

Hearing Protective Device Test Report Number Q2230A Revision 0

Libus
Attn: Lucas Argul
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Buenes Aires
Argentina

Date of Report: 8/6/10
Sample Receipt: 8/2/10
Test Dates: 8/2/10-8/6/10



Lab Code 100427-0

Attenuation measurements have been performed according to the American National Standards Institute ANSI S3.19-1974, on the Libus L-360 earmuff Version 2 (test ID Q2230A). For the attenuation testing, the specified threshold measurement data were obtained using ten normally-hearing listeners, six male and four female.

The attenuation measurements were made in a room designed for this purpose. All acoustic characteristics of the room meet the requirements outlined in ANSI S3.19-1974. The ambient noise levels in this room are below the limits specified in ANSI S3.19-1974, and open ear thresholds are used on a continuing basis to monitor the background noise levels. An automatic recording attenuator was used to record both open and occluded ear thresholds.

Each subject was tested at each of nine test frequencies. The attached Tables show grand mean attenuation values in decibels (dB) for each test signal along with group attenuation values. Standard deviations (S.D.) for each of the seven test frequencies are also given. The results presented in this report pertain to the samples tested only.

Michael & Associates is accredited by the United States National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP) for tests performed according to American National Standards Institute (ANSI) S3.19-1974, ANSI S12.6-2008 and Standards Australia AS/NZ S1270:2002. These accreditation criteria encompass the requirements of ISO 17025. This report may only be reproduced or transmitted electronically in its' entirety. This report shall not be used to claim product endorsement by NVLAP or by any agency of the U.S. Government. All measurement equipment are calibrated with instrumentation traceable to the NIST.

Use these laboratory-derived attenuation data for comparison purposes only. The amount of protection afforded in field use is often significantly lower depending on how the protectors are fitted and worn.

A handwritten signature in cursive script, appearing to read 'Kevin Michael', is written over a horizontal line.

Kevin Michael, Ph.D.
President

A handwritten date '8/6/10' is written in cursive script over a horizontal line.

Date

Individual and Summary Attenuation Data for
Hearing Protective Devices

Test Method: ANSI S3.19-1974
 Manufacturer Libus
 Model: L-360 Muff (Version 2)

Position: Over-the-head
 Date: 8/6/2010
 Test ID # Q2230A

SUBJECT	FREQUENCY IN HERTZ								
	125	250	500	1000	2000	3150	4000	6300	8000
1	29	29	43	41	43	44	44	42	49
	26	29	44	43	43	44	45	43	50
	28	31	44	41	42	41	47	45	49
2	19	27	34	42	44	41	41	43	44
	19	26	34	42	43	42	42	44	41
	20	28	33	41	43	42	41	42	43
3	20	29	37	43	35	40	40	44	41
	23	28	41	40	32	38	39	45	39
	20	25	39	44	35	41	37	45	40
4	24	28	34	40	34	41	41	39	38
	23	29	34	42	36	41	41	38	35
	25	28	34	40	35	40	42	40	39
5	31	29	35	41	36	43	49	46	47
	27	29	38	46	40	45	50	47	51
	26	29	38	44	40	48	51	46	50
6	21	27	33	40	37	39	43	37	40
	20	26	32	38	42	41	41	39	39
	24	26	35	35	42	40	42	38	39
7	24	26	33	42	40	40	37	36	39
	22	26	32	41	39	39	41	38	41
	27	27	39	41	39	39	39	38	37
8	24	27	35	38	36	35	37	38	38
	22	28	36	40	36	38	41	41	37
	21	26	37	38	38	36	39	39	37
9	19	28	33	42	37	38	35	35	36
	20	25	35	41	37	36	39	36	36
	20	29	35	34	39	35	35	36	37
10	23	23	31	40	41	41	40	35	36
	18	22	31	36	41	43	40	36	37
	24	22	30	40	41	45	38	39	38
MEANS	22.9	26.9	35.7	40.5	38.8	40.5	41.2	40.3	40.7
STD. DEV.	3.2	2.2	3.6	2.6	3.2	3.0	3.9	3.8	4.8

NRR = 29 dB

Use these laboratory-derived data for comparison purposes only. The amount of protection afforded in field use is often significantly lower depending on how the protectors are fitted and worn.

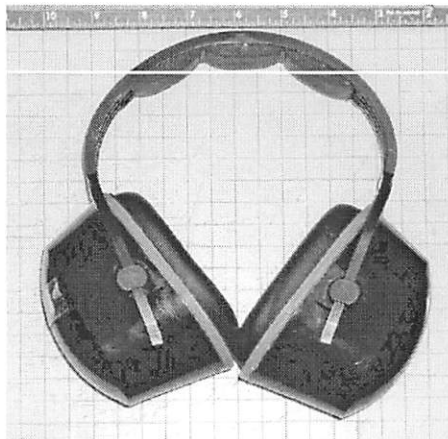
Manufacturer: Libus
Model: L-360 Muff (Version 2)
Position: Over-the-head

Date: 8/6/2010
Test ID: Q2230A

Measurements were made according to American National Standards Institute Specifications ANSI S3.19-1974.

Center Frequency in Hz	Mean Attenuation in dB	Group Attenuation in dB	Standard Deviation in dB
125	22.9	49.8	3.2
250	26.9		2.2
500	35.7		3.6
1000	40.5		2.6
2000	38.8	196.6	3.2
3150	40.5		3.0
4000	41.2		3.9
6300	40.3	81.0	3.8
8000	40.7		4.8

Test Item: Q2230A



These data were obtained through measurements made at the laboratories of Michael & Associates, Inc., State College, PA, USA. Michael & Associates, Inc., is accredited to test to ANSI S3.19-1974, ANSI S12.6-2008 and AS/NZS 1270:2002 by the National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP).

Kevin L. Michael, Ph.D.
President

Date