

## HEAD acoustics *coreIP-Alexa*: Voice Quality Measurements of Alexa Built-In Devices

*Amazon Alexa offers numerous services on Alexa-built-in devices. For example, qualified devices offer Alexa-to-Alexa calls, i.e., “telephone calls, “ to other Alexa users. HEAD acoustics offers the labCORE extension module “coreIP-Alexa” to ensure a positive user experience using voice on Alexa-built-in devices.*

*labCORE* is HEAD acoustics’ modular hardware platform for high-precision voice and audio quality testing, tailored for measuring and analyzing digital and analog signals. With its multi-channel capability, high-end inputs and outputs, and programmable interfaces, *labCORE*’s hardware can adapt to individual test scenarios and flexibly expand whenever required. *labCORE* can be equipped with up to ten additional hardware extension boards and several software extensions if a measurement scenario requires more interfaces, extra functionality, or the highest possible precision of measured and produced signals. By combining one or more extension boards and software extensions, *labCORE* allows users to cover virtually all measurement scenarios, for example, calibrated and equalized speech playback, Bluetooth and VoIP signaling, etc.

With the *coreIP-Alexa* extension, *labCORE* gives anyone developing or assessing Alexa devices the ability to

- simulate an Alexa-built-in device call in a controlled signaling environment.
- accurately characterize the in-call audio quality of Alexa-built-in devices
- decrease development time
- drastically decrease tuning time
- improve audio quality
- improve and ensure a positive end-user experience

*The software extension module coreIP-Alexa turns labCORE into a reference gateway for voice quality measurements of Alexa-built-In Devices.*

### Extensive Opportunities

The *coreIP-Alexa* is a product designed to address a specific need of developers of Alexa devices. Other communication platforms, like Skype, Zoom, Portal, etc., use simulated controlled environments to accurately evaluate speech quality and user perception. HEAD acoustics, with its Advanced Communication Quality Analysis software (ACQUA), *labCORE*, and *coreIP-Alexa*, offers the ability to re-create a self-integrated, accurate simulation of the Alexa communications peer-to-peer call, something that is not yet available in the marketplace. This new framework allows Alexa built-in solution providers to characterize Alexa-built-in acoustic performance accurately and prevent negative end-user feedback.

The *coreIP*-Alexa controlled by ACQUA Software hosting HEAD acoustics' Alexa Communications Test Suite allows Alexa built-in solution providers to present the following to an Alexa-built-in device for analysis:

- Calibrated and equalized speech for the analysis of uplink signals.
- Digitally calibrated signals for the analysis of the downlink signals (far-end)
- Calibrated electrical inputs to capture the signals sent into the network (near-end)
- Calibrated acoustics inputs to capture the signals received from the network (far-end)

### For all markets

Alexa is available for a multitude of different mobile and household devices, each facing difficult individual acoustic situations and challenges. In conjunction with the Alexa Communications Audio Test Suite, *labCORE*, *coreIP*-Alexa, ACQUA\*, and VoCAS\*\*, HEAD acoustics enables its customers to generate a positive user experience with all Alexa-enabled devices.

*coreIP*-Alexa is intended for anyone desiring to characterize, analyze, and improve the speech transfer performance of an Alexa built-in device with communications capabilities. Therefore, the HEAD acoustics Alexa framework is perfect for Alexa-built-in device manufacturers, Alexa built-in solution providers, 3rd party certification labs, Amazon Authorized Test Labs, Audio Front End Algorithm Developers (AFE) Alexa Software Developers, and Alexa communications support groups.

[Talk to us](#) for more information.



**About HEAD acoustics**

HEAD acoustics GmbH is one of the world's leading companies offering holistic sound and vibration analysis solutions. In the telecom sector, the company enjoys global recognition due to its expertise and pioneering role in developing hardware and software for measuring, analyzing, and optimizing voice and audio quality, as well as customer-specific solutions and services. HEAD acoustics' range of services covers sound engineering for technical products, investigation of environmental noise, speech quality engineering, consulting, training, and support. The medium-sized company from Herzogenrath near Aachen has subsidiaries in China, France, India, Italy, Japan, South Korea, the UK, the USA, and numerous sales partners worldwide.

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\*ACQUA is the world-leading platform for in-call audio quality testing of mobile phones, enterprise VOIP phones, and certifying devices for Microsoft Teams

\*\* Voice Control Analysis software