

MWC 2019: HEAD acoustics exhibits its next generation measurement technology for mobile phones, IoT devices and headphones

From 25 to 28 February 2019, HEAD acoustics will be exhibiting its comprehensive solutions for optimizing voice and audio quality at the Mobile World Congress (MWC) in Barcelona. The company, which is headquartered in Herzogenrath, Germany, will introduce *3PASS reverb*, the new option for simulating room reverberation, to a large audience for the first time in Hall 7, Stand 7J65. The experts on-site show next generation measurement technology, in order to test super-wideband- and fullband-capable mobile phones, voice-controlled IoT devices and ANC headphones.

World's first acoustic environment for realistic measurements

3PASS reverb is the new software option for the background noise simulation systems *3PASS lab* and *3PASS flex*. It enables manufacturers of mobile phones and other modern communication devices to conduct realistic performance tests and to reproduce acoustic room characteristics like reverberation in the laboratory. *3PASS reverb* simulates the reverberation of the room by applying the previously recorded impulse responses to any audio signal in real time. While an artificial head measuring system plays back the direct sound signal, the background noise system covers playback of the reverberation components based on the impulse response from the original room.

Evaluate communication quality of voice-controlled IoT devices

HEAD acoustics will also present *HQS-SmartHome*, the latest database for the *ACQUA* analysis system. *HQS-SmartHome* offers efficient test series to evaluate the communication and audio quality of voice-controlled IoT devices like smart speakers. The implemented tests take realistic background noise and reverberation, multiple talkers and directivity measurements into account. In addition, *HQS-SmartHome* contains common electroacoustic tests like echo, frequency response, delay and distortion.

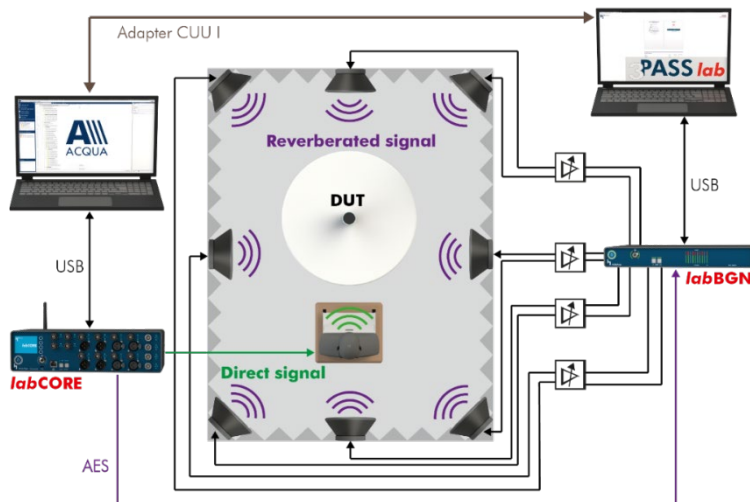
Testing ANC performance of headphones

Another highlight at MWC are live measurements of ANC headphones. For this purpose, HEAD acoustics has developed the *HQS-Audio* database. Among electroacoustic measurements like signal-to-noise ratio, total harmonic distortion including noise, and various test signals (e.g. realistic speech signals, logarithmic sine sweeps) the fully automated *ACQUA* test sequences provide performance tests of passive noise isolation and active noise cancellation. *HQS-Audio* allows headphone manufacturers comprehensive and targeted tests of the audio performance of their devices.

About HEAD acoustics

HEAD acoustics GmbH is one of the world's leading companies for integrated acoustic solutions as well as sound and vibration analysis. In the telecom sector, the company enjoys global recognition due to the expertise and pioneering role in the development of hardware and software for the measurement, analysis and optimization of 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 as well as consulting, training and support. The medium-sized company from Herzogenrath near Aachen (Germany) has subsidiaries in China, France, Italy, Japan, South Korea, the UK, and the USA as well as numerous sales partners worldwide.

Images



Setup diagram for 3PASS *reverb*, the new option for simulation of room reverberation: A head and torso simulator in front of the test object plays back the direct sound signal (green waves), the 3PASS *lab* system plays back the room reverberation (purple waves)



The database HQS-SmarHome provides realistic and fully automated tests for simulating the communication and audio quality of voice-controlled IoT devices like smart speakers.



With the new database HQS-Audio and other HEAD acoustics, hardware manufacturer can test and optimize the audio performance of ANC headphones.