

Sensitivity level

on ear simulator with adapter (plate) and conical ring according to IEC 60318-1:2010*

Frequency in Hz	Mean value on B&K 4153 in dB re 1 Pa/V	Standard deviation in dB
63	34.9	0.58
80	35.6	0.75
100	36.1	0.58
125	36.1	0.88
160	37.2	0.40
200	38.0	0.31
250	38.0	0.67
315	38.6	0.77
400	38.2	1.03
500	37.2	1.05
630	35.4	0.75
750	33.5	0.61
800	32.7	0.53
1000	30.1	0.28
1250	27.5	0.37
1500	25.2	0.26
1600	24.3	0.33
2000	21.1	0.52
2500	20.3	0.54
3000	20.0	0.55
3150	19.8	0.55
4000	16.3	0.46
5000	26.1	0.20
6000	26.4	0.25
6300	26.7	0.36
8000	28.1	1.56
10000	19.4	0.43
12000	24.1	0.81
12500	20.2	0.68
14000	17.5	1.04
16000	16.1	0.85

on 6 ccm coupler according to IEC 60318-3:2010

Mean value on B&K 4152 in dB re 1 Pa/V	Standard deviation
24.5	1.08
27.2	0.90
29.1	0.68
30.5	0.52
31.7	0.41
32.5	0.29
33.1	0.44
34.2	0.27
35.3	0.22
36.3	0.22
37.5	0.28
38.2	0.41
38.4	0.34
38.8	0.61
37.4	0.62
36.0	0.29
35.3	0.20
33.2	0.58
32.0	0.42
29.7	0.36
29.0	0.29
26.7	0.14
27.0	0.36
28.9	0.54
28.3	0.54
18.4	0.74

* measured with additional adapter for a quicker and more accurate positioning on coupler plate
This is optionally available from Sennheiser.

Reference equivalent threshold sound pressure level

on ear simulator with adapter (plate) and conical ring according to IEC 60318-1:2010

Frequency in Hz	Mean value on B&K 4153 in dB re 20 µPa	Standard deviation in dB	Median value *** on B&K 4153 in dB	Interquartile range in dB
125	26.2	3.9	27.0	5.5
250	20.1	3.1	20.0	4.0
500	8.6	4.0	8.0	3.5
750*	5.1		4.5	
1000	2.7	4.6	2.0	4.5
1500	3.2	7.1	3.0	6.5
2000	0.5	4.5	0.0	7.0
3000	-1.6	6.0	-3.0	7.5
4000	0.1	5.4	-0.5	5.5
5000	11.3	4.4	10.5	6.0
6000	20.9	7.2	21.0	7.5
8000	23.1	6.1	23.0	6.0
9000	27.1	5.4	27.5	7.0
10000	18.5	5.7	18.0	6.0
11200	22.9	5.6	22.0	8.5
12500	27.0	5.5	27.0	10.0
14000	32.8	6.9	33.5	7.5
16000	47.7	14.4	45.5	12.5

Reference equivalent threshold sound pressure level

on 6 ccm coupler according to IEC 60318-3:2010

Frequency in Hz	Mean value on B&K 4152 in dB re 20 µPa	Standard deviation in dB	Median value *** on B&K 4152 in dB	Interquartile range in dB
125	22.3	3.9	23.0	5.4
250	14.7	3.1	14.5	4.0
500	7.4	4.0	6.5	3.5
750*	9.5		9.0	
1000	11.0	4.6	10.5	4.0
1500	14.8	7.1	14.5	7.0
2000	12.3	4.5	12.0	7.0
3000	8.0	6.0	6.5	7.5
4000	10.0	5.4	9.5	5.5
5000	12.3	4.4	11.5	6.0
6000	23.0	7.2	23.0	7.5
8000	15.9	6.1	16.0	6.0

* interpolated values
*** rounded to nearest 0.5 dB

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Publ. 09/13, 545390/A01

Difference between free-field sensitivity level G_f and ear simulator sensitivity level G_e
on ear simulator with adapter (plate) and conical ring according to IEC 60318-1:2010

Frequency in Hz	Mean value on B&K 4153 in dB	Standard deviation in dB	Median value*** on B&K 4153 in dB	Interquartile range in dB
100**	-12.6		-12.0	
125	-12.2	4.4	-12.0	5.5
160*	-11.7		-11.5	
200*	-11.3		-11.5	
250	-10.9	3.9	-11.5	4.5
315*	-10.9		-11.0	
400	-11.0	4.3	-10.0	7.0
500	-7.8	3.5	-7.5	3.5
630*	-5.4		-5.0	
800*	-3.0		-3.0	
1000	-0.8	3.4	-1.0	3.5
1250	0.3	4.7	0.0	6.0
1600	-0.7	3.2	-0.5	5.5
2000	-2.1	4.0	-2.0	7.0
2500	-3.0	3.0	-3.0	3.0
3150	-5.2	3.1	-6.0	4.0
4000	-5.4	3.3	-4.5	6.0
5000	-11.7	3.3	-10.5	2.5
6300	-7.5	3.9	-7.0	6.0
8000	-10.1	4.5	-10.0	7.0

Difference between free-field sensitivity level G_f and coupler sensitivity level G_c
on 6 ccm coupler according to IEC 60318-3:2010

Frequency in Hz	Mean value on B&K 4152 in dB	Standard deviation in dB	Median value*** on B&K 4152 in dB	Interquartile range in dB
100**	-5.8		-5.0	
125	-5.8	4.4	-5.5	5.5
160*	-5.7		-5.5	
200*	-5.6		-6.0	
250	-5.6	3.9	-6.0	5.0
315*	-6.3		-6.0	
400	-7.1	4.3	-6.0	7.0
500	-5.7	3.5	-5.0	3.5
630*	-7.2		-7.0	
800*	-8.7		-8.5	
1000	-10.2	3.4	-10.5	4.0
1250	-11.3	4.7	-11.5	6.0
1600	-13.4	3.2	-13.5	5.0
2000	-14.8	4.0	-15.0	5.5
2500	-15.2	3.0	-15.0	3.0
3150	-14.6	3.1	-15.5	4.0
4000	-14.0	3.3	-13.0	6.0
5000	-13.5	3.3	-12.0	2.0
6300	-9.2	3.9	-8.5	6.0
8000	-3.3	4.5	-3.0	7.0

* interpolated values
** extrapolated value
*** rounded to nearest 0.5 dB

Passive Attenuation

according to ISO 4869-1:1994 / EN 24869-1:1993

Frequency in Hz	Mean value in dB
63	12.5
125	12.4
250	12.7
500	9.4
1000	12.8
2000	15.1
4000	28.8
8000	26.2

Measuring conditions

Temperature: 22 °C

Relative humidity: 50 %

Standards

Headphones comply with IEC 60645-1, IEC 60645-2, ANSI S3.6-2010