

Hearing Protective Device Test Report Number Q8409A Revision 0

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Technician: Eileen Kline

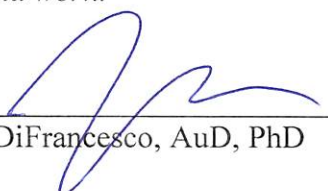
Attenuation measurements have been performed according to the American National Standards Institute (ANSI) Specifications, ANSI S3.19-1974, using the experimenter-fit protocol, on the Libus L-360 earmuffs mounted on a Libus Milenium helmet (test ID Q8409A). The specified threshold measurement data were 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.

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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.


Jackie DiFrancesco, AuD, PhD

9/22/23
Date

Individual and Summary Attenuation Data for Hearing Protective Devices

Test Method: ANSI S3.19-1974

Manufacturer: Libus

Model: L-360 on Libus Millenium helmet

Position: Helmet-mount

Date: 9/22/23

Test ID: Q8409A

SUBJECT	Frequency in Hz								
	125	250	500	1000	2000	3150	4000	6300	8000
1	19	27	33	41	37	42	41	40	30
	18	25	30	42	41	37	41	38	28
	16	21	33	42	40	36	37	35	30
2	30	28	37	40	35	32	33	34	43
	30	28	34	41	36	33	35	38	43
	31	29	38	42	38	35	36	37	43
3	30	30	31	38	35	33	34	38	39
	23	30	30	40	34	32	34	37	35
	21	28	31	38	36	33	37	37	34
4	27	31	33	42	34	33	43	44	41
	25	31	31	42	35	33	43	44	39
	25	28	31	42	36	34	45	44	39
5	24	29	30	38	35	34	35	37	30
	26	31	31	38	32	35	35	38	32
	21	27	34	41	34	35	36	37	31
6	21	25	33	38	38	35	37	35	38
	21	25	32	38	37	35	35	37	33
	19	22	30	37	38	34	36	37	36
7	24	24	27	42	31	28	30	31	30
	19	25	26	40	34	28	32	29	28
	21	24	28	39	37	29	31	31	30
8	25	23	27	32	35	32	34	32	28
	24	23	29	34	35	34	32	29	29
	26	24	28	35	35	33	34	30	29
9	32	29	26	27	25	36	42	45	43
	33	29	28	24	29	35	41	46	43
	32	31	29	26	29	38	42	46	42
10	20	23	27	37	32	41	38	34	38
	20	21	25	34	31	41	37	33	35
	20	23	27	36	30	40	37	32	31
MEANS	24.0	26.5	30.2	37.5	34.4	34.5	36.7	36.8	34.9
STD. DEV.	4.7	3.2	3.1	4.9	3.4	3.5	3.9	5.1	5.5

NRR = 24 dB

CSA Class = AL

Headband Force = 2.4 lbs

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Manufacturer: Libus
Model: L-360 on Libus Millenium helmet
Position: Helmet-mount

Date: 9/22/23
Test ID: Q8409A

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

Special considerations during test: None

Test Item: Q8409A



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).