

RADIO REPORT FCC 47 CFR Part 15C Operation within the 13.110 – 14.010 MHz band	
Report Reference No	G0M-2405-2572-TFC225RI01-V02
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	  DAkkS - Deutsche Akkreditierungsstelle D-PL-12092-01-00 DAkkS - Registration number : D-PL-12092-01-00 FCC Filed Test Laboratory, Reg.-No.: 96970
Applicant	Fabmatics GmbH
Address	Zur Steinhöhe 1 01099 Dresden GERMANY
Test Specification	47 CFR Part 15C
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	RFID Reader
Model(s)	HF-1356-CAN-M-V3.0
Additional Model(s)	None
Brand Name(s)	None
Hardware Version(s)	V3.0
Software Version(s)	V2.0.2
FCC ID	YTV-HF1356CAN3
Test Result	PASSED

Possible test case verdicts:		
Required by standard but not tested	N/T	
Not required by standard	N/R	
Not applicable to EUT	N/A	
Test object does meet the requirement	P(PASS)	
Test object does not meet the requirement	F(FAIL)	
Testing:		
Test Lab Temperature	20 °C - 30 °C	
Test Lab Humidity	25 % - 55 %	
Date of receipt of test item	2025-04-24	
Report:		
Compiled by	Azamat Ibraimov	
Tested by (+ signature) (Responsible for Test)	Azamat Ibraimov	 Digitally signed by Azamat Ibraimov Date: 2025.09.09 10:07:48 +02'00'
Approved by (+ signature) (Senior Radio Expert)	Radwan Jaafar	 Digitally signed by Radwan Jafaar Date: 2025.09.09 10:16:14 +02'00'
Date of Issue	2025-09-09	
Total number of pages	42	
General Remarks:		
The test results presented in this report relate only to the object tested. The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.		
Additional Comments:		
None		

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2025-06-03	Initial Release	--
02	2025-09-09	Replaced document: G0M-2405-2572-TFC225RI01-V01 Replaced by: G0M-2405-2572-TFC225RI01-V02 Reason: - Added conducted setup photos (page 17) - Edited test procedure text for AC powerline measurement (page 35)	Azamat Ibraimov

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
EUT	Equipment Under Test
FCC	Federal Communications Commission
ISED	Innovation, Science and Economic Development Canada
RBW	Resolution bandwidth
RFID	Radio Frequency Identification
RMS	Root mean square
VBW	Video bandwidth
V _{NOM}	Nominal supply voltage

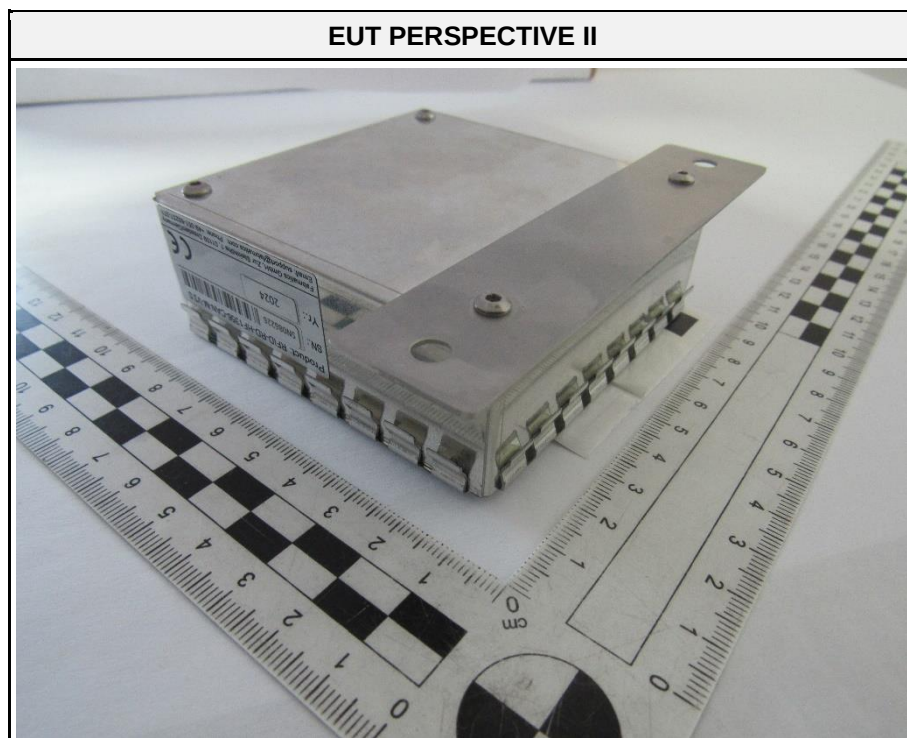
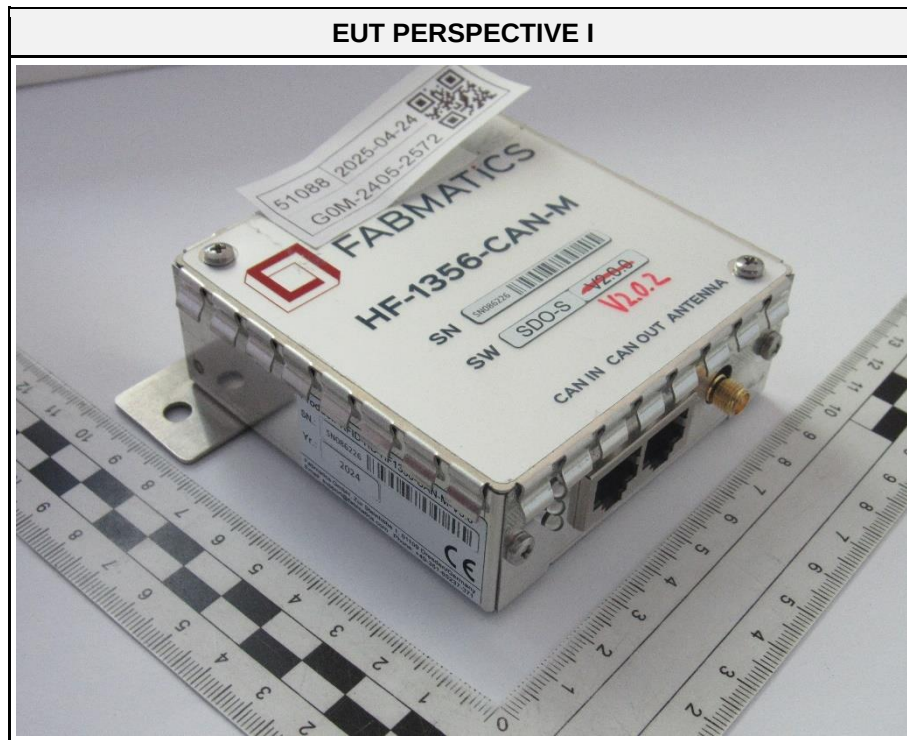
REPORT INDEX

1	Equipment (Test Item) Under Test.....	6
1.1	Photos – Equipment External	7
1.2	Photos – Equipment Internal	14
1.3	Photos – Test Setup	15
1.4	Support Equipment.....	18
1.5	Test mode duty cycle	19
1.6	EUT Configuration.....	21
1.7	Test Modes	22
1.8	Test Frequencies.....	23
1.9	Sample emission level calculation.....	24
1.10	Measurement Uncertainties	25
2	Result Summary.....	26
3	Test Conditions and Results	27
3.1	Test Conditions and Results - Fundamental in-band field strength emissions	27
3.2	Test Conditions and Results - Emissions radiated outside the specified frequency band	29
3.3	Test Conditions and Results - Frequency stability.....	32
3.4	Test Conditions and Results - AC powerline conducted emissions.....	34
ANNEX A	Transmitter in-band emissions	39
ANNEX B	Transmitter radiated spurious emissions.....	40

1 Equipment (Test Item) Under Test

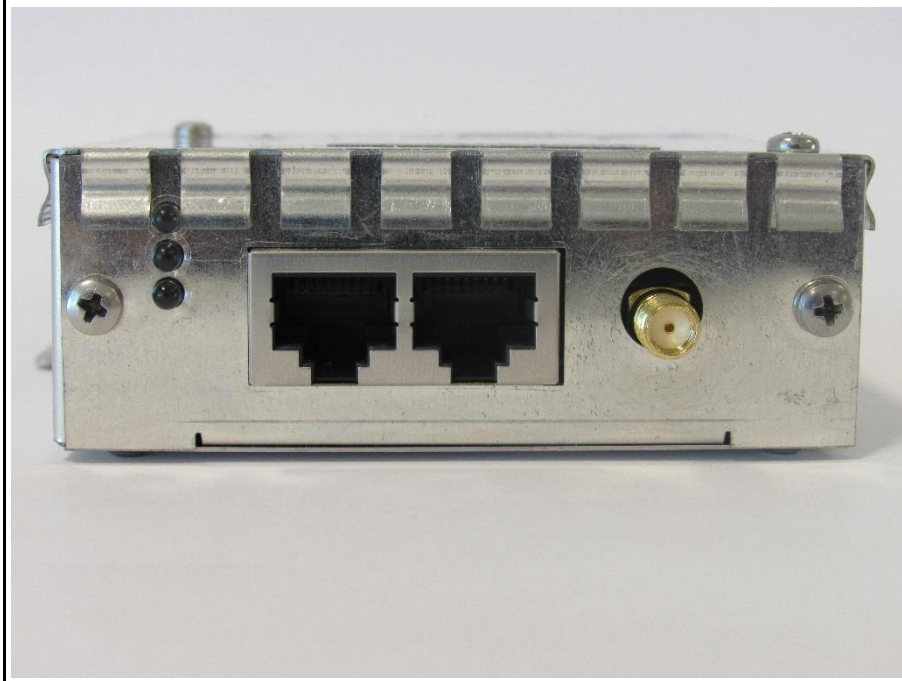
Description	RFID Reader			
Model	HF-1356-CAN-M-V3.0			
Additional Model(s)	None			
Brand Name(s)	None			
Sample Identification	EUT #	Sample-ID	Serial Number	Date of receipt
	EUT 1	51088	SN086226	2025-04-24
Hardware Version(s)	V3.0			
Software Version(s)	V2.0.2			
FCC ID	YTV-HF1356CAN3			
Equipment type	End Product			
Radio type	Interrogator			
Assigned frequency bands	13.110 - 14.010 MHz			
Radio technology	RFID			
Modulation	ASK, FSK			
Antenna	Type	External inductive loop coil		
	Model	RFID-ANT-HF-SQU-9673-SMA-V1.0		
	Manufacturer	Fabmatics GmbH		
	Gain	Unspecified		
Supply Voltage	V _{NOM}	24 V DC via external AC/DC adaptor		
	V _{MIN}	23.28 V DC		
	V _{MAX}	24.72 V DC		
Operating Temperature	T _{NOM}	20°C		
	T _{MIN}	0°C		
	T _{MAX}	50°C		
Dedicated AC/DC-Adaptor	Model	SYS1308-2424-W2E		
	Vendor	Sunny technologies s.r.o.		
	Input	100-240V		
	Output	24V		
Manufacturer	Fabmatics GmbH Zur Steinhöhe 1 01099 Dresden GERMANY			

1.1 Photos – Equipment External

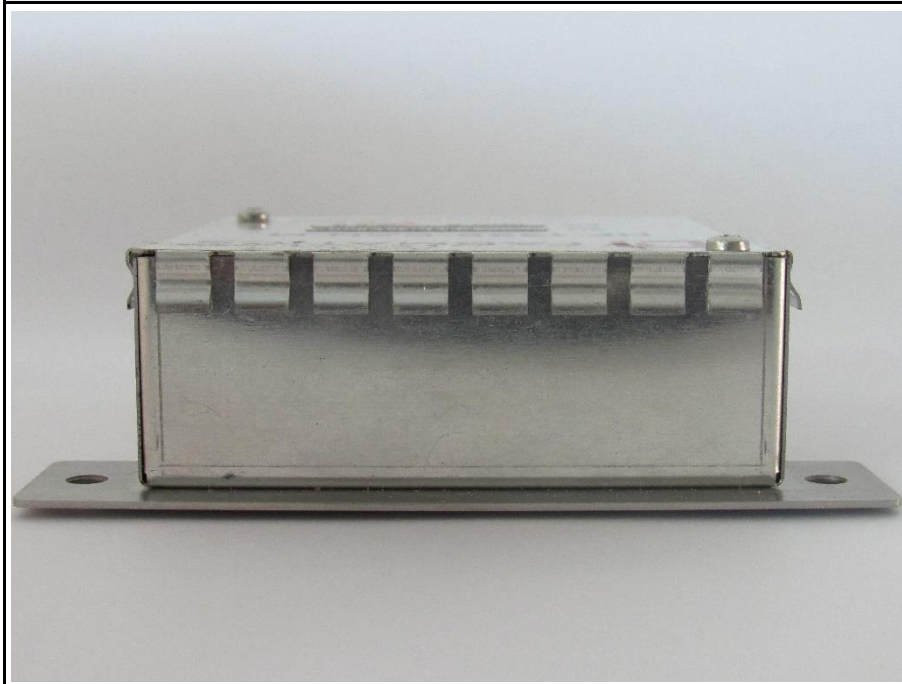




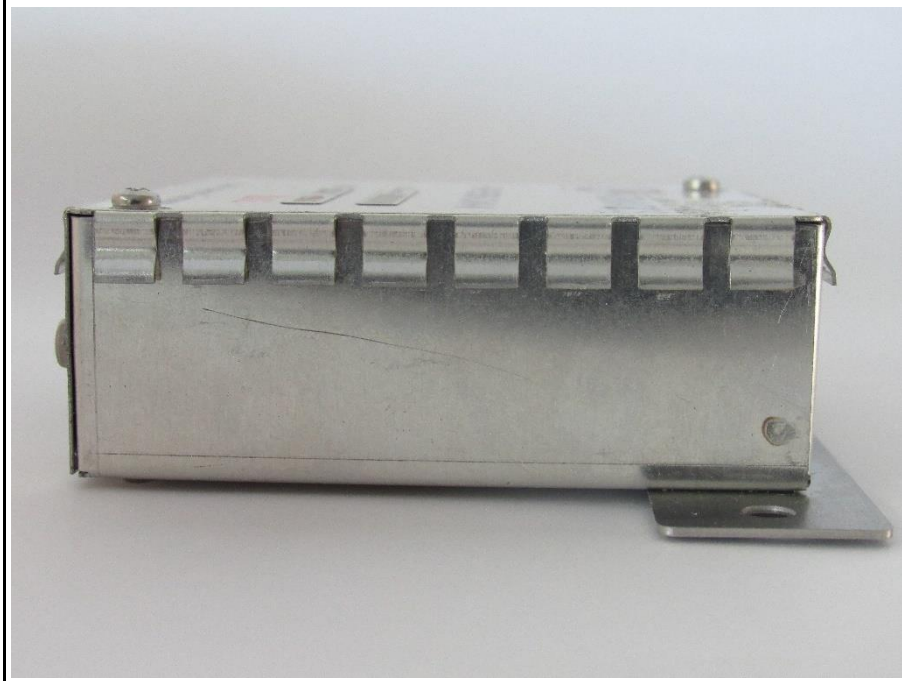
EUT FRONT SIDE



EUT REAR SIDE



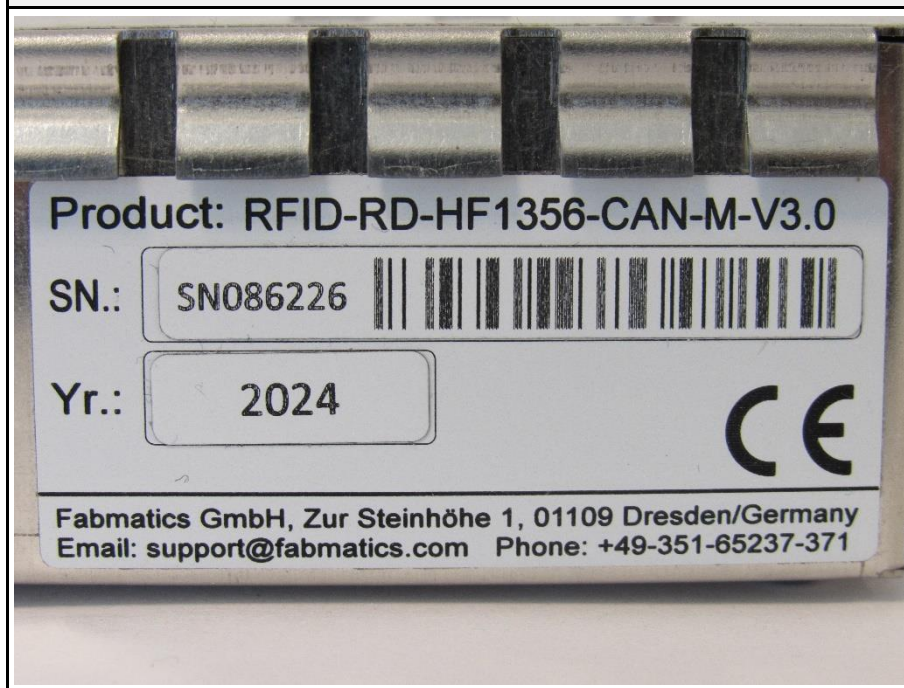
EUT LEFT SIDE



EUT RIGHT SIDE

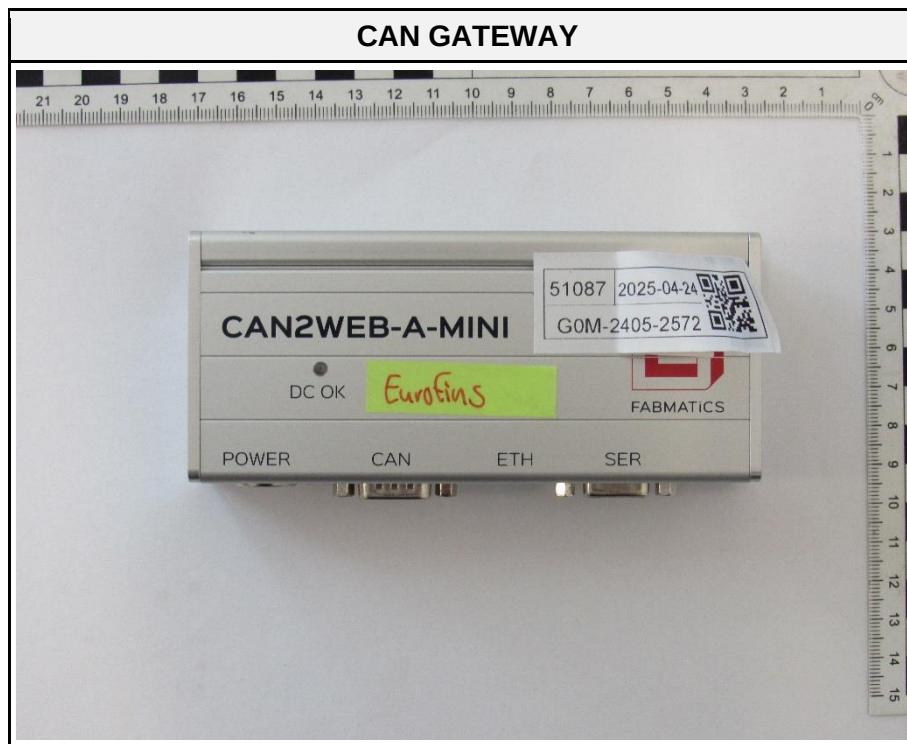


EUT LABEL



ANTENNA WITH TEST CARD

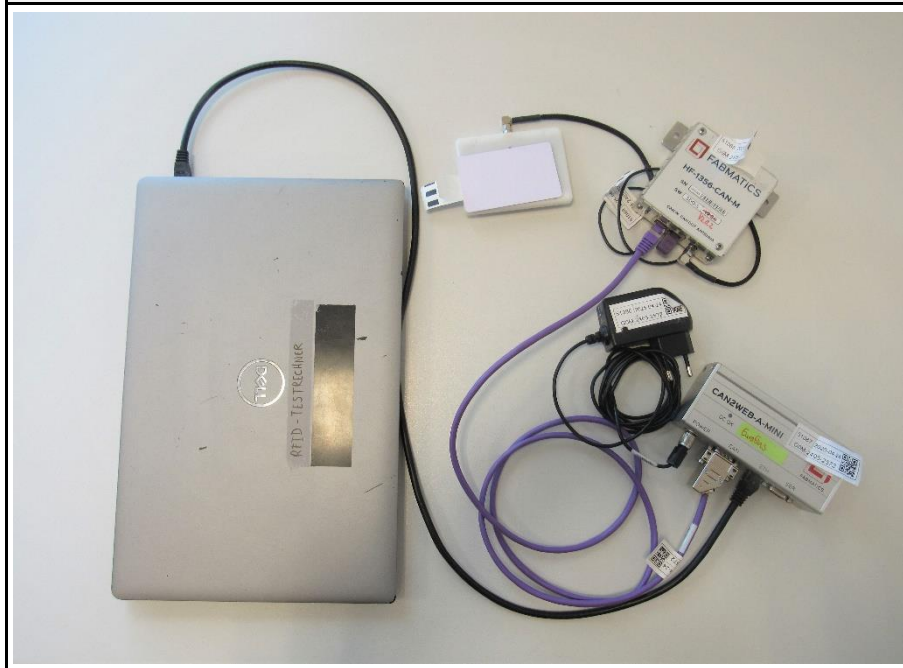




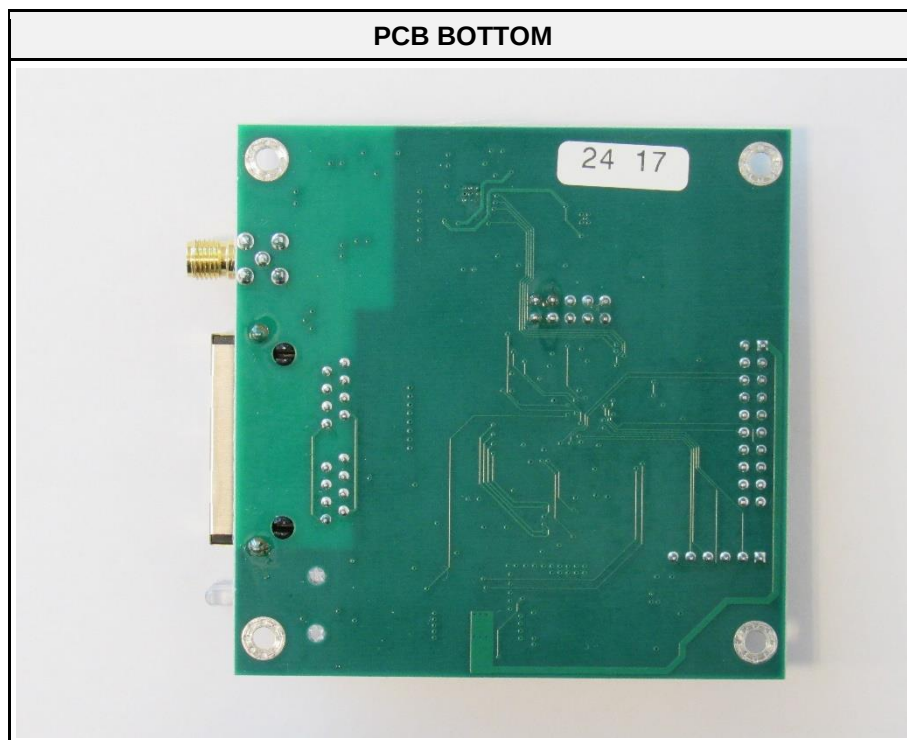
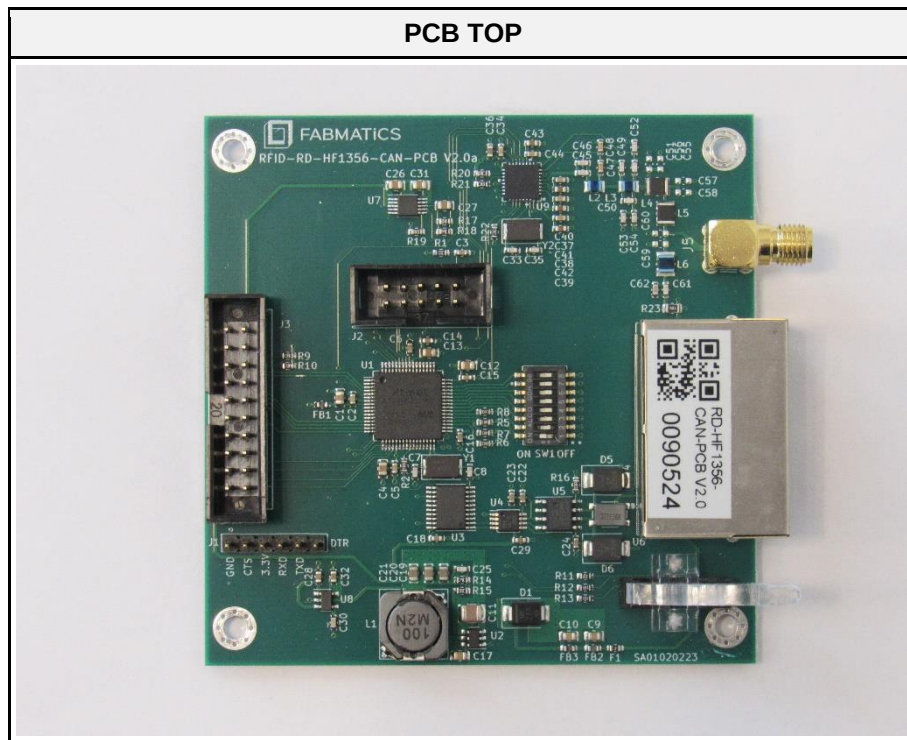
AC/DC ADAPTER LABEL



EUT WITH SUPPORT EQUIPMENT

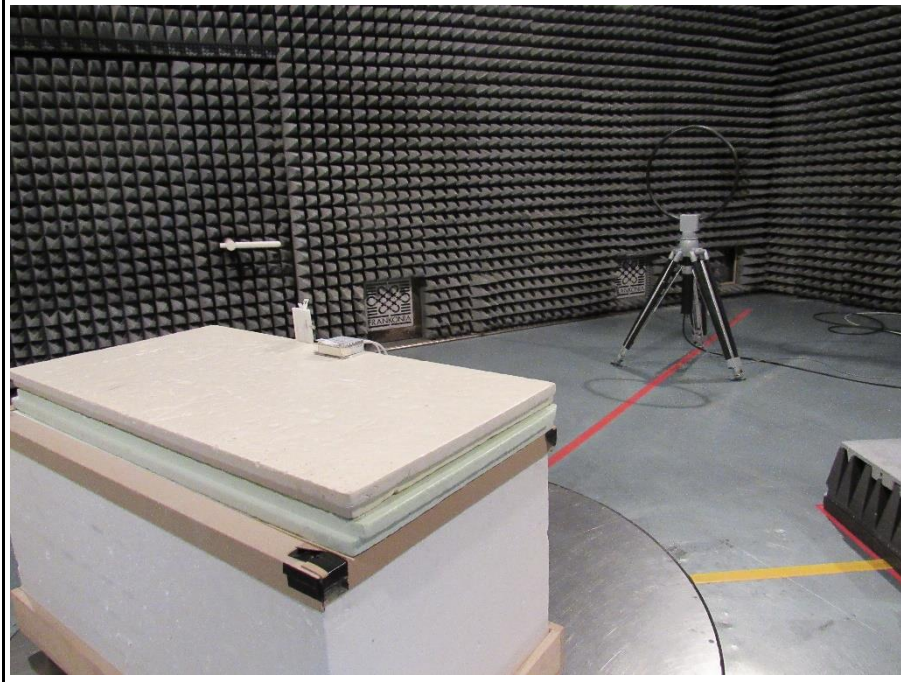


1.2 Photos – Equipment Internal

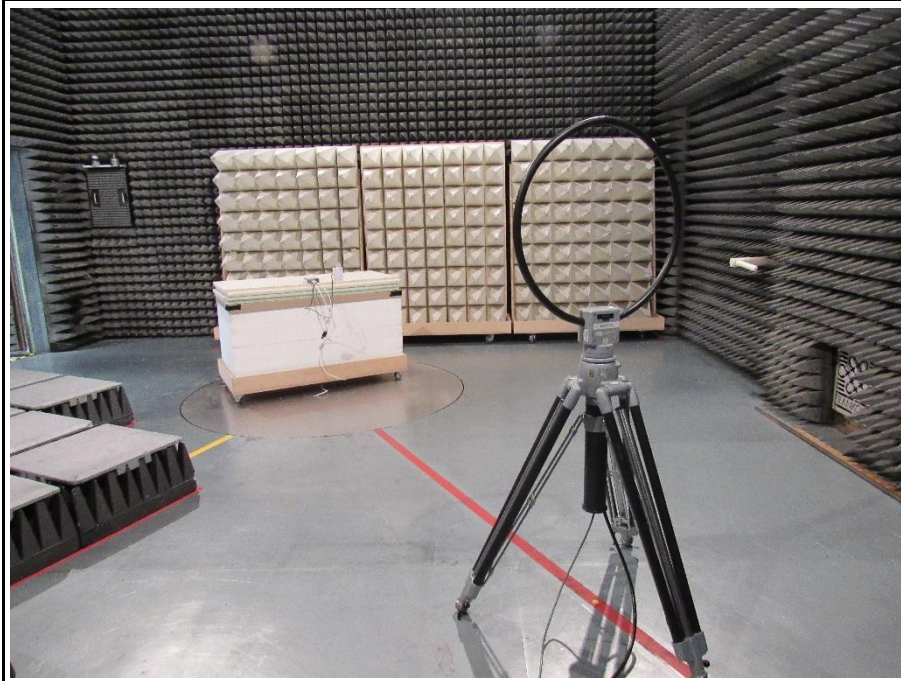


1.3 Photos – Test Setup

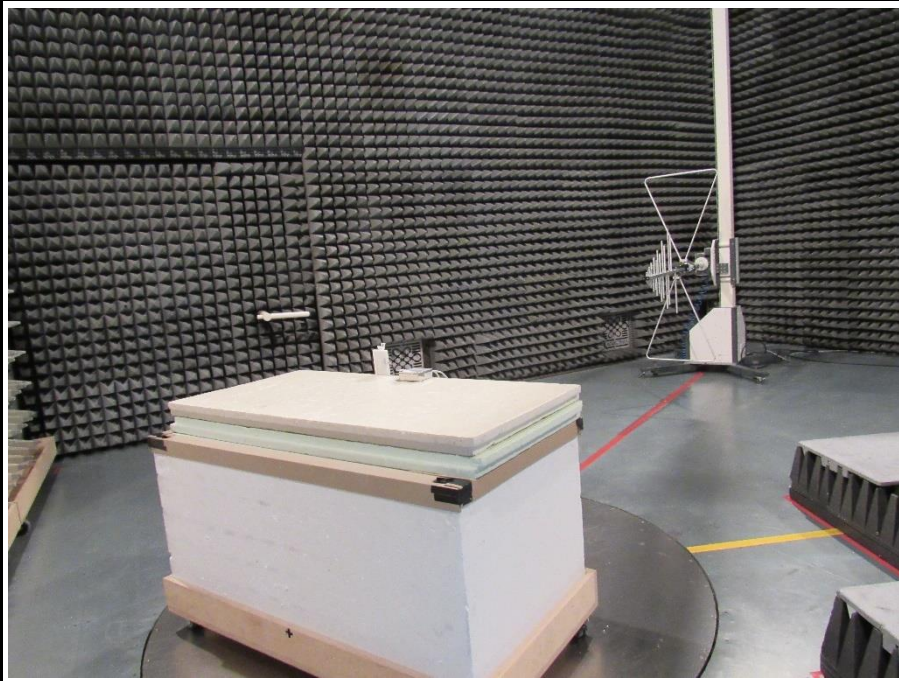
Test setup radiated below 30 MHz view 1



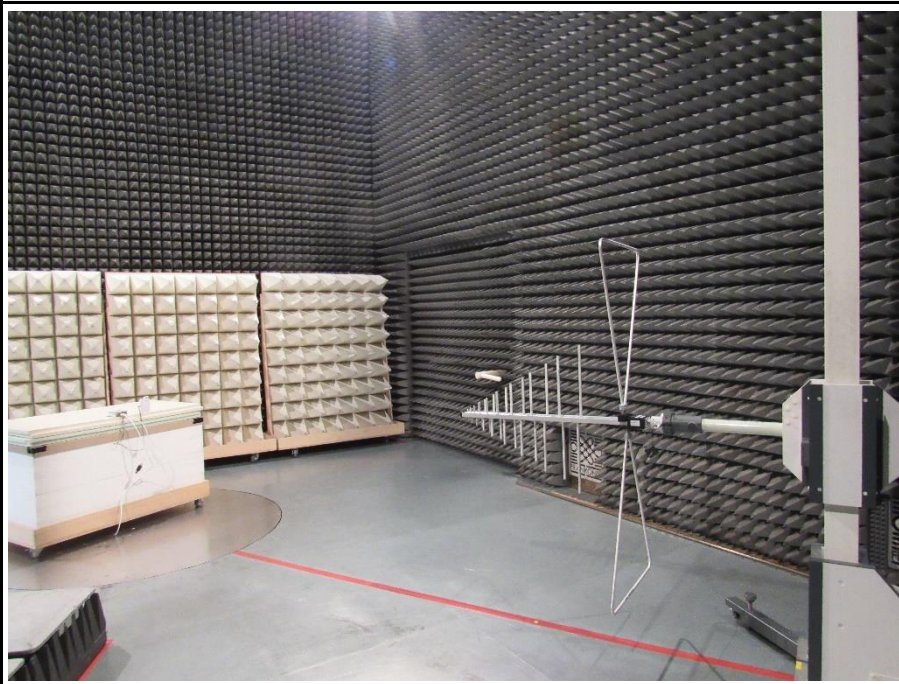
Test setup radiated below 30 MHz view 2



Test setup radiated above 30 MHz view 1



Test setup radiated above 30 MHz view 2



Test setup conducted in climatic chamber view 1



Test setup conducted in climatic chamber view 2



1.4 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
AE	Laptop	DELL	Latitude 5520	-
SFT	Software	Fabmatics GmbH	RFID Test Suite	Simulator Interface
AE	CAN Gateway	Fabmatics GmbH	CAN2WEB-A-MINI	
AE	AC/DC Adaptor	Sunny technologies s.r.o.	SYS1308-2424-W2E	-
AE	RFID Tag	Generic	Generic	-
AE	Terminating resistor	Generic	R120	-
CBL	Cable	InLine	Generic	DSub9 to RJ45
CBL	Ethernet cable	Generic	Generic	-
Description:				
AE	Auxiliary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
SFT	Software			
Comment: --				

1.5 Test mode duty cycle

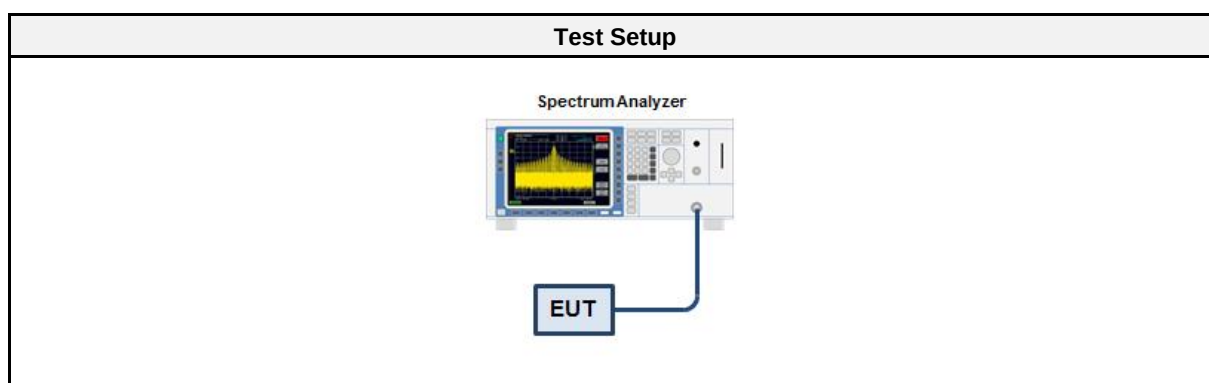
1.5.1 Information

Test Information	
Measurement Method	ANSI C63.10 11.6

1.5.2 Requirements

Requirements	
Duty cycle	Duty cycle correction
≥ 98 %	No correction required
< 98 %	Correction required ($10 \times \log_{10}(1/DC)$)

1.5.3 Setup



1.5.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU43	EF01631	2024-07	2025-07

1.5.5 Procedure

Test Procedure
- EUT set to test mode - Span is set to zero span - Detector set to peak - Sweep time is set long enough to capture at least 2 bursts - Envelope peak value of emission spectrum is selected - The maximum burst duration T_{ON} is measured using two markers set to the start and the end of the longest burst - The minimum idle duration T_{OFF} is measured using two markers set to the start and the end of the shortest idle period - The duty cycle is calculated by $DC = T_{ON} / (T_{ON} + T_{OFF})$ - The duty cycle correction is calculated by $DC = -10 \times \log_{10}(T_{ON} / (T_{ON} + T_{OFF}))$

1.5.6 Results

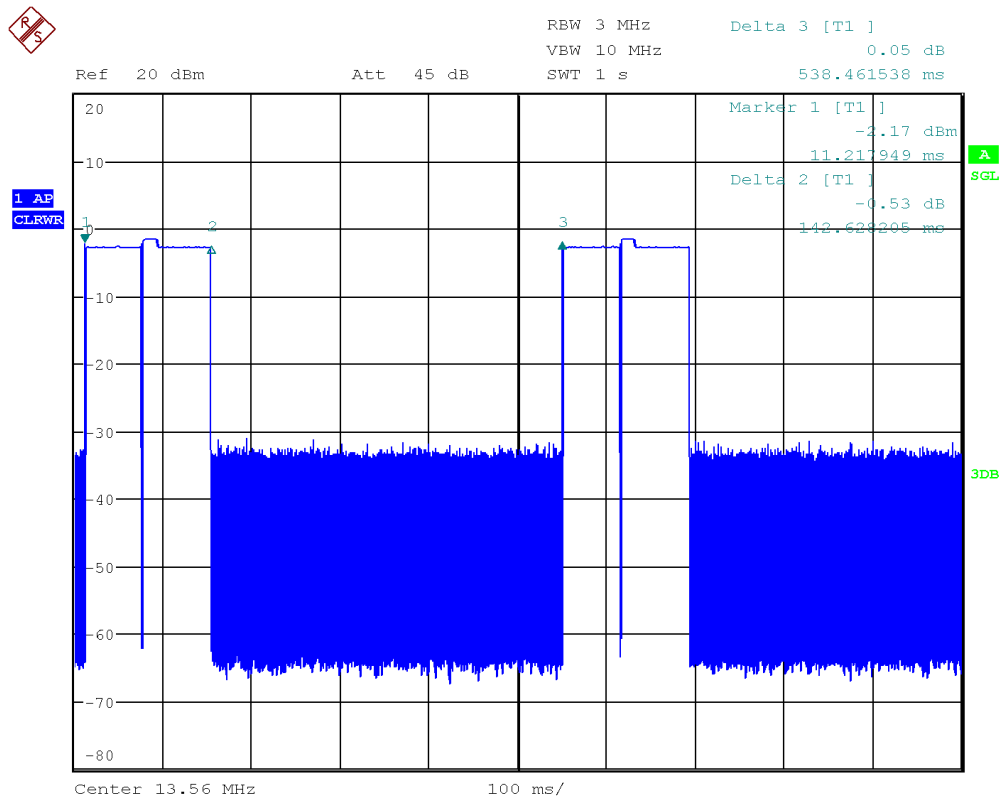
Duty Cycle Results			
Mode	Duty Cycle per full period	Duty Cycle per 100 ms	Correction Factor [dB]
Transmit	26.5%	100%	0
Comment: The duty cycle is constant.			

Test Report No.: G0M-2405-2572-TFC225RI01-V02

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Duty cycle measurement

Project Number: G0M-2405-2572
 Applicant: Fabmatics GmbH
 Model Description: RFID Reader
 Model: HF-1356-CAN-M-V3.0
 Test Sample ID: 51088
 Operator: Mr. Ibraimov
 Test Site: Eurofins Product Service GmbH
 Test Date: 2025-05-05
 Operating Conditions: Tnom/Vnom
 Mode: Transmit



Date: 12.MAY.2025 11:49:20

1.6 EUT Configuration

Configuration #	Description
1	EUT is powered through CAN gateway which is powered by 24V AC/DC adapter. External RFID antenna is connected to antenna port. RFID tag attached to the antenna. Permanent reading is controlled by software from customer.
Comment: -	

1.7 Test Modes

Mode	Description
Transmit	Mode = Transmit Modulation = FSK/ASK Duty cycle = 26.5 %
Comment: The receiver and transmitter are co-located	

1.8 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx / Rx	0	13.56

1.9 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dB μ V. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB/m)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Field strength limit:

This is the FCC Class B radiated emission limit (in units of dB μ V/m). The FCC limits are given in units of μ V/m. The following formula is used to convert the units of μ V/m to dB μ V/m:

$$\text{Field strength limit (dB}\mu\text{V/m)} = 20 \cdot \log (\mu\text{V/m})$$

Example only for radiated field strength:

$$\text{Reading} + \text{AF} = \text{Net Reading} \quad : \quad \text{Net reading} - \text{Field strength limit} = \text{Margin}$$

1.10 Measurement Uncertainties

Test case	Maximum measurement uncertainty
Occupied Bandwidth	1.3 %
Fundamental in-band field strength emissions	5.95 dB
Emission radiated outside the specified frequency band < 30 MHz	5.95 dB
Emission radiated outside the specified frequency band 30 - 140 MHz	5.95 dB
Frequency stability	0.66 PPM
AC power line conducted emissions	3.82 dB

2 Result Summary

FCC 47 CFR Part 15C				
Product Standard Reference	Requirement	Reference Method	Result	Remarks
FCC 15.225(a-c)	Fundamental in-band field strength emissions	ANSI C63.10-2013	PASS	--
FCC 15.225(d) FCC 15.209	Emission radiated outside the specified frequency band	ANSI C63.10-2013	PASS	--
FCC 15.225(e)	Frequency stability	ANSI C63.10-2013	PASS	--
47 CFR 15.207	AC power line conducted emissions	ANSI C63.10-2013	PASS	--
Comment: The Decision Rule is applied on the basis of ETSI TR 102 273 and ETSI TR 100 028. These standards provide guidance on how to calculate and apply measurement uncertainty whilst providing maximum uncertainties allowance. In all cases due consideration will be given to ILAC-G8:09/2019. Where a result is considered conditional in respect of its proximity to the limit line, the customer would be made aware of situation so that they can make an informed decision on how to proceed.				

Possible Test Case Verdicts	
PASS	Test object does meet the requirements
FAIL	Test object does not meet the requirements
N/T	Required by standard but not tested
N/R	Not required by standard for the test object

3 Test Conditions and Results

3.1 Test Conditions and Results - Fundamental in-band field strength emissions

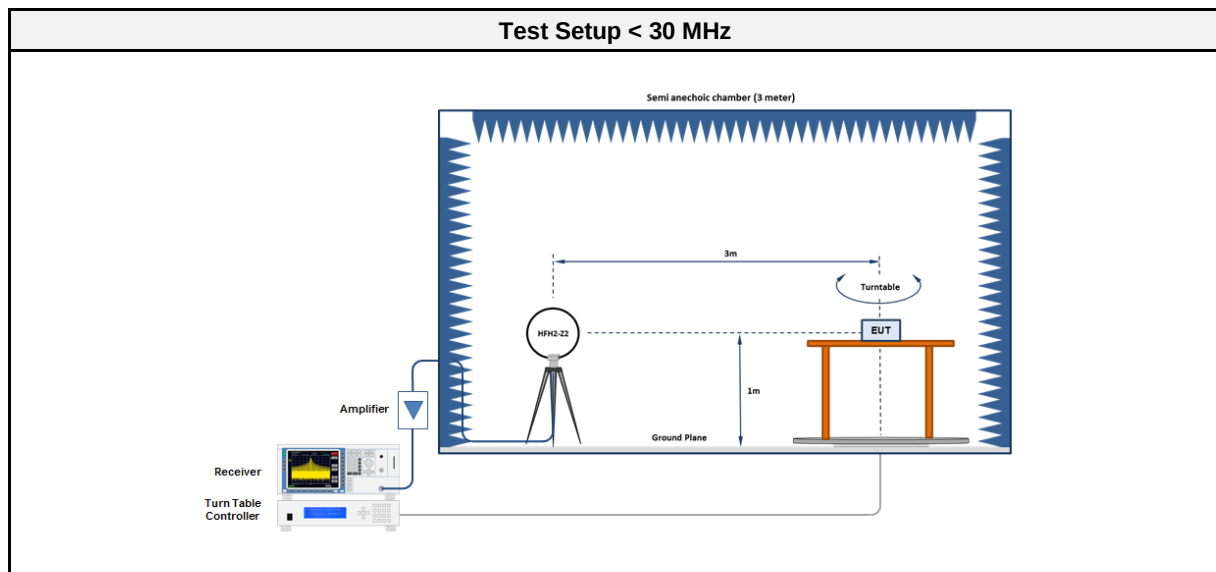
3.1.1 Information

Test Information	
Product Standard Reference	FCC 15.225(a-c)
Measurement Method	Radiated
Operator	Azamat Ibraimov
Date	2025-05-07

3.1.2 Limits

Limits			
Frequency range [MHz]	Limit [$\mu\text{V/m}$]	Limit [$\text{dB}\mu\text{V/m}$]	Limit Distance [m]
13.553 - 13.567	15848	84	30
13.410 - 13.553 13.567 - 13.710	334	50.5	30
13.110 - 13.410 13.710 - 14.010	106	40.5	30

3.1.3 Setup



3.1.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	Raditeq B.V.	RadiMation	2024.1.8

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-Anechoic chamber	Frankonia	AC1	EF00062	2024-07	2027-07
EMI Test Receiver	R&S	ESW 44	EF01856	2024-04	2025-10
Loop antenna	R&S	HFH2-Z2	EF01905	2024-10	2025-10

Test Report No.: G0M-2405-2572-TFC225RI01-V02

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

3.1.5 Procedure

Test Procedure	
1.	EUT set to test mode
2.	Span it set according to measurement range
3.	Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector
4.	Below 30MHz an extrapolation according ANSI 63.10; 6.4.4.2 is used.

3.1.6 Results

Test Results					
Channel [MHz]	Emission [MHz]	Measured Level @ 30m [dBμV/m]	Detector	Limit @ 30m [dBμV/m]	Verdict
13.56	13.56	35.7	QP	84	PASS

3.2 Test Conditions and Results - Emissions radiated outside the specified frequency band

3.2.1 Information

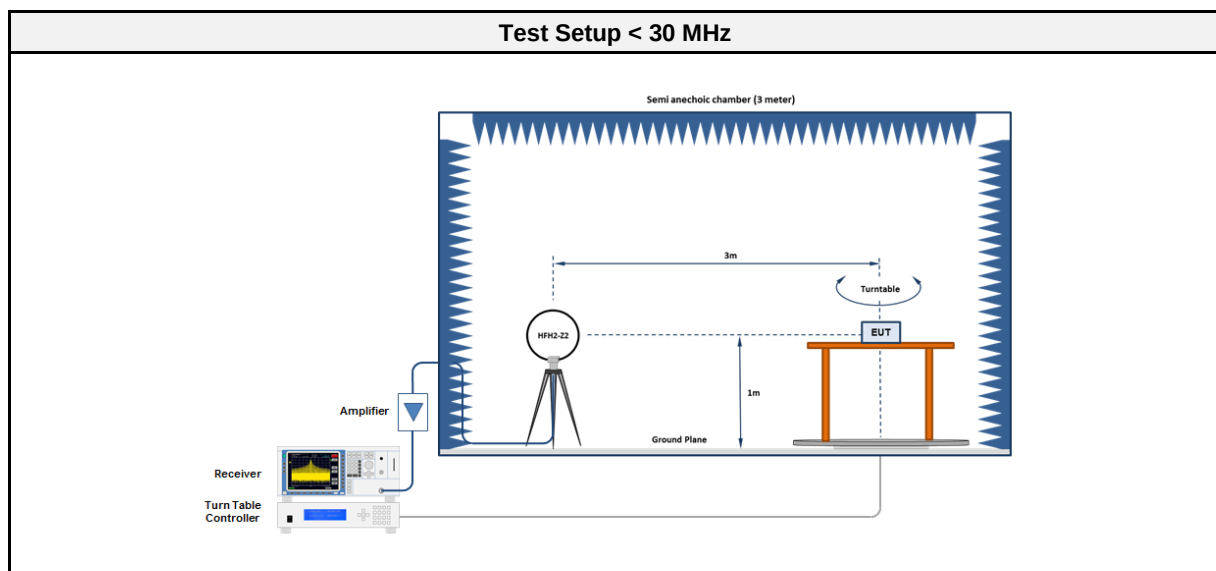
Test Information	
Product Standard Reference	FCC 15.225(d)
Measurement Method	Radiated
Operator	Azamat Ibraimov
Date	2025-05-07 - 2025-05-08

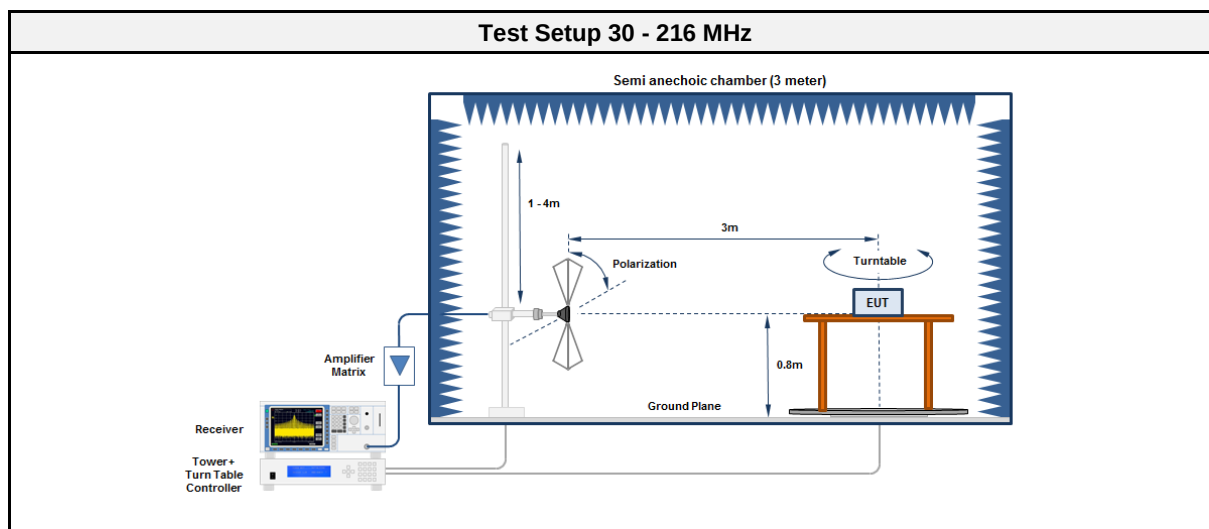
3.2.2 Limits

Limits below 30 MHz according to 47 CFR Part 15.209				
Frequency range [MHz]	Detector	Limit [$\mu\text{V/m}$]	Limit [$\text{dB}\mu\text{V/m}$]	Limit Distance [m]
0.009 - 0.090	Average	$2400/F[\text{kHz}]$	48.5 to 28.5	300
0.090 - 0.110	Quasi-Peak	$2400/F[\text{kHz}]$	28.5 to 26.8	300
0.110 - 0.490	Average	$2400/F[\text{kHz}]$	26.8 to 13.8	300
0.490 - 1.705	Quasi-Peak	$24000/F[\text{kHz}]$	33.8 to 23.0	30
1.705 - 30	Quasi-Peak	30	29.5	30

Limits above 30 MHz according to 47 CFR Part 15.209				
Frequency range [MHz]	Detector	Limit [$\mu\text{V/m}$]	Limit [$\text{dB}\mu\text{V/m}$]	Limit Distance [m]
30 - 88	Quasi-Peak	100	40	3
88 - 216	Quasi-Peak	150	43.5	3

3.2.3 Setup





3.2.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	Raditeq B.V.	RadiMation	2024.1.8

Test Equipment < 30 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-Anechoic chamber	Frankonia	AC1	EF00062	2024-07	2027-07
EMI Test Receiver	R&S	ESW 44	EF01856	2024-04	2025-10
Loop antenna	R&S	HFH2-Z2	EF01905	2024-10	2025-10

Test Equipment 30 - 216 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-Anechoic chamber (NSA)	Frankonia	AC1	EF00062	2024-07	2027-07
EMI Test Receiver	R&S	ESW 44	EF01856	2024-04	2025-10
Trilog Broadband Antenna	Schwarzbeck	VULB 9168	EF01824	2022-10	2025-10

3.2.5 Procedure

Test Procedure
1. EUT set to test mode 2. Span it set according to measurement range 3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz 4. Below 30MHz an extrapolation according ANSI 63.10; 6.4.4.2 is used. 5. Markers are set to maximum emission levels

3.2.6 Results

Test Results below 30 MHz						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Detector	Polarization	Limit [dBμV/m]	Margin [dB]
13.56	0.787	13.5	pk	ver	29.7	-16.24
13.56	1.502	11.1	pk	ver	24.1	-12.96
13.56	13.077	18.7	pk	ver	29.5	-10.84
13.56	14.046	20.2	pk	ver	29.5	-10.07
13.56	33.06	23.23	qpk	ver	40	-16.77
13.56	40.68	31	qpk	ver	40	-9
13.56	67.8	22.82	qpk	ver	40	-17.18
13.56	120.06	6.64	qpk	ver	43.5	-36.86

Test Results above 30 MHz						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Detector	Polarization	Limit [dBμV/m]	Margin [dB]
13.56	33.06	23.23	qpk	ver	40	-16.77
13.56	40.68	31	qpk	ver	40	-9
13.56	67.8	22.82	qpk	ver	40	-17.18
13.56	120.06	6.64	qpk	ver	43.5	-36.86

3.3 Test Conditions and Results - Frequency stability

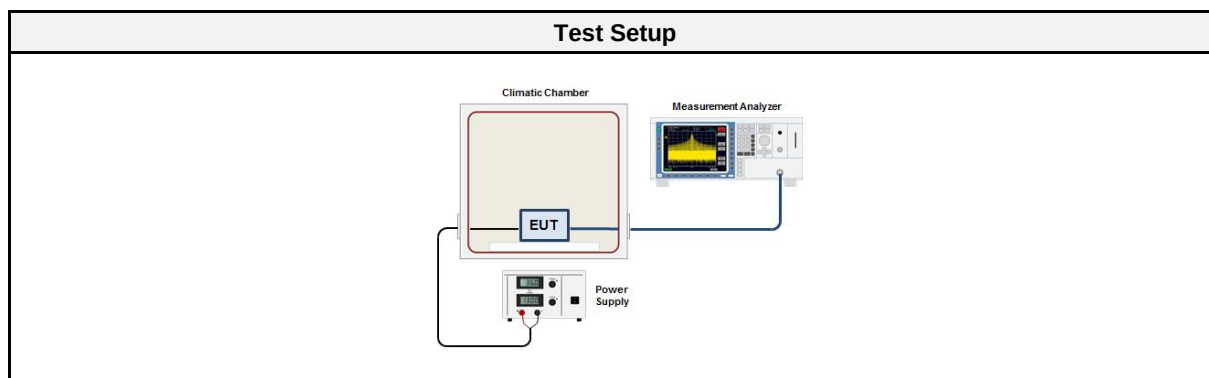
3.3.1 Information

Test Information	
Product Standard Reference	FCC 15.225(e)
Measurement Method	Conducted
Operator	Azamat Ibraimov
Date	2025-05-09

3.3.2 Limits

Limits
Frequency error limit
$\pm 0.01\%$ ($\pm 100\text{ppm}$)

3.3.3 Setup



3.3.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyser	R&S	FSU 43	EF01631	2024-07	2025-07
Cable (diverse)	– (diverse)	– (diverse)	EF00779 CAABJ	2025-03	2026-03
Climatic chamber	ATT Umweltsimulation	DY110 T	EF01853	2024-09	2025-09

3.3.5 Procedure

Test Procedure
1. EUT set to test mode 2. The ambient temperature and supply voltage is set according to measurement conditions 3. Span is set to capture fundamental emission 4. Frequency error is measured with frequency counter measurement function

3.3.6 Results

Test Results					
Channel [MHz]	Temperatur [°C]	Voltage [V]	Measured Frequency [MHz]	Time after activation [min]	Error [ppm]
13.56	20	24	13.560116	0	8.58
13.56	20	24	13.560070	2	5.18
13.56	20	24	13.560066	5	4.87
13.56	20	24	13.560064	10	4.70
13.56	20	20.4	13.560064	0	4.70
13.56	20	20.4	13.560068	2	5.00
13.56	20	20.4	13.560061	5	4.52
13.56	20	20.4	13.560060	10	4.45
13.56	20	27.6	13.560060	0	4.45
13.56	20	27.6	13.560042	2	3.10
13.56	20	27.6	13.560058	5	4.26
13.56	20	27.6	13.560059	10	4.34
13.56	-20	24	13.560112	0	8.28
13.56	-20	24	13.560109	2	8.02
13.56	-20	24	13.560111	5	8.18
13.56	-20	24	13.560116	10	8.58
13.56	-10	24	13.560102	0	7.50
13.56	-10	24	13.560110	2	8.11
13.56	-10	24	13.560003	5	0.24
13.56	-10	24	13.560112	10	8.28
13.56	0	24	13.560072	0	5.32
13.56	0	24	13.560091	2	6.70
13.56	0	24	13.560097	5	7.17
13.56	0	24	13.560102	10	7.50
13.56	10	24	13.560033	0	2.42
13.56	10	24	13.560051	2	3.73
13.56	10	24	13.560054	5	3.98
13.56	10	24	13.560072	10	5.32
13.56	30	24	13.560013	0	0.94
13.56	30	24	13.560023	2	1.69
13.56	30	24	13.560027	5	2.03
13.56	30	24	13.560033	10	2.42
13.56	40	24	13.560007	0	0.53
13.56	40	24	13.559988	2	-0.86
13.56	40	24	13.560010	5	0.70
13.56	40	24	13.560013	10	0.94
13.56	50	24	13.560055	0	4.09
13.56	50	24	13.560051	2	3.76
13.56	50	24	13.560036	5	2.63
13.56	50	24	13.560007	10	0.53
Comment	Limit check: Pass				

3.4 Test Conditions and Results - AC powerline conducted emissions

3.4.1 Information

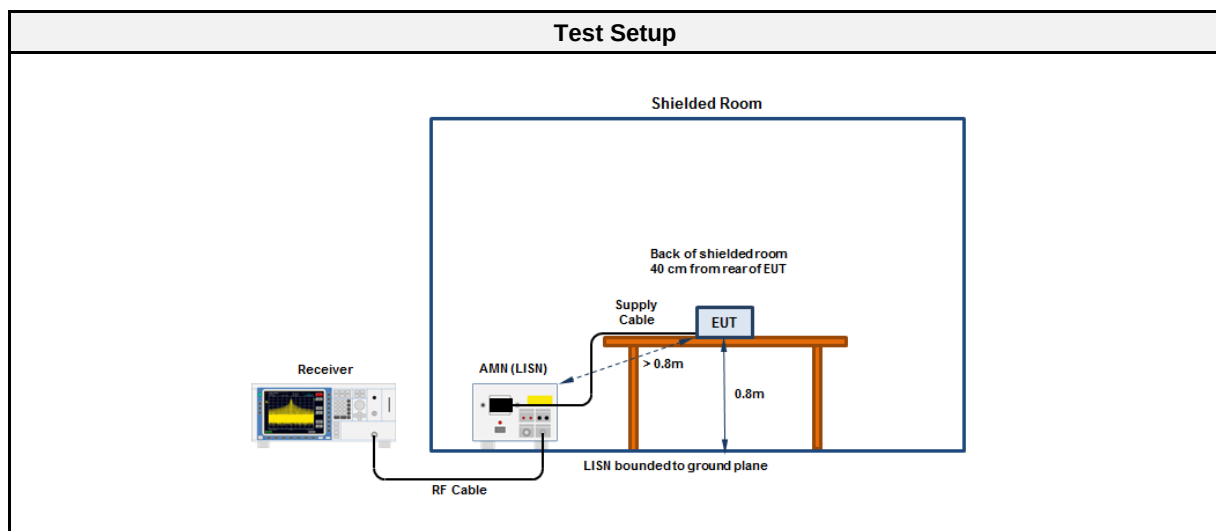
Test Information	
Reference	FCC 15.207
Measurement Method	ANSI C63.10 6.2
Operator	Azamat Ibraimov
Date	2025-05-06

3.4.2 Limits

Limits		
Frequency [MHz]	Quasi-Peak [dBμV]	Average [dBμV]
0.15 - 0.5	66 - 56*	56 - 46*
0.5 - 5	56	46
5 - 30	60	50

* Limit decreases linearly with the logarithm of the frequency

3.4.3 Setup



3.4.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	Raditeq B.V.	RadiMation	2024.1.4

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	R&S	ESU 26	EF00887	2024-01	2025-07
Pulse Limiter	R&S	ESH3-Z2	EF01222	2023-08	2025-08
LISN	Schwarzbeck	NSLK 8127 RC	EF01592	2024-07	2026-07

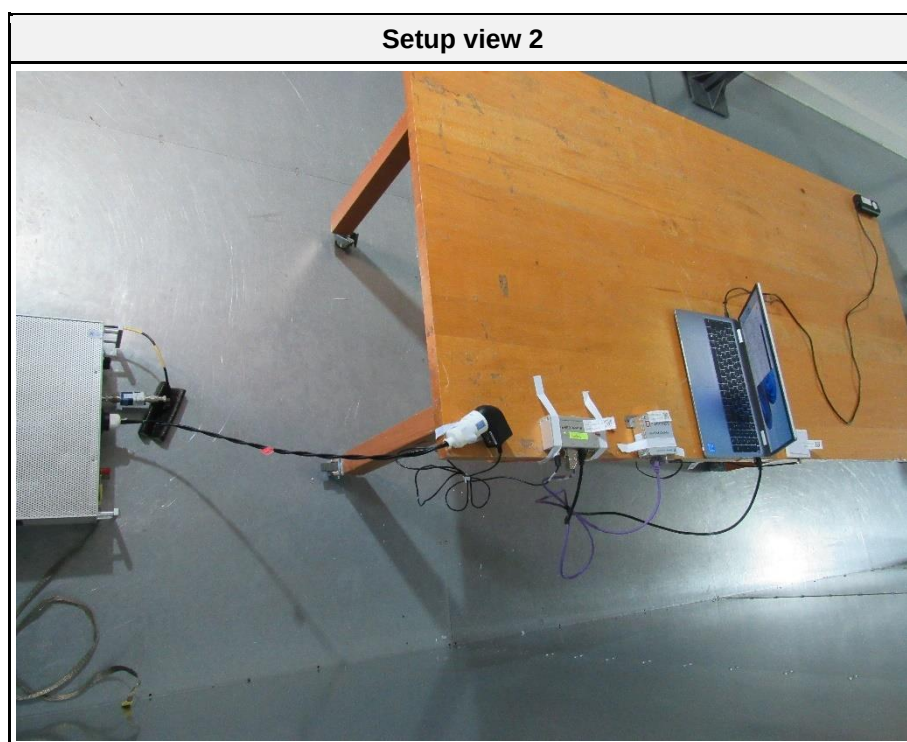
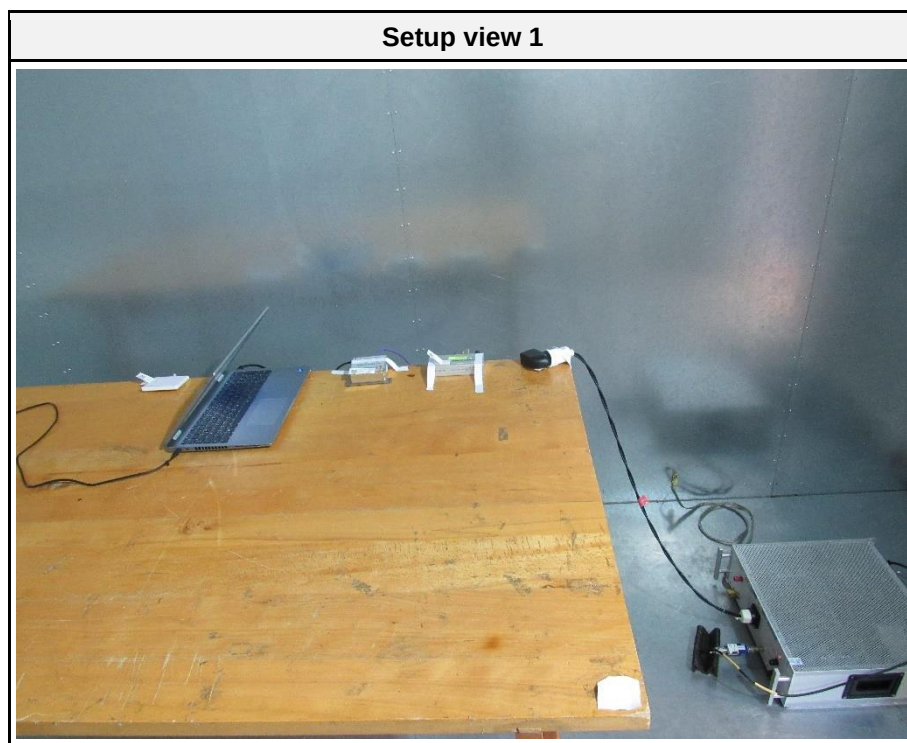
3.4.5 Procedure

Measurement of table top device
1. EUT set to test mode 2. The EUT is placed on a non-conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane. 3. The power cord that is normally supplied or recommended by the manufacturer is connected to the LISN. 4. The distance between the outer edge of the EUT and the LISN is set to 0.8 m. 5. The LISN measurement port is connected to a measurement receiver 6. Conducted emissions are measured. 7. The test data is recorded and shown on the next pages.

3.4.6 Results

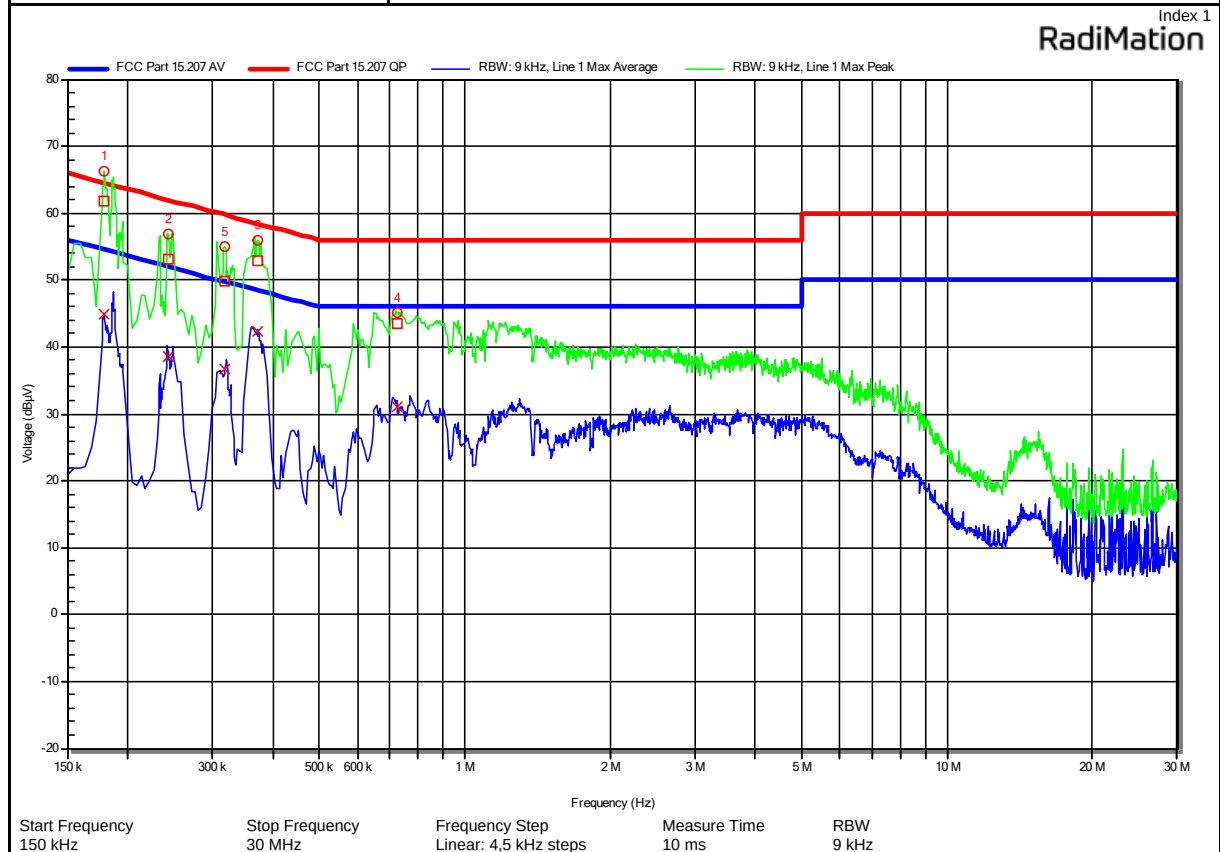
Test Results					
Port	Coupling	Mode	EUT Configuration	Verdict	Remark
Power	AMN	Transmit	1	PASS	--
Comment: --					

3.4.7 Setup Photos



3.4.8 Records

Conducted emissions at the mains power port according to 47 CFR § 15.207	
Project Number:	G0M-2405-2572
Applicant:	Fabmatics GmbH
Model Description:	RFID Reader
Model:	HF-1356-CAN-M-V3.0
Test Sample ID:	51088
Test Site:	Eurofins Product Service GmbH
Operator:	Ibraimov Azamat
Test Date & Time:	2025-05-06
Operating Conditions:	ambient temperature: 23 °Celsius power input: 24 VDC
AMN:	Schwarzbeck NSLK 8127 RC L1
Operational Mode:	Transmit
EUT Configuration:	1
Applied to Port:	AC Mains

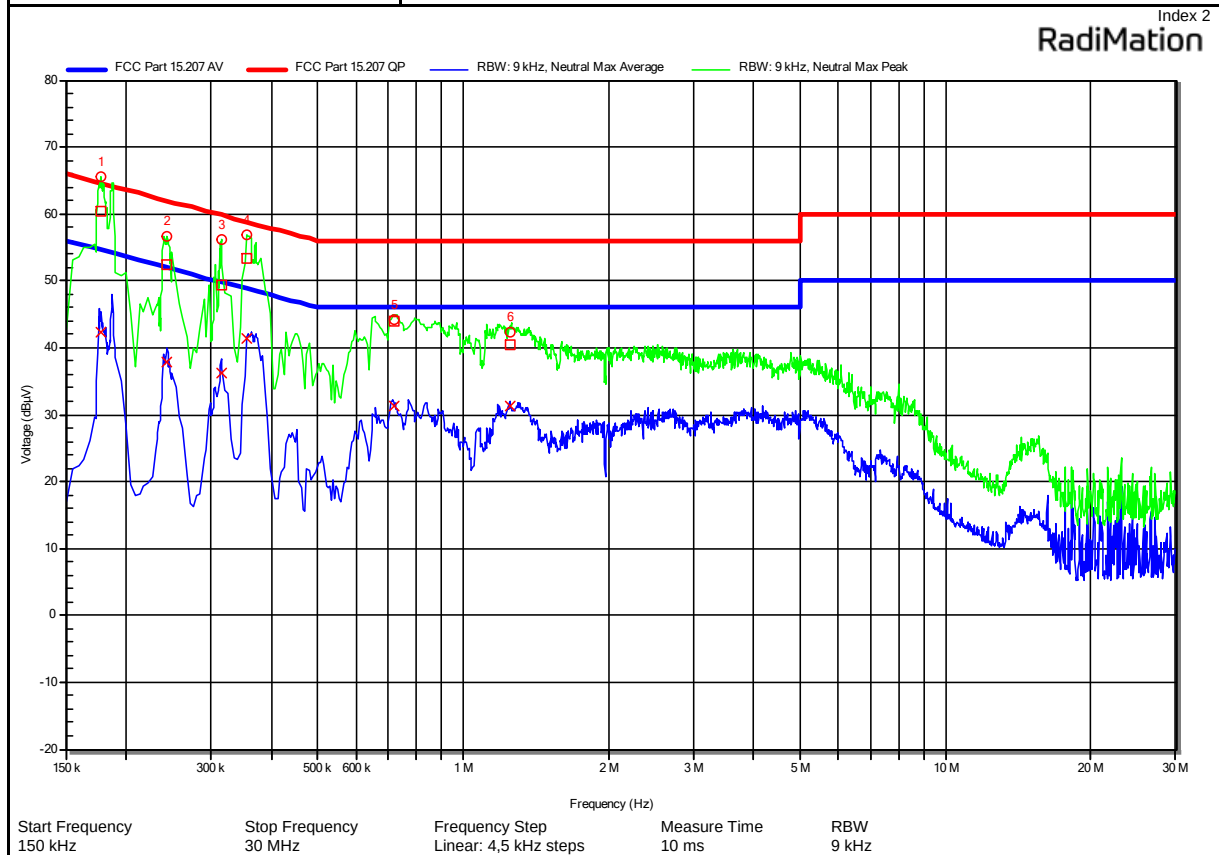


Peak Number	Frequency (MHz)	Quasi-Peak (dBµV)	Quasi-Peak Limit (dBµV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	0,179	61,83	64,52	-2,69	Pass	Line 1
2	0,242	53,21	62,02	-8,81	Pass	Line 1
3	0,372	52,77	58,46	-5,68	Pass	Line 1
4	0,726	43,5	56	-12,5	Pass	Line 1
5	0,317	49,93	59,77	-9,85	Pass	Line 1
Peak Number	Frequency (MHz)	Average (dBµV)	Average Limit (dBµV)	Average Difference (dB)	Average Status	LISN
1	0,179	45	54,52	-9,52	Pass	Line 1
2	0,242	38,68	52,02	-13,34	Pass	Line 1
3	0,372	42,22	48,46	-6,24	Pass	Line 1
4	0,726	31,07	46	-14,93	Pass	Line 1
5	0,317	36,64	49,77	-13,14	Pass	Line 1

Test Report No.: G0M-2405-2572-TFC225RI01-V02

Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted emissions at the mains power port according to 47 CFR § 15.207	
Project Number:	G0M-2405-2572
Applicant:	Fabmatics GmbH
Model Description:	RFID Reader
Model:	HF-1356-CAN-M-V3.0
Test Sample ID:	51088
Test Site:	Eurofins Product Service GmbH
Operator:	Ibraimov Azamat
Test Date & Time:	2025-05-06
Operating Conditions:	ambient temperature: 23 °Celsius power input: 24 VDC
AMN:	Schwarzbeck NSLK 8127
Operational Mode:	Transmit
DUT Configuration:	1
Applied to Port:	AC Mains



Peak Number	Frequency (MHz)	Quasi-Peak (dBµV)	Quasi-Peak Limit (dBµV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	0,177	60,43	64,63	-4,19	Pass	Neutral
2	0,244	52,37	61,97	-9,6	Pass	Neutral
3	0,316	49,36	59,81	-10,45	Pass	Neutral
4	0,357	53,39	58,8	-5,41	Pass	Neutral
5	0,721	43,95	56	-12,05	Pass	Neutral
6	1,252	40,56	56	-15,44	Pass	Neutral
Peak Number	Frequency (MHz)	Average (dBµV)	Average Limit (dBµV)	Average Difference (dB)	Average Status	LISN
1	0,177	42,33	54,63	-12,3	Pass	Neutral
2	0,244	37,76	51,97	-14,21	Pass	Neutral
3	0,316	36,18	49,81	-13,63	Pass	Neutral
4	0,357	41,34	48,8	-7,45	Pass	Neutral
5	0,721	31,39	46	-14,61	Pass	Neutral
6	1,252	31,35	46	-14,65	Pass	Neutral

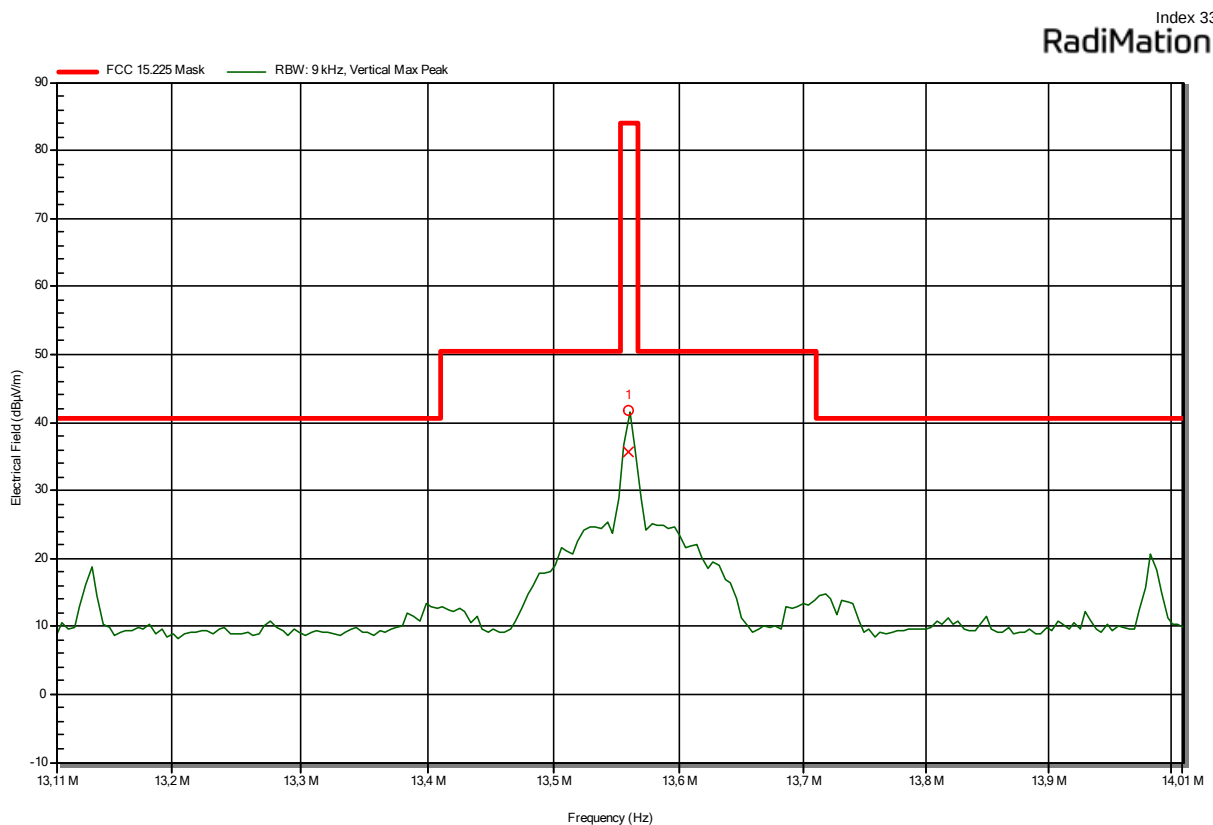
Test Report No.: G0M-2405-2572-TFC225RI01-V02

Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

ANNEX A Transmitter in-band emissions

Radiated carrier according to 47 CFR § 15.225

Project Number: G0M-2405-2572
 Applicant: Fabmatics GmbH
 Model Description: RFID Reader
 Model: HF-1356-CAN-M-V3.0
 Test Sample ID: 51088
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Ibraimov
 Measurement software: RadiMation, version 2024.1.8
 Test Conditions: Tnom: 22 °Celsius, Vnom: 24 V DC
 Antenna: Rohde & Schwarz HFH 2-Z2, Vertical
 Measurement distance: 3 m, converted to 30 m
 Mode: Tx; RFID, 13.56 MHz
 Test Date: 2025-05-07



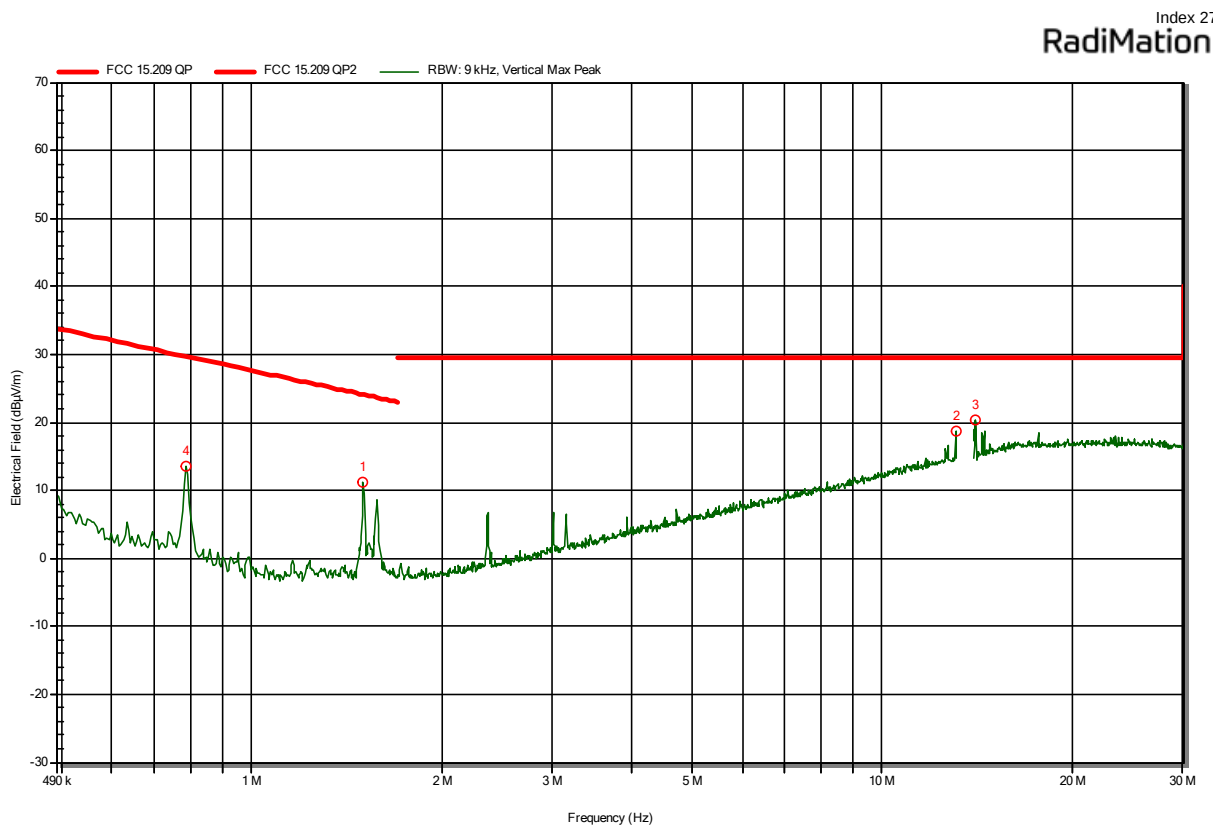
Frequency (MHz)	Peak (dBµV/m)	Peak Limit (dBµV/m)	Peak Difference (dB)	Peak Status
13,56	41,7	84	-42,3	Pass

Frequency (MHz)	Quasi-Peak (dBµV/m)	Quasi-Peak Limit (dBµV/m)	Limit Quasi-Peak Difference (dB)	Quasi-Peak Status
13,56	35,7	84	-48,27	Pass

ANNEX B Transmitter radiated spurious emissions

Radiated Spurious Emissions according to 47 CFR § 15.225

Project Number: G0M-2405-2572
 Applicant: Fabmatics GmbH
 Model Description: RFID Reader
 Model: HF-1356-CAN-M-V3.0
 Test Sample ID: 51088
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Ibraimov
 Measurement software: RadiMation, version 2024.1.8
 Test Conditions: Tnom: 22 °Celsius, Vnom: 24 V DC
 Antenna: Rohde & Schwarz HFH 2-Z2, Vertical
 Measurement distance: 3 m, converted to 30 m
 Mode: Tx; RFID, 13.56 MHz
 Test Date: 2025-05-07



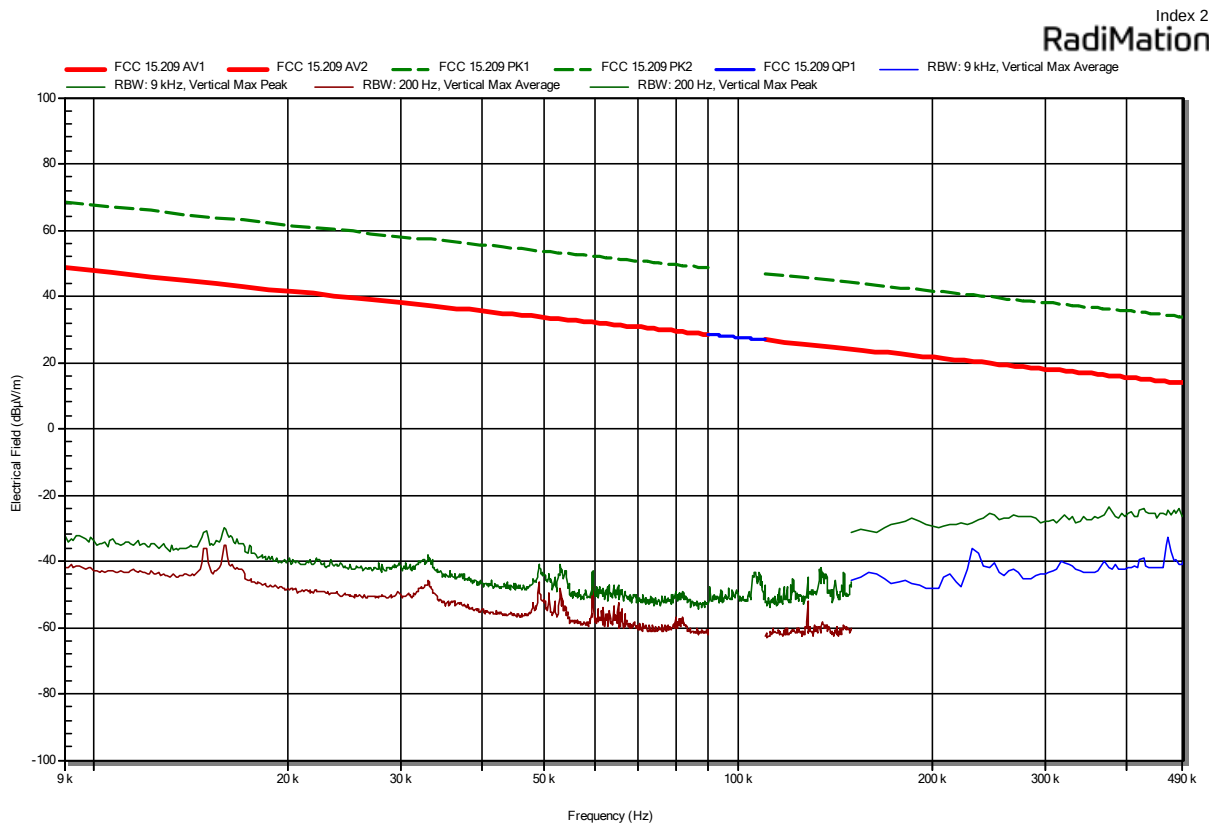
Peak Number	Frequency (MHz)	Peak (dBµV/m)	Peak (dBµV/m)	Limit	Peak (dB)	Difference	Peak Status
1	1,502	11,1	24,1		-12,96		Pass
2	13,077	18,7	29,5		-10,84		Pass
3	14,046	20,2	29,5		-10,07		Pass
4	0,787	13,5	29,7		-16,24		Pass

Test Report No.: G0M-2405-2572-TFC225RI01-V02

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

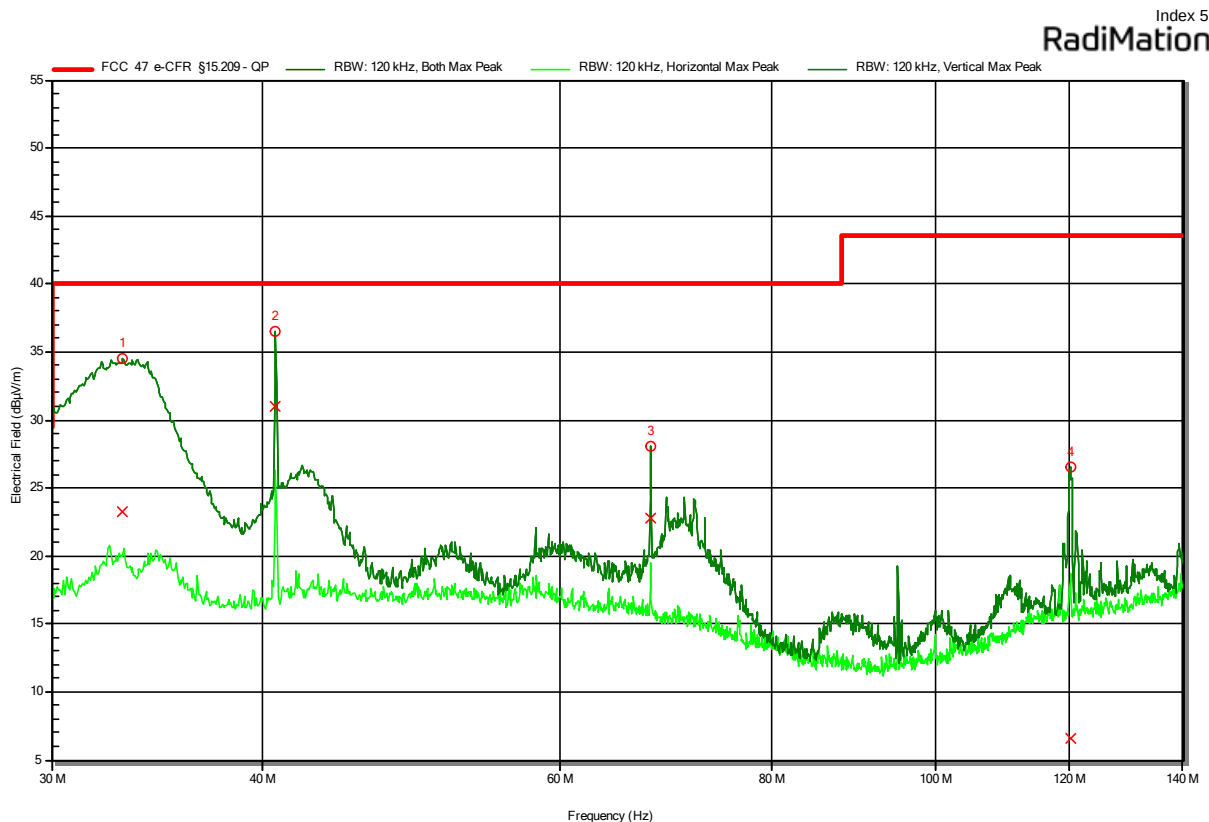
Radiated Spurious Emissions according to 47 CFR § 15.225

Project Number: G0M-2405-2572
 Applicant: Fabmatics GmbH
 Model Description: RFID Reader
 Model: HF-1356-CAN-M-V3.0
 Test Sample ID: 51088
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Ibraimov
 Measurement software: RadiMation, version 2024.1.8
 Test Conditions: Tnom: 22 °Celsius, Vnom: 24 V DC
 Antenna: Rohde & Schwarz HFH 2-Z2, Vertical
 Measurement distance: 3 m, converted to 300 m
 Mode: Tx; RFID, 13.56 MHz
 Test Date: 2025-05-07



Radiated Spurious Emissions according to 47 CFR § 15.225

Project Number: G0M-2405-2572
 Applicant: Fabmatics GmbH
 Model Description: RFID Reader
 Model: HF-1356-CAN-M-V3.0
 Test Sample ID: 51088
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Ibraimov
 Measurement software: RadiMation, version 2024.1.8
 Test Conditions: Tnom: 22 °Celsius, Vnom: 24 V DC
 Antenna: Schwarzbeck VULB 9168
 Measurement distance: 3 m
 Mode: Tx; RFID, 13.56 MHz
 Test Date: 2025-05-08



Peak Number	Frequency (MHz)	Quasi-Peak (dBµV/m)	Quasi-Peak Limit (dBµV/m)	Quasi-Peak Difference (dB)	Quasi-Peak Status	Polarization
1	33,06	23,23	40	-16,77	Pass	Vertical
2	40,68	31	40	-9	Pass	Vertical
3	67,8	22,82	40	-17,18	Pass	Vertical
4	120,06	6,64	43,5	-36,86	Pass	Vertical

=== End of test report ===

Test Report No.: G0M-2405-2572-TFC225RI01-V02

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany