



## **TEST REPORT**

Test report no.: 1-7204/18-01-03



### **Testing laboratory**

#### **CTC advanced GmbH**

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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-12076-01-03

### **Applicant**

#### Sennheiser electronic GmbH & Co. KG

Am Labor 1

30900 Wedemark / GERMANY Phone: +49 5130 600-0 Nils Knauer Contact:

e-mail· Nils.Knauer@sennheiser.com

Phone: +49 5130/600-9524

#### Manufacturer

#### Sennheiser electronic GmbH & Co. KG

Am I abor 1

30900 Wedemark / GERMANY

#### Test standard/s

Title 47 of the Code of Federal Regulations; Chapter I; Part 74 - Experimental radio, 47 CFR Part 74

auxiliary, special broadcast and other program distributional services

Spectrum Management and Telecommunications Radio Standards Specification -RSS - 210 Issue 9

Licence-Exempt Radio Apparatus: Category I Equipment

RSS - Gen Issue 5 General Requirements for Compliance of Radio

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

#### **Test Item**

Kind of test item: **Wireless Microphone** 

Model name: **SKM 5200-II** FCC ID: DMOSKM5200A2 IC 2099A-SKM5200A2

Frequency: 470.100 MHz - 607.900 MHz

Technology tested: Proprietary

Integrated antenna Antenna: Power supply: 3.0 V DC by Battery -30°C to +50°C Temperature range:



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 pe
p.o.

Christoph Schneider Lab Manager

Radio Communications & EMC

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Sumit Kumar **Testing Manager** 

Radio Communications & EMC



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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: 2018-10-30
Date of receipt of test item: 2018-11-30
Start of test: 2018-11-05
End of test: 2018-11-06

Person(s) present during the test: -/-

#### 2.3 Test laboratories sub-contracted

None

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## 3 Test standard/s and references

Test standard	Date	Description
47 CFR Part 74	-/-	Title 47 of the Code of Federal Regulations; Chapter I; Part 74 - Experimental radio, auxiliary, special broadcast and other program distributional services
RSS - 210 Issue 9	August 2016	Spectrum Management and Telecommunications Radio Standards Specification - Licence-Exempt Radio Apparatus: Category I Equipment
RSS - Gen Issue 5	April 2018	General Requirements for Compliance of Radio
ETSI EN 300 422-1 V1.4.2	2011-08	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement
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

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### **Test environment**

Temperature	÷	$\begin{array}{c} T_{nom} \\ T_{max} \\ T_{min} \end{array}$	+22 °C during room temperature tests +50 °C during high temperature tests -30 °C during low temperature tests			
Relative humidity content			45 %			
Barometric pressure			not relevant for this kind of testing			
Power supply	:	V <sub>nom</sub> V <sub>max</sub> V <sub>min</sub>	3.0 V DC by Battery 3.3 V 1.8 V			

### Test item

#### 5.1 **General description**

Kind of test item	:	Wireless Microphone
Type identification	:	SKM 5200-II
HMN	:	-/-
PMN	:	SKM 5200-II
HVIN	:	SKM 5200-II
FVIN	:	3.1.0_LUS-PR
S/N serial number	:	1378000002
Hardware status	:	535762_21
Software status	:	3.1.0_LUS-PR
Firmware status	:	-/-
Frequency band	:	470.100 MHz – 607.900 MHz Lowest channel: 470.100 MHz Middle Channel: 539.000 MHz Highest Channel: 607.900 MHz
Type of radio transmission Use of frequency spectrum	:	modulated carrier
Type of modulation	:	FM
Antenna	:	Integrated antenna
Power supply	:	3.0 V DC by Battery
Temperature range	:	-30°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: 1-7204/18-01-01\_AnnexA

1-7204/18-01-01\_AnnexB 1-7204/18-01-01\_AnnexC

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## 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).

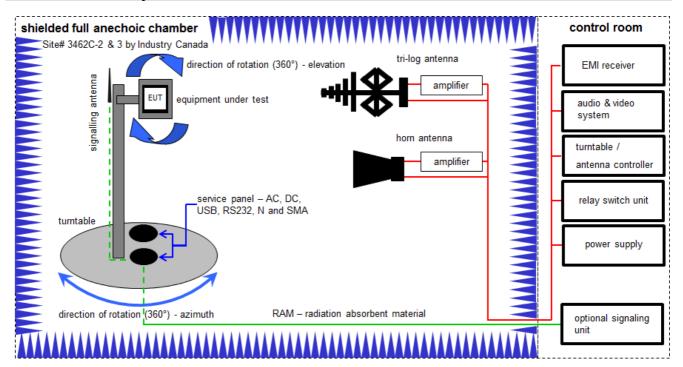
#### Agenda: Kind of Calibration

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

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## 6.1 Shielded fully anechoic chamber



Measurement distance: tri-log antenna and horn antenna 3 meter

OP = AV + D - G + CA

(OP-radiated output power; AV-analyzer value; D-free field attenuation of measurement distance; G-antenna gain+amplifier gain; CA-loss signal path)

#### Example calculation:

 $\overline{OP \text{ [dBm]}} = -65.0 \text{ [dBm]} + 50 \text{ [dB]} - 20 \text{ [dBi]} + 5 \text{ [dB]} = -30 \text{ [dBm]} (1 \mu\text{W})$ 

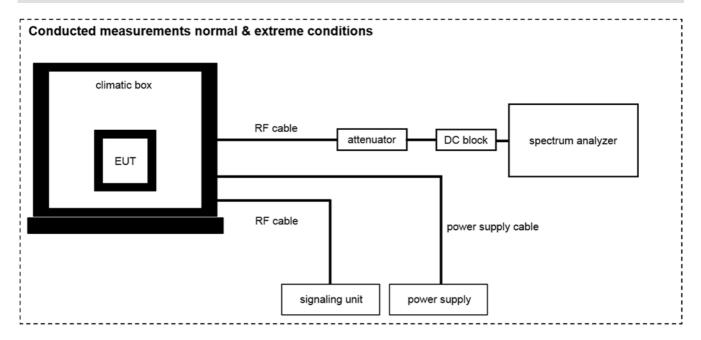
#### **Equipment table:**

No.	Lab / Item	Equipment	Туре	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A, B	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev	-/-	-/-
2	В	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	9107-3697	300001605	vIKI!	14.02.2017	13.02.2019
3	A, B	Switch / Control Unit	3488A	HP	-/-	300000199	ne	-/-	-/-
4	В	Highpass Filter	WHK1.1/15G-10SS	Wainwright	3	300003255	ev	-/-	-/-
5	Α	TRILOG Broadband Test-Antenna	VULB9163	Schwarzbeck Mess Elektronik	01029	300005379	k	07.04.2017	06.04.2020
6	В	Broadband Amplifier 0.5-18 GHz	CBLU5184540	CERNEX	22049	300004481	ev	-/-	-/-
7	A, B	4U RF Switch Platform	L4491A	Agilent Technologies	MY50000037	300004509	ne	-/-	-/-
8	A, B	NEXIO EMV- Software	BAT EMC V3.16.0.49	EMCO	-/-	300004682	ne	-/-	-/-
9	A, B	PC	ExOne	F+W	-/-	300004703	ne	-/-	-/-
10	A,B	EMI Test Receiver 20Hz- 26,5GHz	ESU26	R&S	100037	300003555	k	20.12.2017	19.12.2018

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### 6.2 Conducted measurements normal and extreme conditions



OP = AV + CA

(OP-output power; AV-analyzer value; CA-loss signal path)

### Example calculation:

OP [dBm] = 6.0 [dBm] + 11.7 [dB] = 17.7 [dBm] (58.88 mW)

### **Equipment table:**

No.	Lab / Item	Equipment	Туре	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A, B	Signal- and Spectrum Analyzer	FSW26	R&S	101455	300004528	k	20.12.2017	19.12.2018
2	В	Audio Analyzer 2Hz - 300 kHz	UPD	R&S	841074/009	300001236	k	29.01.2018	28.01.2020
3	В	Climatic Box	VT 4011	Voetsch Industrietechnik	58566230600010	300005363	ev	07.05.2018	06.05.2020
4	В	Radiocom. Analyzer	CMTA 54	R&S	894043/010	300001175	NKI!		
5	В	DC Power Supply, 60V, 10A	6038A	HP	3122A11097	300001204	vIKI!	12.12.2017	11.12.2020

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## 7 Measurement uncertainty

Measurement uncertainty						
Test case	Uncertainty					
Transmitter output power	± 3 dB					
Occupied bandwidth	± 3 kHz to 10 kHz (depends on the used RBW)					
Transmitter frequency stability	± 1 Hz to 1 kHz (depends on the used RBW)					
Transmitter unwanted emissions (radiated or conducted)	Radiated: ± 3 dB Conducted: ± 0.5 dB					
Modulation characteristics	-/-					
Necessary bandwidth (BN) for analogue systems	± 1 kHz (depends on the used RBW)					
Frequency modulation	± 3 kHz (depends on the used RBW)					
Spurious emissions conducted below 30 MHz (AC conducted)	± 2.6 dB					

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## 8 Summary of measurement results

No deviations from the technical specifications were ascertained
There were deviations from the technical specifications ascertained
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	FCC Part 74 RSS - 210, Issue 9 RSS-Gen Issue 4	See table!	2018-12-13	-/-

Test specification clause	Test case	Temperature conditions	Voltage conditions	С	NC	NA	NP	Remark
FCC Part 74.861 (e)(1)(ii) FCC Part 2.1046) RSS-210 – G.3.1 RSS-Gen – 6.12	Transmitter output power	Nominal	Nominal	$\boxtimes$				Additional measurement for 539 MHz only.
FCC Part 74.861 (e)(5) FCC Part 2.1049 RSS-210 – G.3.2 RSS-Gen – 6.6	Occupied bandwidth	Nominal	Nominal	$\boxtimes$				Additional measurement for 539 MHz only.
FCC Part 74.861 (e)(4) FCC Part 2.1055 RSS-210 – G.3.3	Transmitter frequency stability	Nominal	Nominal	$\boxtimes$				Additional measurement for 539 MHz
RSS-Gen – 6.11	Stability	Extreme	Extreme	$\boxtimes$				only.
FCC Part 74.861 (e)(6) FCC Part 74.861 (e)(7) RSS-210 – G.3.4 ETSI EN 300 422-1 v1.4.2 (2011-08)	Transmitter unwanted emissions (radiated or conducted)	Nominal	Nominal	×				-/-
FCC Part 2.1047	Modulation characteristics	Nominal	Nominal		-/	/_		Additional measurement for 539 MHz only.
FCC Part 74.861 (e)(7) ETSI EN 300 422-1 v1.4.2 (2011-08)	Necessary bandwidth (BN) for analogue systems	Nominal	Nominal	×				-/-
FCC Part 74.861 (e)(3) RSS-210 – G.3.5.2	Frequency modulation	Nominal	Nominal	$\boxtimes$				Additional measurement for 539 MHz only.
FCC Part 74.861 (e)(7) RSS-210 – G.3.4	Receiver spurious emissions	Nominal	Nominal			×		No receiver integrated!
FCC Part 15.107(a) FCC Part 15.207	Conducted emissions < 30 MHz	Nominal	Nominal				$\boxtimes$	-/-

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

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## 9 Additional comments

Reference documents:	Test	Test report 1-2193-01-03/10		
Special test descriptions:	None			
Configuration descriptions:	EUT	tested with a sensitivity setting of -30 dB – pre-setting from manufacturer.		
Test mode:	×	No test mode available. Test signal is applied to the transmitter.		
		Special software is used. EUT is transmitting pseudo random data by itself		
Antennas and transmit operating modes:		Operating mode 1 (single antenna)  - Equipment with 1 antenna,  - Equipment with 2 diversity antennas operating in switched diversity mode by which at any moment in time only 1 antenna is used,  - Smart antenna system with 2 or more transmit/receive chains, but operating in a mode where only 1 transmit/receive chain is used)		
		Operating mode 2 (multiple antennas, no beamforming)  - Equipment operating in this mode contains a smart antenna system using two or more transmit/receive chains simultaneously but without beamforming.		
		Operating mode 3 (multiple antennas, with beamforming)  - Equipment operating in this mode contains a smart antenna system using two or more transmit/receive chains simultaneously with beamforming.  In addition to the antenna assembly gain (G), the beamforming gain (Y) may have to be taken into account when performing the measurements.		

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### 10 Measurement results

# 10.1 Transmitter output power

### **Measurement:**

Measurement parameter			
Detector:	Peak (worst case) / Average (RMS)		
Sweep time:	Auto / 20s		
Resolution bandwidth:	> emission bandwidth		
Video bandwidth:	> resolution bandwidth		
Span:	> 2 times emissions bandwidth		
Trace mode:	Max. hold		
EUT configuration:	Peak: Unmodulated carrier  RMS:  Modulate the transmitter with a 2.5 kHz tone at a level 16 dB higher than that required to produce a frequency deviation of ± 75 kHz, or to produce 50% of the manufacturer's rated deviation, whichever is less.		
Test setup:	See sub clause 6.2 – A		
Measurement uncertainty:	See sub clause 7		

### Limits:

	FCC & IC
470 MHz to 608 MHz	250 mW (average) / 24 dBm (average)

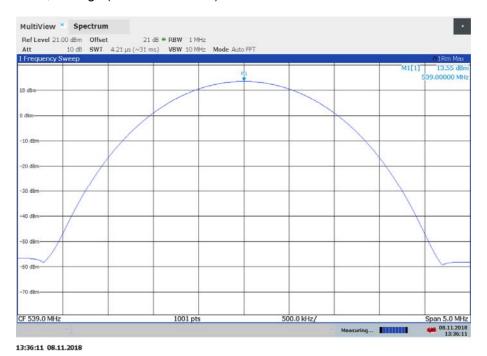
### Result:

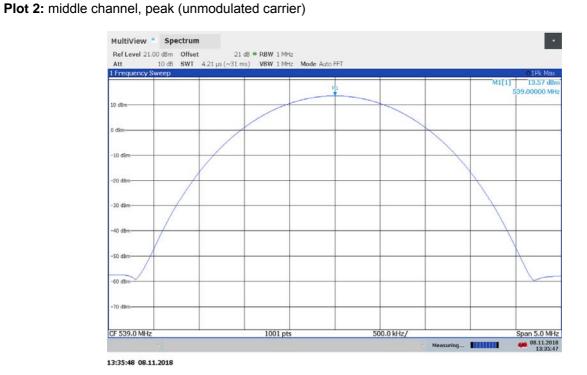
	Transmitter conducted output power (dBm)					
Channels	539.0 MHz		-/-		-/-	
	Peak	Average	Peak	Average	Peak	Average
Middle	13.57	13.55	-/-	-/-	-/-	-/-

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Plot 1: middle channel, average (modulated carrier)





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## 10.2 Occupied bandwidth

### **Measurement:**

Measurement parameter			
Detector:	Peak		
Sweep time:	Auto		
Resolution bandwidth:	1 % to 5 % of the occupied bandwidth		
Video bandwidth:	3 x resolution bandwidth		
Span:	2 x emission bandwidth		
Trace mode:	Max. hold		
Analyzer function:	99% power occupied bandwidth function		
EUT:	Modulated signal with max. frequency deviation		
Test setup:	See sub clause 6.2 - A		
Measurement uncertainty:	See sub clause 7		

### Limits:

	FCC & IC	
	470 MHz to 608 MHz	200 kHz
Occupied bandwidth 90	% Other than single sidehand or	r independent sidehand transmitters - when

Occupied bandwidth 99%. Other than single sideband or independent sideband transmitters - when modulated by a 2500 Hz tone at an input level 16 dB greater than that necessary to produce 50 percent modulation. The input level shall be established at the frequency of maximum response of the audio modulating circuit.

### Result:

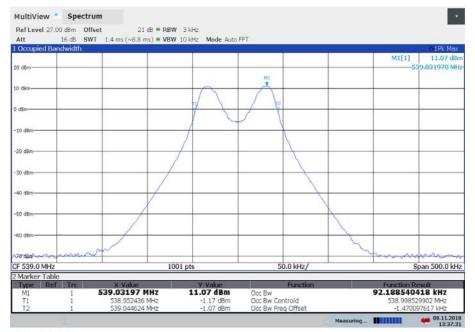
Occupied bandwidth (kHz)			
Channels	539.0 MHz	-/-	-/-
Middle	92.18	-/-	-/-

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### Plots:

### Plot 1: middle channel



13:37:32 08.11.2018

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## 10.3 Transmitter frequency stability

### **Measurement:**

Measurement parameter			
Detector:	Peak		
Sweep time:	Auto		
Resolution bandwidth:	1 Hz / 10 Hz / 100 Hz		
Video bandwidth:	3 x resolution bandwidth		
Span:	wide enough to follow the frequency drift		
Trace mode:	clear/write/view		
EUT:	CW signal or MC with measurement method description		
Test setup:	See sub clause 6.2 - B		
Measurement uncertainty:	See sub clause 7		

### Limits:

FCC & IC	
470 MHz to 608 MHz	± 50 ppm

Results: middle channel

Temperature / Voltage	Frequency (MHz)	Deviation (kHz / ppm)
-30 °C / V <sub>nom</sub>	538.995848537	-4.15 / -7.70
-20 °C / V <sub>nom</sub>	538.998220172	-1.77 / -3.30
-10 °C / V <sub>nom</sub>	538.999664630	-0.33 / -0.62
0 °C / V <sub>nom</sub>	539.000419751	0.41 / 0.77
+10 °C / V <sub>nom</sub>	538.999911972	-0.08 / -0.16
+20 °C / V <sub>nom</sub>	539.000059994	0.06 / 0.11
+30 °C / V <sub>nom</sub>	538.998165626	-1.83 / -3.40
+40 °C / V <sub>nom</sub>	538.997161110	-2.83 / -5.26
+50 °C / V <sub>nom</sub>	538.997293675	-2.70 / -5.02
.00 %0 / \/ 450/	500,000,000,00	0.40 / 0.04
+20 °C / V <sub>nom</sub> - 15%	538.999868816	-0.13 / -0.24
+20 °C / V <sub>nom</sub>	539.000059994	0.06 / 0.11
+20 °C / V <sub>nom</sub> + 15%	538.999950946	-0.04 / -0.09

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## 10.4 Transmitter unwanted emissions (radiated)

### **Measurement:**

Measurement parameter	
Detector:	Peak (prescan) / RMS
Sweep time:	Auto
Resolution bandwidth:	See table below!
Video bandwidth:	See table below!
Span:	100 MHz steps!
Trace-Mode:	Max. hold
EUT:	MC with max frequency deviation
Used equipment:	See chapter 6.1- A / B
Measurement uncertainty:	See chapter 7

Frequency being measured	Measuring receiver bandwidth
25 MHz to 30 MHz	9 kHz to 10 kHz
30 MHz to 1 000 MHz	100 kHz
> 1 000 MHz	1 MHz

## Limits:

FCC & IC (according to ETSI EN 300 422-1 v1.4.2 (2011-08))			
	Max. spurious level		
State	47 MHz to 74 MHz 87.5 MHz to 118 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other frequencies ≤ 1000 MHz	All frequencies > 1000 MHz
Operating	4.0 nW	250 nW	1.00 μW
Standby	2.0 nW	2.0 nW	20.0 nW

FCC & IC		
The mean power of emissions shall be attenuated below the mean output power of the transmitter in		
accordance with the following schedule:		
On any frequency removed from the operating frequency by		
more than 50 percent up to and including 100 percent of the	25 dB	
authorized bandwidth: at least		
On any frequency removed from the operating frequency by		
more than 100 percent up to and including 250 percent of	35 dB	
the authorized bandwidth		
On any frequency removed from the operating frequency by	43 + 10log10 (mean output power in watts) dB	
more than 250 percent of the authorized bandwidth: at least	is roing to (income surpart portion in matte) all	

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## Results:

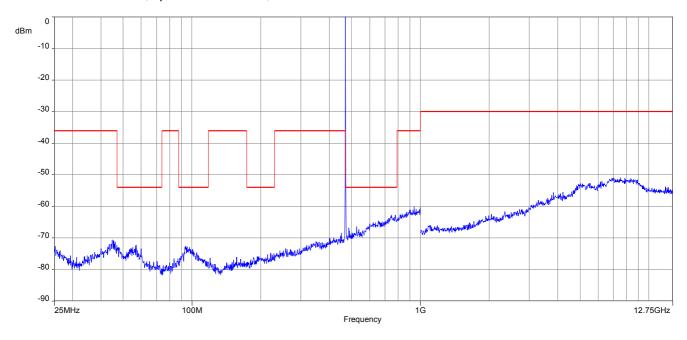
carrier frequency (MHz)	unwanted emission frequency (MHz)	Limit	level (dB) / (dBm) or remark
All detected emissions are more than 20 dB below the limit.			

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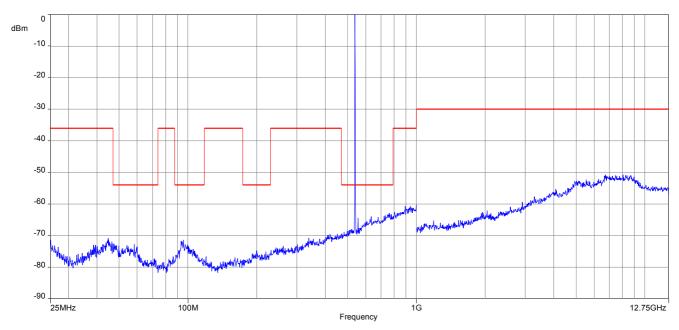


### Plots: radiated

Plot 1: lowest channel, spurious emissions, 25 MHz – 12.75 GHz



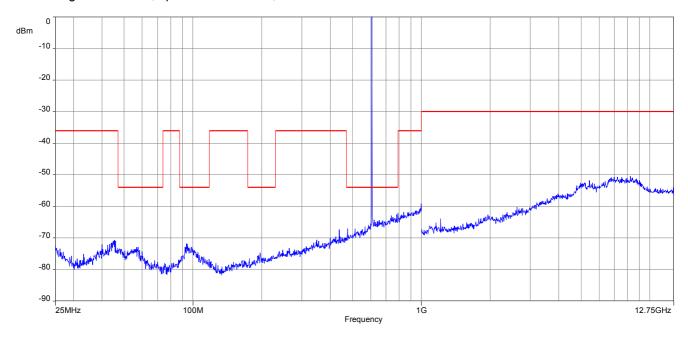
Plot 2: middle channel, spurious emissions, 25 MHz – 12.75 GHz



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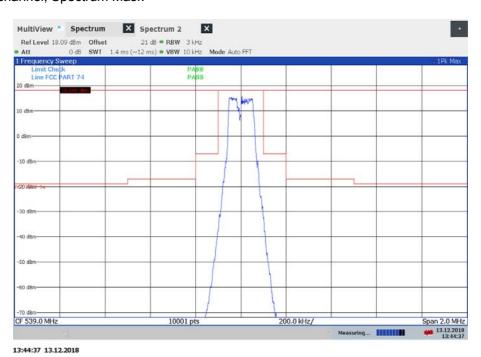


Plot 3: highest channel, spurious emissions, 25 MHz – 12.75 GHz



Plots: Conducted

Plot 1: middle channel, Spectrum Mask



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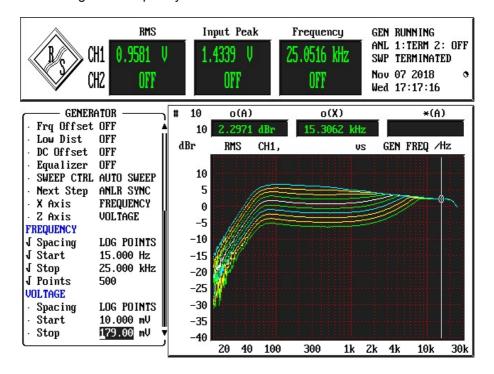
### 10.5 Modulation characteristics

#### **Method of measurement:**

The audio frequency response was measured in accordance with EIA/TIA 603. The plots shows 10 curves with different modulation levels, the test frequency is varied from 15 Hz to 20 kHz.

#### Plots:

Plot 1: 10 curves with voltage and frequency variation



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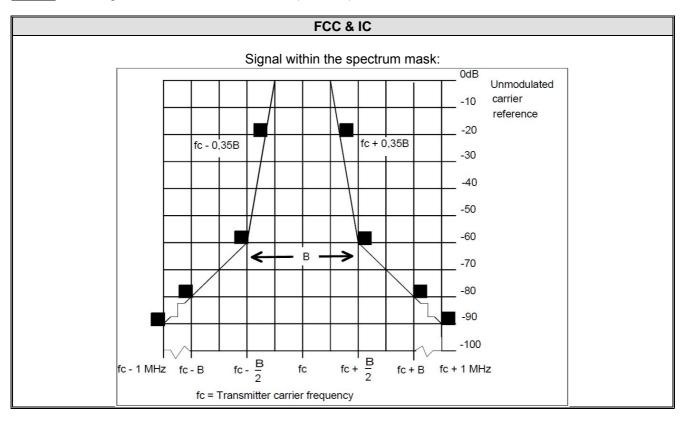


## 10.6 Necessary bandwidth (BN) for analogue systems

### **Measurement:**

Measurement parameter		
Detector:	Peak / Average (-90 dBc point only)	
Sweep time:	Auto	
Resolution bandwidth:	1 kHz	
Video bandwidth:	1 kHz	
Span:	fc - 1 MHz to fc + 1 MHz (2 MHz)	
Trace mode:	Max hold/view	
EUT:	CW and MC	
Test setup:	See sub clause 6.2 -	
Measurement uncertainty:	See sub clause 7	

Limits: according to ETSI EN 300 422-1 v1.4.2 (2011-08)

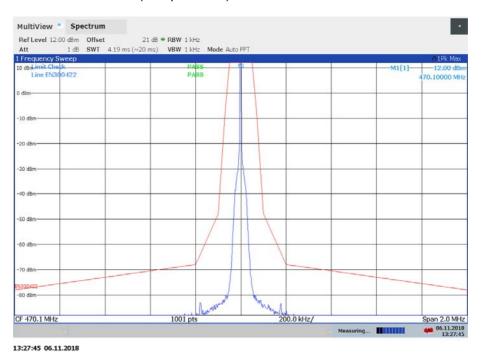


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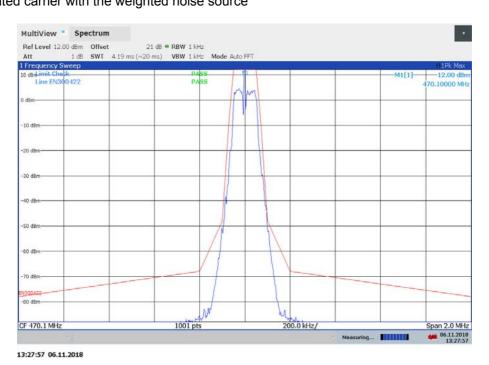


### Plots: Low channel

Plot 1: Unmodulated carrier reference (with pilot-tone)



Plot 2: Modulated carrier with the weighted noise source

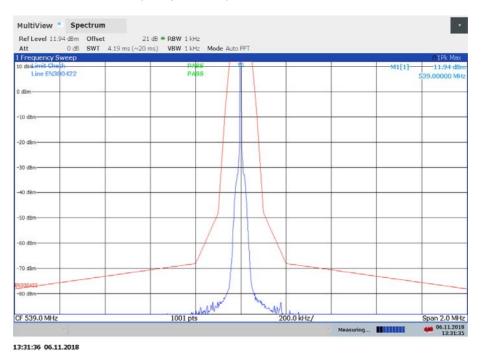


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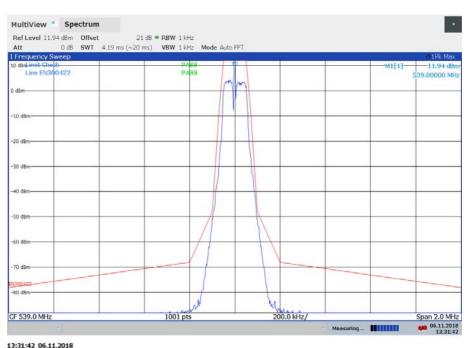


Plots: Middle channel

**Plot 1:** Unmodulated carrier reference (with pilot-tone)



Plot 2: Modulated carrier with the weighted noise source

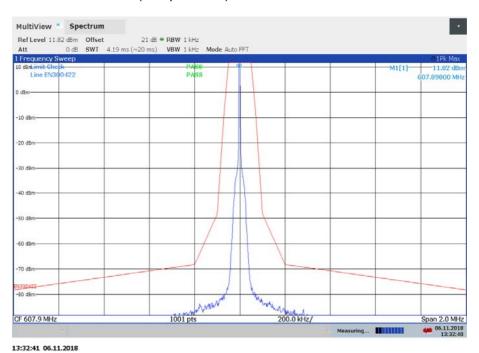


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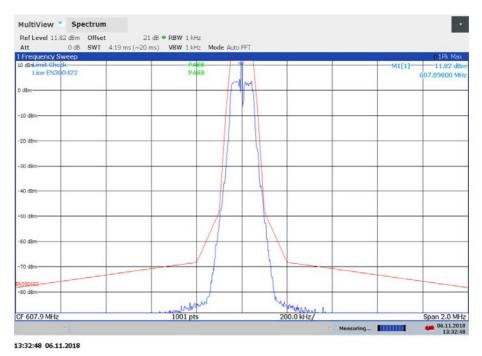


Plots: Highest channel

Plot 1: Unmodulated carrier reference (with pilot-tone)



Plot 2: Modulated carrier with the weighted noise source



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## 10.7 Frequency modulation

### **Measurement:**

Measurement parameter		
Detector:	Peak	
Sweep time:	Auto	
Resolution bandwidth:	1 % to 5 % of the occupied bandwidth	
Video bandwidth:	3 x resolution bandwidth	
Span:	2 x emission bandwidth	
Trace mode:	Max. hold	
Analyzer function:	99% power occupied bandwidth function	
EUT:	Modulated signal with frequency varied between 50 Hz and 15 kHz	
Test setup:	See sub clause 6.2 -	
Measurement uncertainty:	See sub clause 7	

### Limits:

FCC & IC	
Frequency deviation up to a maximum of ± 75 kHz	

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### Plots:

Plot 1: middle channel, max hold with frequency variation from 50 Hz to 15 kHz



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## 11 Observations

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

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## Annex A Glossary

EUT	Equipment under test
DUT	Device under test
UUT	Unit under test
GUE	GNSS User Equipment
ETSI	European Telecommunications Standards Institute
EN	European Standard
FCC	Federal Communications Commission
FCC ID	Company Identifier at FCC
IC ID	Industry Canada
PMN	Product marketing name
HMN	Host marketing name
HVIN	Hardware version identification number
FVIN	Firmware version identification number
EMC	Electromagnetic Compatibility
HW	Hardware
SW	Software
Inv. No.	Inventory number
S/N or SN	Serial number
3/14 OF 314	Compliant
NC	Not compliant
NA NA	Not applicable
NP	Not performed
PP	Positive peak
QP	Quasi peak
AVG	Average
OC	Operating channel
ocw	Operating channel bandwidth
OBW	Occupied bandwidth
ООВ	Out of band
DFS	Dynamic frequency selection
CAC	Channel availability check
OP	Occupancy period
NOP	Non occupancy period
DC	Duty cycle
PER	Packet error rate
CW	Clean wave
MC	Modulated carrier
WLAN	Wireless local area network
RLAN	Radio local area network
DSSS	Dynamic sequence spread spectrum
OFDM	Orthogonal frequency division multiplexing
FHSS	Frequency hopping spread spectrum
GNSS	Global Navigation Satellite System
C/N <sub>0</sub>	Carrier to noise-density ratio, expressed in dB-Hz
<b></b>	

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## Annex B Document history

Version	Applied changes	Date of release
-/-	Initial release	2018-12-13

### Annex C Accreditation Certificate

first page	last page
Deutsche Akkreditierungsstelle  Deutsche Akkreditierungsstelle GmbH  Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV Signatory to the Multilateral Jereements of EA, ILAC and IAF for Mutual Recognition  Accreditation  The Deutsche Akkreditierungsstelle GmbH attests that the testing laboratory  CTC advanced GmbH Untertürkheimer Straße 6-10, 66117 Saarbrücken  is competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out tests in the following fields:  Telecommunication	Deutsche Akkreditierungsstelle GmbH  Office Berünschweig Spittelmarkt 10 10117 Berlin G0327 Frankfurt am Main G0528 Bundesallee 100 38116 Braunschweig The publication of extracts of the accreditation certificate is subject to the prior written approval by
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