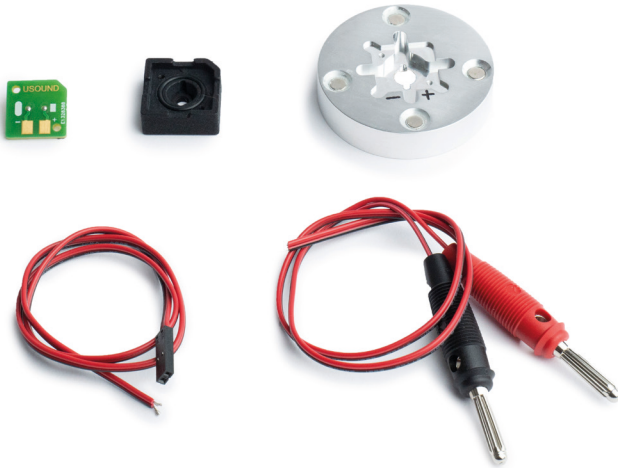


# SPEAKER EVALUATION KIT

CARME KIT UJ-E1040C05, UJ-E1040C06 & UJ-E1040G00  
PRODUCT BRIEF

**U))) SOUND**



The CarMe kit is a speaker evaluation kit for USound MEMS speakers, enabling easy electrical connection for acoustic measurement in free field and in the coupler. It can be combined with other products from the USound landscape, such as amplifiers and development boards. For each USound MEMS speaker footprint, there is a dedicated CarMe kit.

## FEATURES

- Multifunctional evaluation kit for easy acoustical testing of USound MEMS speakers
- Speaker box with 100 mm<sup>3</sup> back volume, enabling free field measurements and simple listening tests.
- Coupler adapter for reproducing the acoustical measurement results in the MEMS speaker datasheets.
- Connection PCB to provide electrical connection to the MEMS speaker

## COMPATIBLE WITH:

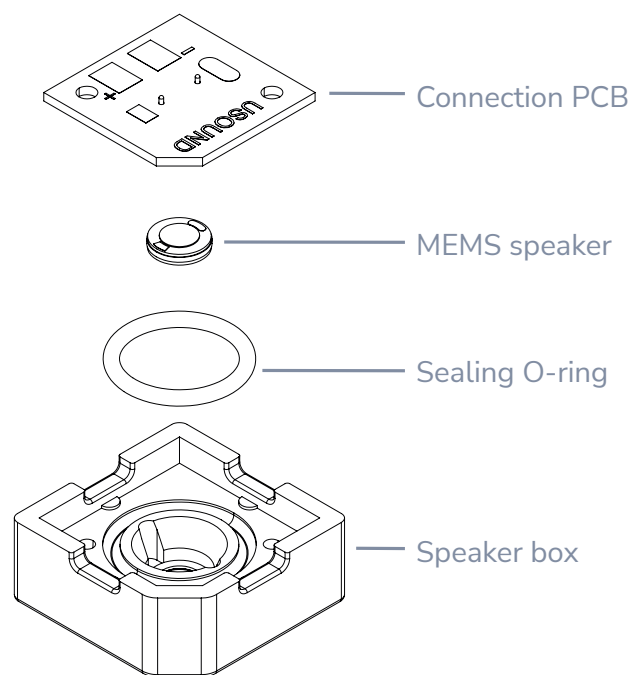
- Helike 1.0 UA-E3010
- Amalthea 1.0 UA-R3010
- Smart audio amplifier Evaluation Board UC-E2120

## SPECIFICATION

Using Carme kits, the following USound MEMS speakers can be evaluated:

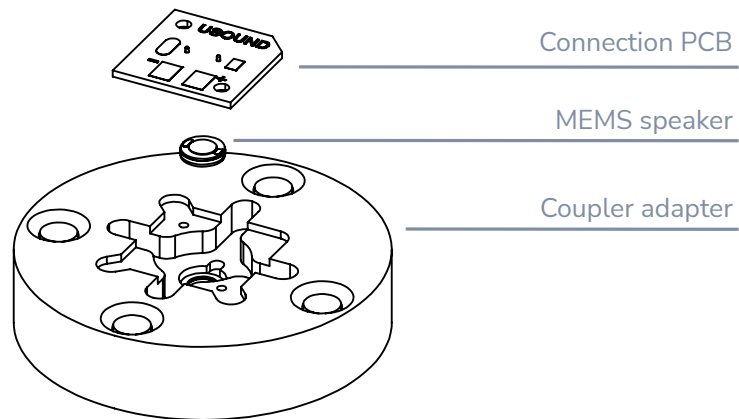
UJ-E1040G00	Achelous UT-P2018, UT-P2020, Adap UT-P2019, UT-P2023
UJ-E1040C05	Conamara 5 mm UA-C0501-2F, UA-C0501-2T
UJ-E1040C06	Conamara 6 mm UA-C0601-2F

For free field measurements and listening tests, the MEMS speaker needs to be assembled inside the speaker box and connected to an amplifier to drive the speaker. The required assembly is shown in Figure 1.



**Figure 1: Speaker box assembly**

For coupler measurements, the MEMS speaker needs to be assembled inside the coupler adapter and connected to an amplifier to drive the speaker. The required assembly is shown in Figure 2.



**Figure 2: Coupler adapter assembly**

## CONNECTIVITY

To connect the MEMS speaker to different amplifiers, a connection PCB and cables should be used. For driving USound MEMS speakers, the following amplifiers can be used:

- Development board Helike UA-E3010 (Achelous UT-P2018, UT-P2020)
- Linear amplifier Amalthea 1.0 UA-R3010
- Smart audio amplifier evaluation board UC-EC2120
- Other measurement amplifiers with suitable DC supply

## RELATED DOCUMENTATION

Carme kit user manual

## COMPATIBLE PRODUCTS

Product name	Description
<a href="#">Helike 1.0 UA-E3010</a>	Development board for evaluating, rapid prototyping and designing audio solutions using USound MEMS speaker technology.
<a href="#">Amalthea 1.0 UA-R3010</a>	A linear amplifier with a frequency range up to 80kHz, can drive up to 40 MEMS speakers, including heatsink housing.
<a href="#">Smart audio amplifier evaluation board UC-E2120</a>	An evaluation board for testing smart audio amplifier UC-P2120 and USound MEMS speakers.

## SIMILAR PRODUCTS

Product name	Description
<a href="#">Carme 2.0 UJ-R1020</a>	A speaker box for testing the acoustical performance of the USound MEMS speakers Adap and Achelous, compatible with the linear amplifier Amalthea 1.0.
<a href="#">Carme 3.0 UJ-R1030</a>	A speaker box designed for testing the acoustical performance of USound MEMS speakers Adap and Achelous, compatible with Helike 1.0 development board.

## REVISION HISTORY

March 2022: Release

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