

TEST REPORT

Test Report No.: 1-6814/18-01-14-A



Deutsche
Akkreditierungsstelle
D-PL-12076-01-01

Testing Laboratory

CTC advanced GmbH

Untertürkheimer Straße 6 – 10

66117 Saarbrücken/Germany

Phone: + 49 681 5 98 - 0

Fax: + 49 681 5 98 - 9075

Internet: <http://www.ctcadvanced.com>

e-mail: mail@ctcadvanced.com

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

Area of Testing: Acoustics

Applicant

Gigaset Communications GmbH

Frankenstr. 2

46395 Bocholt/GERMANY

Phone: +49 2871 91-0

Contact: Uwe Alt

e-mail: uwe.alt@gigaset.com

Phone: +49 287 191-2857

Fax: +49 287 191-62857

Manufacturer

Gigaset Communications GmbH

Frankenstr. 2

46395 Bocholt/GERMANY

Test standard/s

FCC - Title 47 CFR Part 68

FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 68 - Requirements and Test Methods for Magnetic Output from Handset Telephones for Hearing Aid Coupling

Product

Kind of product: DECT Handset

Product name: Gigaset W570H



This test report is electronically signed and valid without handwritten signature. The public keys can be requested at the test laboratory to verify the electronic signatures.

Test report authorised:

Oleg Fallmann
Radio Communications & EMC

Test performed:

Jörg Langer
Radio Communications & EMC

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2 General information

2.1 Notes and disclaimer

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This test report replaces the test report with the number 1-6814/18-01-14 and dated 2018-11-09

2.2 Application details

Date of receipt of order:	2018-09-26
Date of receipt of test item:	2018-11-08
Start of test:	2018-11-08
End of test:	2018-11-26
Person(s) present during the test:	%

3 Test standard/s

Test standard	Version	Test standard description
FCC - Title 47 CFR Part 68		FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 68 - Requirements and Test Methods for Magnetic Output from Handset Telephones for Hearing Aid Coupling

4 Test environment

Temperature:	18-28°C
Relative humidity content:	40-80%
Atmospheric pressure:	813-1063hPa
Power supply:	230 V / 50 Hz

5 Test laboratories sub-contracted

6 Test setup

6.1 Used Artificial Ears

Test Head Type 1:

Ear Type 1: IEC 60318	
Ear Type 3.2: IEC 60711 + Simplified Pinna Simulator (High Leakage)	
Ear Type 3.2: IEC 60711 + Simplified Pinna Simulator (Low Leakage)	

HATS (Head and Torso Simulator):

Ear Type 3.3: IEC 60711 + Pinna simulator (anatomically shaped)	✓
Ear Type 3.4: IEC 60711 + Pinna simulator (simplified anatomically shaped)	

6.2 Used Audio Codec(s)

Narrowband:

G.711 a-law	
G.711 u-law	✓
G.726	
G.729	

Wideband:

G.722	
G.729.1	

7 Information about product

Kind of product:	DECT Handset
Test Item:	Gigaset W570H
Serial number:	FCC15 # No.8.1
Hardware version:	S30852-Q2757-R301
Firmware version:	BL 81.022.00
Operating mode:	

Additional information:	

8 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

8.1 47 e-CFR Part 68 Requirements Table

No	Test description	Reference 47 e-CFR Part 68	Selected	Verdict
1	Axial Field intensity	68.316 4.2	✓	PASS
2	Radial Field intensity	68.316 4.3	✓	PASS
3	Inducted Voltage Frequency Response	68.316 4.4	✓	PASS
4	Hearing Aid volume control	68.317	✓	PASS
	Total		✓	PASS

8.2 Status Overview

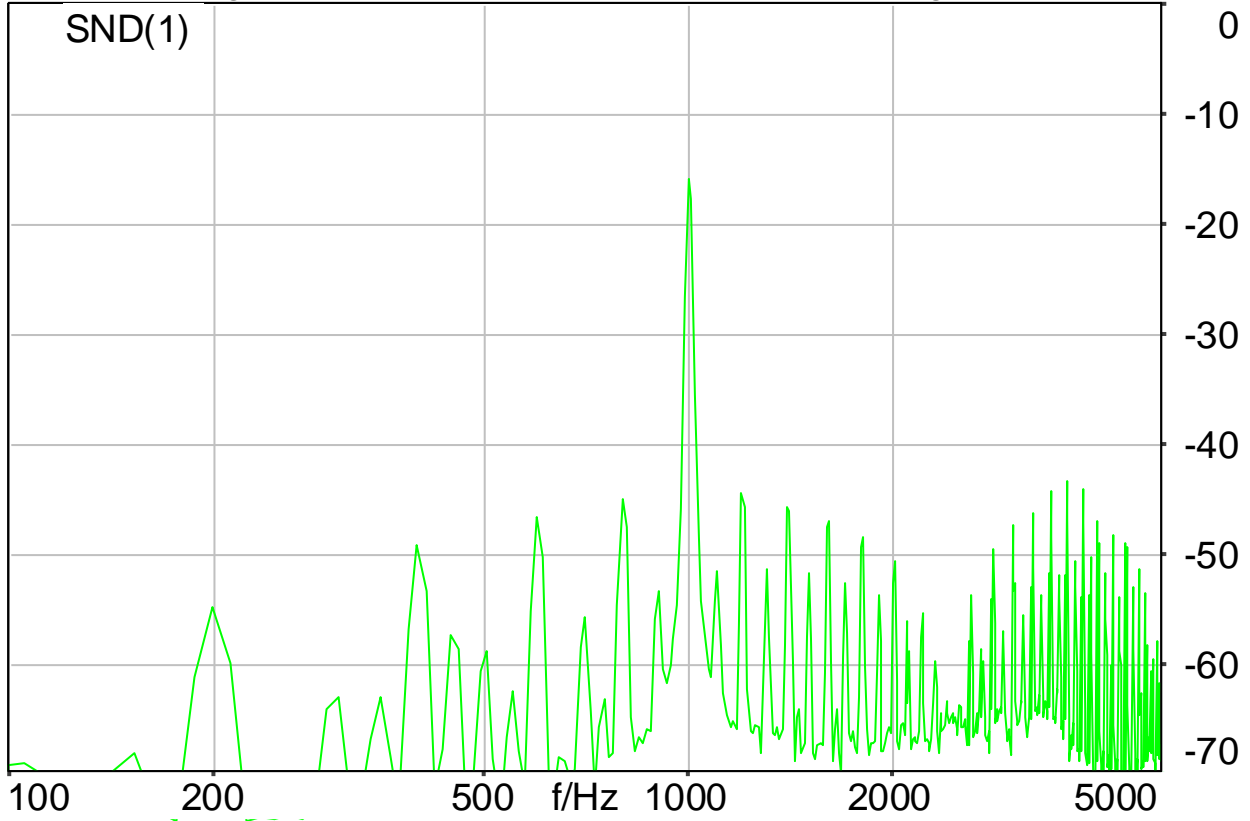
SMD	Status	Single Value Description	Single Value
68.316 4.2 Axial Field Intensity	Ok	Level [dB(A/m)]. 0	-15.24
68.316 4.3 Radial Field Intensity 0 Degree	Ok	Level [dB(A/m)]. 0	-23.08
68.316 4.3 Radial Field Intensity 90 Degree	Ok	Level [dB(A/m)]. 0	-24.54
68.316 4.3 Radial Field Intensity 180 Degree	Ok	Level [dB(A/m)]. 0	-22.43
68.316 4.3 Radial Field Intensity 270 Degree	Ok	Level [dB(A/m)]. 0	-23.12
68.316 4.4 Induced Frequency Response >= -19 dB	Ok	Max. Peak value [dB[V]]. 3328.1 Hz	-23.35
68.316 4.4 Induced Frequency Response rel. to 1kHz	Ok	Min. dist. to tolerance scheme [dB[V]]. 515.6 Hz	1.47
68.317 Volume Control unamplified	Done	RLR [dB]	42.12
68.317 Volume Control maximum	Done	RLR [dB]	24.33
68.317 Calculating maximum Gain	Ok	Calculated Value	17.79

9 Detailed Test Results

68.316 4.2 Axial Field Intensity	9
68.316 4.3 Radial Field Intensity 0 Degree	10
68.316 4.3 Radial Field Intensity 90 Degree	11
68.316 4.3 Radial Field Intensity 180 Degree	12
68.316 4.3 Radial Field Intensity 270 Degree	13
68.316 4.4 Induced Frequency Response ≥ -19 dB	14
68.316 4.4 Induced Frequency Response rel. to 1kHz	15
68.317 Volume Control unamplified.....	16
68.317 Volume Control maximum	17
68.317 Calculating maximum Gain	18

68.316 4.2 Axial Field Intensity

Spectrum avg. FFT Size:4096 Overlap:50,0% Hanning dB(A/m)



Level SND(1): -15.24 dB(A/m) Ok

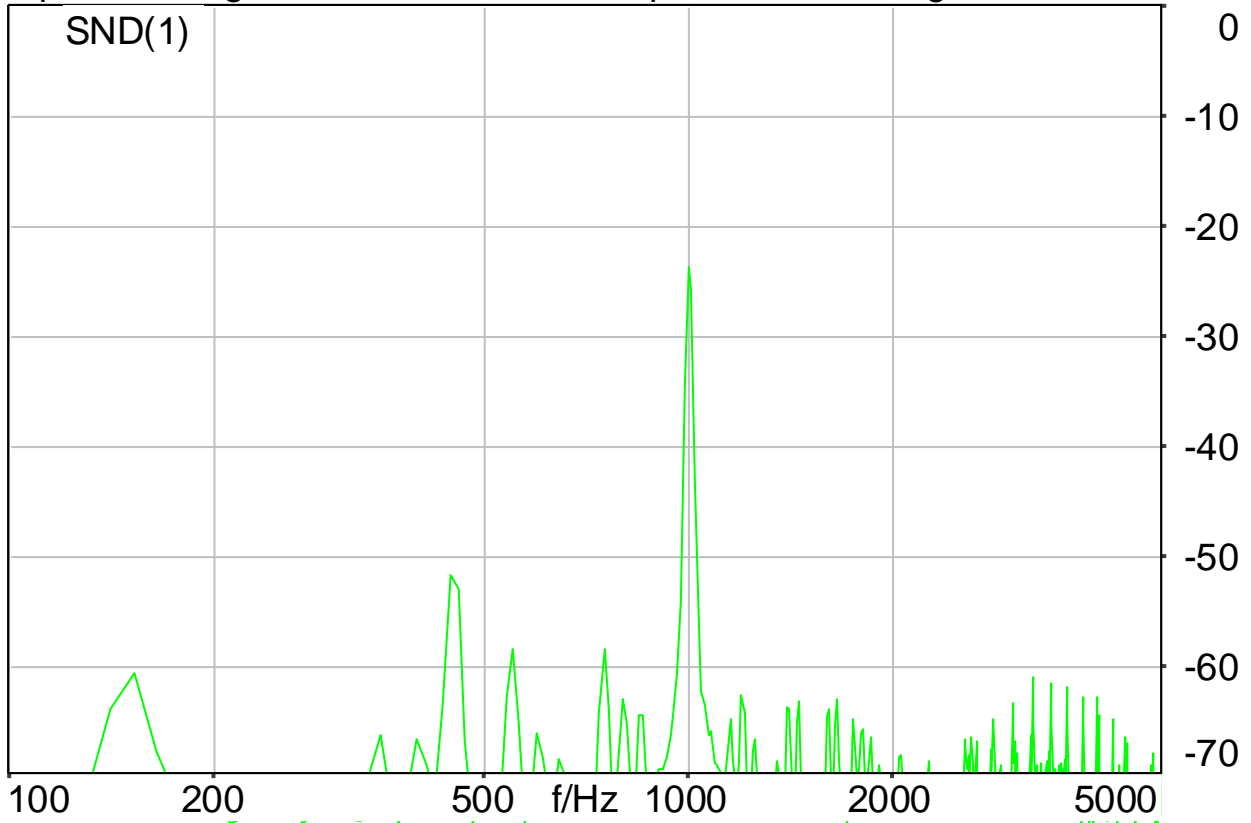
Ok

Limits

	lower
Run 1	-22.00 dB(A/m)

68.316 4.3 Radial Field Intensity 0 Degree

Spectrum avg. FFT Size:4096 Overlap:50,0% Hanning dB(A/m)



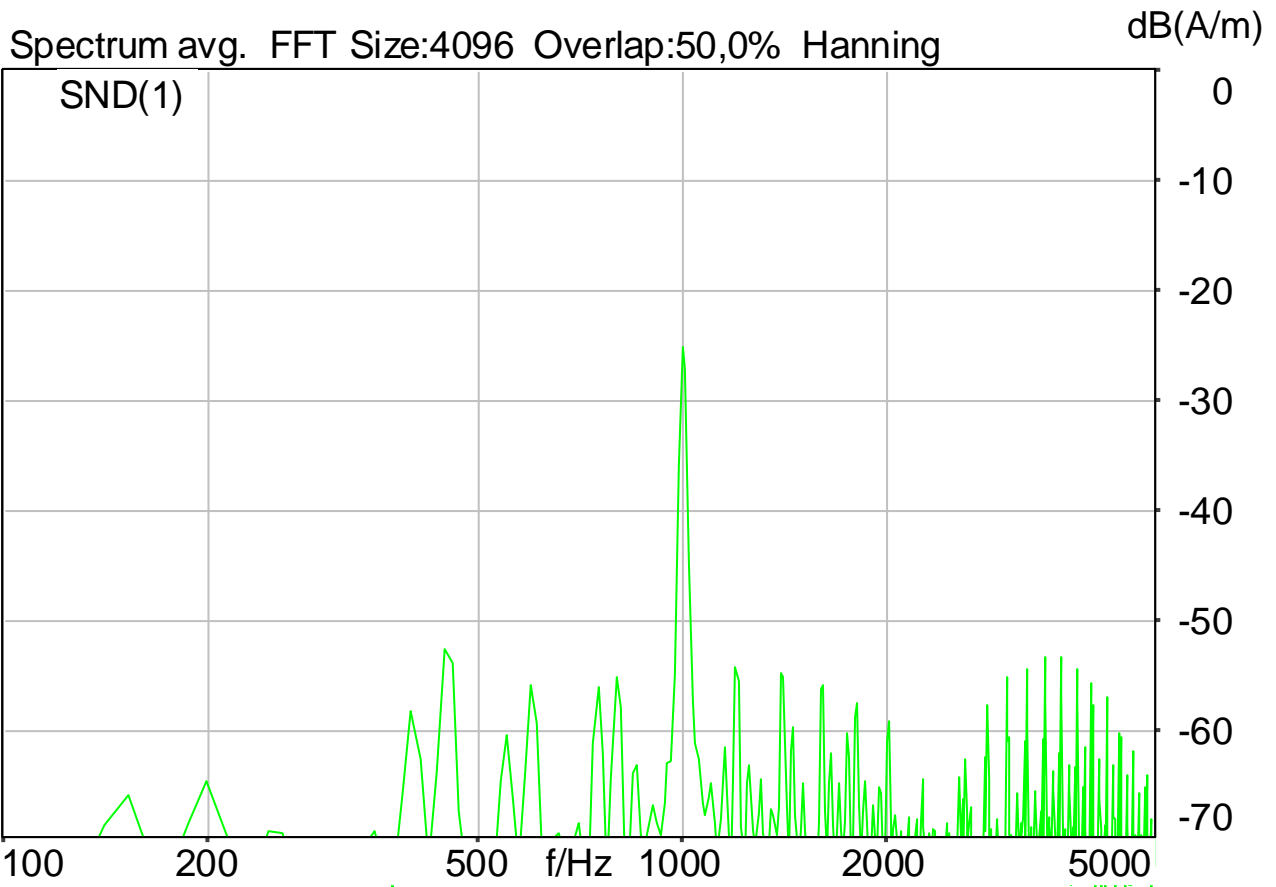
Level SND(1): -23.08 dB(A/m) Ok

Ok

Limits

	lower
Run 1	-27.00 dB(A/m)

68.316 4.3 Radial Field Intensity 90 Degree



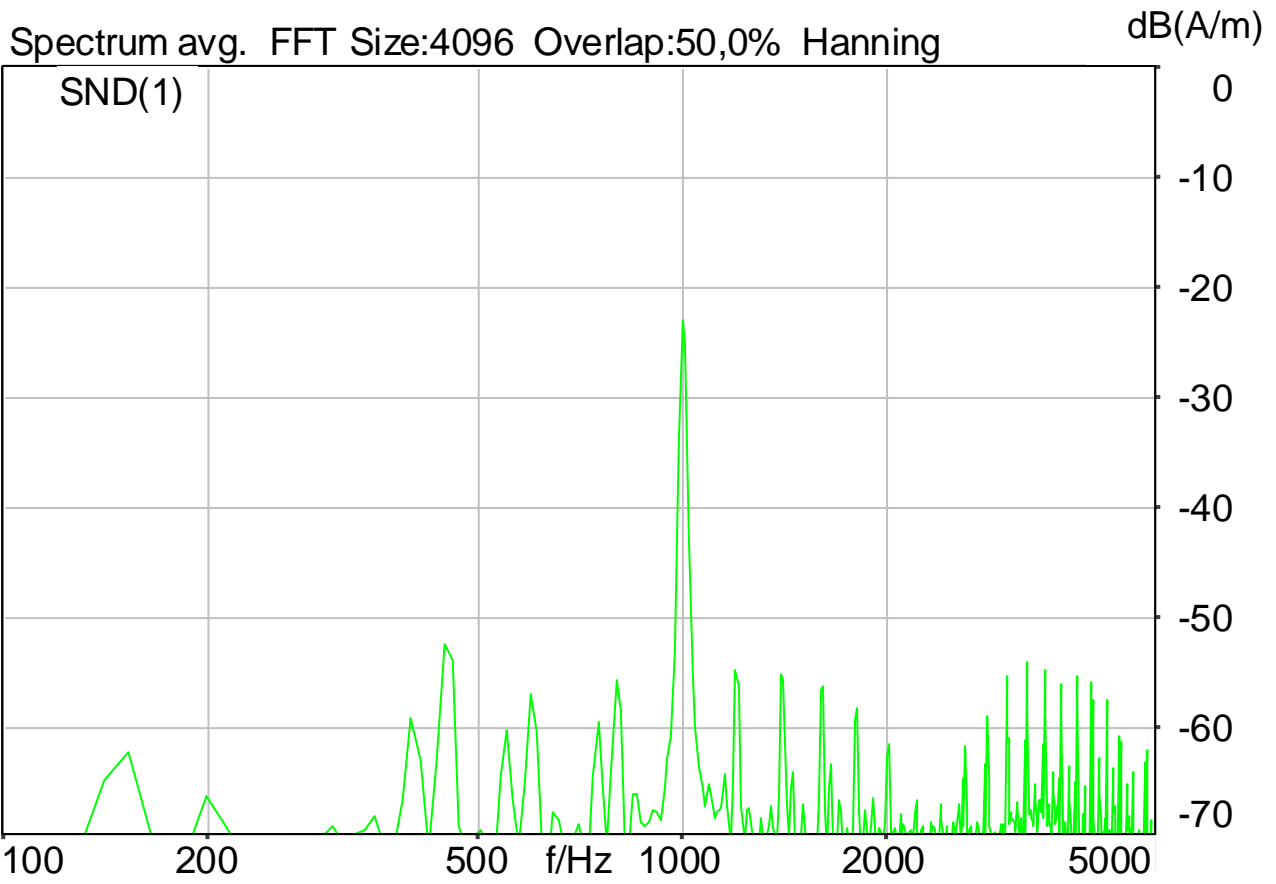
Level SND(1): -24.54 dB(A/m) Ok

Ok

Limits

	lower
Run 1	-27.00 dB(A/m)

68.316 4.3 Radial Field Intensity 180 Degree



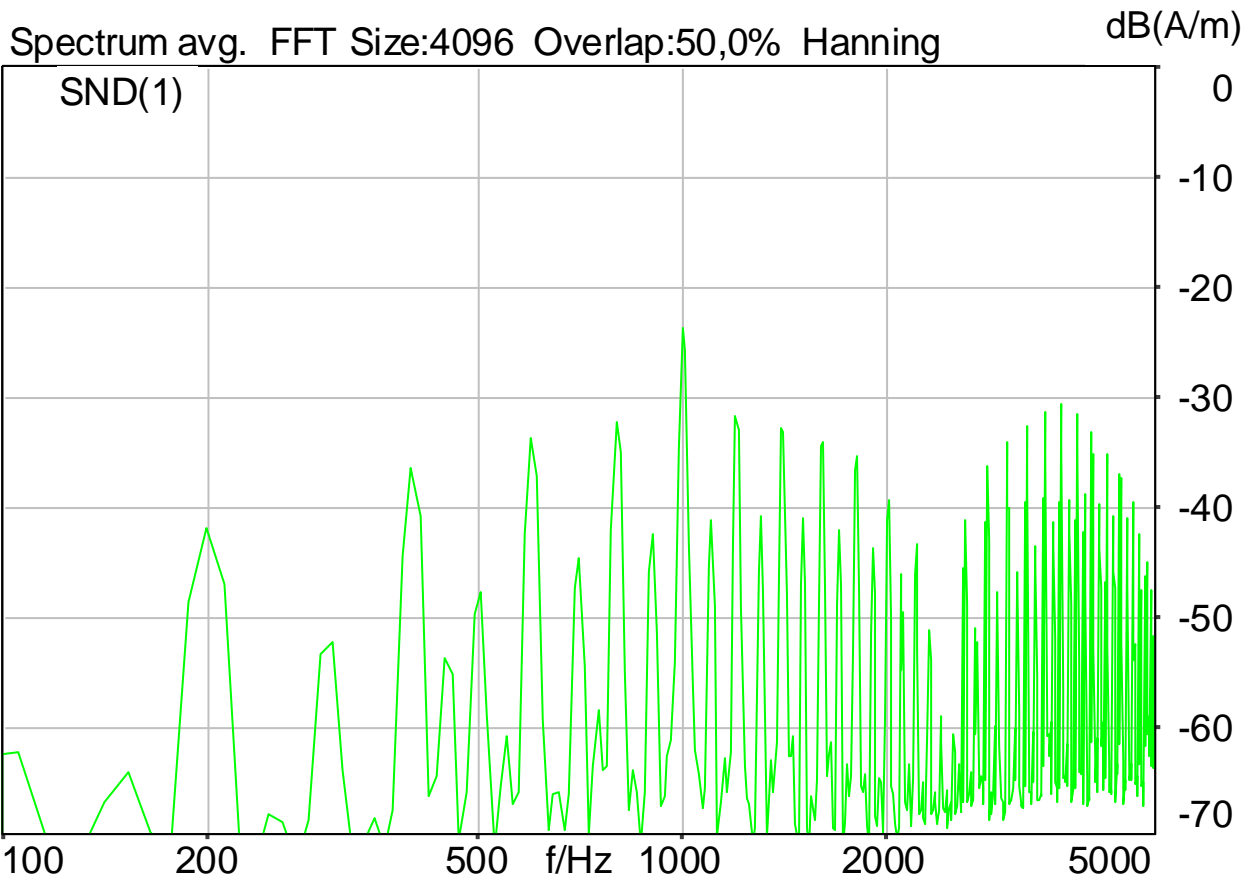
Level SND(1): -22.43 dB(A/m) Ok

Ok

Limits

	lower
Run 1	-27.00 dB(A/m)

68.316 4.3 Radial Field Intensity 270 Degree



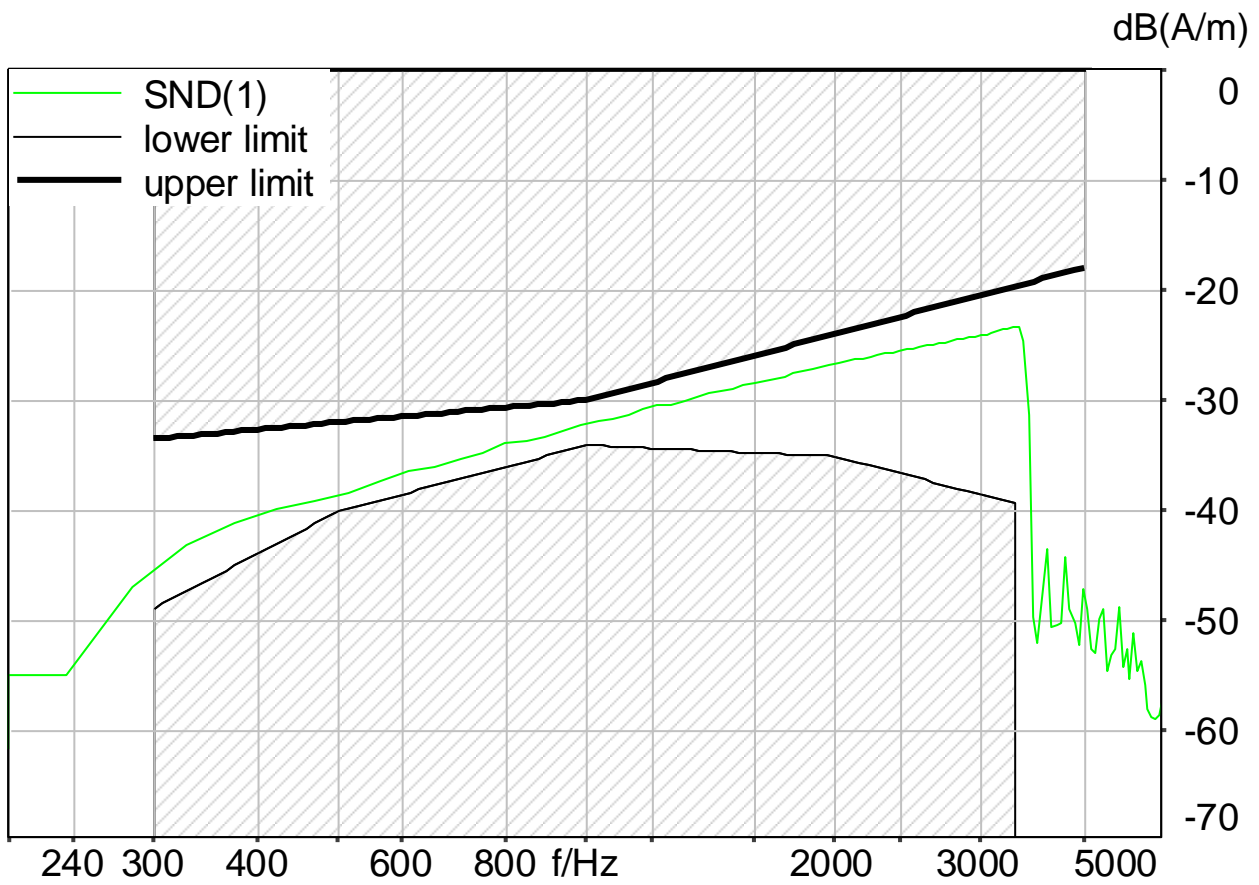
Level SND(1): -23.12 dB(A/m) Ok

Ok

Limits

	lower
Run 1	-27.00 dB(A/m)

68.316 4.4 Induced Frequency Response ≥ -19 dB



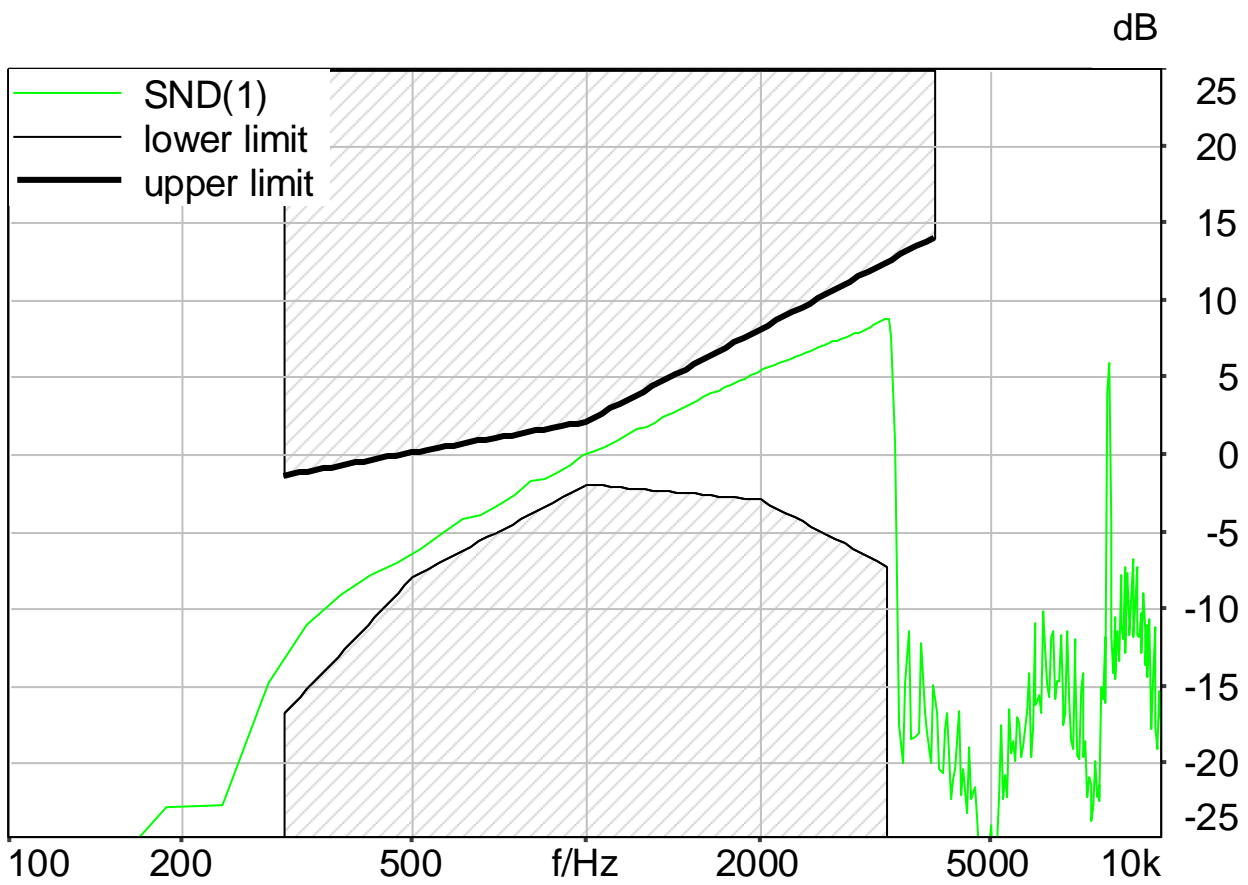
Max. Peak value SND(1): -23.35 dB(A/m) at 3328.1 Hz Ok

Ok

Limits

	upper
Run 1	0.00 dB

68.316 4.4 Induced Frequency Response rel. to 1kHz



Minimal distance to lower limit
1.47 dB at 515.6 Hz

Minimal distance to upper limit
2.05 dB at 984.4 Hz

Absolute minimal distance
1.47 dB at 515.6 Hz Ok

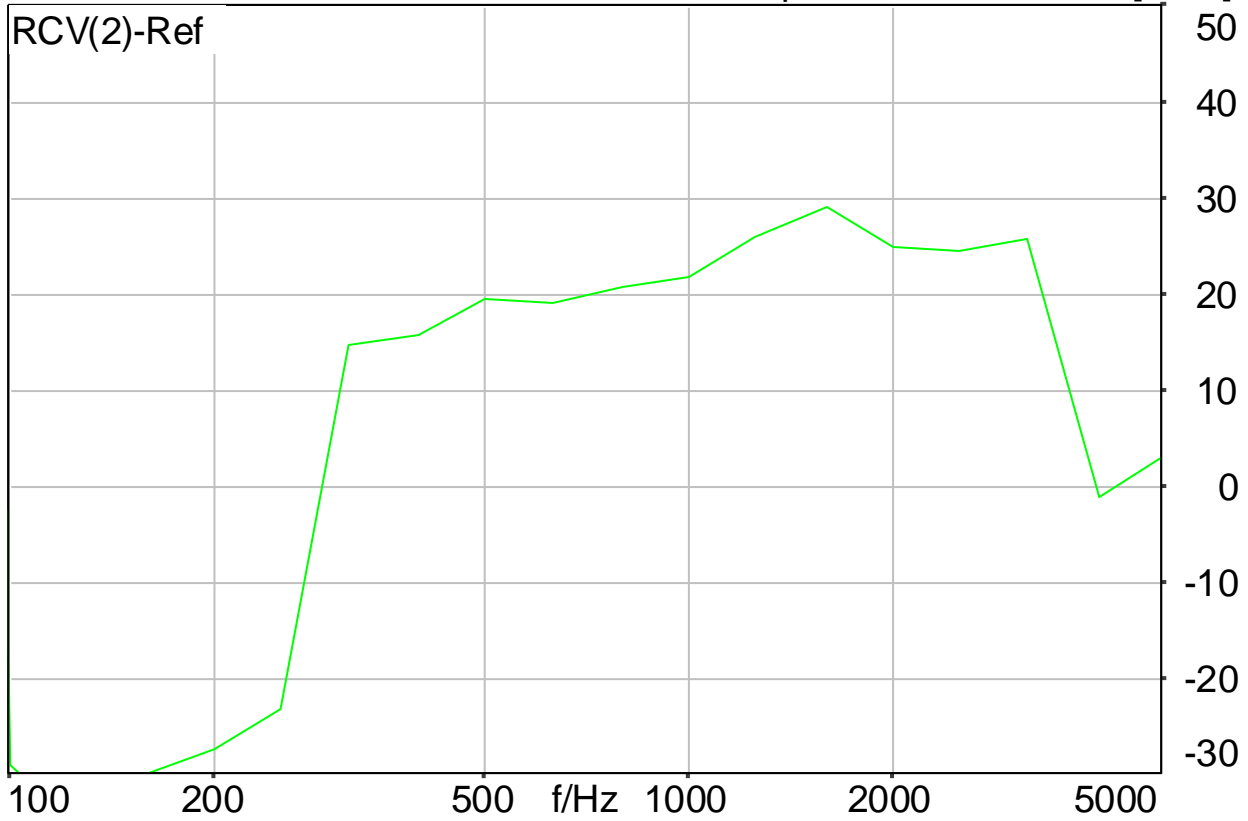
Ok

Limits

	lower
Run 1	Fit into tolerance

68.317 Volume Control unamplified

DRP/ERP 3rd Octave FFT Size:4096 Overlap:66,0% Hannir L/dB[Pa/V]



Correction

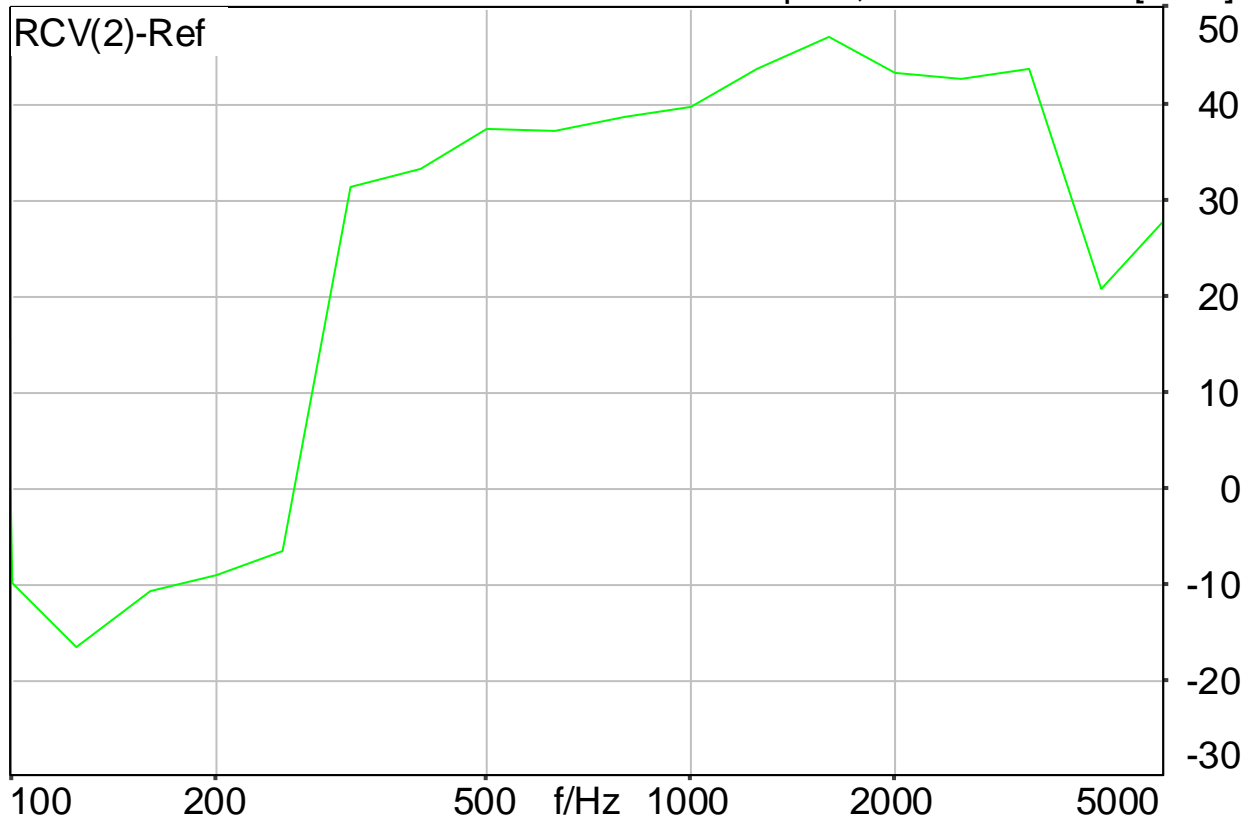
X+51

RLR: -8.88 dB

Corrected RLR: 42.12 dB

68.317 Volume Control maximum

DRP/ERP 3rd Octave FFT Size:4096 Overlap:66,0% Hannir L/dB[Pa/V]



Correction

X+51

RLR: -26.67 dB

Corrected RLR: 24.33 dB

68.317 Calculating maximum Gain

Correction

HS_RLR_max_FCC	24.330 dB	2018-10-26	Measured	68.317 Volume Control maximum
HS_RLR_min_FCC	42.120 dB	2018-10-26	Measured	68.317 Volume Control unamplified

HS_RLR_min_FCC - HS_RLR_max_FCC

Calculated Value: 17.79 Ok

Ok

Limits

	lower	upper
Run 1	12.00 dB	18.00 dB

10 Test equipment and ancillary equipment used for tests

Software:

No.	Name	Manufacturer	Version	Inventory Number
1	ACQUA	HEADacoustics	3.4	300003467
2	HAE-BGN	HEADacoustics	2.1.100	300003820

Used software : 1

Hardware

No.	Description	Manufacturer	Type	Inventory Number
1	Artificial mouth	B & K	4227	300000917
2	Testhead Type 1	B & K	4602	300000960
3	HATS	HEADacoustics	HMS II.3	300003469
4	Acoustic chamber	IAC	1205-A	300000950
5	Reference microphone 2 Microphone cartridge Microphone preamplifier	B&K B&K	4134 2669	400000101 400001241
6	Intern. Feeding bridge	ESP	ISB 1000	300000967
7	Calibrator	B & K	4231	300000970
8	Digital Equalizer	HEADacoustics	PEQ V	300003817
9	Digital Equalizer	HEADacoustics	PEQ V	300003818
10	Digital Equalizer	HEADacoustics	PEQ V	300003819
11	GSM/UMTS Simulator	R&S	CMU 200	300003346
12	Analog USB Front End	HEADacoustics	MFE VI.1	300003824
13	Digital Front End for VoIP	HEADacoustics	MFE VIII	400000362
14	Digital Front End for DECT	HEADacoustics	MFE X	300004015
15	HAC Probe - Axial	Communication Certification Laboratory	Model A-100	400001215-0000
16	HAC Probe - Radial	Communication Certification Laboratory	Model R-100	400001215-0001
17	UMTS /LTE /BT Simulator	R&S	CMW 500	300004187
18	Ear 3.2 ear simulator low leak Ear 3.2 LL Microphone Cartridge Microphone preamplifier	B & K	4195 LL 4192 2669	300000965-0000 300000965-0001 300004570
19	Ear 3.2 ear simulator high leak Ear 3.2 HL Microphone Cartridge Microphone preamplifier	B & K	4195 HL 4134 2669	300001242-0000 300001242-0001 300004570

Used components of test equipment : 3, 4, 5, 12, 14, 15, 16

11 Observations

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

Annex A Photographs of the test set-up

Photo 1: Volume control measurement set-up

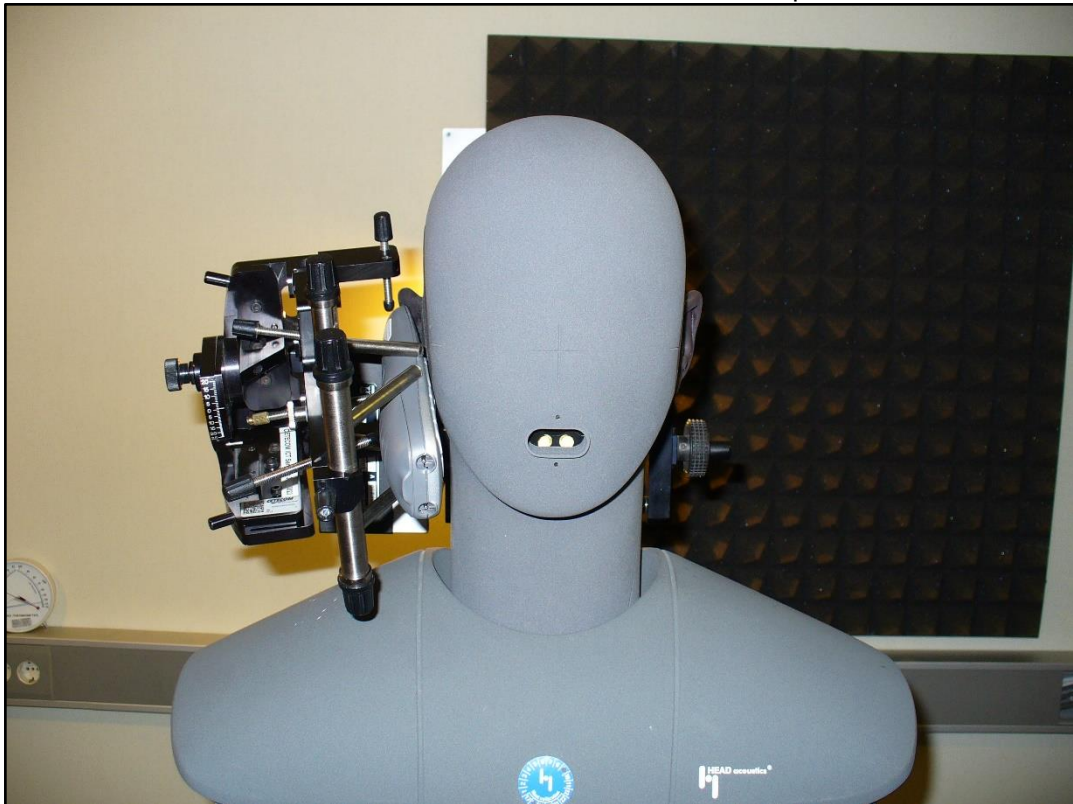


Photo 2: Volume control measurement set-up (close-up)

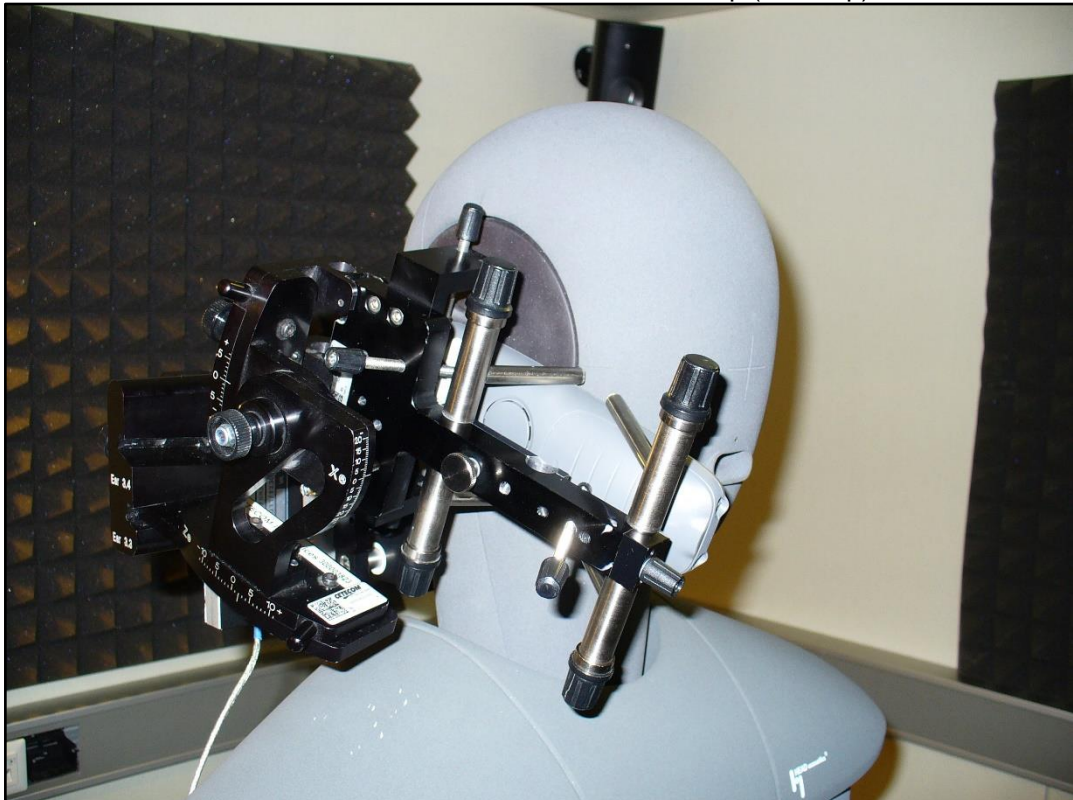


Photo 3: Axial field intensity measurement set-up



Photo 4: Radial field intensity measurement set-up (0 degree)



Annex B Photographs of the EUT

Photo 5: EUT front side



Photo 6: EUT rear side



Annex C Document history

Version	Applied changes	Date of release
---	Initial release	2018-11-09
-A	Revision A: corrected the hardware version This test report replaces the test report with the number 1-6814/18-01-03 and dated 2018-11-09	2019-01-28

Annex D Further information**Glossary**

EUT	-	Equipment Under Test
Inv. No.	-	Inventory number
N/A	-	not applicable
S/N	-	Serial Number
HW	-	Hardware
SW	-	Software
%	-	none