

FCC Test Report (Part 15C) WPT

Test Report no.:	EMC_BO_002149 (v1.0)	Date of Report:	05-FEB-2018
Number of pages:	21	Project support engineer:	Frank Wittmann
Test period:	17.01.2018-26.01.2018		

Applicant:	Laird Dabendorf GmbH, Märkische Straße 72, 15806 Zossen, Germany, Mr. Heiko Dörschel		
Manufacturer:	Laird Dabendorf GmbH, Märkische Straße 72, 15806 Zossen, Germany		
EUT identification:	Laird, WCH-186 (WCH-186a, WCH-186b)		
FCC ID:	RK7186-00	IC ID:	4774A-18600

Testing laboratory:	Laird Bochum GmbH, Meesmannstr.103, 44807 Bochum, Germany		
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	FCC Designation number	DE0017	IC recognition no.: 7847A-1
	Laboratory manager:	Jürgen Mitterer	

Test result	The EUT complies with the requirements made in the referred test documents.
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Approver:	Jürgen Mitterer	Author:	Frank Wittmann
Title:	Laboratory Manager	Title:	Senior EMC Test Engineer

Signature:		Signature:	
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1. Summary for FCC Part 15C Test Report

Date of receipt	17-JAN-2018
Testing completed	26-JAN-2018
The customer's contact person	Heiko Dörschel
Notes	none

1.1. EUT and Accessory Information

The EUT is an inductive wireless power transfer device (wireless charger) with load modulation operating at 111 kHz. In case of AM radio frequency interference in the car, the main WPT operating frequency at 111 kHz can be switched to 112 or 113 kHz. The highest output power is available at 111 kHz. The EUT is tested with a commercial available mobile phone with highest duty cycle of 100%.

Product	Type	SN	HW	MV	SW	DUT
Wireless charging unit	WCH-186b	000002B02F69	H10	-	0050	DAB17148E
Artificial load	WCH-Rec.	0001	1.0	-	-	NOV16024E
Power cable	-	-	-	-	-	DAB15159E
RF cable cellular	-	-	-	-	-	DAB16071E
RF cable NFC	-	-	-	-	-	DAB17003E

1.2. Applied Standards

Standard / Rule Part	Version
CFR 47, FCC Part 15C	-
ANSI C63.10	-
ICES-001	-
ISED RSS-GEN	Issue 4
ISED RSS-216	Issue 2

Deviations or clarifications to these standards are noted in the related test result under "test method and limit".

1.3. Summary of Test Results

Section	Section in CFR 47	Section in RSS-GEN	Section in RSS-216	Name of the test	Result
3 & 4	15.205, 15.209	8.10	6.2.2.2 (Type 1 WPT devices)	Radiated emissions	PASSED
-	15.207	-	6.2.2.1	AC powerline conducted emissions	NA
5	15.215 (c)	6.6	-	Occupied bandwidth	PASSED

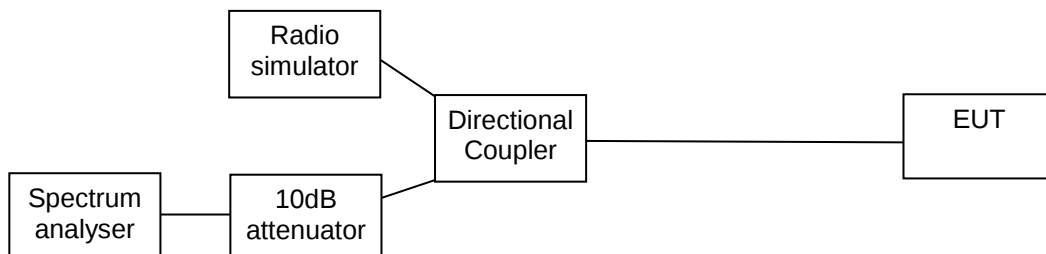
PASSED: The EUT complies with the essential requirements in the standard.
 FAILED: The EUT does not comply with the essential requirements in the standard.
 NP: The test was not performed.
 NA: The test was not applicable.

1.4. Measurement Uncertainties

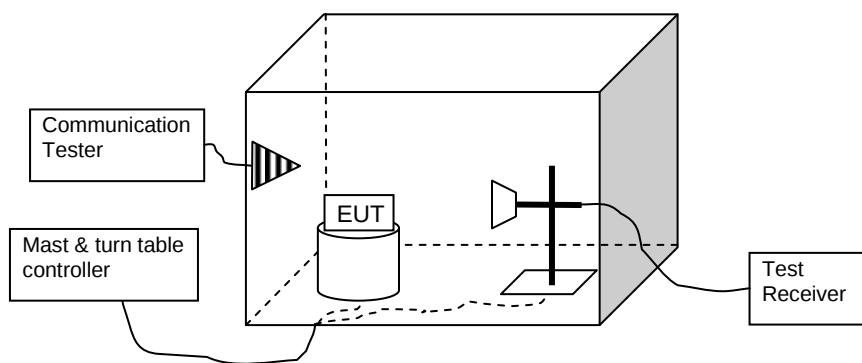
Parameter	Measurement Uncertainty
Radio Frequency	$\pm 3.6 \times 10^{-7}$
Total RF Power, conducted	± 0.79 dB
Emissions, conducted	± 1.67 dB
All emissions, radiated	± 5.38 dB
Temperature	± 0.25 °C
Humidity	± 1.0 %

2. Test setups

2.1. Conducted RF test setup



2.2. Radiated emissions test setup



3. Radiated emissions below 30 MHz

EUT with DUT number	DAB17148E
Accessories with DUT numbers	DAB15159E, NOV16024E, DAB16071E, DAB17003E
Operation Voltage [V] / [Hz]	12 V / DC
Result	PASSED
Remarks	none
Temp [°C] / Humidity [%RH]	21.5 °C / 35.0 %
Date of measurements	17.01.2018, 26.01.2018
Measured by	Oliver Flecke

3.1. Test method and limit

The measurement is made according to ANSI C63.10 and RSS-GEN as follows:

The measurement distance is 3m with a shielded loop antenna

The Limit has been adjusted with the distance correction factor according to 15.31(f)(2)
(+40 dB for 30 m distance and +80 dB for 300 m distance)

The measurement is divided into the Preliminary Measurement and the Final Measurement.
The suspected frequencies are searched for in Preliminary Measurement with measuring antenna at fixed height using 2-axis EUT position system, set on the turntable, which is rotated 360 degrees.

The emissions less than 20 dB below the permissible value are reported.

The measurement results are obtained as described: $E [\mu V/m] = U_{RX} + A_{CF}$

Where U_{RX} is receiver reading and A_{CF} is total correction factor including cable loss, antenna factor and preamplifier gain ($A_{CF} = L_{CABLES} + AF - G_{PREAMP}$).

FCC limits for radiated emissions measurements (3 m measurement distance)

Frequency range [MHz]	Limit [$\mu V/m$]	Limit [dB $\mu V/m$]	Detector
0.009 - 0.09	10000 * 2400 / f[kHz]	128.5 - 93.8	AV
0.09 - 0.11			QP
0.11 - 0.19			AV
0.19 - 0.49			AV
0.490 - 1.705	100 * 24000 / f[kHz]	73.8 - 63.0	QP
1.705 - 30.0	100 * 30	69.5	QP

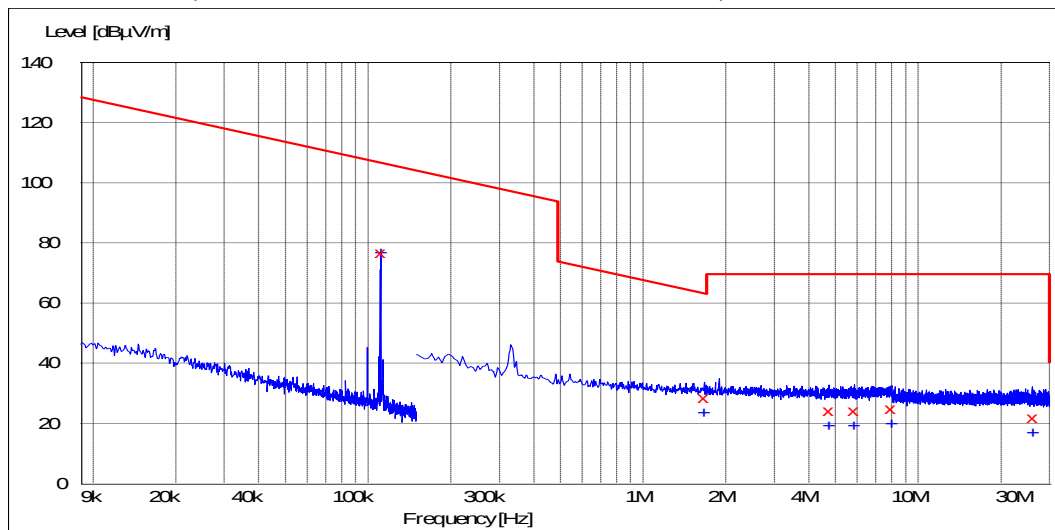
CISPR11 Induction cooking (group 2) limits (3 m measurement distance)

Frequency range [MHz]	Limit [dB $\mu A/m$]	Limit [dB $\mu V/m$]	Detector
0.009 - 0.070	69.0	120.5	QP
0.070 - 0.1485	69 - 39	120.5 - 90.5	QP
0.1485 - 4.0	39 - 3	90.5 - 54.5	QP
4.0 - 30	3	54.5	QP

Conversion factor between dB $\mu A/m$ and dB $\mu V/m$ is 51.5 dB

3.2. Test results (FCC)

@111 kHz: Peak (< 150 kHz: RBW: 200 Hz, > 150 kHz: RBW 10 kHz)



Quasi-Peak (< 150 kHz: RBW: 200 Hz, >150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.11111	76.90	23.30	106.70	29.80	170.0	61.00	VERTICAL	PASSED
1.66700	28.60	23.10	63.20	34.60	170.0	129.00	VERTICAL	PASSED
4.74750	24.20	23.30	69.50	45.30	170.0	242.00	VERTICAL	PASSED
5.83150	24.30	23.40	69.50	45.20	170.0	158.00	VERTICAL	PASSED
7.98300	24.80	23.50	69.50	44.70	170.0	53.00	VERTICAL	PASSED
26.10100	21.70	23.70	69.50	47.80	170.0	212.00	VERTICAL	PASSED

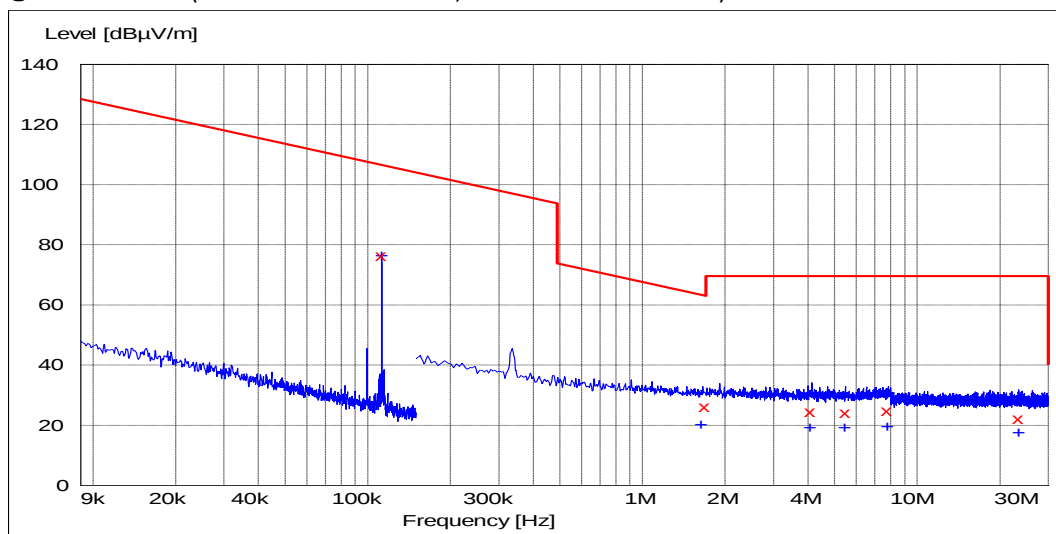
No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

Average (< 150 kHz: RBW: 200Hz, > 150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.11111	76.90	23.30	106.70	29.80	170.0	63.00	VERTICAL	PASSED
1.66650	23.60	23.10	63.20	39.60	170.0	115.00	VERTICAL	PASSED
4.74750	19.20	23.30	69.50	50.30	170.0	226.00	VERTICAL	PASSED
5.84100	19.10	23.40	69.50	50.40	170.0	170.00	VERTICAL	PASSED
8.00600	19.70	23.50	69.50	49.80	170.0	38.00	VERTICAL	PASSED
26.12550	17.00	23.70	69.50	52.50	170.0	206.00	VERTICAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

@112 kHz: Peak (< 150 kHz: RBW: 200 Hz, > 150 kHz: RBW 10 kHz)



Quasi-Peak (< 150 kHz: RBW: 200 Hz, >150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.112360	76.30	23.30	106.60	30.30	170.0	57.00	VERTICAL	PASSED
1.687000	26.10	23.10	63.10	37.00	170.0	317.00	VERTICAL	PASSED
4.087500	24.60	23.30	69.50	44.90	170.0	61.00	VERTICAL	PASSED
5.485000	24.20	23.30	69.50	45.30	170.0	52.00	VERTICAL	PASSED
7.801000	24.80	23.50	69.50	44.70	170.0	318.00	VERTICAL	PASSED
23.386000	22.20	23.70	69.50	47.30	170.0	347.00	VERTICAL	PASSED

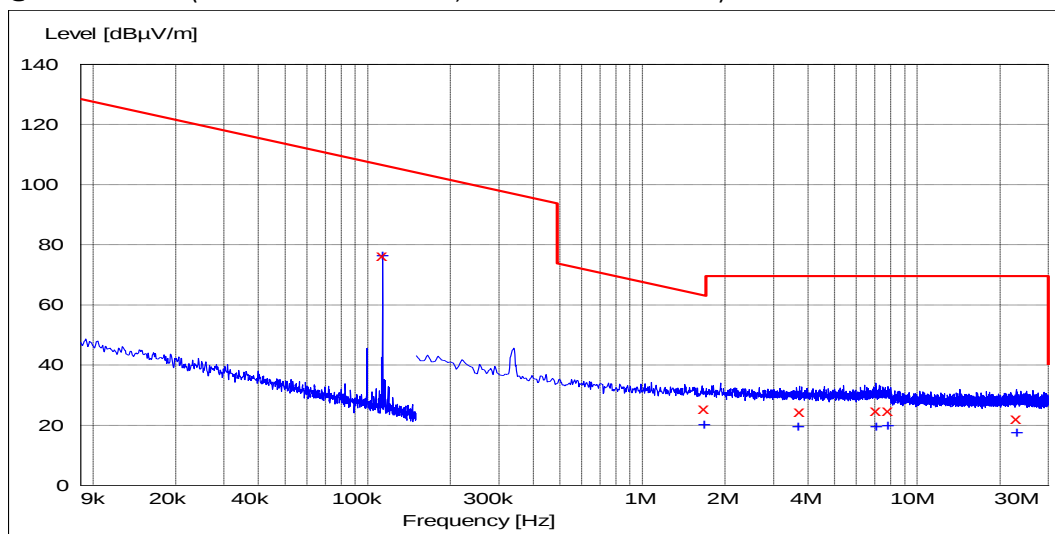
No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

Average (< 150 kHz: RBW: 200Hz, > 150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.112350	76.30	23.30	106.60	30.30	170.0	58.00	VERTICAL	PASSED
1.634500	20.10	23.10	63.30	43.20	170.0	318.00	VERTICAL	PASSED
4.083500	19.30	23.30	69.50	50.20	170.0	33.00	VERTICAL	PASSED
5.438000	19.10	23.30	69.50	50.40	170.0	42.00	VERTICAL	PASSED
7.807500	19.60	23.50	69.50	49.90	170.0	323.00	VERTICAL	PASSED
23.384500	17.40	23.70	69.50	52.10	170.0	342.00	VERTICAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

@113 kHz: Peak (< 150 kHz: RBW: 200 Hz, > 150 kHz: RBW 10 kHz)



Quasi-Peak (< 150 kHz: RBW: 200 Hz, >150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.113120	76.20	23.30	106.50	30.30	170.0	55.00	VERTICAL	PASSED
1.680000	25.50	23.10	63.10	37.60	170.0	27.00	VERTICAL	PASSED
3.741500	24.50	23.20	69.50	45.00	170.0	52.00	VERTICAL	PASSED
7.096000	24.80	23.50	69.50	44.70	170.0	41.00	VERTICAL	PASSED
7.851500	24.80	23.50	69.50	44.70	170.0	95.00	VERTICAL	PASSED
23.018000	22.20	23.70	69.50	47.30	170.0	301.00	VERTICAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

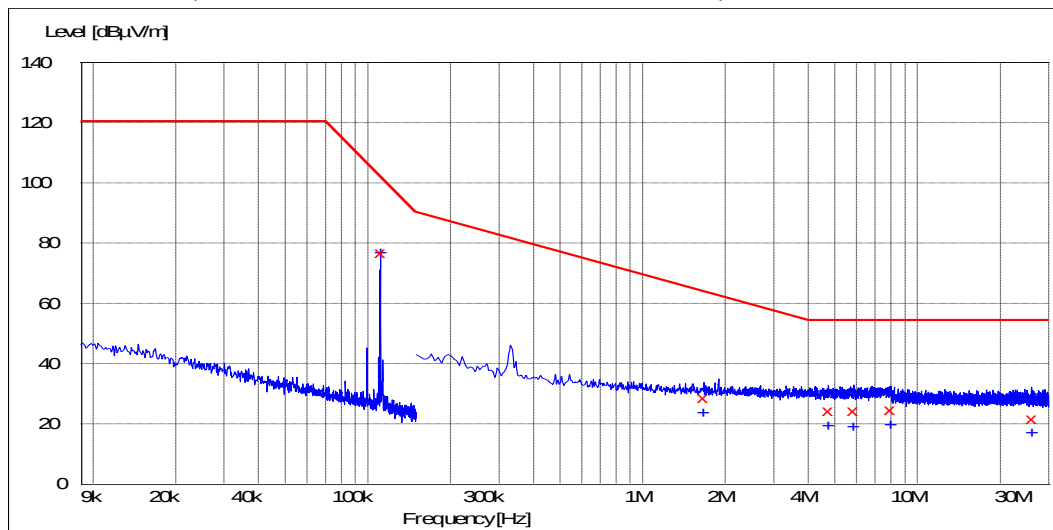
Average (< 150 kHz: RBW: 200Hz, > 150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.113120	76.20	23.30	106.50	30.30	170.0	56.00	VERTICAL	PASSED
1.676500	20.10	23.10	63.10	43.00	170.0	61.00	VERTICAL	PASSED
3.693500	19.40	23.20	69.50	50.10	170.0	48.00	VERTICAL	PASSED
7.102500	19.50	23.50	69.50	50.00	170.0	56.00	VERTICAL	PASSED
7.822000	19.70	23.50	69.50	49.80	170.0	77.00	VERTICAL	PASSED
23.046500	17.40	23.70	69.50	52.10	170.0	319.00	VERTICAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

3.3. Test results (ISED)

@111 kHz: Peak (< 150 kHz: RBW: 200 Hz, > 150 kHz: RBW 10 kHz)



Quasi-Peak (< 150 kHz: RBW: 200 Hz, >150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBμV/m]	Transducer [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.111110	76.90	23.30	102.07	25.17	170.0	61.00	VERTICAL	PASSED
1.667000	28.60	23.10	64.07	35.47	170.0	129.00	VERTICAL	PASSED
4.747500	24.20	23.30	54.50	30.30	170.0	242.00	VERTICAL	PASSED
5.831500	24.30	23.40	54.50	30.20	170.0	158.00	VERTICAL	PASSED
7.983000	24.80	23.50	54.50	29.70	170.0	53.00	VERTICAL	PASSED
26.101000	21.70	23.70	54.50	32.80	170.0	212.00	VERTICAL	PASSED

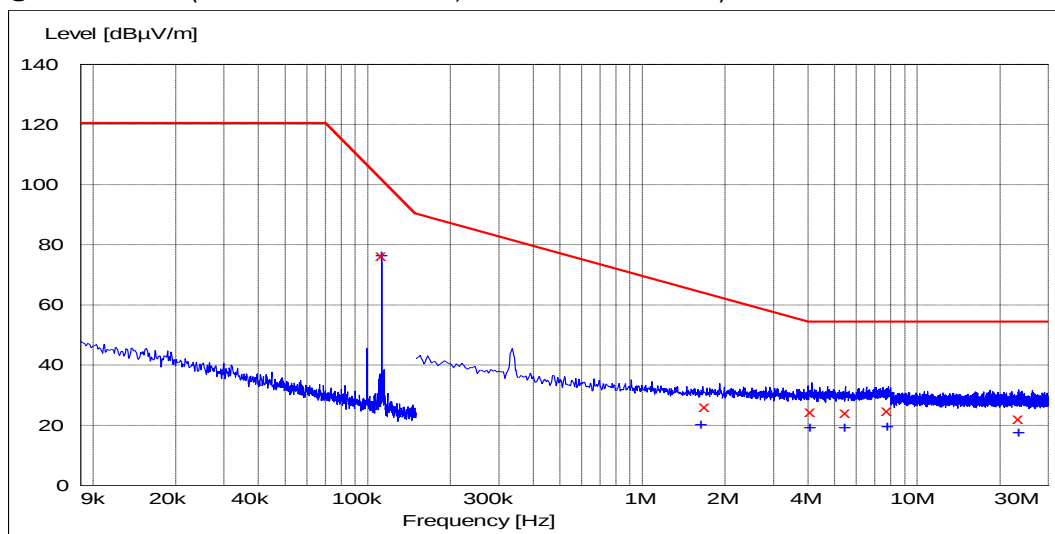
No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

Average (< 150 kHz: RBW: 200Hz, > 150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBμV/m]	Transducer [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.111110	76.90	23.30	102.07	25.17	170.0	63.00	VERTICAL	PASSED
1.666500	23.60	23.10	64.07	40.47	170.0	115.00	VERTICAL	PASSED
4.747500	19.20	23.30	54.50	35.30	170.0	226.00	VERTICAL	PASSED
5.841000	19.10	23.40	54.50	35.40	170.0	170.00	VERTICAL	PASSED
8.006000	19.70	23.50	54.50	34.80	170.0	38.00	VERTICAL	PASSED
26.125500	17.00	23.70	54.50	37.50	170.0	206.00	VERTICAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

@112 kHz: Peak (< 150 kHz: RBW: 200 Hz, > 150 kHz: RBW 10 kHz)



Quasi-Peak (< 150 kHz: RBW: 200 Hz, >150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.112360	76.30	23.30	101.62	25.32	170.0	57.00	VERTICAL	PASSED
1.687000	26.10	23.10	63.94	37.84	170.0	317.00	VERTICAL	PASSED
4.087500	24.60	23.30	54.50	29.90	170.0	61.00	VERTICAL	PASSED
5.485000	24.20	23.30	54.50	30.30	170.0	52.00	VERTICAL	PASSED
7.801000	24.80	23.50	54.50	29.70	170.0	318.00	VERTICAL	PASSED
23.386000	22.20	23.70	54.50	32.30	170.0	347.00	VERTICAL	PASSED

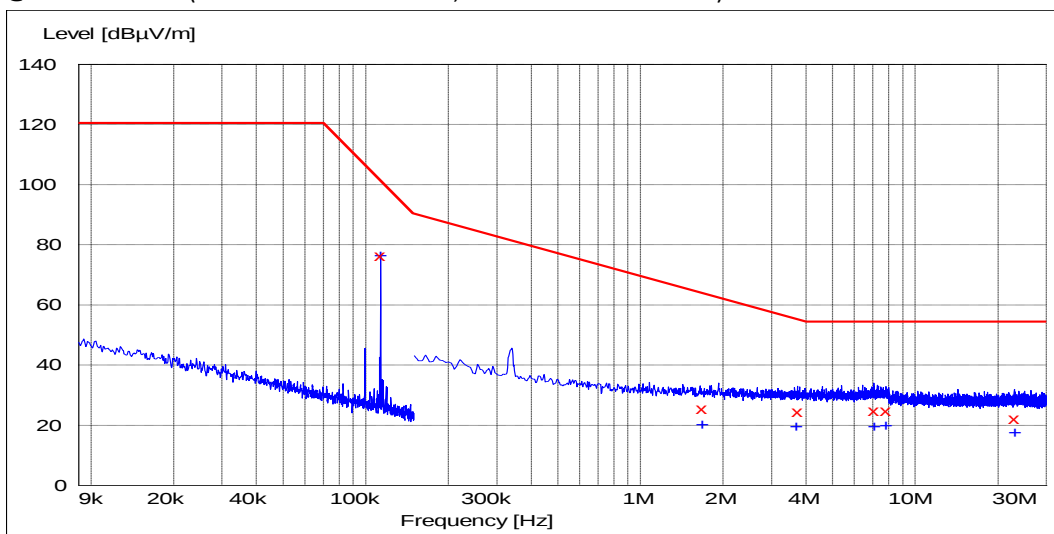
No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

Average (< 150 kHz: RBW: 200Hz, > 150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.112350	76.30	23.30	101.63	25.33	170.0	58.00	VERTICAL	PASSED
1.634500	20.10	23.10	64.28	44.18	170.0	318.00	VERTICAL	PASSED
4.083500	19.30	23.30	54.50	35.20	170.0	33.00	VERTICAL	PASSED
5.438000	19.10	23.30	54.50	35.40	170.0	42.00	VERTICAL	PASSED
7.807500	19.60	23.50	54.50	34.90	170.0	323.00	VERTICAL	PASSED
23.384500	17.40	23.70	54.50	37.10	170.0	342.00	VERTICAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

@113 kHz: Peak (< 150 kHz: RBW: 200 Hz, > 150 kHz: RBW 10 kHz)



Quasi-Peak (< 150 kHz: RBW: 200 Hz, >150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.113120	76.20	23.30	101.36	25.16	170.0	55.00	VERTICAL	PASSED
1.680000	25.50	23.10	63.98	38.48	170.0	27.00	VERTICAL	PASSED
3.741500	24.50	23.20	55.23	30.73	170.0	52.00	VERTICAL	PASSED
7.096000	24.80	23.50	54.50	29.70	170.0	41.00	VERTICAL	PASSED
7.851500	24.80	23.50	54.50	29.70	170.0	95.00	VERTICAL	PASSED
23.018000	22.20	23.70	54.50	32.30	170.0	301.00	VERTICAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

Average (< 150 kHz: RBW: 200Hz, > 150 kHz: RBW: 9 kHz)

Frequency [MHz]	Level [dBµV/m]	Transducer [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
0.113120	76.20	23.30	101.36	25.16	170.0	56.00	VERTICAL	PASSED
1.676500	20.10	23.10	64.01	43.91	170.0	61.00	VERTICAL	PASSED
3.693500	19.40	23.20	55.37	35.97	170.0	48.00	VERTICAL	PASSED
7.102500	19.50	23.50	54.50	35.00	170.0	56.00	VERTICAL	PASSED
7.822000	19.70	23.50	54.50	34.80	170.0	77.00	VERTICAL	PASSED
23.046500	17.40	23.70	54.50	37.10	170.0	319.00	VERTICAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

4. Radiated emissions above 30 MHz

EUT with DUT number	DAB17148E
Accessories with DUT numbers	DAB15159E, NOV16024E, DAB16071E, DAB17003E
Operation Voltage [V] / [Hz]	12 V / DC
Result	PASSED
Remarks	none
Temp [°C] / Humidity [%RH]	21.5 °C / 35.0 %
Date of measurements	17.01.2018
Measured by	Oliver Flecke

4.1. Test method and limit

The measurement is made according to ANSI C63.10 and ICES-001 as follows:

The Preliminary Measurement and the Final Measurement is performed in 3 m distance by rotating the turntable of 360 degrees and moving the antenna height between 1-4 m.

The Preliminary Measurement is performed with floor absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system.

The Final Measurement is performed without floor absorbers, if the Preliminary Measurement results are closer than 20 dB to the permissible limit.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The EUT is placed on a nonconductive plate in the center of the turntable.

The emissions less than 20 dB below the permissible value are reported.

The measurement results are obtained as described below:

$$E [\mu V/m] = U_{RX} + A_{CF}$$

Where U_{RX} is receiver reading and A_{CF} is total correction factor including cable loss, antenna factor and preamplifier gain ($A_{CF} = L_{CABLES} + AF - G_{PREAMP}$).

FCC limits for radiated emissions measurements (3 m measurement distance)

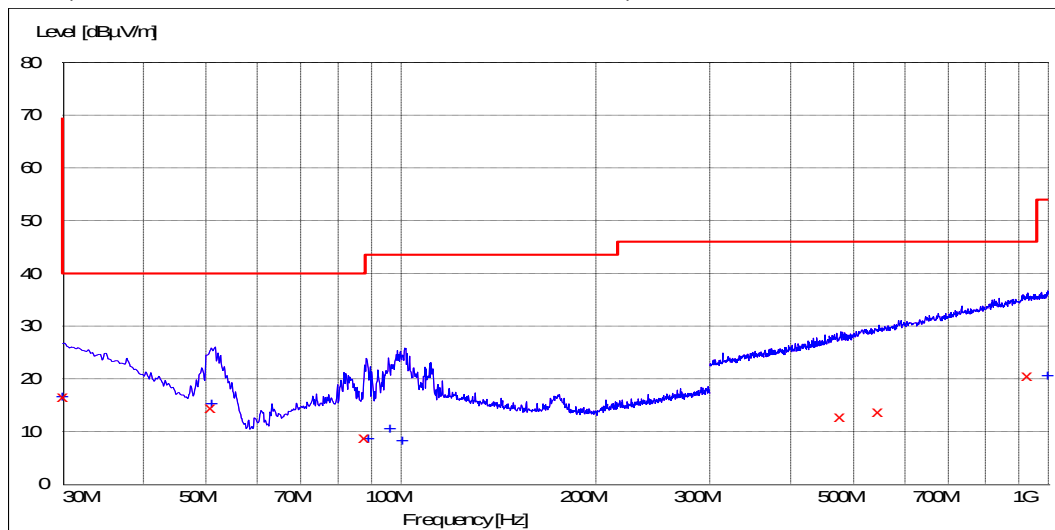
Frequency range [MHz]	Limit [$\mu V/m$]	Limit [dB $\mu V/m$]	Detector
30 – 88	100	40	QP
88 – 216	150	43.5	QP
216 – 960	200	46	QP
960 – 1000	500	54	QP

CISPR11 Class B group 2 limits (3 m measurement distance)

Frequency range [MHz]	Limit [$\mu V/m$]	Limit [dB $\mu V/m$]	Detector
30 – 80.872	100	40	QP
80.872 – 81.848	1000	60	QP
81.848 – 134.786	100	40	QP
134.786 – 136.414	1000	60	QP
136.414 – 230	100	40	QP
230 - 1000	500	47	QP

4.2. Test results (FCC)

Peak (< 300 MHz: RBW: 300 kHz, > 300 MHz: RBW 1 MHz)



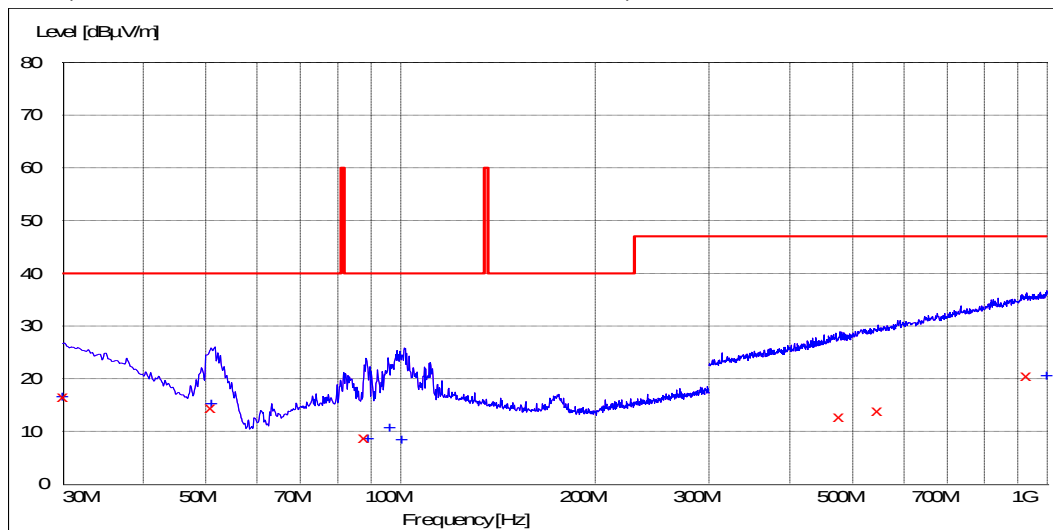
QuasiPeak (RBW: 1 MHz)

Frequency [MHz]	Level [dBμV/m]	Transducer [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
30.100000	16.60	-12.90	40.00	23.40	251.0	85.00	VERTICAL	PASSED
50.943287	14.40	-30.00	40.00	25.60	98.0	23.00	VERTICAL	PASSED
87.955912	8.80	-29.40	40.00	31.20	148.0	31.00	VERTICAL	PASSED
477.355912	12.80	-23.90	46.00	33.20	98.0	241.00	HORIZONTAL	PASSED
546.894188	13.80	-22.80	46.00	32.20	341.0	209.00	HORIZONTAL	PASSED
929.759719	20.50	-16.40	46.00	25.50	167.0	186.00	HORIZONTAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

4.3. Test results (ISED)

Peak (< 300 MHz: RBW: 300 kHz, > 300 MHz: RBW 1 MHz)



QuasiPeak (RBW: 1 MHz)

Frequency [MHz]	Level [dBμV/m]	Transducer [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Azimuth [Deg]	Polarisation	Result
30.100000	16.60	-12.90	40.00	23.40	251.0	85.00	VERTICAL	PASSED
50.943287	14.40	-30.00	40.00	25.60	98.0	23.00	VERTICAL	PASSED
87.955912	8.80	-29.40	40.00	31.20	148.0	31.00	VERTICAL	PASSED
477.355912	12.80	-23.90	47.00	34.20	98.0	241.00	HORIZONTAL	PASSED
546.894188	13.80	-22.80	47.00	33.20	341.0	209.00	HORIZONTAL	PASSED
929.759719	20.50	-16.40	47.00	26.50	167.0	186.00	HORIZONTAL	PASSED

No further emissions found less than 20 dB to the regulatory limit and no emission found in the restricted band of operation.

5. Occupied bandwidth

EUT with DUT number	DAB17148E
Accessories with DUT numbers	DAB15159E, NOV16024E, DAB16071E, DAB17003E
Operation Voltage [V] / [Hz]	12 V / DC
Result	PASSED
Remarks	none
Temp [°C] / Humidity [%RH]	22.4 °C / 39.5 %
Date of measurements	24.01.2018, 25.01.2018
Measured by	Jürgen Mitterer, Bhushan Pawar

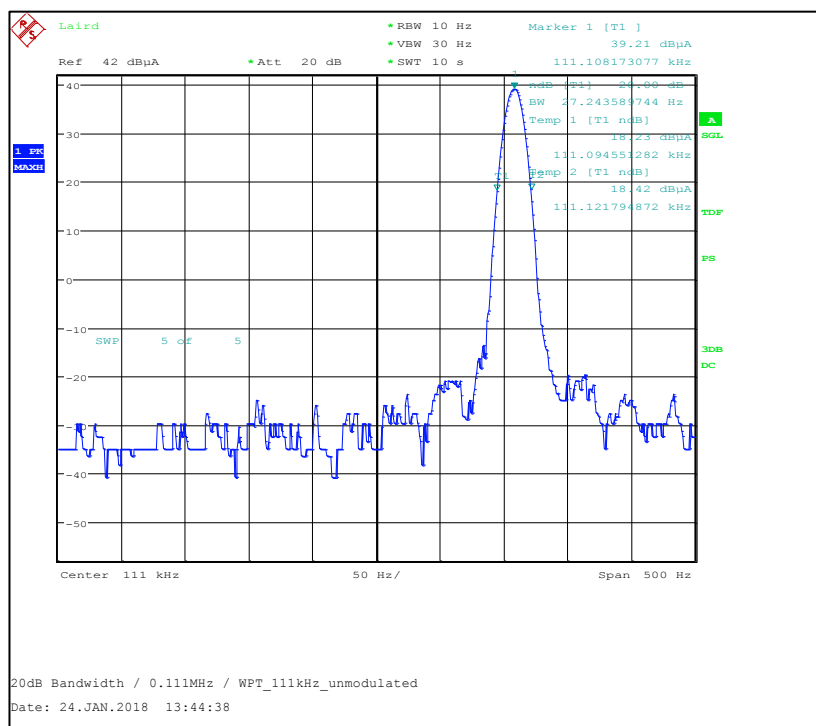
5.1. Test method and limit

The measurement is made according to FCC 15.215(c) and IC standard RSS-GEN 6.6.

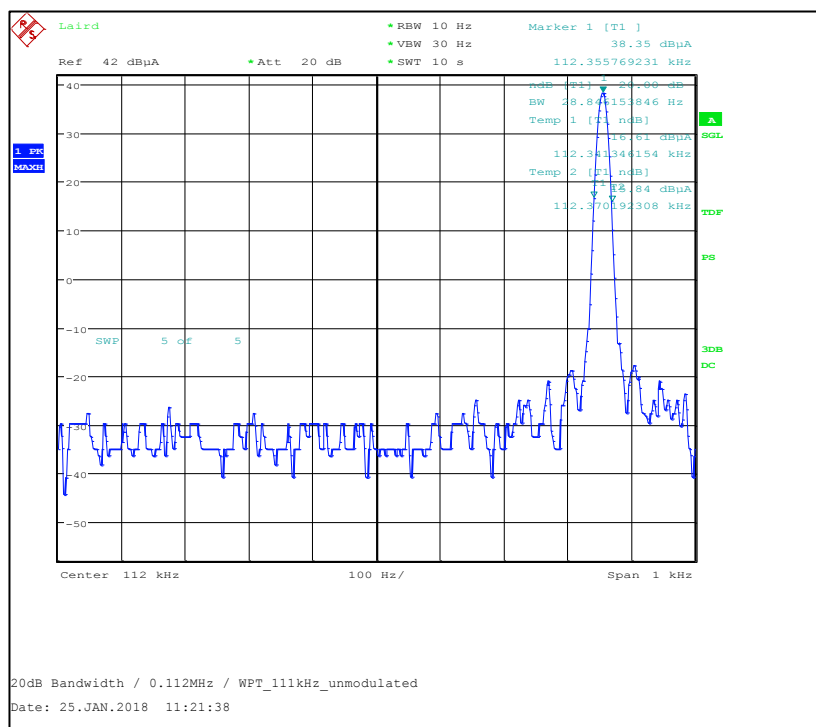
Limits for 20 dB / 99 % bandwidth measurements

Limit [MHz]
N/A

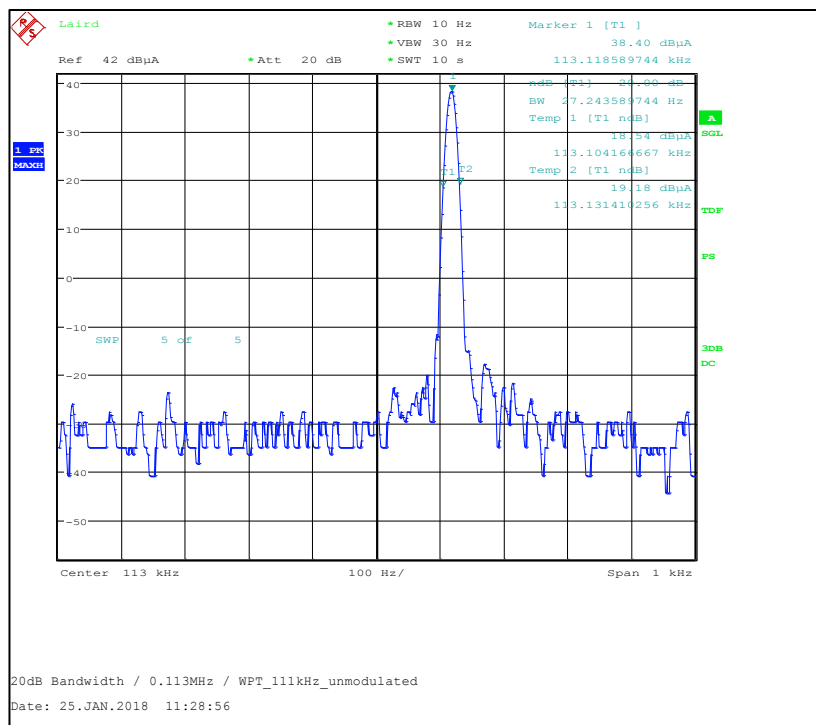
5.2. Test results (FCC)



frequency [kHz]	20 dB bandwidth [Hz]	Result
111.108	27.244	PASSED

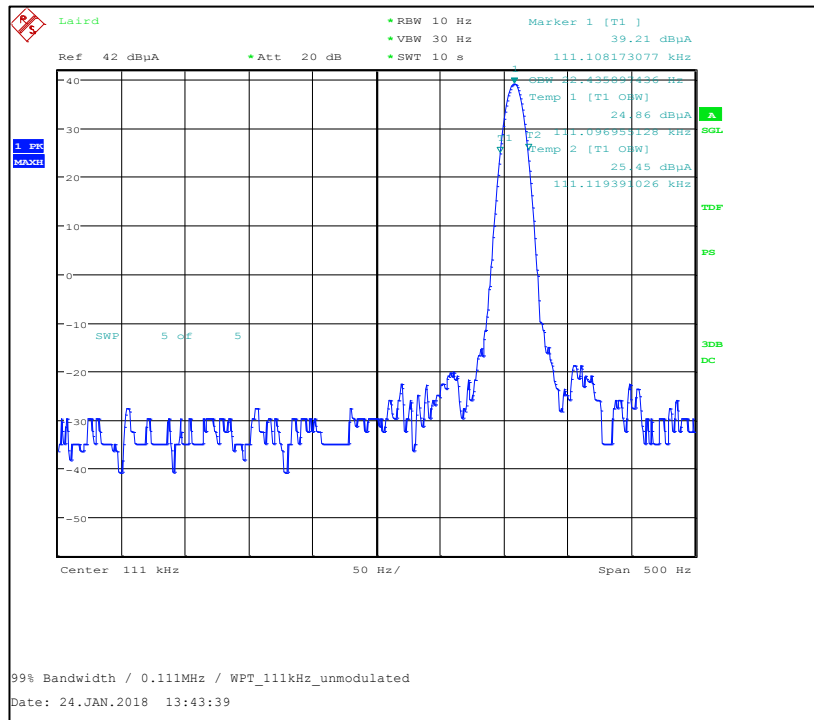


frequency [kHz]	20 dB bandwidth [Hz]	Result
112.356	28.846	PASSED

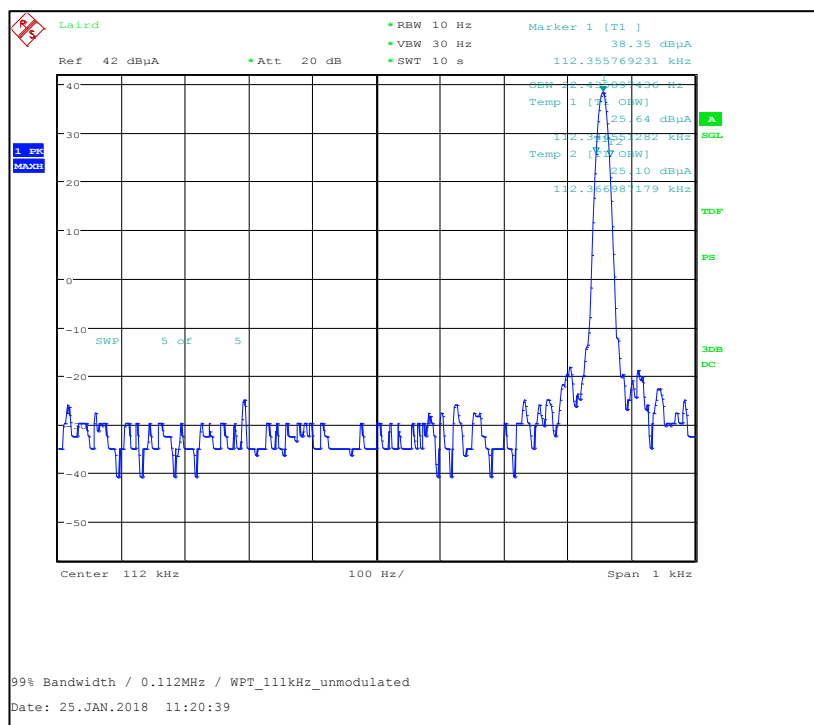


frequency [kHz]	20 dB bandwidth [Hz]	Result
113.119	27.244	PASSED

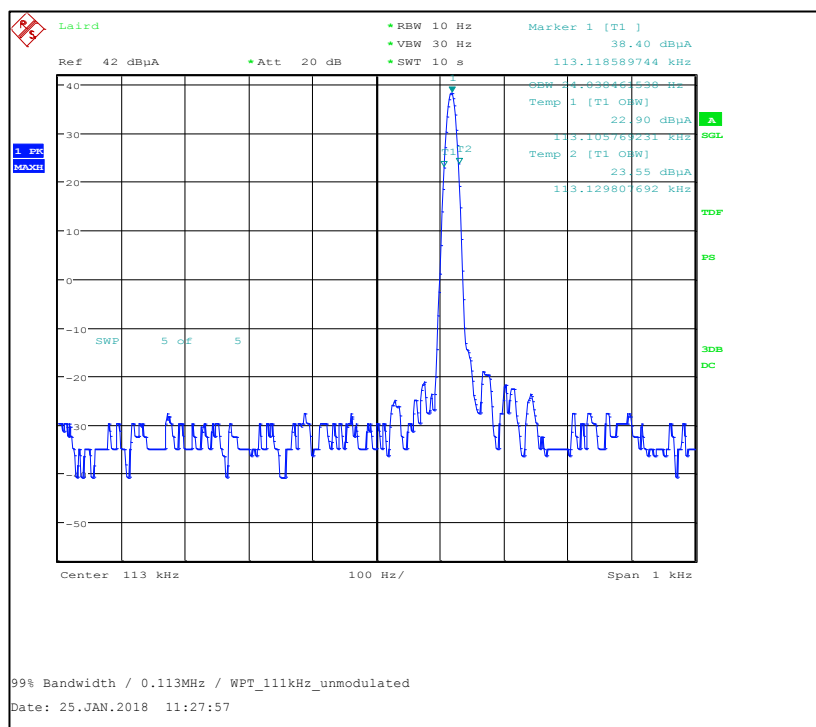
5.3. Test results (ISED)



frequency [kHz]	99 % bandwidth [Hz]	Result
111.108	22.436	PASSED



frequency [kHz]	99 % bandwidth [Hz]	Result
112.356	22.436	PASSED



frequency [kHz]	99 % bandwidth [Hz]	Result
113.119	24.038	PASSED

6. Test Equipment

6.1. Radiated Emission

Equipment	Manufacturer	Type	Serial No.	Actual Calibration	Next Calibration
Test Software	ROHDE & SCHWARZ	ES-K1	V1.71	-	-
Chamber	ETS	RFD-F/ A-100	3069	25.08.2017	25.08.2020
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	827769/010	15.08.2017	15.08.2019
Signal Generator	ROHDE & SCHWARZ	SMP02	828269/008	09.08.2017	09.08.2020
Signal Generator	ROHDE & SCHWARZ	SML01	100652	16.04.2015	16.04.2018
Power Supply	Hewlett Packard - Agilent	E3632A	MY40011318	13.12.2016	13.08.2018
Radio Communication Tester	ROHDE & SCHWARZ	CMU 200	101138	16.02.2016	16.02.2018
Field Analyzer	Wandel & Goltermann	EMR20	P-0030	03.12.2014	03.12.2018
EMI Test Receiver	ROHDE & SCHWARZ	ESU26	100077	16.08.2017	16.08.2019
Temp. / Humidity Logger	Lufft	Opus 10	13262	11.01.2017	11.01.2020
Antenna	ROHDE & SCHWARZ	HL562	100191	06.11.2015	06.11.2018
Antenna	ROHDE & SCHWARZ	HK-116: 20-300MHz	825177/0017	21.07.2017	21.07.2020
Antenna	ROHDE & SCHWARZ	HK-116: 20-300MHz	100401	21.07.2017	21.07.2020
Antenna	ROHDE & SCHWARZ	HL223	832369/006	21.04.2016	21.04.2019
Antenna	Schwarzbeck	UBA 9116	9116-396	28.07.2017	28.07.2020
Antenna	Emco	3115	9810-5588	17.06.2015	17.06.2018
Antenna	Schwarzbeck Mess-Elektronik	FMZB_1519	1519-056	14.07.2017	14.07.2020
H-Field Probe 100 cm ²	Narda Safety Test Solutions GmbH	Probe	M-0823	02.12.2014	07.12.2020
H-field Probe 3cm ²	Narda Safety Test Solutions GmbH	2300/90.20	C-0150	20.05.2015	20.05.2018
Antenna	Schwarzbeck	VAMP 9243	9243-486	29.07.2015	29.07.2018
Exposure Level Tester	Narda Safety Test Solutions GmbH	ELT-400	N-0385	01.12.2014	07.12.2020
Antenna	Emco	3160-09	001814-006	07.08.2017	07.08.2022
Isotropic Electric Field Probe	Wandel & Goltermann	Type 8	M-0082	03.12.2014	07.12.2020
Site Attenuation (substitution measurement)	Laird Bochum GmbH	RXAntenna_FreeSpaceAttenuation	SYS_CAL_07	09.11.2016	24.11.2018
Emission Signal Path Calibration	Laird Bochum GmbH	Cable, Filter, PreAmplifier	SYS_CAL_08	30.04.2017	30.04.2018
Antenna	Schwarzbeck	BBHA-9120-D	01617	18.08.2016	18.08.2019

6.2. Conducted Radio

Equipment	Manufacturer	Type	Serial No.	Actual Calibration	Next Calibration
Test Software	Laird	Emissions Radio FCC CE	0.71	-	-
Signal Generator	ROHDE & SCHWARZ	SMP02	828269/008	09.08.2017	09.08.2020
BT-/W-Lan-Testsetup	Hewlett Packard - Agilent	N4010A	MY46320388	14.08.2017	14.08.2020
Radio Communication Tester	ROHDE & SCHWARZ	CMU 200	101138	16.02.2016	16.02.2018
Climatic Chamber	Vötsch	VT4002	521/85094	01.09.2016	01.09.2018
EMI Test Receiver	ROHDE & SCHWARZ	ESU26	100077	16.08.2017	16.08.2019
Power Supply	Hewlett Packard - Agilent	E3632A	KR75303332	13.12.2016	13.08.2018
Vector Signal Generator	ROHDE & SCHWARZ	SMJ 100A	100845	02.03.2016	02.03.2018
Powermeter	ETS	EMPower 7002-006	7202040	09.12.2015	09.12.2018
Directional Coupler	Tyco	2026-6010-10	0439	03.05.2017	03.05.2018
Cable Spectrum Analyzer to Directional Coupler	Huber & Suhner	Sucoflex 104	199748/4	03.05.2017	03.05.2018
Cable Directional Coupler to Probe	Huber & Suhner	Sucoflex 104	143781/4	03.05.2017	03.05.2018
Cable Signalization	Huber & Suhner	Sucoflex 104	123746/4	03.05.2017	03.05.2018
10 dB Attenuator	Huber & Suhner	10 dB DC-18	6810.19a	03.05.2017	03.05.2018
Emission Signal Path Calibration	Laird Bochum GmbH	Cable, Attenuator, DirectionalCoupler	SYS_CAL_09	03.05.2017	03.05.2018