

# EU Type Examination Certificate

This is to certify that:

3M United Kingdom Plc  
3M Centre  
Cain Road  
Bracknell  
RG12 8HT  
United Kingdom

Holds Certificate Number:

CE 773234

In respect of:

**Personal hearing protection to EN 352-2:2020 - Earplugs**  
**Models: E-A-Rcaps™, 1310, E-A-R™ Caboflex™**

on the basis that BSI carried out the relevant Type Examination procedures under the requirements with the Regulation (EU) 2016/425 of the European Parliament and Council relating to Personal Protective Equipment Regulation (PPE) Annex V (Module B) and meets the relevant health and safety requirements specified in Annex II

For and on behalf of BSI, a Notified  
Body for the above Regulation  
(Notified Body Number 2797):

Drs. Dave Hagenaaars, Managing Director

First Issued: 2022-10-14  
Latest Issue: 2022-10-14

Effective Date: 2022-10-14  
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Page: 1 of 6



# EU Type Examination Certificate

No. CE 773234

## Product Specification

**Product Name:** 3M™ Banded Earplugs  
**Product Type:** Hearing Protectors – Earplugs  
**Model:** E-A-Rcaps™  
1310  
E-A-R™ Caboflex™

**Technical Specification:** Harmonized European Standard EN 352-2:2020

**Product Description:** The E-A-Rcaps and 1310 are fitted with semi-aural eartips designed to seal the entrance part of the ear canal to protect against hazardous noise and loud sounds. The Caboflex are fitted with tapered eartips designed for insertion into the ear canal. All eartips are replaceable.

## EN 352-2 Classifications:

E-A-Rcaps	Reusable band with disposable eartips	Under-the-chin (U-T-C)
1310	Reusable band with disposable eartips	Behind-the-head (B-T-H) Under-the-chin (U-T-C)
E-A-R Caboflex	Reusable band with reusable eartips	Behind-the-head (B-T-H) Under-the-chin (U-T-C)

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Page: 2 of 6

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No. CE 773234

**Model:** E-A-Rcaps

## Attenuation values for under-the-chin wearing mode:

Test Frequency $f$ (Hz)	63	125	250	500	1000	2000	4000	8000
Mean Attenuation Value $MV$ (dB)	20.6	19.4	19.2	18.4	21.2	29.9	37.7	39.3
Standard Deviation $SD$ (dB)	3.2	4.6	1.9	2.2	2.3	4.0	4.9	3.5
Assumed Protection Value $APV_f$ (dB) ( $APV_f = MV - SD$ )	17.4	14.8	17.3	16.2	18.9	25.9	32.8	35.8

## High, Medium and Low Frequency Attenuation Values and Single Number Rating

Value	$MV$ (dB)	$SD$ (dB)	$APV$ (dB)
High Frequency Attenuation Value (H)	28.3	2.2	26
Medium Frequency Attenuation Value (M)	21.5	1.7	20
Low Frequency Attenuation Value (L)	19.7	1.5	18
Single Number Rating (SNR)	25.0	1.5	24

## Sizing

**Under-the-chin head size range:** S/M/L

**Mass:** 8 grams

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Page: 3 of 6

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No. CE 773234

Model: 1310

## Attenuation Values for behind-the-head wearing mode:

Test Frequency $f$ (Hz)	63	125	250	500	1000	2000	4000	8000
Mean Attenuation Value $MV$ (dB)	25.2	23.7	19.9	19.8	23.3	31.9	39.0	37.9
Standard Deviation $SD$ (dB)	5.4	4.6	3.4	3.4	2.9	2.5	3.7	3.8
Assumed Protection Value $APV_f$ (dB) ( $APV_f = MV - SD$ )	19.8	19.1	16.5	16.4	20.4	29.4	35.3	34.1

## High, Medium and Low Frequency Attenuation Values and Single Number Rating

Value	$MV$ (dB)	$SD$ (dB)	$APV$ (dB)
High Frequency Attenuation Value (H)	30.3	2.1	28
Medium Frequency Attenuation Value (M)	23.2	2.7	21
Low Frequency Attenuation Value (L)	21.2	2.9	18
Single Number Rating (SNR)	26.7	2.5	24

## Attenuation values for under-the-chin wearing mode:

Test Frequency $f$ (Hz)	63	125	250	500	1000	2000	4000	8000
Mean Attenuation Value $MV$ (dB)	26.1	26.0	21.2	18.5	22.9	32.3	39.2	38.4
Standard Deviation $SD$ (dB)	3.4	4.3	3.3	2.1	2.1	3.8	4.2	3.7
Assumed Protection Value $APV_f$ (dB) ( $APV_f = MV - SD$ )	22.7	21.7	17.9	16.4	20.8	28.5	35.0	34.7

## High, Medium and Low Frequency Attenuation Values and Single Number Rating

Value	$MV$ (dB)	$SD$ (dB)	$APV$ (dB)
High Frequency Attenuation Value (H)	30.0	1.8	28
Medium Frequency Attenuation Value (M)	22.6	1.8	21
Low Frequency Attenuation Value (L)	21.2	2.0	19
Single Number Rating (SNR)	26.2	1.7	25

## Sizing

Behind-the head and under-the-chin head size range: S/M/L

Mass: 13 grams

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Page: 4 of 6

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**Model:** Caboflex

## Attenuation Values for behind-the-head wearing mode:

Test Frequency $f$ (Hz)	63	125	250	500	1000	2000	4000	8000
Mean Attenuation Value $MV$ (dB)	22.0	20.6	21.3	23.6	24.9	27.1	33.3	36.3
Standard Deviation $SD$ (dB)	8.7	8.8	8.7	7.2	5.1	5.9	4.2	7.7
Assumed Protection Value $APV_f$ (dB) ( $APV_f = MV - SD$ )	13.3	11.8	12.6	16.4	19.8	21.2	29.1	28.6

## High, Medium and Low Frequency Attenuation Values and Single Number Rating

Value	$MV$ (dB)	$SD$ (dB)	$APV$ (dB)
High Frequency Attenuation Value (H)	27.9	5.0	23
Medium Frequency Attenuation Value (M)	24.3	5.8	19
Low Frequency Attenuation Value (L)	22.0	7.3	15
Single Number Rating (SNR)	26.7	5.6	21

## Attenuation values for under-the-chin wearing mode:

Test Frequency $f$ (Hz)	63	125	250	500	1000	2000	4000	8000
Mean Attenuation Value $MV$ (dB)	22.3	22.3	21.8	23.4	25.6	27.3	32.8	35.1
Standard Deviation $SD$ (dB)	7.9	8.3	7.7	7.2	4.9	4.7	5.3	5.9
Assumed Protection Value $APV_f$ (dB) ( $APV_f = MV - SD$ )	14.4	14.0	14.1	16.2	20.7	22.6	27.5	29.2

## High, Medium and Low Frequency Attenuation Values and Single Number Rating

Value	$MV$ (dB)	$SD$ (dB)	$APV$ (dB)
High Frequency Attenuation Value (H)	28.3	4.5	24
Medium Frequency Attenuation Value (M)	24.9	5.4	20
Low Frequency Attenuation Value (L)	22.9	6.6	16
Single Number Rating (SNR)	27.2	5.2	22

## Sizing

**Nominal Diameter:** Smallest – 7 mm Largest – 14 mm

**Behind-the head and under-the-chin head size range:** S/M/L

**Mass:** 12 grams

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Page: 5 of 6

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## Packaged variants

In addition to the products referenced on this Certificate the standard industrial products may also be sold as market specific packaged variants. Such variants will be differentiated, and the Technical File(s) will be updated with the appropriate information.

## Kits and packouts

The products referenced on this Certificate may also be combined with other 3M products into a kit or packout. There will be no change to the product, but the User Information may vary, in such instances the applicable Technical File(s) will be updated with the appropriate information.

## Certificate Administration Details

### Technical File References:

Item	Technical File
3M™ Banded Earplugs	TF0693

### Certificate Amendment Record:

Issue date	Comments	BSI Review No.
October 2022	First issue.	2797:22:3701456

### Certificate validity

The Certificate holder is responsible for ensuring that the Notified Body is advised of changes to any aspect of the overall process utilised in the manufacture of the product, failure to do so could invalidate the Certificate in respect of product manufactured following the introduction of such changes.

The validity of the Certificate for the products is also dependent on the maintenance of the EU Conformity to Type Based on Quality Assurance of the Production Process, Annex VIII (Module D), as referenced on BSI issued Certificate CE 595701.

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Page: 6 of 6

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