

Prepared  
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Information Class

Title

**Test report for Ear classic in combination with ComTac XP****Contents**

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## Document history

Issue	Date	Comment	Author
-	2012-01-16	First edition	IKB/Pierre Hagström

## 1 Summary

Ear classic ear plug in combination with ComTac XP headband earmuff have been tested for sound attenuation.

**Test result:** The combination passed the test.



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## 2 Identification

Order number: 14262-11006

Company/Customer: 3M Svenska AB

Manufacturer: 3M Svenska AB

Type, designation: Ear classic, ComTac XP MT17H682FB-\*\*

Type of hearing protector: Ear plug(Ear classic) and Headband earmuff (ComTac XP)

Date of arrival: 2011-12-07

Date of test: 2011-12-08 – 2011-12-19

Tester(s): IKB/Pierre Hagström

## 3 Validity of Test Report

- The test results apply to the tested objects only

## 4 Tests and test results

### 4.1 Issue verification of standard

The test has been performed according to EN 352-1:2002 para 4.3.12 and EN 352-2:2002 para 4.3.6.

### 4.2 Unpacking and conditioning

(EN 352-1 para 4.3.1; EN 13819-1 para 4.1.3.2; 4.1.3.5)  
≥ 4 h in 22±5 °C, and ≤85 % relative humidity.

Test result: Ok

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### 4.3 Sound attenuation

(EN 352-1 para 4.3.12 and EN 352-2 para 4.3.6; EN 13819-1 para 5.1.3.11; EN 13819-2 para 4.2)

The assumed protection values, APV ( $=M_f - s_f$ ), of the ear-muffs shall be not less than the values given in Table 1 of EN 352-2, also presented below.

$M_f$  are the mean attenuation data and  $s_f$  the standard deviations as measured in accordance with EN 13819-2:2002.

Frequency in Hz	125	250	500	1000	2000	4000	8000
$(M_f - s_f)$ in dB	5	8	10	12	12	12	12

Frequency in Hz	63	125	250	500	1000	2000	4000	8000
Mean att	33,6	35,5	40,8	51,4	44,7	37,0	48,1	44,8
Stand dev	4,4	5,8	5,0	6,6	4,8	3,6	4,9	4,8
APV	29,1	29,7	35,8	44,9	40,0	33,5	43,3	40,0

**Test result:** Pass

#### HML and SNR values

<b>H</b>	<b>M</b>	<b>L</b>	<b>SNR</b>
36	38	36	39

The complete test results from the Sound Attenuation measurement are shown in Appendix 1.

## 5 Measurement uncertainty

(EN 352-1 Annex A)

Information given in the document AcuLab/2006:0009C

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Combitech AB

*Pär Säterlid*.....

Pär Säterlid  
Laboratory manager

Date *16th January 2012*

*Pierre Hagström*.....

Pierre Hagström  
Testing officer

Date *16th January 2012*

Date  
16th January 2012

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## 6 Appendix 1 Sound attenuation

The measured sound attenuation per person, mean and standard deviation can be viewed in Table 1.

**Table 1 Sound Attenuation**

<b>Freq(Hz)</b>	<b>63</b>	<b>125</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>	<b>8000</b>
Subjective 16	30,52	32,7	36,1	44,05	47,62	39,7	54,23	44,51
Subjective 15	35,23	26,85	39,55	41,32	43,97	37,25	51,77	44,8
Subjective 14	33,92	36,17	43,25	51,13	43,45	37,83	48,87	49,23
Subjective 13	32,22	34,42	35,25	45,72	41,92	38,25	45,35	40,97
Subjective 12	40,47	40,1	44,77	57,76	39,58	33,93	40,95	35,45
Subjective 11	32,9	35,05	42,45	54,3	40,45	44,3	50,85	48,17
Subjective 10	34,8	37,55	46,13	56,6	44,47	35,5	53,37	46,75
Subjective 9	38,25	45,32	47,56	61,98	53,47	34,43	51,08	42,52
Subjective 8	32,18	34,65	37,37	45,03	39,95	33,78	41,11	45,02
Subjective 7	25,4	25,78	32	44,95	39,48	36,7	47,73	46,62
Subjective 6	31,8	26,95	37,08	52,22	51,33	30,9	40,98	34,55
Subjective 5	26,14	36,9	45,18	56,35	40,9	42,28	43,78	44,83
Subjective 4	30,85	39,6	36	55,5	49,13	38,55	53,45	51,91
Subjective 3	32,85	33,15	37,64	42,1	40,6	35,05	47,55	45,6
Subjective 2	39,05	37,7	44,92	56,55	51	33,33	44,55	44,8
Subjective 1	40,34	45,45	47,83	57,3	48,65	40,9	54,48	51,82
<b>Mean Att.</b>	<b>33,56</b>	<b>35,52</b>	<b>40,82</b>	<b>51,43</b>	<b>44,75</b>	<b>37,04</b>	<b>48,13</b>	<b>44,85</b>
<b>Std. Dev</b>	<b>4,44</b>	<b>5,79</b>	<b>5,00</b>	<b>6,57</b>	<b>4,76</b>	<b>3,57</b>	<b>4,87</b>	<b>4,84</b>