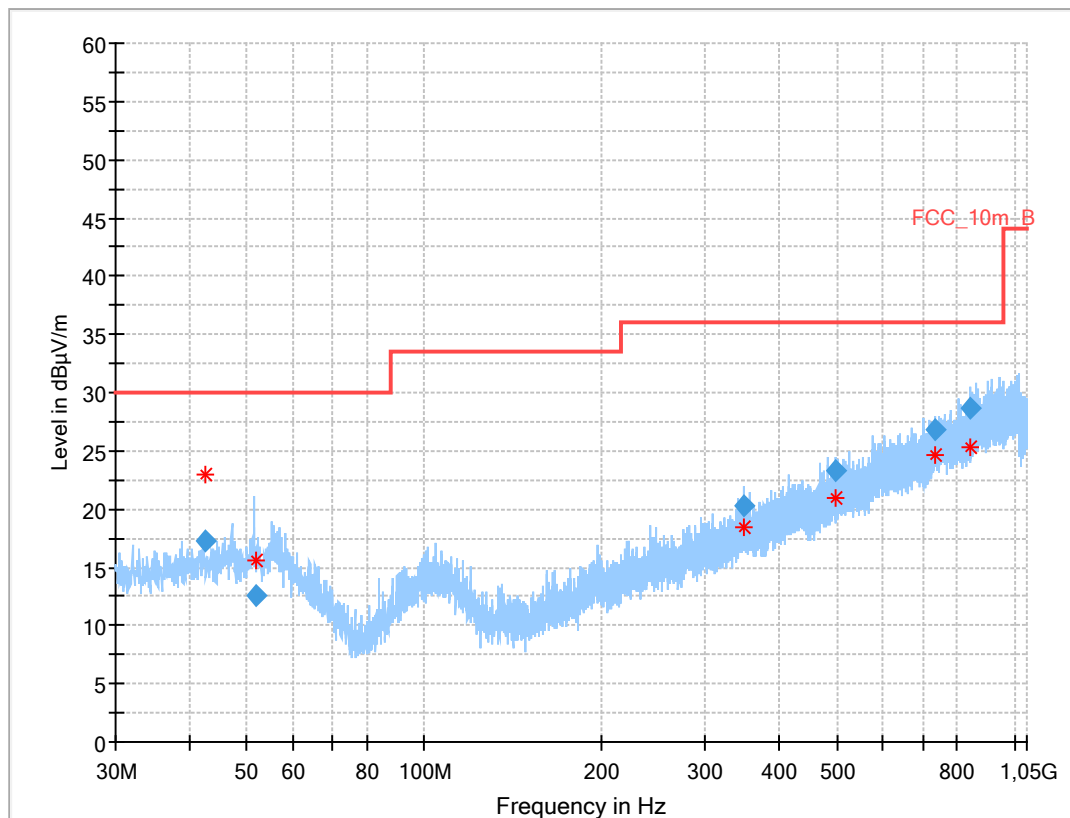
Plots: MI e2eAudioLo mode

Plot 1: 9 kHz – 30 MHz, magnetic spurious emissions FCC

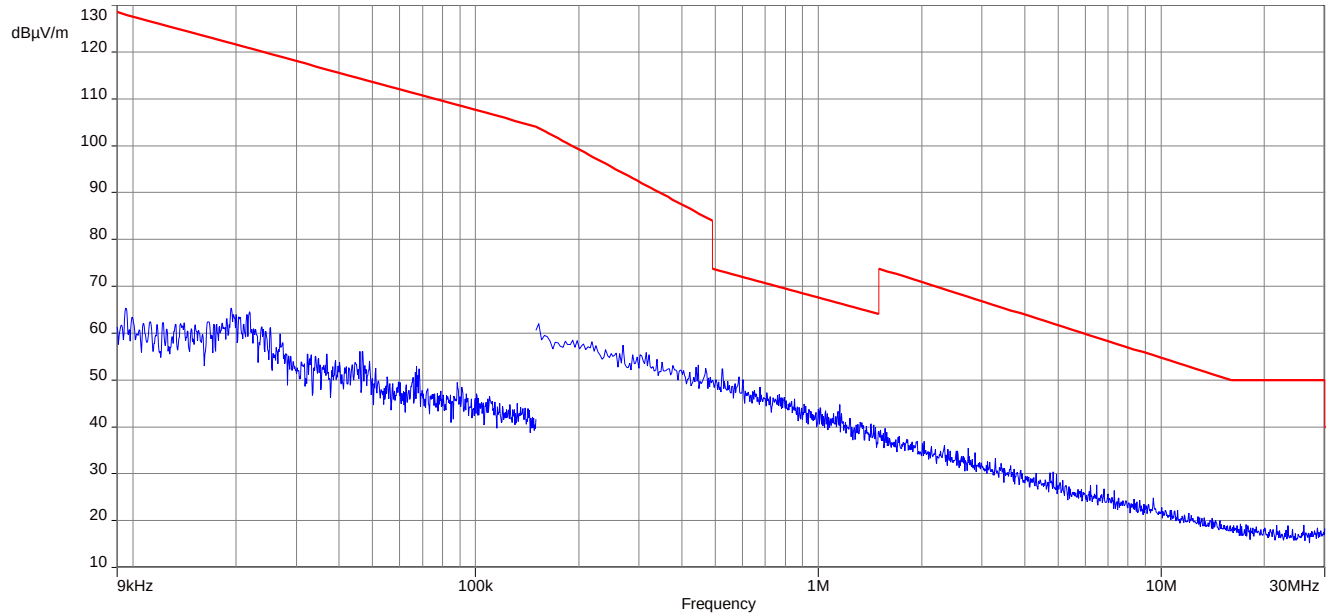
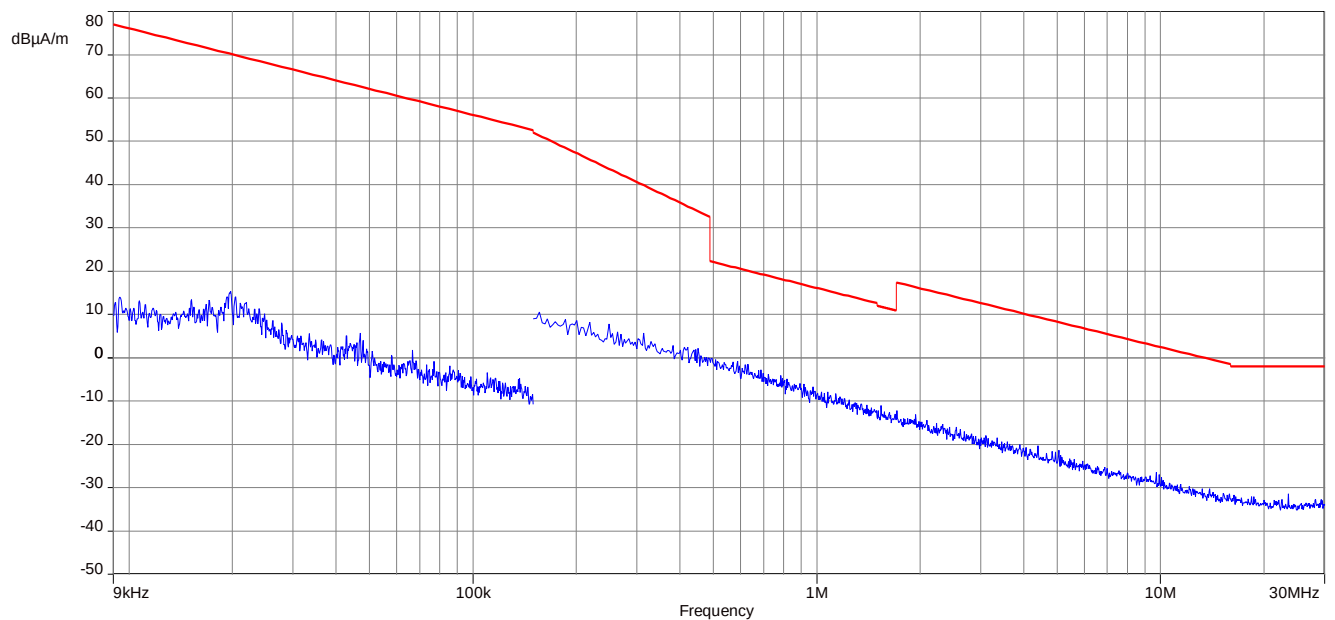


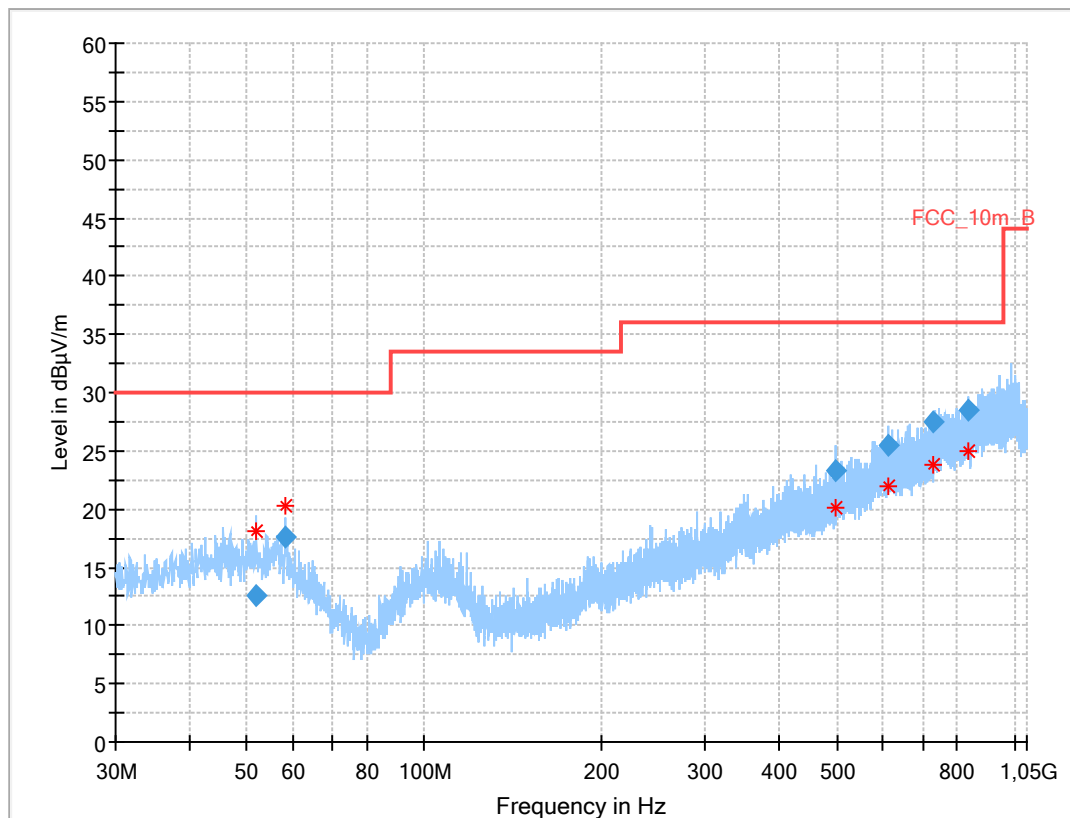
Plot 2: 9 kHz – 30 MHz, magnetic spurious emissions IC



Plot 3: 30 MHz – 1 GHz, vertical and horizontal polarization**Final_Result**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
42.720	17.21	30.0	12.8	1000	120.0	150.0	H	70	15
51.809	12.58	30.0	17.4	1000	120.0	146.0	H	232	15
347.532	20.29	36.0	15.7	1000	120.0	131.0	V	291	17
497.576	23.33	36.0	12.7	1000	120.0	140.0	V	52	20
734.310	26.89	36.0	9.1	1000	120.0	147.0	V	232	23
844.067	28.68	36.0	7.3	1000	120.0	195.0	V	79	24

Plots: MI e2eData mode**Plot 1:** 9 kHz – 30 MHz, magnetic spurious emissions FCC**Plot 2:** 9 kHz – 30 MHz, magnetic spurious emissions IC

Plot 3: 30 MHz – 1 GHz, vertical and horizontal polarization**Final_Result**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
52.051	12.60	30.0	17.4	1000	120.0	120.0	H	-37	15
58.126	17.64	30.0	12.4	1000	120.0	105.0	V	232	15
498.696	23.34	36.0	12.7	1000	120.0	195.0	V	52	20
610.148	25.44	36.0	10.6	1000	120.0	173.0	V	248	22
727.503	27.55	36.0	8.5	1000	120.0	142.0	H	142	23
835.099	28.44	36.0	7.6	1000	120.0	195.0	H	-37	24

13 Observations

No observations except those reported with the single test cases have been made.

14 Glossary

AVG	Average
C	Compliant
C/N₀	Carrier to noise-density ratio, expressed in dB-Hz
CAC	Channel availability check
CW	Clean wave
DC	Duty cycle
DFS	Dynamic frequency selection
DSSS	Dynamic sequence spread spectrum
DUT	Device under test
EN	European Standard
ETSI	European Telecommunications Standards Institute
EMC	Electromagnetic Compatibility
EUT	Equipment under test
FCC	Federal Communications Commission
FCC ID	Company Identifier at FCC
FHSS	Frequency hopping spread spectrum
FVIN	Firmware version identification number
GNSS	Global Navigation Satellite System
GUE	GNSS User Equipment
HMN	Host marketing name
HVIN	Hardware version identification number
HW	Hardware
IC	Industry Canada
Inv. No.	Inventory number
MC	Modulated carrier
NA	Not applicable
NC	Not compliant
NOP	Non occupancy period
NP	Not performed
OBW	Occupied bandwidth
OC	Operating channel
OCW	Operating channel bandwidth
OFDM	Orthogonal frequency division multiplexing
OOB	Out of band
OP	Occupancy period
PER	Packet error rate
PMN	Product marketing name
PP	Positive peak
QP	Quasi peak
RLAN	Radio local area network
S/N or SN	Serial number
SW	Software
UUT	Unit under test
WLAN	Wireless local area network

15 Document history

Version	Applied changes	Date of release
-/-	Initial release	2024-03-19
A	Update to RSS-210 Issue 11, editorial changes	2024-09-13

END OF TEST REPORT