



Code 7788

coreBT2LE-Auracast

labCORE Bluetooth® Low Energy Audio, Option Auracast



OVERVIEW

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*lab*CORE Bluetooth® Low Energy Audio,
Option Auracast

coreBT2LE-Auracast is a software extension for coreBT2LE. coreBT2LE enables the *lab*CORE hardware platform to become a reference access point for Bluetooth Low Energy profiles. coreBT2LE-Auracast together with coreBT2LE enables *lab*CORE to apply Auracast™ broadcast audio. Thus, *lab*CORE allows acoustic and electrical measurements of Auracast transmitters or Auracast receivers for speech and audio transmission.

KEY FEATURES

Bluetooth reference access point for application of Auracast™ broadcast audio

Bluetooth Low Energy technology

Supporting Auracast broadcast audio streams

Quick and easy setup for existing *lab*CORE units

APPLICATIONS

Performing electrical and acoustic measurements of capable devices for Auracast broadcast audio



DETAILS

Bluetooth Low Energy expands the communication topology of the Bluetooth signal by adding broadcast mesh networks like AURACAST™ broadcast audio. Auracast broadcast audio is a technology to distribute one or more audio streams to several devices at once via Bluetooth. This provides applications in both, private environments and public spaces. In practice, this presents use cases like listening to music together from one playback device on different headphones or streaming important public announcements in public spaces such as airports and train stations. The application of Auracast broadcast audio via Bluetooth Low Energy together with HEAD acoustics measurement technology helps optimizing and enhancing the quality of audio signals of Auracast transmitters and Auracast receivers.


DESCRIPTION

AURACAST™ Broadcast Audio

HEAD acoustics provides coreBT2LE-Auracast as a software extension for coreBT2LE. It enables *labCORE* to apply Auracast broadcast audio. There are two applications for *labCORE* with Auracast broadcast audio. Firstly, *labCORE* acts as Auracast transmitter. Hence, it provides Auracast audio streams for appropriate Auracast receivers to assess their audio quality. Connection parameters for the Auracast broadcast are determined via the general user interface in ACQUA. Furthermore, *labCORE* is also capable of receiving an Auracast broadcast from an Auracast transmitter. Then, *labCORE* transfers the audio signal to ACQUA for assessing the audio quality of the Auracast transmitter.

Bluetooth Low Energy

The stack for Bluetooth Low Energy included in the *labCORE* firmware – combined with the corresponding transceiver – enables *labCORE* to act as transmitter or receiver of Bluetooth Low Energy signals. The audio codec for applying Auracast broadcast audio with Bluetooth Low Energy is LC3. The codec operates at low latency, low computational complexity, and has a low memory footprint.

 Select Profile

Select Profile:

☒ **Auracast™ Broadcast Source**
 labCORE acts as a Auracast™ Broadcast Source device

☐ **Auracast™ Broadcast Sink**
 labCORE acts as a Auracast™ Broadcast Sink device

Groups

▲ **Group 1**

Encryption ☐

Code

Presentation Delay [µs]

Subgroups

▲ **Subgroup 1**

Codec

Context Type

Frame Duration

Sampling Frequency

Octets per Frame

Channel Location

Streams

▲ **Stream 1**

Frame Duration

Sampling Frequency

Octets per Frame

Channel Location

Profile selection and Auracast broadcast settings in ACQUA

GENERAL REQUIREMENTS

Hardware

labCORE (Code 7700)

- › ACQUA lab modular multi-channel hardware platform for speech and audio quality testing
- coreBT2LE (Code 7787)
- › labCORE I/O module, Bluetooth reference access point version 2, Base for Low Energy Audio
- Consists of:
 - » Software stack (embedded in labCORE firmware)
 - » CBA V (Code 6603), Bluetooth transceiver for labCORE module coreBT2LE (USB-based)
 - » CUU III.10 (Code 6114-10), Cable extension USB <> USB, Type-A, 10 m

Software

One of the following software applications:

ACQUA (Code 6810)

- › Advanced Communication Quality Analysis Software, Full license version

or

ACQUA Compact (Code 6860)

- › Compact test system

or

RC-labCORE (Code 6984)

- › Remote configuration software for labCORE

SCOPE OF DELIVERY

coreBT2LE-Auracast (Code 7788)

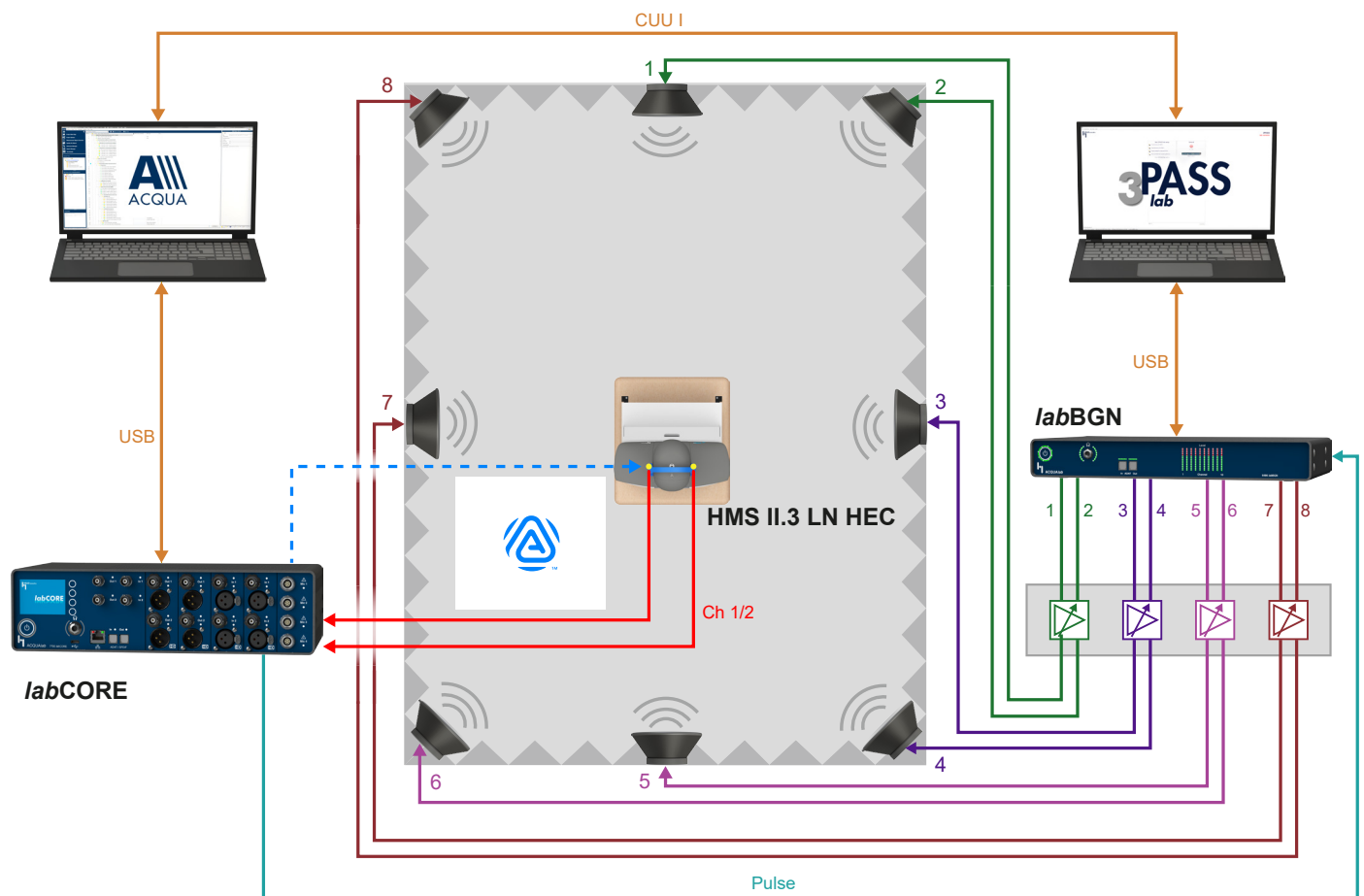
- › labCORE Bluetooth Low Energy Audio, Option Auracast (coreBT2LE module required)

IN PRACTICE

APPLICATION EXAMPLES

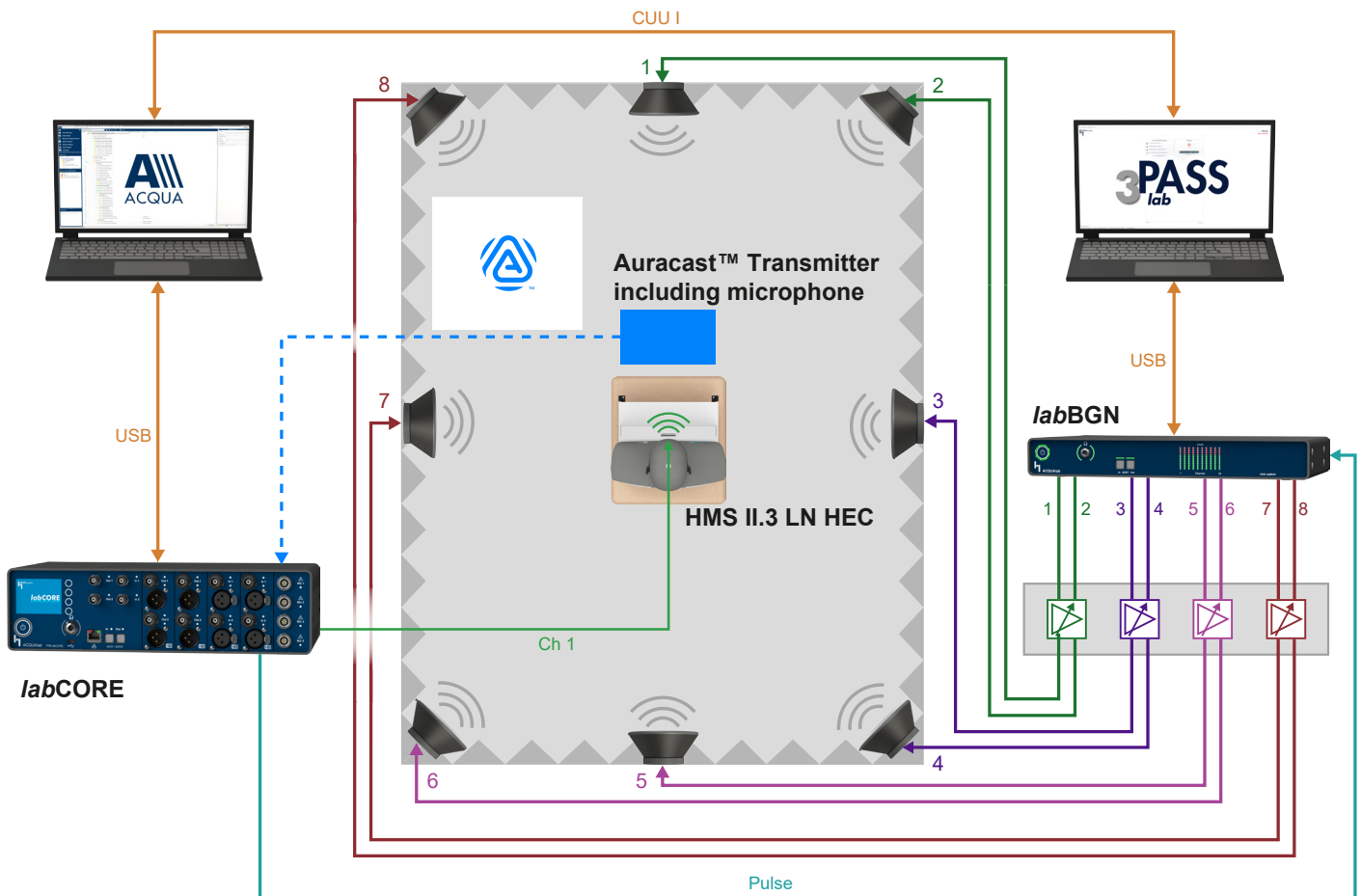
Measurement of Headset with Auracast Receiver (exemplary)

labCORE connects to the headset via coreBT2LE-Auracast. An Auracast assistant (e.g., smartphone) connects the headset initially to the Auracast broadcast. Once the headset is connected, the assistant is not necessary anymore. Background noise is simulated with 3PASS lab. For full repeatability of measurements, background noise playback and measurement signal are synchronized by labCORE through a pulse connection to the labBGN hardware platform. ACQUA generates signals for the Auracast broadcast. Further, it receives and analyzes signals from HMS II.3 LN HEC.



Measurement of Auracast Transmitter (exemplary)

As preparation, *labCORE* connects to the active Auracast broadcast from the Auracast transmitter. *labCORE* sends an audio signal for playback to HMS II.3 LN HEC. The microphone of the Auracast transmitter receives the acoustic signal. The transmitter broadcasts the audio signal via Auracast to *labCORE*. Background noise is simulated with 3PASS *lab*. For full repeatability of measurements, background noise playback and measurement signal are synchronized by *labCORE* through a pulse connection to the hardware platform *labBGN*. ACQUA generates the speech signal, receives and analyzes the signal from the Auracast broadcast.



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