

Hearing Protective Device Test Report Number Q7492A Revision 0

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Date of Report: 7/26/22
Date of testing: 5/10/22-5/20/22
Date of Sample Receipt: 5/5/22


Attenuation measurements have been performed according to the American National Standards Institute (ANSI) Specifications, ANSI S3.19-1974, using the experimenter-fit protocol, on the Libus Passive Earmuff mounted on a Libus Millenium helmet (test ID Q7492A). The specified threshold measurement data were obtained using ten normally-hearing listeners, six male and four female. These listeners were selected from a standby group of about 35 volunteers who regularly serve as listeners for measurements of this kind.

The 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.

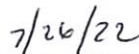
Each of ten subjects was tested three times at each of nine test frequencies. The attached Tables show grand mean attenuation values in decibels (dB) for each test signal along with group attenuation values. Standard deviations (S.D.) for the 30 different attenuation determinations for each test signal are also given. The results presented in this report pertain to the samples tested only.

Michael & Associates is accredited by the National Institute of Standards and Technology (NIST) National Laboratory Accreditation Program (NVLAP) for tests performed according to ANSI S3.19-1974, ANSI S12.6-2016, AS/NZ S1270:2002 and EN352 parts 1-8. These accreditation criteria encompass the requirements of international standard ISO 17025. This report may only be reproduced or transmitted electronically in its' entirety. This report shall not be used to claim product approval, certification or endorsement by NIST, NVLAP or by any agency of the U.S. Government. All measurement equipment are calibrated with instrumentation traceable to the NIST. Accreditation documentation can be viewed at www.michaelassociates.com/data/documents/NVLAP-2022.pdf.

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.



Kevin Michael, Ph.D., President



Date

**Individual and Summary Attenuation Data for
Hearing Protective Devices**

Test Method: ANSI S3.19-1974

Position: Cap-mount

Manufacturer: Libus

Date: 7/26/22

Model: Passive earmuff on Libus Millenium helmet

Test ID: Q7492A

SUBJECT	Frequency in Hz								
	125	250	500	1000	2000	3150	4000	6300	8000
1	20	26	27	35	35	30	35	36	35
	25	26	27	36	37	32	40	39	37
	19	23	27	36	38	31	40	39	37
2	11	18	29	33	37	36	39	35	37
	18	20	27	31	36	36	39	41	40
	14	18	26	34	38	37	39	40	40
3	22	25	28	35	35	35	34	38	37
	19	24	27	33	35	35	36	38	39
	19	22	26	34	36	37	35	38	37
4	23	24	28	31	34	39	37	40	32
	14	18	25	34	36	43	37	37	35
	17	23	28	34	33	40	40	42	36
5	20	23	28	34	32	36	39	37	34
	16	20	29	31	34	35	36	36	32
	15	23	29	29	35	34	34	38	33
6	25	26	31	35	36	36	44	45	47
	23	26	30	35	35	37	42	43	47
	24	25	30	36	38	35	44	43	45
7	22	26	29	33	31	39	34	44	42
	19	26	29	37	33	33	34	47	40
	20	27	28	34	28	30	37	45	41
8	15	20	23	30	34	35	32	31	32
	16	18	23	28	31	38	33	33	32
	16	19	24	28	34	36	34	34	33
9	17	20	25	38	35	39	40	38	33
	13	17	24	36	34	35	38	34	32
	20	20	24	36	34	39	40	38	37
10	20	20	27	30	32	29	31	34	35
	14	16	22	29	33	31	32	34	34
	16	19	24	28	38	31	34	34	35
MEANS	18.4	21.9	26.8	33.1	34.7	35.1	36.9	38.4	36.8
STD. DEV.	3.7	3.3	2.4	3.0	2.2	3.4	3.4	4.0	4.3

CSA Class = A

NRR = 23 dB

Headband Force = 2.1 lbs

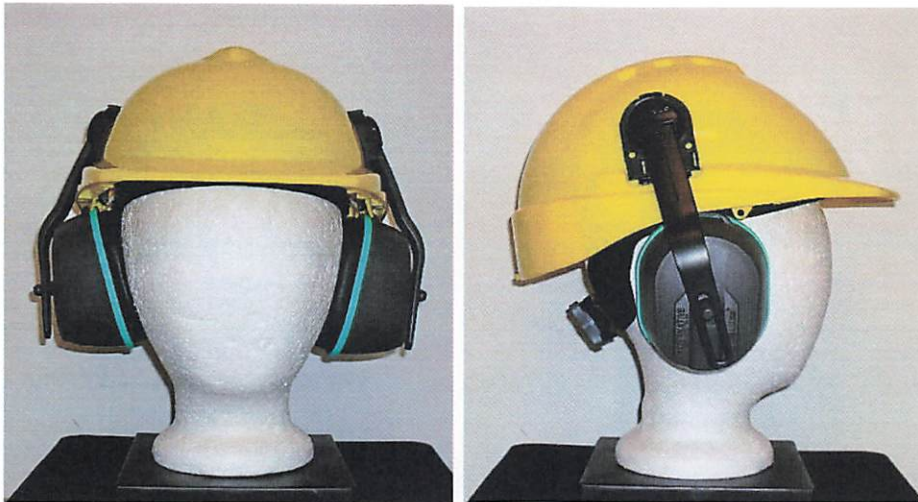
Use these laboratory-derived data for comparison purposes only. The amount of protection afforded in field use is often significantly lower depending on how the protectors are fitted and worn.

Manufacturer: Libus Date: 7/26/22
Model: Passive earmuff on Libus Millenium helmet
Position: Cap-mount Test ID: Q7492A

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

Special considerations during test: None

Test Item: Q7492A



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 S12.6-2016, ANSI S12.42-2010, EN352 parts 1-8 and AS/NZ S1270:2002 by the National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP).

K Michael
Kevin L. Michael, Ph.D.
President

7/26/22
Date