



## TEST REPORT

Test report no.: 1-5229/17-02-18-A



BNetzA-CAB-02/21-102

### Testing laboratory

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**Accredited Testing Laboratory:**

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) 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-12076-01-01

### Applicant

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### Manufacturer

**Oticon A/S**

Kongebakken 9

2765 Smørum / DENMARK

### Test standard/s

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

RSS - 210 Issue 9 Spectrum Management and Telecommunications Radio Standards Specification - Licence-Exempt Radio Apparatus: Category I Equipment

RSS - Gen Issue 4 Spectrum Management and Telecommunications Radio Standards Specifications - General Requirements and Information for the Certification of Radio Apparatus

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

### Test Item

**Kind of test item:** Hearing Aid Module

**Model name:** Aurora ITE 13

**FCC ID:** U28AUITE13

**IC:** 1350B-AUITE13

Frequency: 3.84 MHz

Technology tested: Magnetic coupling

Antenna: Integrated ferrite coil antenna

Power supply: 1.1 V to 1.4 V DC by zinc air battery size13

Temperature range: 0°C to +40°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:

Christoph Schneider  
Lab Manager  
Radio Communications & EMC

### Test performed:

Tobias Wittenmeier  
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## 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. CTC 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.

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**This test report replaces the test report with the number 1-5229/17-02-18 and dated 2018-04-19.**

### 2.2 Application details

Date of receipt of order:	2017-11-27
Date of receipt of test item:	2017-11-27
Start of test:	2017-11-27
End of test:	2017-11-30
Person(s) present during the test:	-/-

### 2.3 Test laboratories sub-contracted

None

### 3 Test standard/s and references

Test standard	Date	Description
47 CFR Part 15		Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 210 Issue 9	August 2016	Spectrum Management and Telecommunications Radio Standards Specification - Licence-Exempt Radio Apparatus: Category I Equipment
RSS - Gen Issue 4	November 2014	Spectrum Management and Telecommunications Radio Standards Specifications - General Requirements and Information for the Certification 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 Test environment

Temperature	:	$T_{nom}$ $T_{max}$ $T_{min}$	+22 °C during room temperature tests +40 °C during high temperature tests* 0 °C during low temperature tests*
Relative humidity content	:		55 %
Barometric pressure	:		1021 hpa
Power supply	:	$V_{nom}$ $V_{max}$ $V_{min}$	1.4 V DC by zinc air battery size13 1.4 V* 1.1 V*

\*Manufacturer declaration; no tests under extreme conditions required

## 5 Test item

### 5.1 General description

Kind of test item	:	Hearing Aid Module	
Type identification	:	Aurora ITE 13	
HMN	:	-/-	
PMN	:	Aurora ITE 13	
HVIN	:	Aurora ITE 13	
FVIN	:	-/-	
S/N serial number	:	TX	48943222
		RX	48943253
HW hardware status	:	Final LAB	
SW software status	:	IP503	
Frequency band	:	3.84 MHz	
Type of radio transmission	:	Modulated carrier	
Use of frequency spectrum	:		
Type of modulation	:	MSK	
Number of channels	:	1	
Antenna	:	Integrated ferrite coil antenna	
Power supply	:	1.1 V to 1.4 V DC by zinc air battery size13	
Temperature range	:	0°C to +40°C	

### 5.2 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:

- 1-5229/17-02-12\_AnnexA
- 1-5229/17-02-12\_AnnexB
- 1-5229/17-02-12\_AnnexD

## 6 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).

### **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
v/k!	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress

## 6.1 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

$$FS = UR + CL + AF$$

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

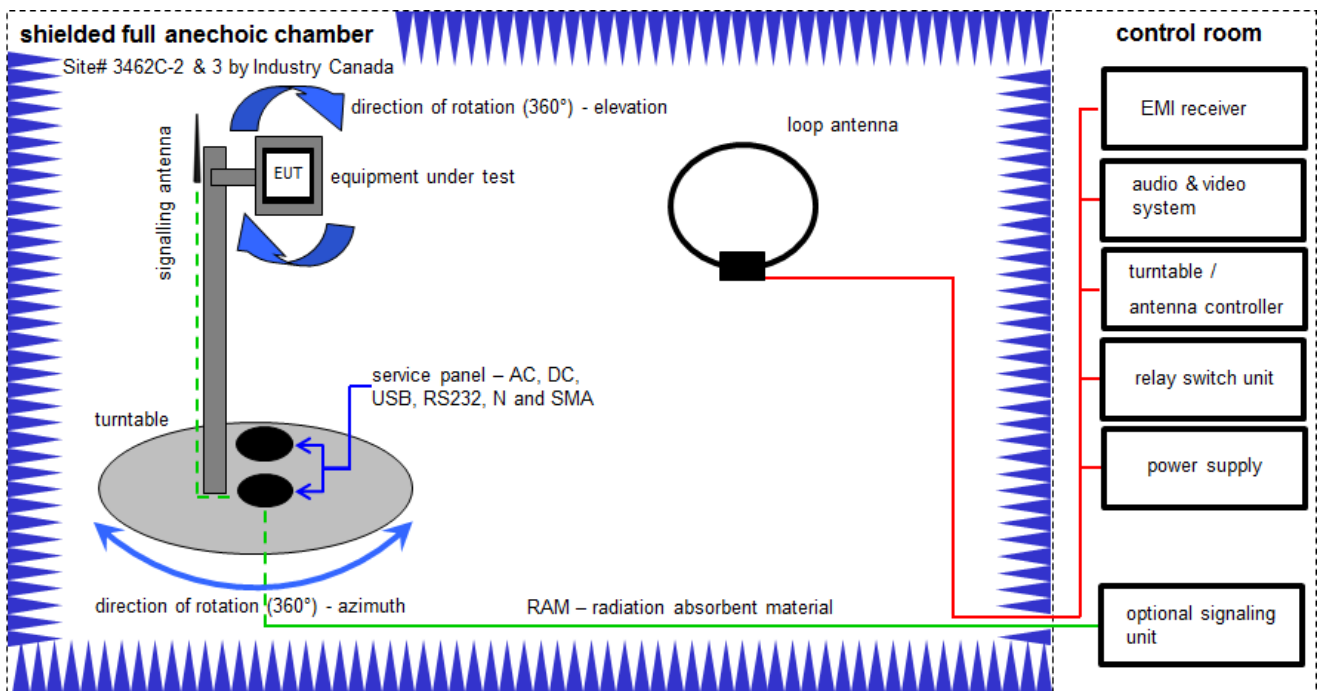
Example calculation:

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

### Equipment table:

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
1	A	Switch-Unit	3488A	HP	2719A14505	300000368	ev	-/-	-/-
2	A	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	08.03.2017	08.03.2018
3	A	Antenna Tower	Model 2175	ETS-Lindgren	64762	300003745	izw	-/-	-/-
4	A	Positioning Controller	Model 2090	ETS-Lindgren	64672	300003746	izw	-/-	-/-
5	A	Turntable Interface-Box	Model 105637	ETS-Lindgren	44583	300003747	izw	-/-	-/-
6	A	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787	k	25.04.2016	25.04.2018

## 6.2 Shielded fully anechoic chamber



Measurement distance: loop antenna 3 meter

$$FS = UR + CA + AF$$

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

Example calculation:

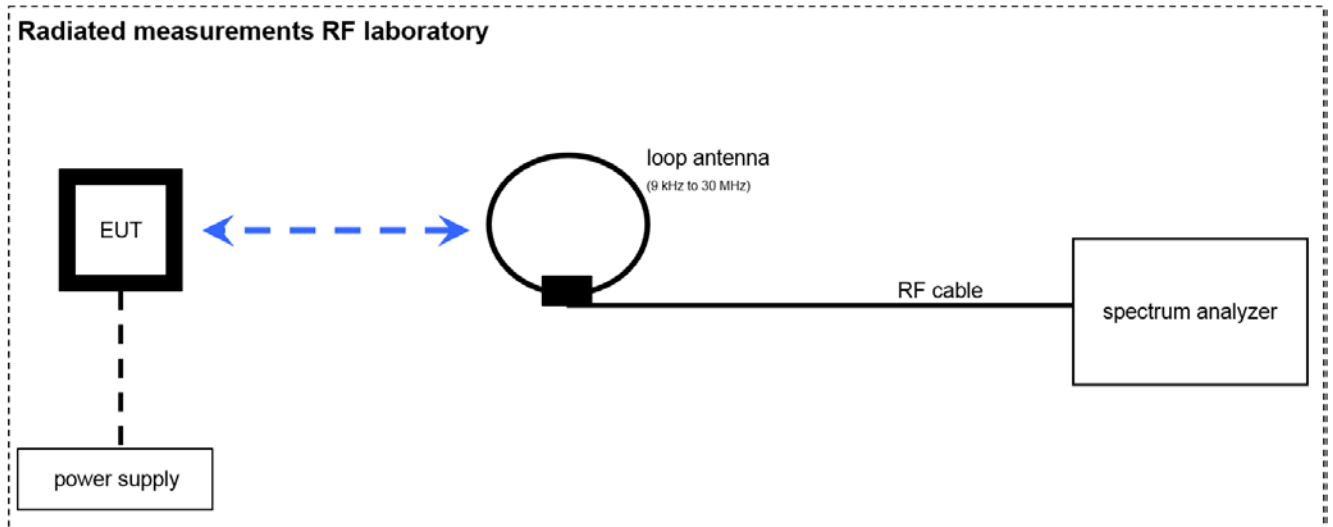
$$FS [dB\mu V/m] = 40.0 [dB\mu V/m] + (-35.8) [dB] + 32.9 [dB/m] = 37.1 [dB\mu V/m] (71.61 \mu V/m)$$

### Equipment table:

No.	Lab / Item	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	k	07.07.2017	06.07.2019
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	31.01.2017	30.01.2018
5	A	4U RF Switch Platform	L4491A	Agilent Technologies	MY50000037	300004509	ne	-/-	-/-
6	A	NEXIO EMV- Software	BAT EMC V3.16.0.49	EMCO		300004682	ne	-/-	-/-
7	A	PC	ExOne	F+W		300004703	ne	-/-	-/-



### 6.3 Radiated measurements RF laboratory



**Equipment table:**

No.	Lab / Item	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	EMI Test Receiver 9 kHz - 3 GHz incl. Preselector	ESPI3	R&S	101713	300004059	k	25.01.2017	24.01.2018
2	A	Loop Antenna		ZEG TS Steinfurt		400001208	ev	-/-	-/-
3	A	RF Cable BNC	RG58	Huber & Suhner		400001209	ev	-/-	-/-

## 7 Sequence of testing

### 7.1 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.

## 7.2 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.

## 8 Measurement uncertainty

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

## 9 Summary of measurement results

<input checked="" type="checkbox"/>	No deviations from the technical specifications were ascertained
<input type="checkbox"/>	There were deviations from the technical specifications ascertained
<input type="checkbox"/>	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 8 RSS Gen Issue 4	See table!	2018-04-20	-/-

Test specification clause	Test case	Temperature conditions	Power source conditions	C	NC	NA	NP	Remark
RSS Gen Issue 4 (6.6)	Occupied bandwidth	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-/-
§ 15.209	Field strength of the fundamental	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-/-
§ 15.209 RSS Gen Issue 4 (6.13)	Field strength of the harmonics and spurious	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-/-
§ 15.109	Receiver spurious emissions and cabinet radiations	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-/-
§15.107 §15.207	Conducted limits	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Battery powered only!

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

## 10 Additional comments

Reference documents: none

### **Manufacturer declaration:**

The provided test sample for radiated measurements had a transmitter duty cycle of 50% for each of the tests, this is also the normal use duty cycle.

Special test descriptions:

We perform the radiated pre-scans in different spherical positions and consolidate the results in one result plot. The test procedure includes scans in the theta axes every 120° and in phi axes @ 0° and 90° for both polarizations vertical & horizontal or magnetic emissions.

Configuration descriptions: None

## 11 Measurement results

### 11.1 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 8

**Limit:**

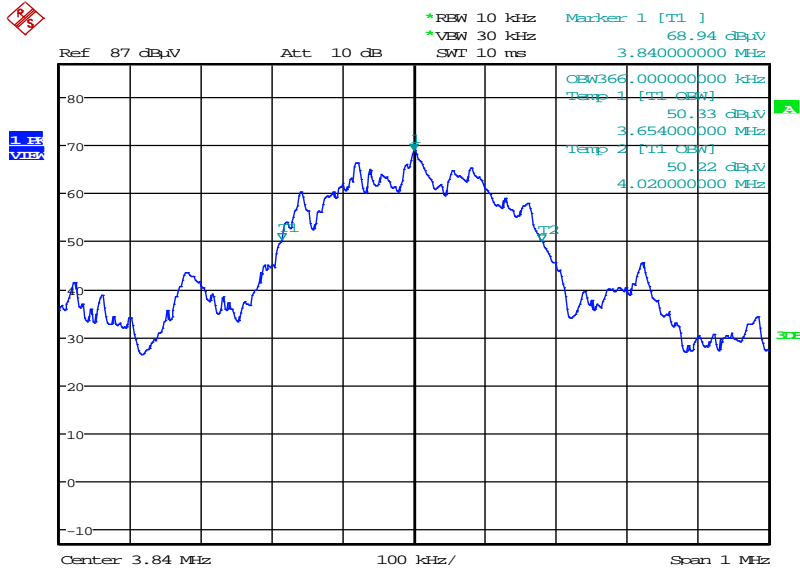
IC
for RSP-100 test report coversheet only

**Result:**

99% emission bandwidth
366 kHz

**Plot:**

**Plot 1: 99 % emission bandwidth**



Date: 28.NOV.2017 09:07:44



## 11.2 Field strength of the fundamental

### Measurement:

The maximum detected field strength for the carrier signal.

Measurement parameters	
Detector:	Quasi peak
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 (dBµV/m)	Measurement distance (m)
1.705 – 10.0	23.5	30

### Recalculation:

According to ANSI C63.10		
Frequency	Formula	Correction value
3.84 MHz	$FS_{limit} = FS_{max} - 40 \log\left(\frac{d_{nearfield}}{d_{measure}}\right) - 20 \log\left(\frac{d_{limit}}{d_{nearfield}}\right)$ <p> <math>FS_{limit}</math> is the calculation of field strength at the limit distance, expressed in dBµV/m  <math>FS_{max}</math> is the measured field strength, expressed in dBµV/m  <math>d_{nearfield}</math> is the <math>\lambda/2\pi</math> distance  <math>d_{measure}</math> is the distance of the measurement point from EUT  <math>d_{limit}</math> is the reference limit distance                 </p>	-51.4

### Result:

Field strength of the fundamental		
Frequency	10.6 MHz	
Distance	@ 1 m	@ 30 m
Measured / calculated value (peak measurement)	50.9 dBµV/m	-0.5 dBµV/m
Measured / calculated value (QP measurement)	48.8 dBµV/m	-2.6 dBµV/m

### 11.3 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 8

#### Limit:

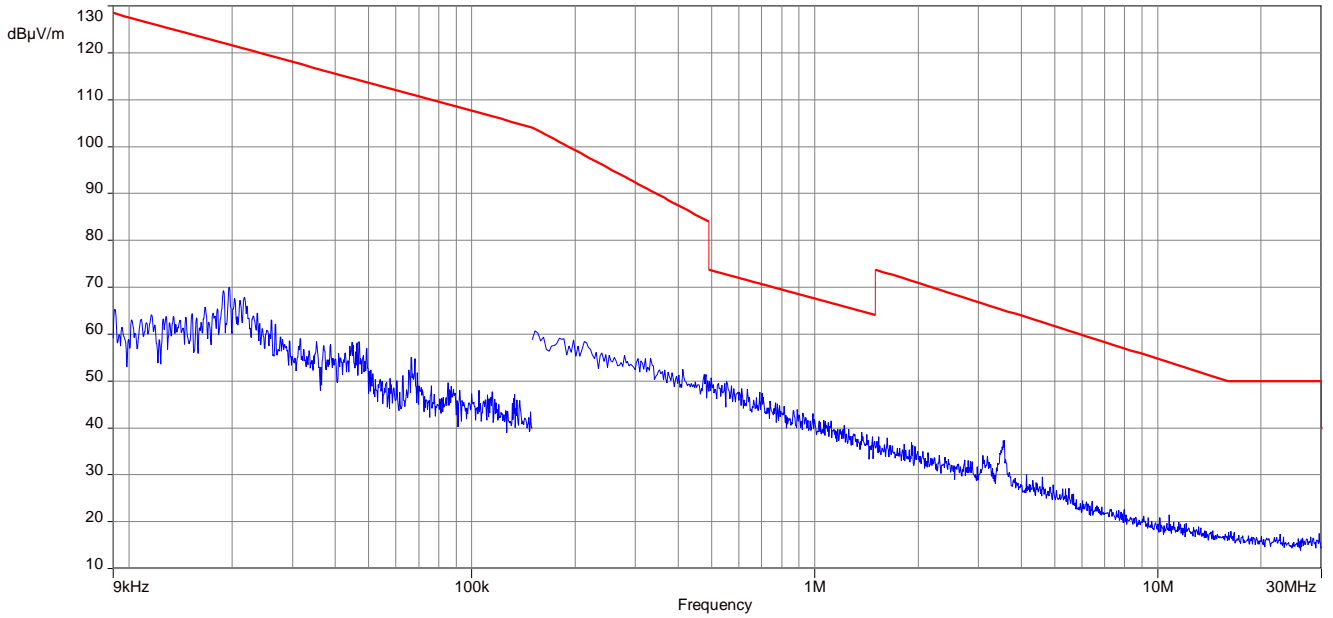
FCC & IC		
Frequency (MHz)	Field strength (dB $\mu$ V/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30 (29.5 dB $\mu$ V/m)	30
30 – 88	100 (40 dB $\mu$ V/m)	3
88 – 216	150 (43.5 dB $\mu$ V/m)	3
216 – 960	200 (46 dB $\mu$ V/m)	3

#### Result:

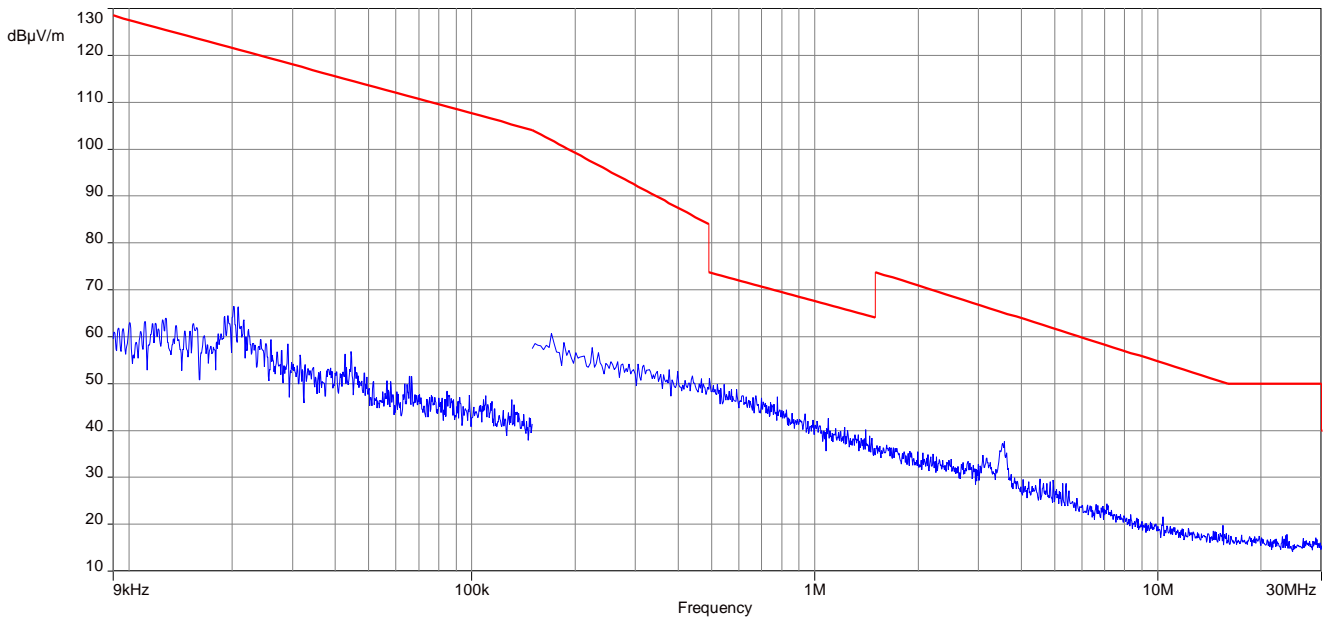
Detected emissions			
Frequency (MHz)	Detector	Resolution bandwidth (kHz)	Detected value
All detected peak emissions below 30 MHz are more than 20 dB below the average limit.			
For emissions above 30 MHz, please look at the table below the 1 GHz plot.			

**Plots:**

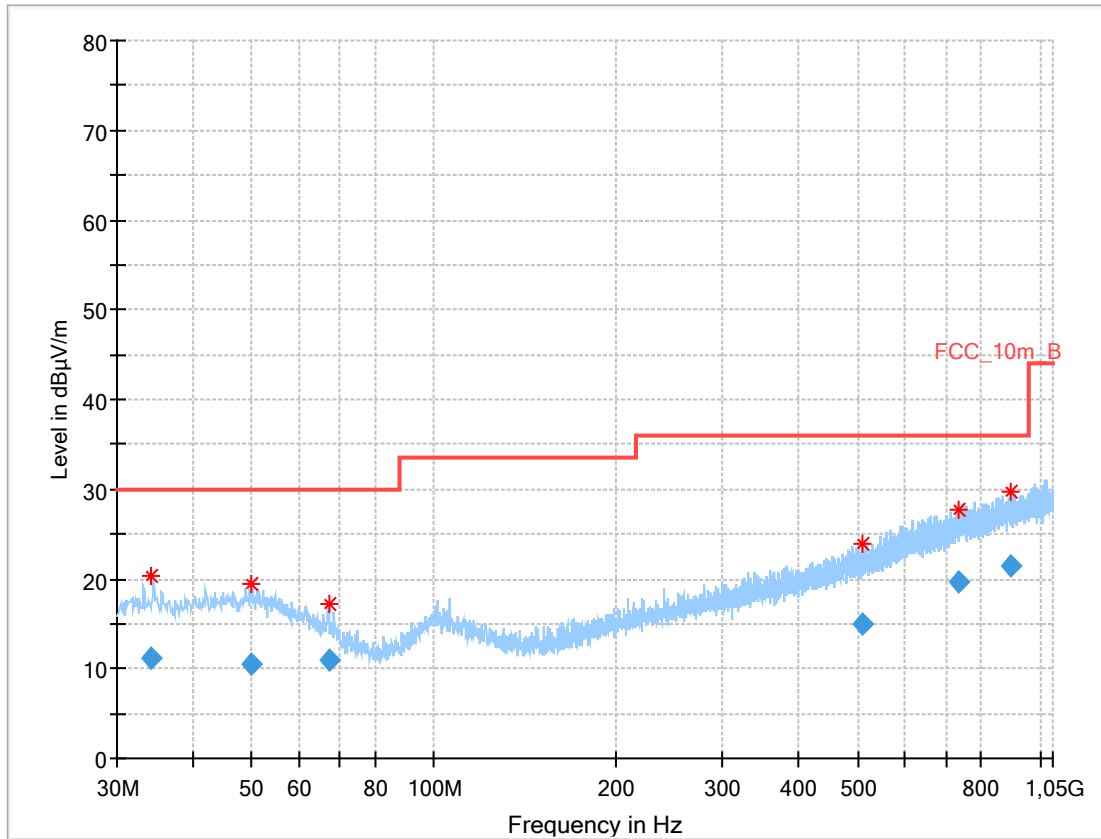
**Plot 1:** 9 kHz – 30 MHz, magnetic spurious emissions, loop antenna in front



**Plot 2:** 9 kHz – 30 MHz, magnetic spurious emissions, loop antenna 90°



**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)
34.226	11.09	30.0	18.91	1000	120	100.0	V	198.0	12.5
49.984	10.40	30.0	19.60	1000	120	101.0	V	312.0	13.7
67.012	10.92	30.0	19.08	1000	120	170.0	H	-8.0	10.3
511.035	15.08	36.0	20.92	1000	120	170.0	V	303.0	18.9
735.533	19.69	36.0	16.31	1000	120	170.0	H	83.0	22.4
897.129	21.35	36.0	14.65	1000	120	170.0	V	329.0	24.2

## 11.4 Receiver spurious emissions and cabinet radiations

### Measurement:

The maximum detected field strength for the spurious.

Measurement parameters	
Detector:	Quasi peak / average or peak (worst case – pre-scan)
Resolution bandwidth:	30 MHz < F < 1 GHz: 120 kHz
Video bandwidth:	30 MHz < F < 1 GHz: 300 kHz
Trace mode:	Max hold
Used test setup	30 MHz to 1 GHz: see sub clause 7.1 - A
Measurement uncertainty:	See sub clause 8

### Limit:

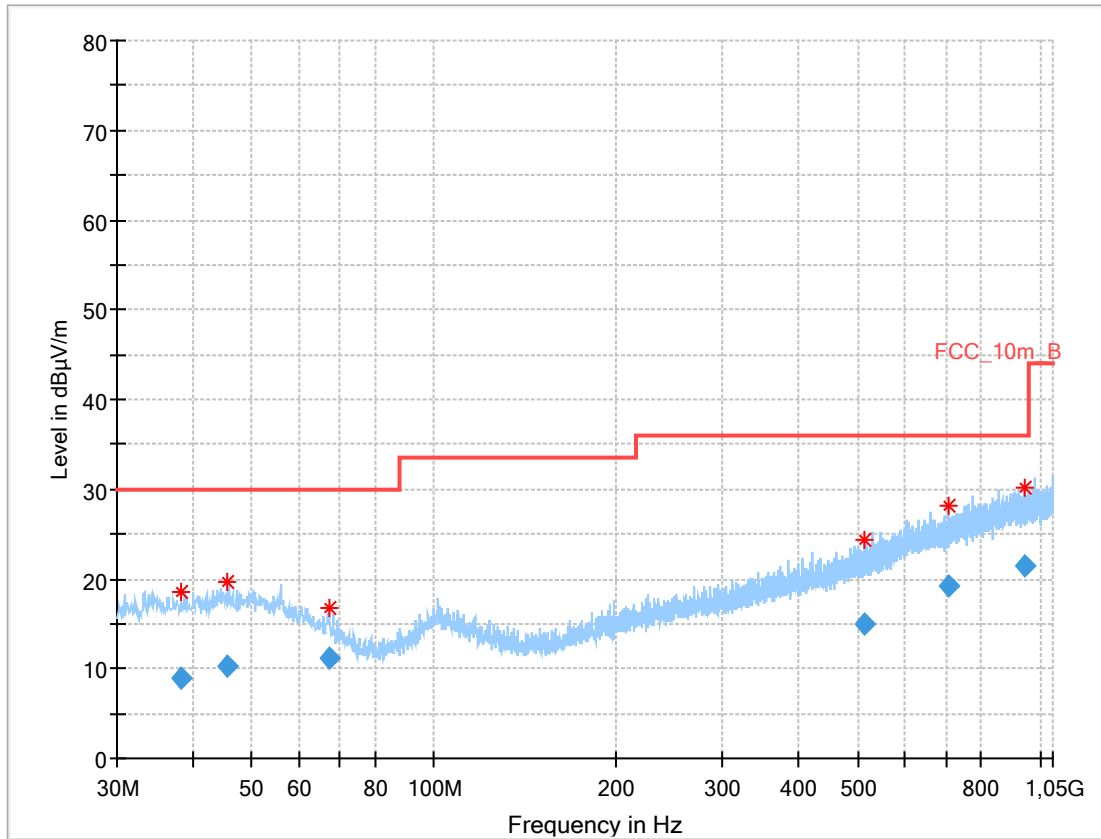
FCC & IC		
Frequency (MHz)	Field strength (dBµV/m)	Measurement distance (m)
30 – 88	100 (40 dBµV/m)	3
88 – 216	150 (43.5 dBµV/m)	3
216 – 960	200 (46 dBµV/m)	3

### Result:

Detected emissions			
Frequency (MHz)	Detector	Resolution bandwidth (kHz)	Detected value
Please look at the table below the 1 GHz plot.			

**Plots:**

**Plot 1:** 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)
38.296	8.92	30.0	21.08	1000	120	170.0	V	302.0	13.0
45.512	10.34	30.0	19.66	1000	120	170.0	V	206.0	13.6
67.044	11.16	30.0	18.84	1000	120	98.0	V	152.0	10.3
514.382	15.07	36.0	20.93	1000	120	170.0	V	301.0	18.9
709.024	19.13	36.0	16.87	1000	120	170.0	V	189.0	21.8
940.602	21.45	36.0	14.55	1000	120	170.0	H	286.0	24.3

## 12 Observations

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

## Annex A Glossary

<b>EUT</b>	Equipment under test
<b>DUT</b>	Device under test
<b>UUT</b>	Unit under test
<b>GUE</b>	GNSS User Equipment
<b>ETSI</b>	European Telecommunications Standards Institute
<b>EN</b>	European Standard
<b>FCC</b>	Federal Communications Commission
<b>FCC ID</b>	Company Identifier at FCC
<b>IC</b>	Industry Canada
<b>PMN</b>	Product marketing name
<b>HMN</b>	Host marketing name
<b>HVIN</b>	Hardware version identification number
<b>FVIN</b>	Firmware version identification number
<b>EMC</b>	Electromagnetic Compatibility
<b>HW</b>	Hardware
<b>SW</b>	Software
<b>Inv. No.</b>	Inventory number
<b>S/N or SN</b>	Serial number
<b>C</b>	Compliant
<b>NC</b>	Not compliant
<b>NA</b>	Not applicable
<b>NP</b>	Not performed
<b>PP</b>	Positive peak
<b>QP</b>	Quasi peak
<b>AVG</b>	Average
<b>OC</b>	Operating channel
<b>OCW</b>	Operating channel bandwidth
<b>OBW</b>	Occupied bandwidth
<b>OOB</b>	Out of band
<b>DFS</b>	Dynamic frequency selection
<b>CAC</b>	Channel availability check
<b>OP</b>	Occupancy period
<b>NOP</b>	Non occupancy period
<b>DC</b>	Duty cycle
<b>PER</b>	Packet error rate
<b>CW</b>	Clean wave
<b>MC</b>	Modulated carrier
<b>WLAN</b>	Wireless local area network
<b>RLAN</b>	Radio local area network
<b>DSSS</b>	Dynamic sequence spread spectrum
<b>OFDM</b>	Orthogonal frequency division multiplexing
<b>FHSS</b>	Frequency hopping spread spectrum
<b>GNSS</b>	Global Navigation Satellite System
<b>C/N<sub>0</sub></b>	Carrier to noise-density ratio, expressed in dB-Hz



**Annex B Document history**

Version	Applied changes	Date of release
-/-	Initial release	2018-04-20

**Annex C Accreditation Certificate**

first page	last page
<p>The first page of the accreditation certificate includes the DAkKS logo (Deutsche Akkreditierungsstelle), the company name 'Deutsche Akkreditierungsstelle GmbH', and accreditation details for 'CTC advanced GmbH' in Saarbrücken. It states the company is competent for telecommunication tests under DIN EN ISO/IEC 17025:2005. The certificate is signed by Dipl.-Ing. (FH) Ralf Böker, Head of Division, on 02.06.2017 in Frankfurt.</p>	<p>The last page of the certificate provides contact information for three offices: Berlin (Spittelmarkt 10), Frankfurt am Main (Europa-Allee 52), and Braunschweig (Bundesallee 100). It includes legal disclaimers regarding the publication of extracts and the scope of accreditation, and lists the websites for DAkKS, EA, ILAC, and IAF.</p>

**Note: The current certificate annex is published on the website (link see below) of the Accreditation Body DAkKS or may be received by CTC advanced GmbH on request**

<http://www.dakks.de/as/ast/d/D-PL-12076-01-03.pdf>