

# Test Report

Report Number:

**F211147E1**

Equipment under Test (EUT):

**TN-R42TC-Ex**

Applicant:

**Hans Turck GmbH & Co. KG**

Manufacturer:

**Hans Turck GmbH & Co. KG**



Deutsche  
Akkreditierungsstelle  
D-PL-17186-01-01  
D-PL-17186-01-02  
D-PL-17186-01-03

## References

- [1] **ANSI C63.10: 2013** American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
- [2] **FCC CFR 47 Part 15** Radio Frequency Devices
- [3] **RSS-210 Issue 10 (December 2019)**  
Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment
- [4] **RSS-Gen Issue 5 (March 2019) Amendment 1**  
General Requirements for Compliance of Radio Apparatus

## Test Result

The requirements of the tests performed as shown in the overview (clause 4) were fulfilled by the equipment under test. The complete test results are presented in the following.

“Passed” indicates that the equipment under test conforms with the relevant limits of the testing standard without taking any measurement uncertainty into account as stated in clause 1.3 of ANSI C63.10 (2013). However, the measurement uncertainty is calculated and shown in this test report.

Tested, written and  
approved by:

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Signature

Reviewed by:

---

Signature

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The test results herein refer only to the tested sample. PHOENIX TESTLAB GmbH is not responsible for any generalisations or conclusions drawn from these test results concerning further samples. Any modification of the tested samples is prohibited and leads to the invalidity of this test report. Each page necessarily contains the PHOENIX TESTLAB Logo and the TEST REPORT NUMBER.

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# 1 Identification

## 1.1 Applicant

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Applicant represented during the test by the following person:	---

## 1.2 Manufacturer

Name:	Hans Turck GmbH & Co. KG
Address:	Witzlebenstraße 7; 45472 Mülheim an der Ruhr
Country:	Germany
Name for contact purposes:	Mr. Markus TEUBNER
Phone:	+49 23 53 709 – 61 24
eMail address:	markus.teubner@turck.com
Manufacturer represented during the test by the following person:	---

## 1.3 Test Laboratory

The tests were carried out by: **PHOENIX TESTLAB GmbH**  
**Königswinkel 10**  
**32825 Blomberg**  
**Germany**

Accredited by Deutsche Akkreditierungsstelle GmbH (DAkkS) in compliance with DIN EN ISO/IEC 17025 under Reg. No. D-PL-17186-01-06 and D-PL-17186-01-05, FCC Test Firm Designation Number DE0004, FCC Test Firm Registration Number 469623, CAB Identifier DE0003 and ISED# 3469A.

#### 1.4 EUT (Equipment under Test)

Test object: *	RFID read/write device
Model name: *	TN-R42TC-Ex
Model number: *	-
Order number: *	100020166
FCC ID: *	YQ7-TNR42TCEX
IC certification number: *	8821A-TNR42TCEX
PMN: *	TN-R42TC-Ex Series
HVIN: *	2859/3
FVIN: *	VN1.98

\* Declared by the applicant

	EUT number		
	1	2	3
Serial number: *	0011	-	-
PCB identifier: *	2859/3	-	-
Hardware version: *	Not available	-	-
Software version: *	VN1.98	-	-

\* Declared by the applicant

Note: PHOENIX TESTLAB GmbH does not take samples. The samples used for tests are provided exclusively by the applicant.

Equipment used for testing	
TAG *1	Type TURCK TW-R50-B128
Gateway *1	BL67 (consisting of PG-DP, 2RFID-S and 8XSG-PD).
External power supply *2	HC24-2.4 AG from bell power solutions and protection, used for AC power line conducted tests only

\*1 Provided by the applicant

\*2 Provided by the laboratory

## 1.5 Technical Data of Equipment

Equipment category: *	Equipment with integral antenna					
Channel spacing: *	Not applicable (one channel operation)					
Operating frequency *	13.56 MHz					
Antenna characteristics: *	Average loop area: Four turns with 51 mm x 35 mm = 7140 mm <sup>2</sup>					
Antenna gain: *	-40 dB					
ITU classification: *	423KK1D					
Alignment range: *	Not applicable (one channel operation)					
Switching range: *	Not applicable (one channel operation)					
Modulation: *	ASK					
Bit rate of transmitter: *	26.48 kbaud					
Supply Voltage: *	U <sub>nom</sub> =	24.0 V <sub>DC</sub>	U <sub>min</sub> =	19.2 V <sub>DC</sub>	U <sub>max</sub> =	28.8 V <sub>DC</sub>
Type of power supply: *	External DC					
Temperature range: *	-25 °C to +70 °C					
Highest internal frequency: *	13.56 MHz					

\* Declared by the applicant

Ports / Connectors				
Identification	Connector		Length during test	Shielding (Yes / No)
	EUT	Ancillary		
System line (DC and Data)	Four-pole M12 connector	Four-pole M12 connector	3 m	No
PE connection	Customized	Customized	3 m	No

## 1.6 Dates

Date of receipt of test sample:	13.08.2021
Start of test:	16.08.2021
End of test:	20.08.2021

## 2 Operational States

### Description of function of the EUT:

The EUT is an RFID reader for professional use.

### The following states were defined as the operating conditions:

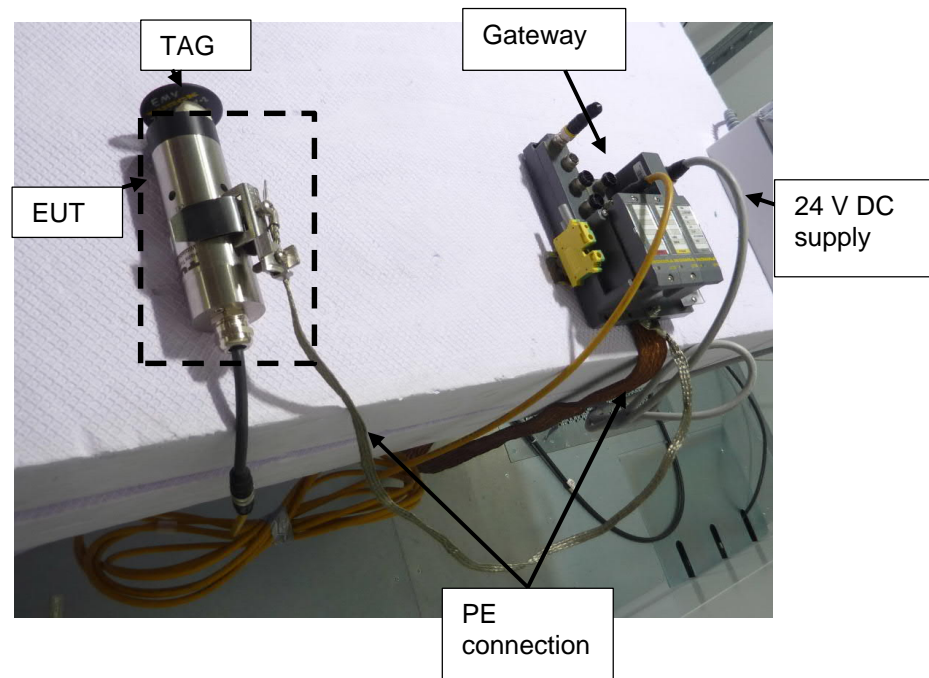
To set the EUT in operation, it was connected to a TURCK gateway BL67, which was placed outside the measurement environment. During all tests the EUT was supplied with 24.0 V<sub>DC</sub> via the gateway, which was connected to an external power supply.

The spurious radiation measurement of the receiver was not carried out, because the co-located transmitter transmits continuously.

Because no dedicated position of operating is defined by the applicant, all radiated measurements were carried out with the EUT in two orthogonal positions. For details of the different positions, refer annex A of this test report.

All tests were carried out with an unmodified test sample, which operates in normal operation mode. If not otherwise mentioned a TAG type TURCK TW-R50-B128 was presented in the front of the EUT.

### The system was setup as follows:





### 3 Additional Information

The EUT was not labeled as required by FCC / IC.

All tests were carried out with a grouted test sample. Because the grouted test sample could not be opened, the internal photographs were taken with a second un-grouted sample.

The EUT was connected the same ground as the gateway, as instructed by the applicant.

### 4 Overview

Application	Frequency range in MHz	FCC 47 CFR Part 15 section [2]	RSS-Gen, Issue 5 [4] and RSS-210, Issue 10 [3]	Tested EUT	Status
Conducted emissions on supply line	0.15 – 30	15.207 (a)	8.8 [4]	1	Passed
Radiated emissions	0.009 – 1000**	15.205 (a) 15.209 (a)	8.9 and 8.10 [4] 7.1 and 7.3 [3]	1	Passed
99 % bandwidth	13.56	-	6.7 [4]	1	Passed
Antenna requirement	-	15.203 [2]	6.8 [4]	1	Passed *

\*: Integrated antenna only, requirement fulfilled.

\*\*:  
As declared by the applicant the highest radio clock frequency is 13.56 MHz.  
Therefore the radiated emission measurement must be carried out up to 10<sup>th</sup> of the highest radio clock frequency 135.6 MHz in this case the measurement was carried out up to 1 GHz.

## 5 Results

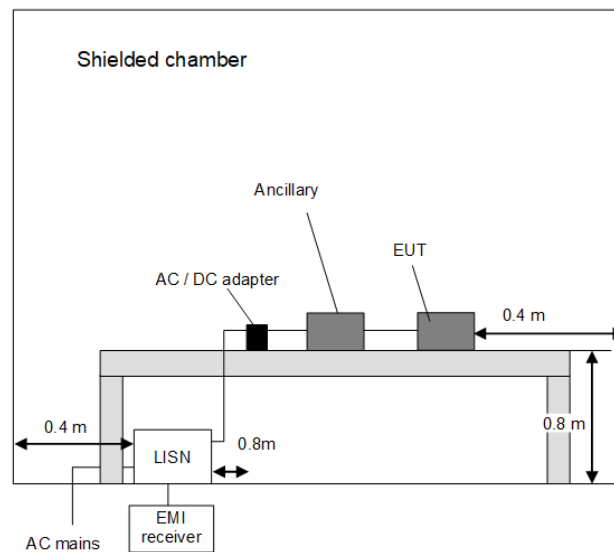
### 5.1 Conducted emissions on AC power supply lines

#### 5.1.1 Test method

The test is carried out in a shielded chamber. Table-top devices are set up on a non-conducting support with a size of 1 m by 1.5 m and a height of 80 cm above the ground plane. Floor-standing devices are placed directly on the ground plane. In case of DC powered equipment, which is not exclusively powered by a battery, it is connected to the LISN via a suitable AC/DC adaptor. The setup of the equipment under test is in accordance to [1].

The frequency range 150 kHz to 30 MHz is measured with an EMI receiver set to MAX hold mode with Peak and Average detectors and a resolution bandwidth of 9 kHz. A scan is carried out on the phase and neutral line of the AC mains network. If emissions less than 10 dB below the appropriate limit are detected, these emissions are measured with an Average and Quasi-Peak detector on all lines.

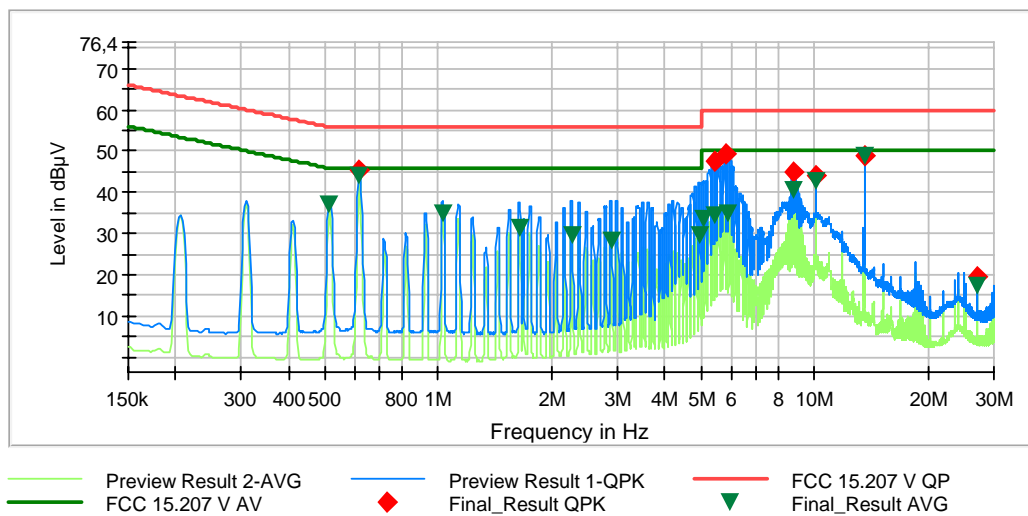
Frequency range	Resolution bandwidth
150 kHz to 30 MHz	9 kHz



### 5.1.2 Test results

Ambient temperature:	22 °C
Relative humidity:	64 %

Date:	19.08.2021
Tested by:	M.DINTER



Frequency in MHz	QuasiPeak in dB(µV)	Average in dB(µV)	Limit in dB(µV)	Margin in dB	Meas. Time in ms	Bandwidth in kHz	Line	PE	Corr. in dB
0.514500	---	37.19	46.00	8.81	15000.0	9.000	L1	FLO	9.8
0.618000	45.37	---	56.00	10.63	15000.0	9.000	L1	FLO	9.8
0.618000	---	44.25	46.00	1.75	15000.0	9.000	L1	FLO	9.8
1.027500	---	34.67	46.00	11.33	15000.0	9.000	L1	FLO	9.8
1.641750	---	31.28	46.00	14.72	15000.0	9.000	L1	FLO	9.9
2.265000	---	29.79	46.00	16.21	15000.0	9.000	L1	FLO	10.2
2.879250	---	28.14	46.00	17.86	15000.0	9.000	L1	FLO	10.2
4.949250	---	29.78	46.00	16.22	15000.0	9.000	L1	FLO	10.4
5.057250	---	33.66	50.00	16.34	15000.0	9.000	L1	FLO	10.4
5.442000	47.46	---	60.00	12.54	15000.0	9.000	L1	GND	10.4
5.457750	---	34.53	50.00	15.47	15000.0	9.000	L1	FLO	10.4
5.833500	49.31	---	60.00	10.69	15000.0	9.000	L1	GND	10.4
5.871750	---	34.71	50.00	15.29	15000.0	9.000	L1	FLO	10.4
8.832750	45.08	---	60.00	14.92	15000.0	9.000	L1	GND	10.5
8.832750	---	40.67	50.00	9.33	15000.0	9.000	L1	GND	10.5
10.115250	44.03	---	60.00	15.97	15000.0	9.000	L1	FLO	10.6
10.115250	---	42.93	50.00	7.07	15000.0	9.000	L1	FLO	10.6
13.560000	49.01	---	60.00	10.99	15000.0	9.000	L1	FLO	10.6
13.560000	---	48.82	50.00	1.18	15000.0	9.000	L1	FLO	10.6
27.120750	19.64	---	60.00	40.36	15000.0	9.000	N	FLO	10.8
27.120750	---	17.33	50.00	32.67	15000.0	9.000	N	FLO	10.8

Measurement uncertainty ±2.76 dB

Test result: Passed

Test equipment (please refer to chapter 6 for details)
1 - 7

## 5.2 Radiated emissions

### 5.2.1 Test method

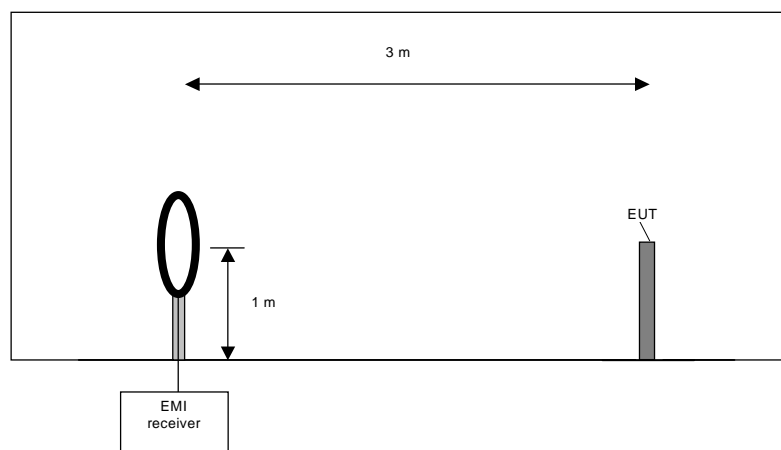
#### Preliminary measurement 9 kHz to 30 MHz

In the first stage a preliminary measurement is performed in an anechoic chamber with a measuring distance of 3 meters. Table-top devices are set up on a non-conducting support with a size of 1 m by 1.5 m and a height of 80 cm. Floor-standing devices are placed directly on the turntable / ground plane. The setup of the equipment under test is in accordance to [1].

The frequency range 9 kHz to 30 MHz is monitored with an EMI receiver while the system and its cables are manipulated to find out the configuration with the maximum emission levels if applicable. The EMI receiver is set to MAX hold mode. The EUT and the measuring antenna are rotated around their vertical axis to find the maximum emission levels.

The resolution bandwidth of the EMI receiver is set to the following values:

Frequency range	Resolution bandwidth
9 kHz to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz



Procedure preliminary measurement:

Pre-scans are performed in the frequency range 9 kHz to 150 kHz and 150 kHz to 30 MHz.

The following procedure is used:

- 1) Monitor the frequency range with the measuring antenna facing the EUT and an EUT / turntable azimuth of 0°.
- 2) Manipulate the system cables to produce the maximum levels of emissions.
- 3) Rotate the EUT by 360° to maximize the detected signals.
- 4) Measure the frequencies of the highest detected emissions with a lower span and resolution bandwidth to increase the accuracy and note the frequency values.
- 5) If the EUT is portable or ceiling mounted, repeat steps 1 to 4 with other orientations (x,y,z) of the EUT.
- 6) Rotate the measuring antenna and repeat steps 1 to 5.

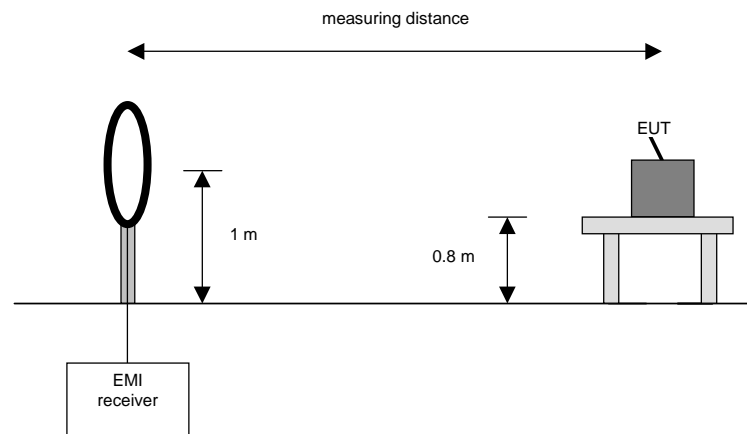
### Final measurement 9 kHz to 30 MHz

In the second stage a final measurement is performed on an open area test site with no conducting ground plane in measuring distances of 3 m, 10 m or 30 m. In the case where larger measuring distances are required the results are extrapolated based on the values measured on the closer distances according to section 15.31 (f) (2) [2]. The final measurement is performed with an EMI receiver set to Quasi-Peak detector, except for the frequency bands 9 kHz to 90 kHz and 110 kHz to 490 kHz where an Average detector is used according to section 15.209 (d) [2].

At the frequencies, which were detected during the preliminary measurements, the final measurement is performed while rotating the EUT and the measuring antenna in the range of 0 ° to 360 ° around their vertical axis until the maximum level value is found.

The resolution bandwidth of the EMI receiver is set to the following values:

Frequency range	Resolution bandwidth
9 kHz to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz



Procedure final measurement:

The following procedure is used:

- 1) Monitor the selected frequencies from the preliminary measurement with the measuring antenna facing the EUT and an EUT azimuth of 0 °.
- 2) Rotate the EUT by 360 ° to maximize the detected signals.
- 3) Rotate the measuring antenna and repeat steps 1 to 2 until the maximum value is found and note it.
- 4) If the EUT is portable or ceiling mounted, repeat steps 1 to 3 with other orientations (x,y,z) of the EUT.

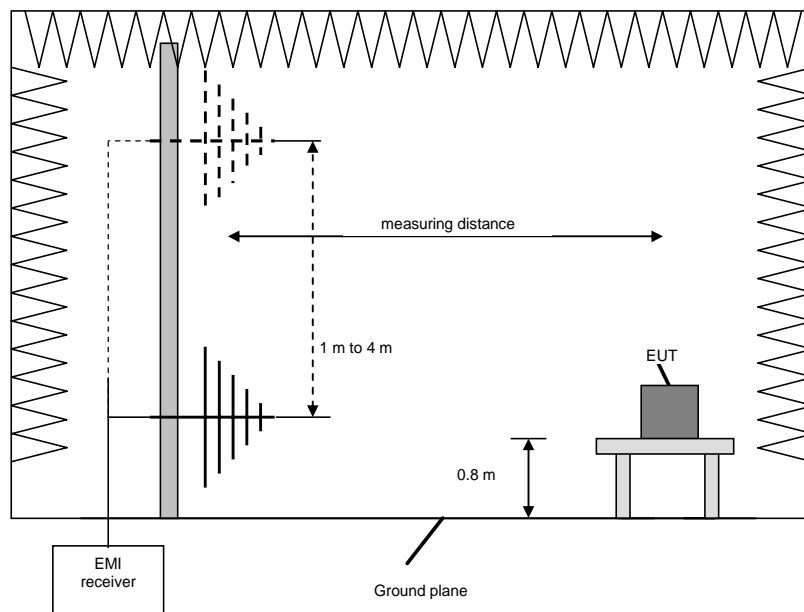
### Preliminary and final measurement 30 MHz to 1 GHz

The preliminary and final measurements are performed in a semi-anechoic chamber with a metal ground plane in a 3 m distance.

During the tests the EUT is rotated in the range of 0 ° to 360 °, the measuring antenna is set to horizontal and vertical polarization and raised and lowered in the range from 1 m to 4 m to find the maximum level of emissions.

The resolution bandwidth of the EMI Receiver is set to the following values:

Test	Frequency range	Resolution bandwidth
Preliminary measurement	30 MHz to 1 GHz	100 kHz
Frequency peak search	+ / - 1 MHz	10 kHz
Final measurement	30 MHz to 1 GHz	120 kHz



Procedure preliminary measurement:

The following procedure is used:

- 1) Set the measuring antenna to 1 m height.
- 2) Monitor the frequency range at horizontal polarisation of the measuring antenna and an EUT / turntable azimuth of 0 °.
- 3) Rotate the EUT by 360° to maximize the detected signals.
- 4) Repeat steps 2 to 3 with the vertical polarisation of the measuring antenna.
- 5) Increase the height of the measuring antenna for 0.5 m and repeat steps 2 to 4 until the final height of 4 m is reached.
- 6) The highest values for each frequency are saved by the software, including the measuring antenna height and polarization and the turntable azimuth for that value.

Procedure final measurement:

The following procedure is used:

- 1) Select the highest frequency peaks (lowest margin to the limit) for the final measurement.
- 2) The software determines the exact peak frequencies by doing a partial scan with reduced RBW with +/- 10 times the RBW of the pre-scan of the selected peaks.
- 3) If the EUT is portable or ceiling mounted, find the worst-case EUT orientation (x,y,z) for the final test.
- 4) The worst-case measuring antenna height is found via varying the height by +/- 0.5 m from the value obtained in the preliminary measurement while monitoring the emission level.
- 5) The worst-case turntable position is found via varying the turntable azimuth by +/- 30° from the value obtained in the preliminary measurement while monitoring the emission level.
- 6) The final measurement is performed at the worst-case measuring antenna height and the worst-case turntable azimuth.
- 7) Steps 2 to 6 are repeated for each frequency peak selected in step 1.

### 5.2.2 Test results preliminary measurement 9 kHz to 30 MHz

Ambient temperature:	22 °C
Relative humidity:	55 %

Date:	18.08.2021
Tested by:	M.DINTER

Position of EUT: For tests for f between 9 kHz to 30 MHz, the EUT was set-up on a table with a height of 80 cm. The distance between EUT and antenna was 3 m.

Cable guide: For detail information of test set-up and the cable guide refer to the pictures in the annex A in the test report.

Test record: The measurement value was already corrected by 40 dB/decade as described in 47 CFR 15.31(f)(2) regarding to the measurement distance as requested in 47 CFR 15.209(a)

Remark: All 3 orthogonal planes were tested separately

Calculations:

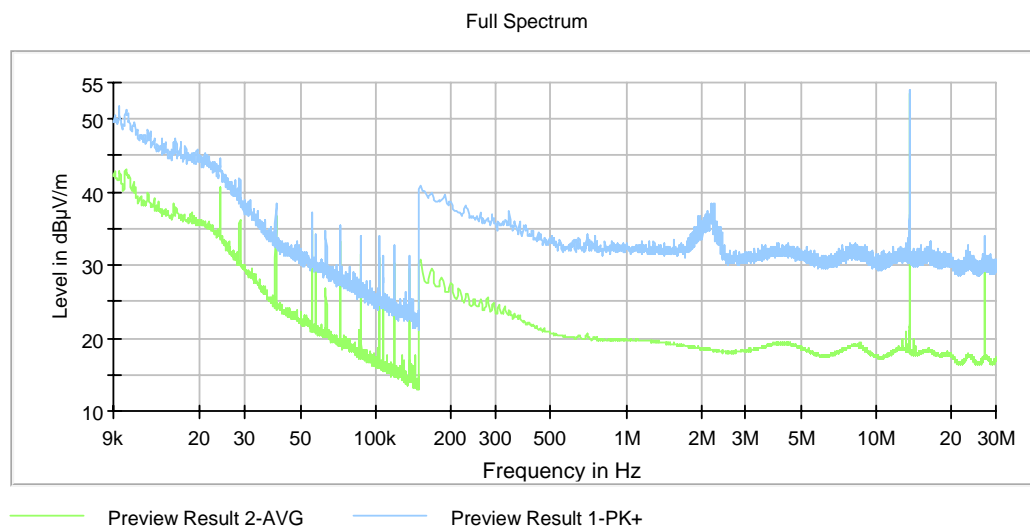
Result @ norm. dist. [dB $\mu$ V/m] = Reading [dB $\mu$ V] + AF [dB/m] + Distance corr. fact. [dB $\mu$ V/m]

Result @ norm. dist. [dB $\mu$ A/m] = Result @ norm. dist. [dB $\mu$ V/m] – 20 x log<sub>10</sub> (377  $\Omega$ )

Margin [dB] = Limit [dB( $\mu$ V| $\mu$ A)/m] - Result [dB( $\mu$ V| $\mu$ A)/m]

#### Worst case plot:

Spurious emissions from 9 kHz to 30 MHz (Position 1 lying):



The following emissions were found according to [2] and [3]:

These frequencies have to be measured within a final measurement.

Remark: No further emissions caused by the equipment under were found.



### 5.2.3 Test results final measurement 9 kHz to 30 MHz

Ambient temperature:	19 °C
Relative humidity:	66 %

Date:	20.08.2021
Tested by:	M.DINTER

The results of the standard subsequent measurement on the outdoor test site are indicated in the table below. The limits as well as the measured results (levels) refer to the above-mentioned standard while taking account of the specified requirements for a 30 / 300 m measuring distance.

Results 9 kHz - 30 MHz												
Frequency	Reading @ measuring distance	Result @ norm. distance	Result @ norm. distance	Limit acc. 15.209	Limit acc. RSS-Gen Table 6	Margin	Detector	Antenna factor	Measuring distance	Normative distance	Distance correction factor	Position
[MHz]	[dB(μV)]	[dB(μV/m)]	[dB(μA/m)]	[dB(μV/m)]	[dB(μA/m)]	[dB]		[dB/m]	[m]	[m]	[dB]	#
2.500	18.6	-0.5 @ 30m	-52 @ 30m	29.5	-22.0	30.0	QP	20.9	3	30	40.0	1
13.560	35.5	16 @ 30m	-35.5 @ 30m	29.5	-22.0	13.5	QP	20.5	3	30	40.0	1
27.120	14.1	-5.5 @ 30m	-57 @ 30m	29.5	-22.0	35.0	QP	20.4	3	30	40.0	1

Measurement uncertainty: 4.36 dB

Remark: At 10m measuring distance the signal of the EUT was below the sensitivity of the measuring system.

Test result: Passed

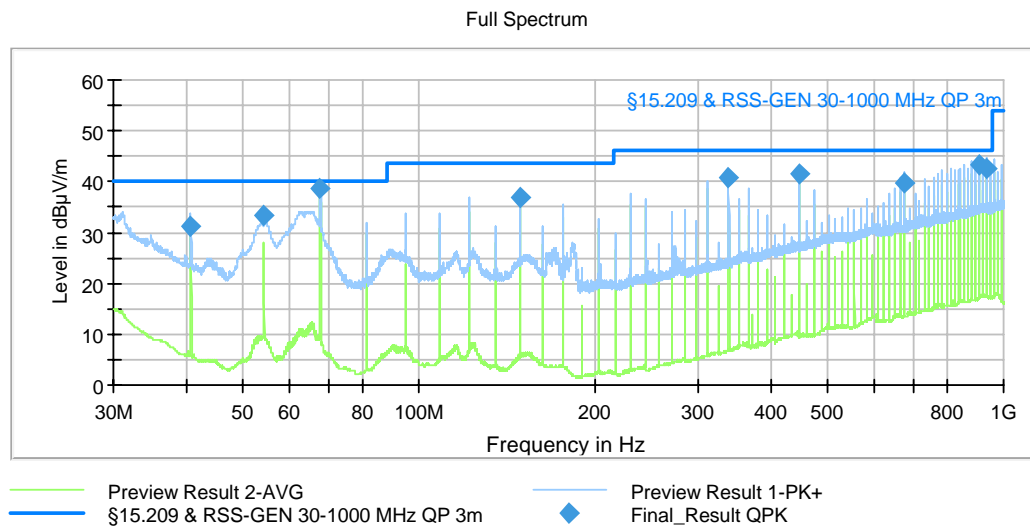
Test result: Passed

Test equipment (please refer to chapter 6 for details)	
Preliminary measurement	8 – 15
Final measurement	16 - 18

### 5.2.4 Test results final measurement 30 MHz to 1 GHz

Ambient temperature:	22 °C
Relative humidity:	45 %

Date:	17.08.2021
Tested by:	M.DINTER



The results of the standard subsequent measurement in a semi anechoic chamber are indicated in the table below. The limits as well as the measured results (levels) refer to the above-mentioned standard while taking account of the specified requirements for a 3 m measuring distance.

Frequency in MHz	QuasiPeak in dB(µV/m)	Limit in dB(µV/m)	Margin in dB	Meas. Time in ms	Bandwidth in kHz	Height in cm	Pol	Azimuth in deg	Corr. in dB
40.680	31.30	40.0	8.7	1000	120.000	100.0	V	85	19.6
54.240	33.24	40.0	6.8	1000	120.000	114.0	V	319	12.3
67.800	38.58	40.0	1.4	1000	120.000	131.0	V	201	14.3
149.160	36.94	43.5	6.6	1000	120.000	200.0	H	262	15.5
339.010	40.91	46.0	5.1	1000	120.000	100.0	H	237	20.2
447.490	41.66	46.0	4.4	1000	120.000	112.0	V	250	23.0
678.010	39.90	46.0	6.1	1000	120.000	115.0	H	164	27.0
908.540	43.19	46.0	2.8	1000	120.000	100.0	H	79	30.2
935.660	42.55	46.0	3.5	1000	120.000	100.0	H	87	30.2

Measurement uncertainty  $\pm 5.12$  dB

Test result: Passed

The correction factor was calculated as follows:

Corr. (dB) = cable attenuation (dB) + 6 dB attenuator (dB) + antenna factor (dB)

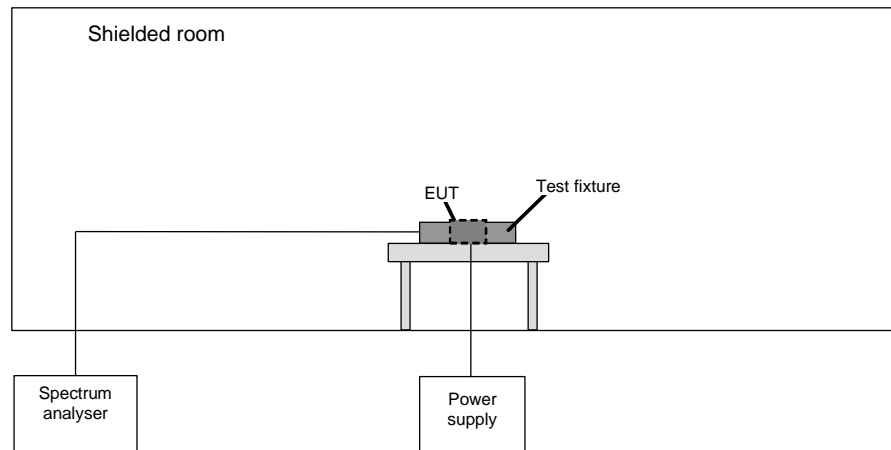
Therefore, the reading can be calculated as follows:

Reading (dBµV/m) = result QuasiPeak (dBµV/m) - Corr. (dB)

Test equipment (please refer to chapter 6 for details)
9 - 15, 19 - 21

## 5.3 99 % bandwidth

### 5.3.1 Test method



The following procedure is used for the occupied bandwidth measurement according to [1]:

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure is used for measuring the 99% power bandwidth:

- 1) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- 2) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
- 3) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than  $[10 \log (\text{OBW}/\text{RBW})]$  below the reference level. Specific guidance is given in 4.1.5.2.
- 4) Step 1) through step 3) might require iteration to adjust within the specified range.

### 5.3.2 Test results

Ambient temperature:	22 °C
Relative humidity:	55 %

Date:	18.08.2021
Tested by:	M.DINTER



$F_L$	$F_U$	BW ( $F_U - F_L$ )
13.5590245 MHz	13.5614425 MHz	2.4180 kHz

Measurement uncertainty <  $1 \cdot 10^{-7}$

Remark: Because the carrier signal is only modulated in amplitude, the requirements for setting RBW and span will only show the filter shape of the spectrum analyser, the setting of these parameters were chosen in good engineering practice.

Test result: Passed

Test equipment (please refer to chapter 6 for details)
14 - 15, 19 - 20

## 6 Test Equipment used for Tests

No.	Test equipment	Type	Manufacturer	Serial No.	PM. No.	Cal. Date	Cal Due
1	LISN	NSLK8128RC	Rohde & Schwarz	0412	483186	Calibration not necessary	
2	Shielded chamber M155	SK3	Albatross Projects	-	482786	Calibration not necessary	
3	Software M155	EMC32	Rohde & Schwarz	100619	483182	Calibration not necessary	
4	EMI Testreceiver	ESR7	Rohde & Schwarz	101939	482558	18.02.2020	02.2022
5	Software	Software	Spitzenberger & Spies	-	480114	Calibration not necessary	
6	EMC test system	EMC D 30000 / PAS	Spitzenberger & Spies	A4507 00/1 1110	481301	Calibration not necessary	
7	Control unit	SyCore 1k4	Spitzenberger & Spies	A4507 12/0 1110	481302	21.09.2020	09.2022
8	Loop antenna	HFH2-Z2	Rohde & Schwarz	832609/014	480059	14.02.2020	02.2022
9	Software M276	EMC32	Rohde & Schwarz	100970	482972	Calibration not necessary	
10	RF Switch Matrix	OSP220	Rohde & Schwarz	-	482976	Calibration not necessary	
11	Turntable	TT3.0-3t	Maturo	825/2612/.01	483224	Calibration not necessary	
12	Controller	NCD	Maturo	474/2612.01	483226	Calibration not necessary	
13	Semi Anechoic Chamber M276	SAC5-2	Albatross Projects	C62128-A540-A138-10-0006	483227	Calibration not necessary	
14	EMI Testreceiver	ESW44	Rohde & Schwarz	101828	482979	14.11.2019	11.2021
15	Power Supply	HM8142	Hameg Instruments	142981P 03955	480719	16.01.2020	01.2022
16	loop antenna	HFH2-Z2	Rohde & Schwarz	100417	481912	25.02.2021	02.2022
17	Outdoor test site	-	PHOENIX TESTLAB GmbH	-	480293	Calibration not necessary	
18	EMI Receiver / Spectrum Analyser	ESI 40	Rohde & Schwarz	100064/040	480355	25.02.2021	02.2022
19	Attenuator 6 dB	WA2-6	Weinschel	8254	410119	Calibration not necessary	
20	Ultralog Antenna	HL562E	Rohde & Schwarz	101079	482978	18.03.2021	03.2024
21	Antenna support	BAM 4.5-P-10kg	Maturo	222/2612.01	483225	Calibration not necessary	

## 7 Test site Validation

Test equipment	PM. No.	Frequency range	Type of validation	According to	Val. Date	Val Due
Shielded chamber M155	482784	9 kHz – 30 MHz	GND-Plane	ANSI C63.4-2014	25.09.2020	24.09.2022
OATS Outdoor	480293	9 kHz – 30 MHz	-	ANSI C63.4-2014	-	-
Semi anechoic chamber M276	483227	30 – 1000 MHz	NSA/RSM	CISPR 16-1-4 + Cor1:2010 + A1:2012 +A2:2017	03.03.2021	02.03.2023

## 8 Report History

Report Number	Date	Comment
F211147E1	31.08.2022	Initial Test Report
-	-	-
-	-	-

## 9 List of Annexes

Annex A	Test Setup Photos	4 pages
Annex B	EUT External Photos	4 pages
Annex C	EUT Internal Photos	5 pages