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TEST REPORT

Test report no.: 1-4469/17-01-05



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

Sivantos GmbH

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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:	BTE (behind the ear) hearing instrument
Model name:	Motion 13 BT 7px
FCC ID:	SGI-BTE001
IC:	267AB-BTE001
Frequency:	3.28 MHz
Technology tested:	Magnetic coupling
Antenna:	Integrated ferrite coil antenna
Power supply:	1.3 V DC by ZnO (size 13) battery
Temperature range:	0°C to +50°C



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

Test report authorized:

Stefan BöS
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Radio Communications & EMC

Test performed:

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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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2.2 Application details

Date of receipt of order:	2017-01-04
Date of receipt of test item:	2017-06-26
Start of test:	2017-07-17
End of test:	2017-07-25
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 No tests under extreme conditions required. No tests under extreme conditions required.
Relative humidity content	:		55 %
Barometric pressure	:		1021 hpa
Power supply	:	V_{nom} V_{max} V_{min}	1.3 V DC by ZnO (size 13) battery No tests under extreme conditions required. No tests under extreme conditions required.

5 Test item

5.1 General description

Kind of test item	:	BTE (behind the ear) hearing instrument
Type identification	:	Motion 13 BT 7px
HMN	:	-/-
PMN	:	Motion 13 BT 7px
HVIN	:	Motion 13 BT
FVIN	:	-/-
S/N serial number	:	No information available
HW hardware status	:	DB.FB
SW software status	:	5.0.18.20
FW firmware status	:	5.0.18.20
Frequency	:	3.28 MHz
Type of radio transmission	:	Modulated carrier (TDMA)
Use of frequency spectrum	:	
Type of modulation	:	QPSK
Number of channels	:	1
Antenna	:	Integrated ferrite coil antenna
Power supply	:	1.3 V DC by ZnO (size 13) battery
Temperature range	:	0°C to +50°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: 1-4469/17-01-01_AnnexA
 1-4469/17-01-01_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).

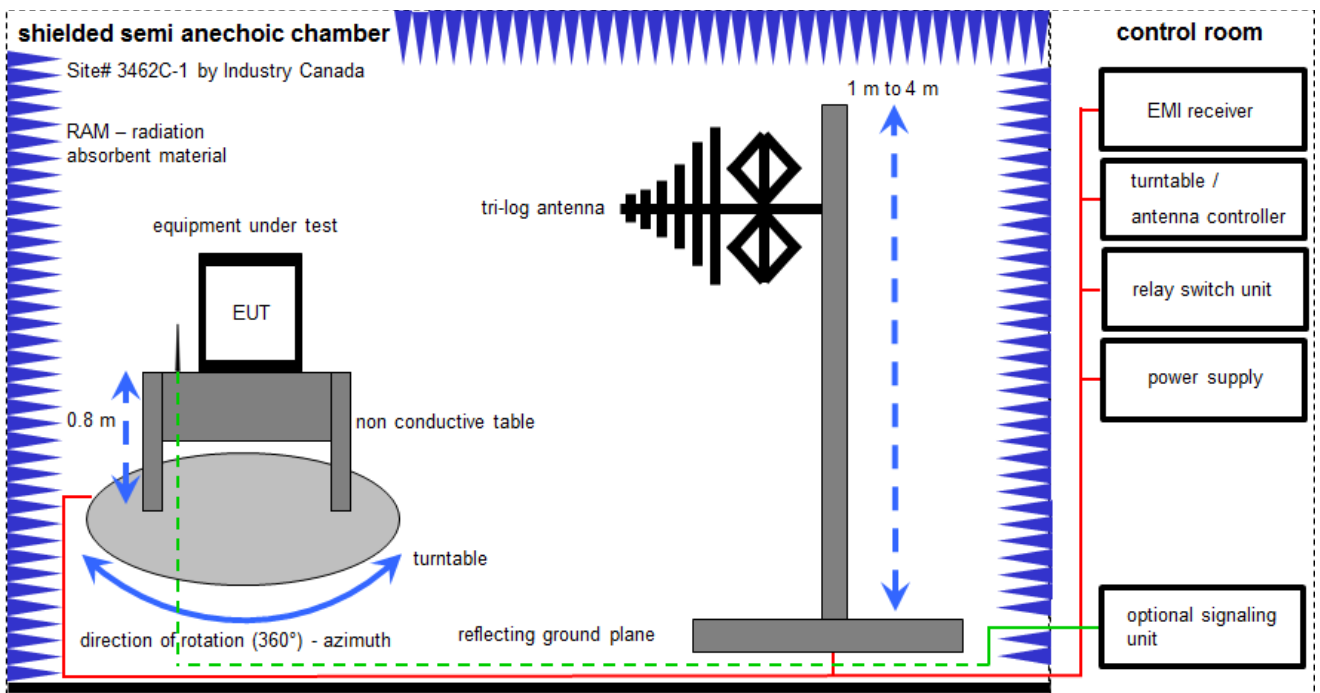
In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Lab/Item).

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 9 kHz 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)

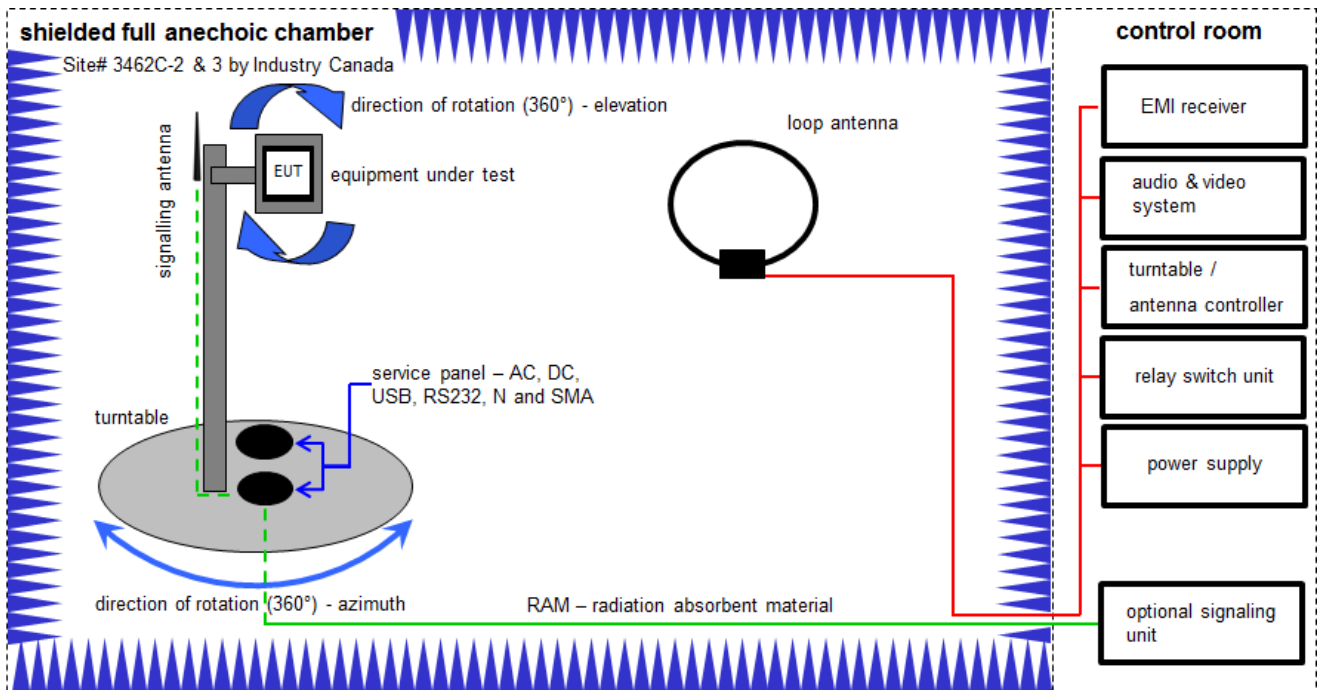
Example calculation:

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

Equipment table:

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No	Kind of Calibration	Last Calibration	Next Calibration
1	A	Switch-Unit	3488A	HP	2719A14505	300000368	ev	-/-	-/-
2	A	RF-Filter-section	85420E	HP	3427A00162	300002214	k	27.11.2006	-/-
3	A	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	08.03.2017	08.03.2018
4	A	Antenna Tower	Model 2175	ETS-Lindgren	64762	300003745	izw	-/-	-/-
5	A	Positioning Controller	Model 2090	ETS-Lindgren	64672	300003746	izw	-/-	-/-
6	A	Turntable Interface-Box	Model 105637	ETS-Lindgren	44583	300003747	izw	-/-	-/-
7	A	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787	k	25.04.2016	25.04.2018

6.2 Shielded fully anechoic chamber



Measurement distance: loop antenna 3 meter / 1 meter

$$FS = UR + CA + AF$$

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

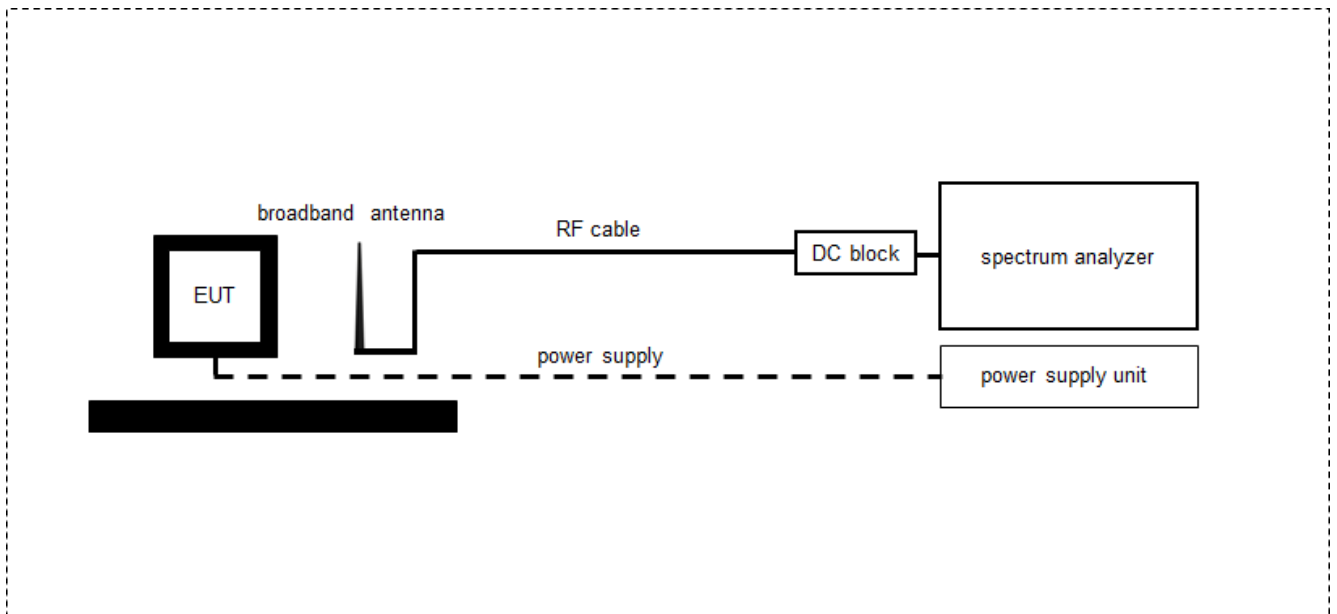
Example calculation:

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

Equipment table:

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No	Kind of Calibration	Last Calibration	Next Calibration
1	A	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev	-/-	-/-
2	A	Switch / Control Unit	3488A	HP	*	300000199	ne	-/-	-/-
3	A	Active Loop Antenna 10 kHz to 30 MHz	6502	EMCO	2210	300001015	k	20.05.2017	20.05.2019
4	A	4U RF Switch Platform	L4491A	Agilent Technologies	MY50000037	300004509	ne	-/-	-/-
5	A	EMI Test Receiver 9kHz-26,5GHz	ESR26	R&S	101376	300005063	vKI!	13.09.2016	13.03.2018

6.3 Test setup for normalized measurement configurations



$FS = UR + CA + AF$
 (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	Manufact.	Serial No.	INV. No	Kind of Calibration	Last Calibration	Next Calibration
1	A	RF-Cable	ST18/SMAM/SMAM/60	Huber & Suhner	Batch no. 606844	400001181	ev	-/-	-/-
2	A	Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517	k	27.01.2017	26.01.2018
3	A	DC-Blocker 0.1-40 GHz	8141A	Inmet	Batch no. 699714	400001185	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, a 2-axis positioner with 1.5 m height is used.
- 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 1.5 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 premeasurement are maximized by the software by rotating the turntable from 0° to 360°. In case of the 2-axis positioner is used the elevation axis is also rotated from 0° to 360°.
- 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.

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

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 9 RSS Gen Issue 4	See table!	2017-07-26	-/-

Test specification clause	Test case	Temperature conditions	Power source conditions	C	NC	NA	NP	Remark
RSS Gen Issue 4 (6.6)	Bandwidth of the modulated carrier	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-/-
§ 15.223	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

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

10 Additional comments

Reference documents: None

Special test descriptions: The device supports two different modulation rates. Both were measured.

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 parameter	
Detector:	Peak
Resolution bandwidth:	1 % – 5 % of the occupied bandwidth
Video bandwidth:	≥ 3x RBW
Trace-Mode:	Max Hold
Analyser function:	99 / 75 % power function
Used test equipment:	See chapter 6.3 A
Measurement uncertainty:	See chapter 8

Limit:

FCC	IC
Bandwidth of the modulated carrier	

Result: slow modulation rate

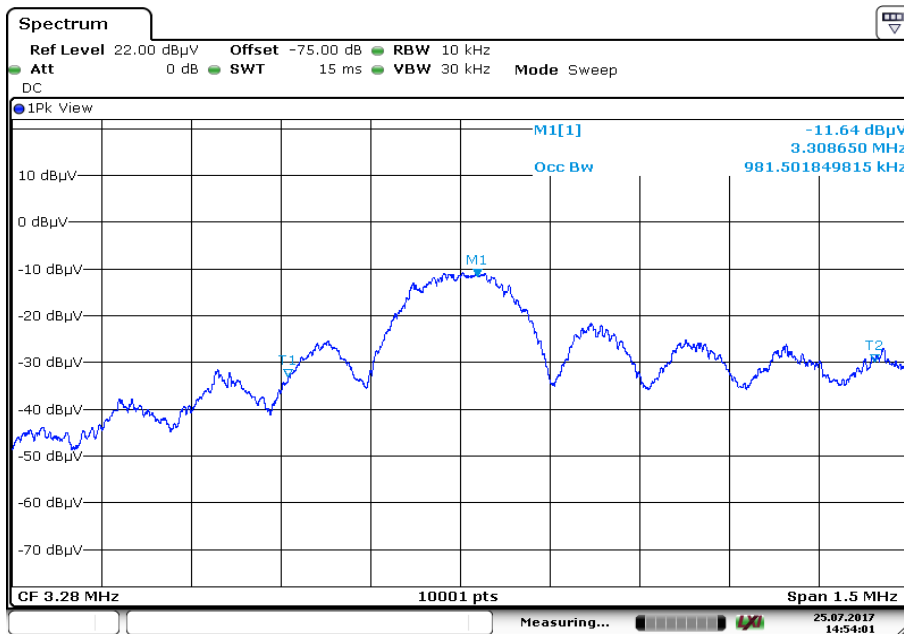
	Occupied Bandwidth (kHz)
6 dB (75%)	143.1
20 dB (99%)	981.5

Result: high modulation rate

	Occupied Bandwidth (kHz)
6 dB (75%)	120.6
20 dB (99%)	982.0

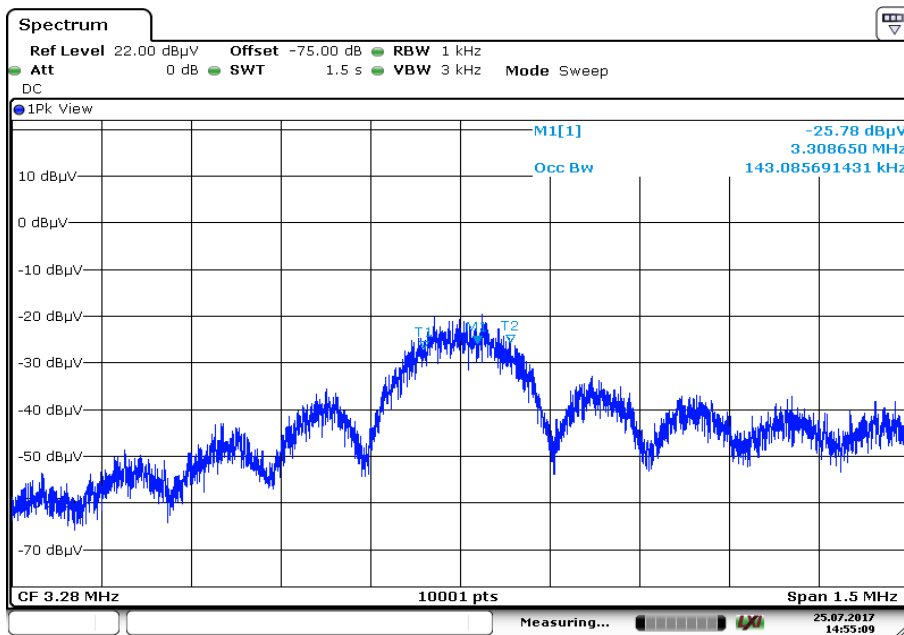
Plots: slow modulation rate

Plot 1: 99 % emission bandwidth



Date: 25.JUL.2017 14:54:02

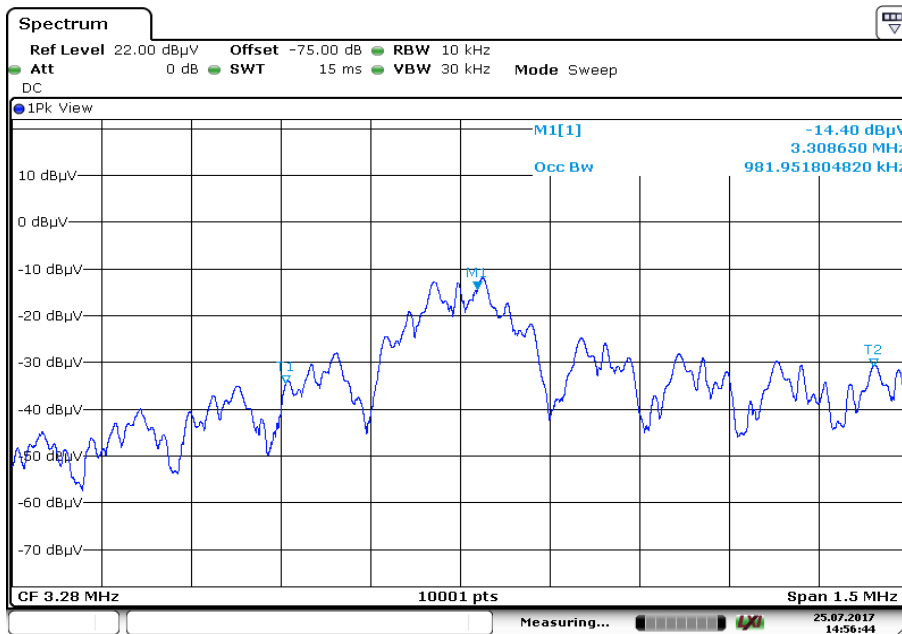
Plot 2: 75 % emission bandwidth



Date: 25.JUL.2017 14:55:10

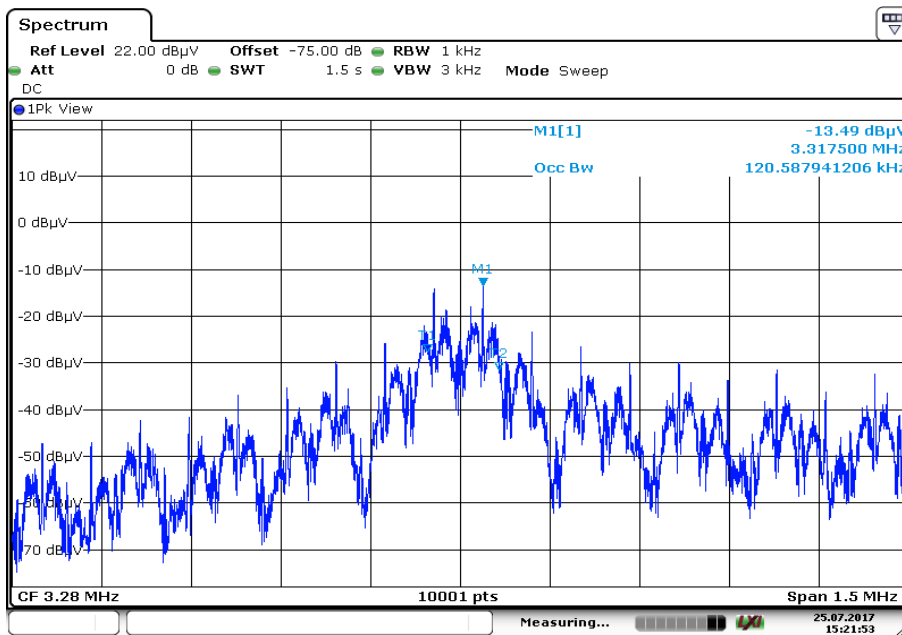
Plots: high modulation rate

Plot 1: 99 % emission bandwidth



Date: 25.JUL.2017 14:56:45

Plot 2: 75 % emission bandwidth



Date: 25.JUL.2017 15:21:54

11.2 Field strength of the fundamental

Measurement:

The maximum detected field strength for the carrier signal.

Measurement parameter	
Detector:	Quasi Peak (CISPR)
Resolution bandwidth:	10kHz
Video bandwidth:	> 3x RBW
Trace-Mode:	Max Hold
Used test equipment:	See chapter 6.2 A
Measurement uncertainty:	See chapter 8

Limit:

FCC		IC
Fundamental Frequency (MHz)	Field strength of Fundamental (µV/m)	Measurement distance (m)
1.705 – 10.0	15 (23.5 dBµV/m) or 6dB-BW(kHz) / F(MHz) Whichever is higher	30

Recalculation:

According to ANSI C63.4		
Frequency	Formula	Correction value 3.28 MHz
3.28 MHz	$FS_{limit} = FS_{max} - 40 \log \left(\frac{d_{nearfield}}{d_{measure}} \right) - 20 \log \left(\frac{d_{limit}}{d_{nearfield}} \right) *$ $*d_{nearfield} = 47.77 / f(\text{carrier})$	-52.8 from 1m to 30m

Result: slow modulation rate

TEST CONDITIONS		MAXIMUM POWER (dBµV/m)	
Frequency		3.28 MHz	3.28 MHz
		at 1 m distance	at 30 m distance
T _{nom}	V _{nom}	59.3	6.5

Result: high modulation rate

TEST CONDITIONS		MAXIMUM POWER (dBµV/m)	
Frequency		3.28 MHz	3.28 MHz
		at 1 m distance	at 30 m distance
T _{nom}	V _{nom}	60.6	7.8

11.3 Field strength of the harmonics and spurious

Measurement:

The maximum detected field strength for the harmonics and spurious.

Measurement parameter	
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 equipment:	See chapter 6.1 A & 6.2 A
Measurement uncertainty:	See chapter 8

Limit:

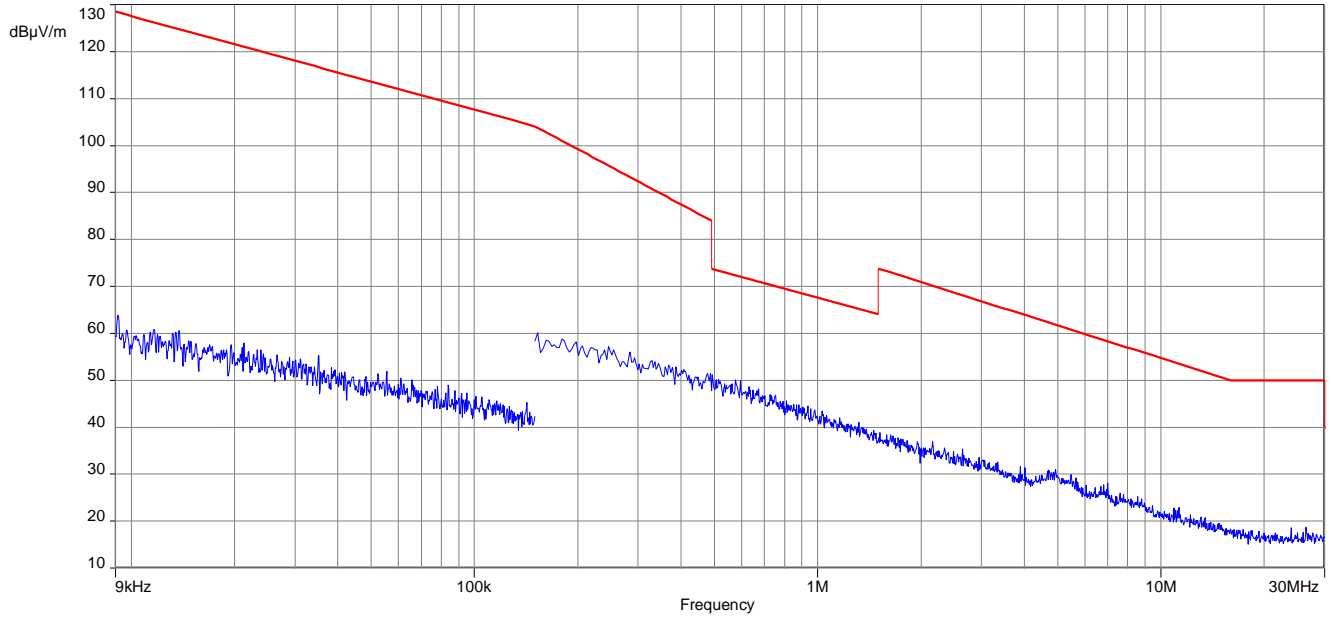
FCC		IC	
Field strength of the harmonics and spurious.			
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)	
0.009 – 0.490	2400/F(kHz)	300	
0.490 – 1.705	24000/F(kHz)	30	
1.705 – 30	30 (29.5 dBµV/m)	30	
30 – 88	100 (40 dBµV/m)	3	
88 – 216	150 (43.5 dBµV/m)	3	
216 – 960	200 (46 dBµV/m)	3	

Result:

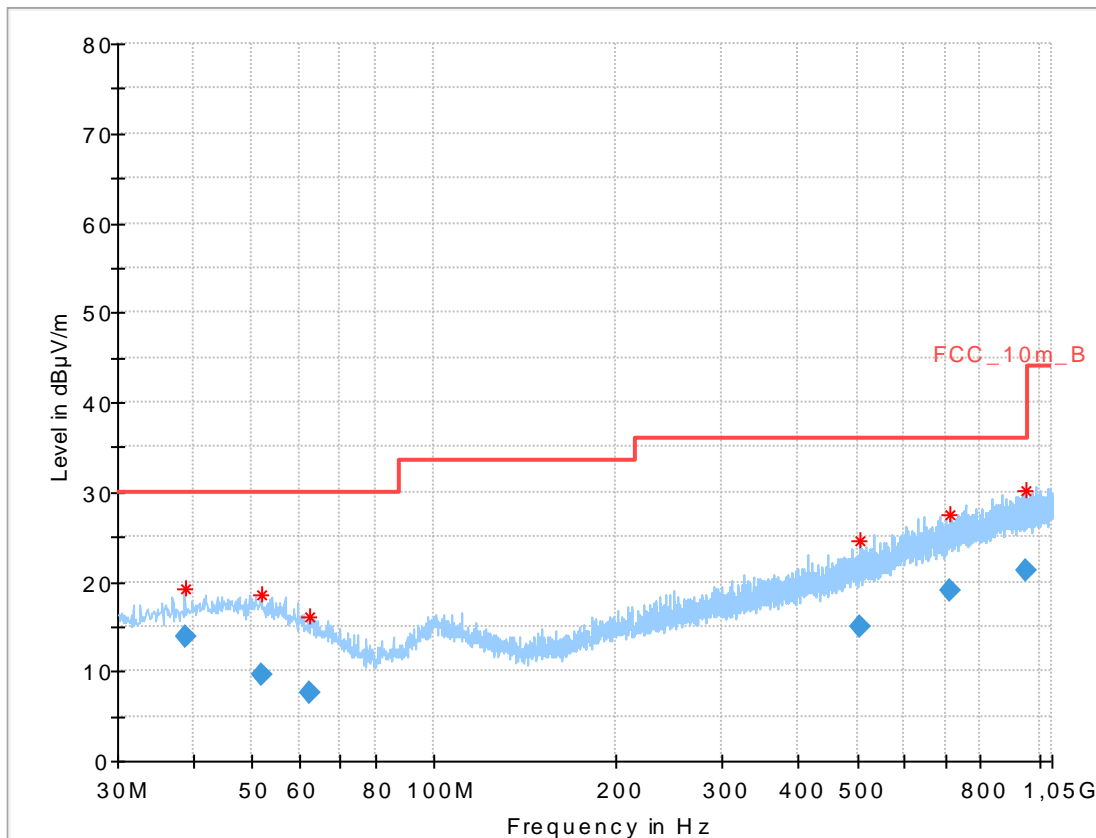
EMISSION LIMITATIONS				
f [MHz]	Detector	Limit max. allowed [dBµV/m]	Amplitude of emission [dBµV/m]	Results
All emissions were more than 10 dB below the limit. For emissions between 30 MHz and 1 GHz see result table below the plots.				

Plots: TX mode, slow modulation rate

Plot 1: 9 kHz – 30 MHz; magnetic



Plot 2: 30 MHz – 1000 MHz, vertical and horizontal polarization, slow modulation rate

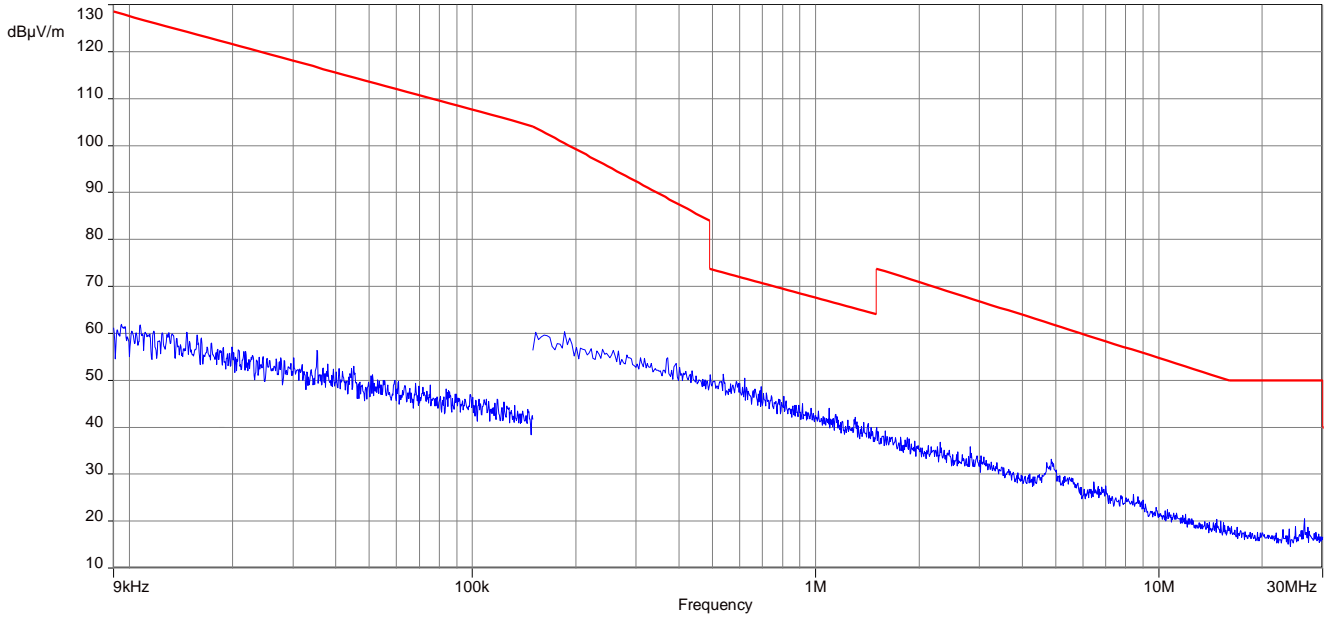


Final_Result

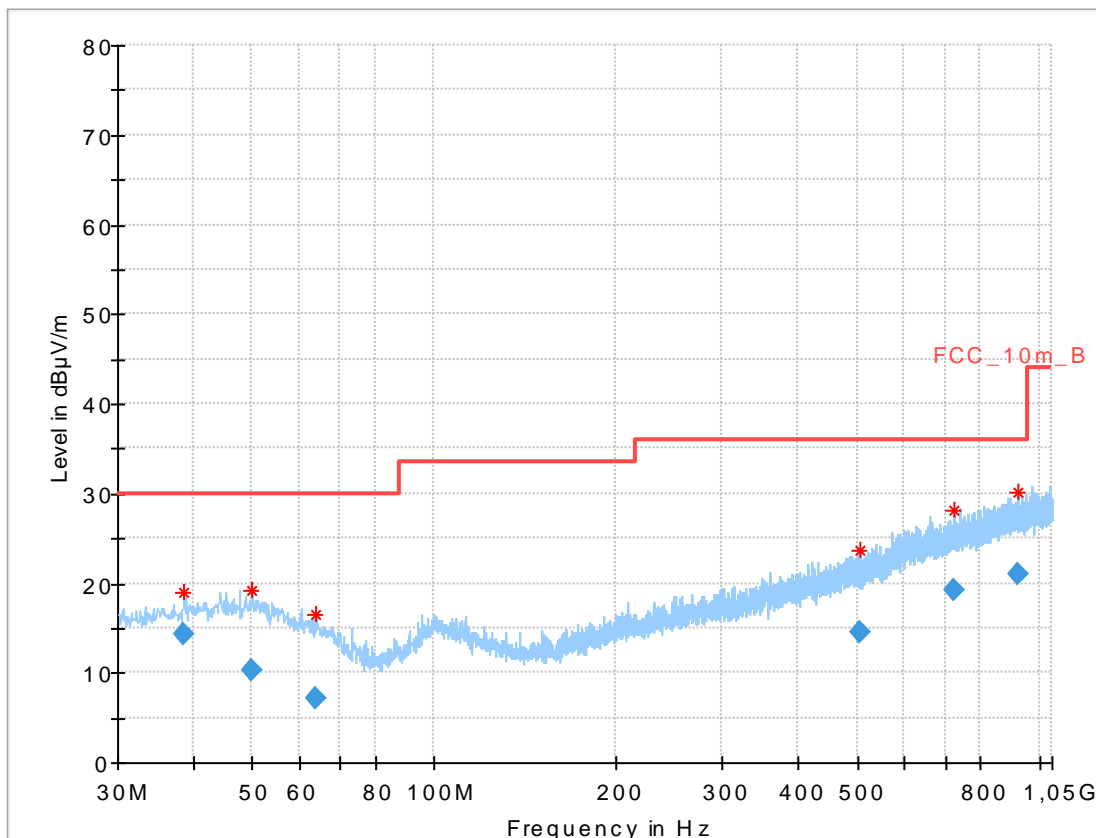
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.716800	13.94	30.00	16.06	1000.0	120.000	101.0	V	222.0	13.1
52.002000	9.57	30.00	20.43	1000.0	120.000	181.0	H	285.0	13.5
62.455200	7.59	30.00	22.41	1000.0	120.000	185.0	H	22.0	11.3
506.924400	14.91	36.00	21.09	1000.0	120.000	185.0	H	255.0	18.8
712.603650	18.94	36.00	17.06	1000.0	120.000	185.0	H	141.0	21.9
951.834150	21.25	36.00	14.75	1000.0	120.000	185.0	V	211.0	24.4

Plots: TX mode, high modulation rate

Plot 1: 9 kHz – 30 MHz; magnetic



Plot 2: 30 MHz – 1000 MHz, vertical and horizontal polarization, high modulation rate



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.701950	14.35	30.00	15.65	1000.0	120.000	101.0	V	250.0	13.1
49.858200	10.18	30.00	19.82	1000.0	120.000	102.0	V	236.0	13.7
63.603900	7.08	30.00	22.92	1000.0	120.000	185.0	H	223.0	11.1
503.671800	14.54	36.00	21.46	1000.0	120.000	185.0	V	72.0	18.8
722.708100	19.12	36.00	16.88	1000.0	120.000	98.0	V	352.0	22.1
924.078900	21.07	36.00	14.93	1000.0	120.000	185.0	H	180.0	24.3

11.4 Receiver spurious emissions and cabinet radiations

Measurement:

The maximum detected field strength for the spurious.

Measurement parameter	
Detector:	Average / Quasi Peak
Sweep time:	Auto
Resolution bandwidth:	120 kHz
Video bandwidth:	300 kHz
Trace-Mode:	Max hold
Used test equipment:	See chapter 6.1 A
Measurement uncertainty:	See chapter 8

Limit:

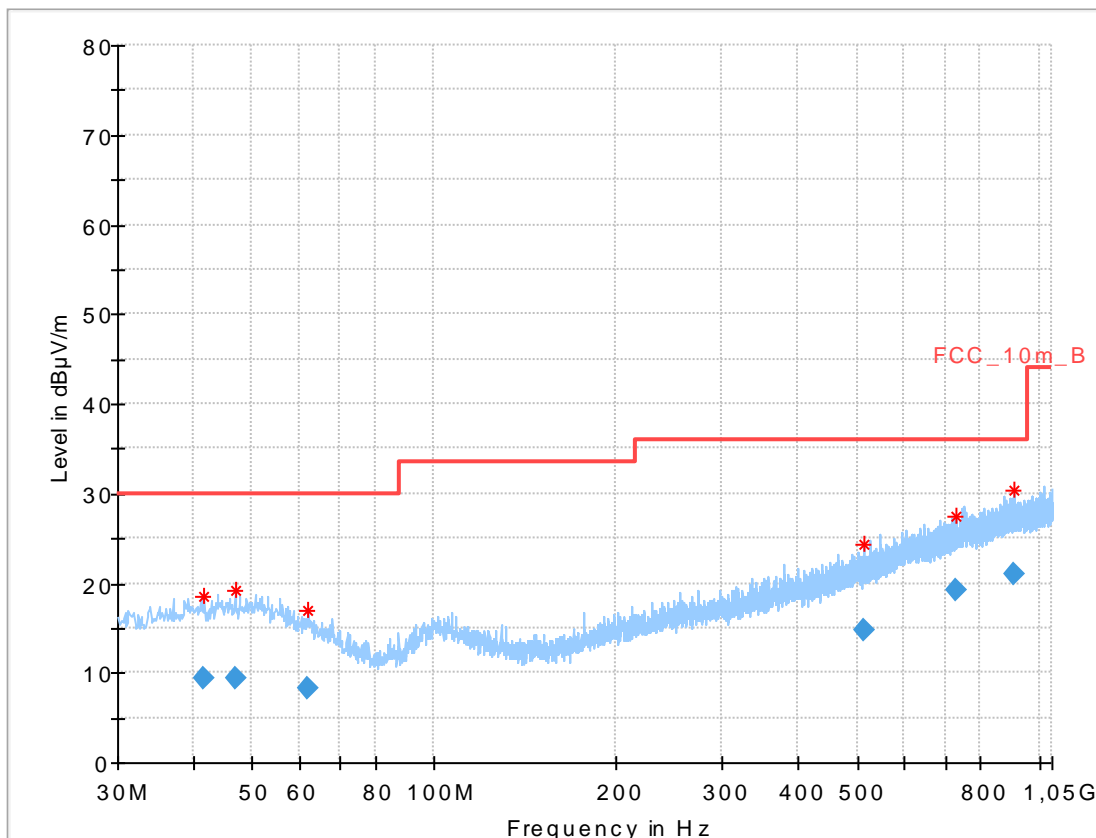
FCC		IC	
Field strength of the harmonics and spurious.			
Frequency (MHz)	Field strength ($\mu\text{V}/\text{m}$)	Measurement distance (m)	
30 – 88	100 (40 dB $\mu\text{V}/\text{m}$)	3	
88 – 216	150 (43.5 dB $\mu\text{V}/\text{m}$)	3	
216 – 960	200 (46 dB $\mu\text{V}/\text{m}$)	3	

Result:

EMISSION LIMITATIONS				
f [MHz]	Detector	Limit max. allowed [dB $\mu\text{V}/\text{m}$]	Amplitude of emission [dB $\mu\text{V}/\text{m}$]	Results
See result table below the plots.				

Plots:

Plot 1: 30 MHz – 1 GHz, vertical and horizontal polarisation



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.519100	9.49	30.00	20.51	1000.0	120.000	101.0	H	249.0	13.3
47.178450	9.38	30.00	20.62	1000.0	120.000	178.0	V	288.0	13.7
62.035950	8.21	30.00	21.79	1000.0	120.000	101.0	V	17.0	11.4
513.328050	14.85	36.00	21.15	1000.0	120.000	185.0	H	96.0	18.9
725.889000	19.19	36.00	16.81	1000.0	120.000	101.0	H	161.0	22.2
907.936050	21.11	36.00	14.89	1000.0	120.000	181.0	H	0.0	24.2

12 Observations

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

Annex A Document history

Version	Applied changes	Date of release
	Initial release	2017-07-26

Annex B Further information

Glossary

AVG	-	Average
DUT	-	Device under test
EMC	-	Electromagnetic Compatibility
EN	-	European Standard
EUT	-	Equipment under test
ETSI	-	European Telecommunications Standard Institute
FCC	-	Federal Communication Commission
FCC ID	-	Company Identifier at FCC
HW	-	Hardware
IC	-	Industry Canada
Inv. No.	-	Inventory number
N/A	-	Not applicable
PP	-	Positive peak
QP	-	Quasi peak
S/N	-	Serial number
SW	-	Software
PMN	-	Product marketing name
HMN	-	Host marketing name
HVIN	-	Hardware version identification number
FVIN	-	Firmware version identification number
OBW		Occupied Bandwidth
OC		Operating Channel
OCW		Operating Channel Bandwidth
OOB		Out Of Band

Annex C Accreditation Certificate

first page

last page



Deutsche Akkreditierungsstelle GmbH

Bellehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV
Unterzeichnerin der Multilateralen Abkommen
von EA, ILAC und IAF zur gegenseitigen Anerkennung

Akkreditierung



Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

CTC advanced GmbH
Untertürkheimer Straße 6-10, 66117 Saarbrücken

die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

Funk
Mobilfunk (GSM / DCS) + OTA
Elektromagnetische Verträglichkeit (EMV)
Produktsicherheit
SAR / EMF
Umwelt
Smart Card Technology
Bluetooth®
Automotive
Wi-Fi-Services
Kanadische Anforderungen
US-Anforderungen
Akustik
Near Field Communication (NFC)

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 25.11.2016 mit der Akkreditierungsnummer D-PL-12076-01 und ist gültig bis 17.01.2018. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 63 Seiten.

Registrierungsnummer der Urkunde: D-PL-12076-01-01

Frankfurt, 25.11.2016

Bitte klicken auf die Rückseite

Im Auftrag Dipl.-Ing. Ralf Eigner
Abteilungsleiter

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Der aktuelle Stand der Mitgliedschaft kann folgenden Webseiten entnommen werden:
EA: www.european-accrreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

Note:
The current certificate including annex can be received on request.