

Hearing Protective Device Test Report Number Q3111A Revision 0

Elvex, Inc.
Attn: Fred Ravetto
13 Trowbridge Drive
Bethel, CT 06801

Date of Report: 12/4/13
Date of Sample Receipt: 11/21/13
Date of Sample Test: 11/22/13-12/3/13
Lab code 100427-0



Attenuation measurements have been performed according to the American National Standards Institute (ANSI) Specifications, ANSI S3.19-1974, using the Method A protocol, on the Elvex Quattro insert-type hearing protector (test ID Q3111A). The specified threshold measurement data were obtained using five female and five male normally-hearing listeners. These listeners were selected randomly as specified in ANSI S3.19-1974.

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 the 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 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 AS/NZ S1270:2002, ANSI S3.19-1974, ANSI S12.6-2008 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 endorsement by NVLAP or by any agency of the U.S. Government.

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 black ink, appearing to read 'Kevin Michael'.

Kevin Michael, Ph.D., President

A handwritten date in black ink, '12/4/13'.

Date

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

Test Method: ANSI S3.19-1974
 Manufacturer: Elvex
 Model: Quattro

Position: Insert
 Date: 12/4/13
 Test ID # Q3111A

SUBJECT	FREQUENCY IN HERTZ								
	125	250	500	1000	2000	3150	4000	6300	8000
1	42	40	38	40	40	37	37	46	44
	41	38	42	46	39	36	30	38	38
	34	36	39	43	40	37	35	42	44
	33	30	33	30	34	40	37	41	45
2	37	32	37	37	40	45	41	43	47
	34	30	31	29	40	40	41	43	47
	42	42	38	34	42	41	44	41	48
3	41	36	39	34	39	43	43	44	49
	43	36	37	32	39	43	42	43	49
	44	40	40	39	34	41	40	45	43
4	34	34	40	34	33	36	35	43	45
	35	38	39	35	33	36	36	43	44
	40	38	41	39	41	49	46	46	55
5	39	35	39	39	42	48	45	46	54
	37	39	39	38	39	48	47	47	58
	33	28	29	32	31	33	33	33	41
6	28	27	27	32	29	33	33	34	40
	32	28	29	31	32	34	32	36	40
	34	31	37	42	38	37	37	41	47
7	35	30	37	40	35	40	36	40	47
	32	30	35	40	37	39	35	40	46
	34	29	30	34	40	40	41	42	42
8	36	32	31	34	41	39	37	43	44
	32	29	29	30	40	39	40	44	43
	34	29	33	35	39	40	41	41	46
9	33	29	36	33	39	41	41	42	46
	30	26	31	30	40	40	40	42	46
	35	39	40	42	37	43	40	41	45
10	34	33	37	41	36	40	38	40	40
	34	34	39	40	34	42	39	39	45
MEANS	35.7	33.2	35.7	36.1	37.5	39.9	38.8	41.6	45.5
STD. DEV.	4.1	4.6	4.3	4.5	3.5	4.1	4.3	3.3	4.4

NRR = 27 dB

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Manufacturer: Elvex
Model: Quattro
Position: Insert

Date: 12/4/13
Test ID: Q3111A

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	35.7	68.9	4.1
250	33.2		4.6
500	35.7		4.3
1000	36.1		4.5
2000	37.5	188.1	3.5
3150	39.9		4.1
4000	38.8		4.3
6300	41.6	87.1	3.3
8000	45.5		4.4

Test Item: Q3111A



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, 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).

Kevin L. Michael, Ph.D.
President

Date