

## Product brief

# Sensor hub audio extension board

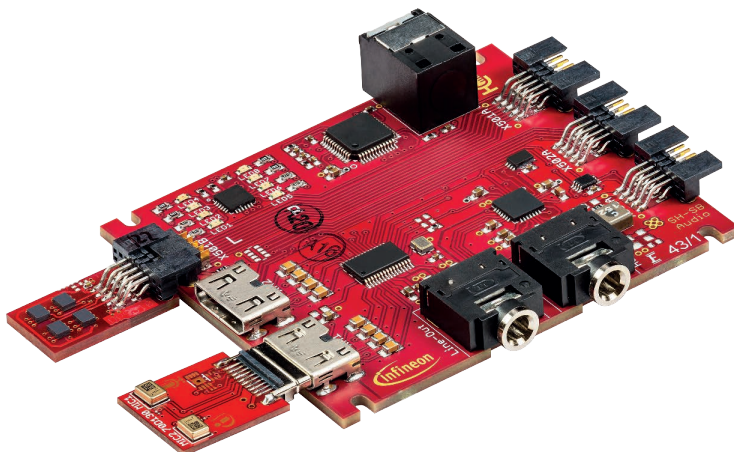
An evaluation system for Infineon MEMS microphones and sensors

The audio extension board is a new adapter system for use with the existing Infineon sensor hub mega evaluation system. It allows minimum effort demonstration and early-stage evaluation of Infineon MEMS microphones and barometric air pressure sensors. The board provides two connectors for Infineon microphone shuttle boards, each of which can contain up to two microphones, and one I<sup>2</sup>C connector for sensor shuttle boards. This allows the simultaneous viewing and recording of microphone and pressure sensor data via the SES2G sensor evaluation software.

The audio extension board uses a universal front end device, allowing full configuration and mixing of the audio input, with multiple gain stages and a flexible DSP mixer. A total of four microphones can be connected at once, and mixed in any combination into two output channels (left and right).

The audio stream is output in 24-bit stereo I<sup>2</sup>S and can be monitored via a volume controlled 3.5 mm headphone jack, or output via a TOSLINK optical connection or a 3.5 mm analog line out. Monitoring via the built in headphone output allows the audio quality of the system to be decoupled from the PC audio card, ensuring the full user experience regardless of PC setup.

The audio stream and sensor data are output over USB to the SES2G sensor evaluation software. This software allows full control of the sensor and DSP mixer, real-time waveform and FFT monitoring and recording of the audio stream to WAV file for later replay or analysis. Sensor output data can be recorded in a timestamped CSV file for later analysis.



### Key features

- > Audio streaming over I<sup>2</sup>S
- > 48 kHz sampling rate
- > 24-bit audio data (stereo)
- > TOSLINK optical output
- > Headphone amplifier with 3.5 mm stereo jack for monitoring
- > Two connectors with analog and digital inputs to allow connection of microphone shuttle boards
- > One I<sup>2</sup>C bus connector to allow connection of sensor shuttle boards

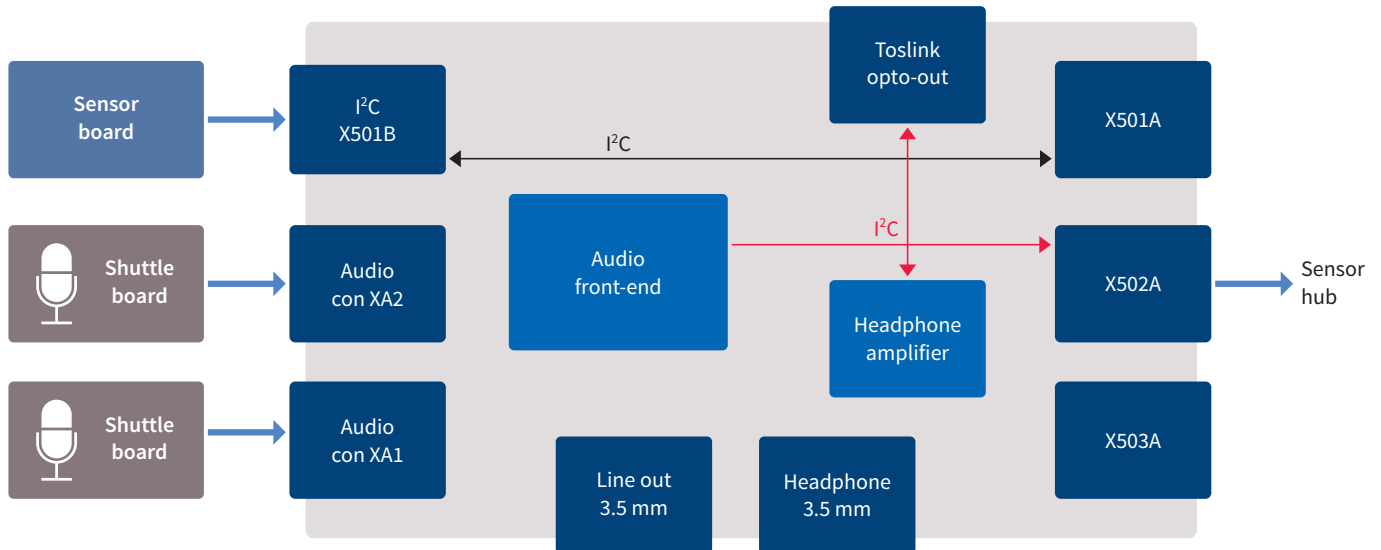
### Benefits

- > Demonstration of MEMS microphones and sensor performance
- > Minimum effort to begin evaluation of MEMS microphones
- > Audio input channel selection and mixing
- > Simultaneous monitoring of microphone and pressure sensor
- > Recording of microphone output to WAV file
- > Various shuttle boards available for Infineon sensors and microphones

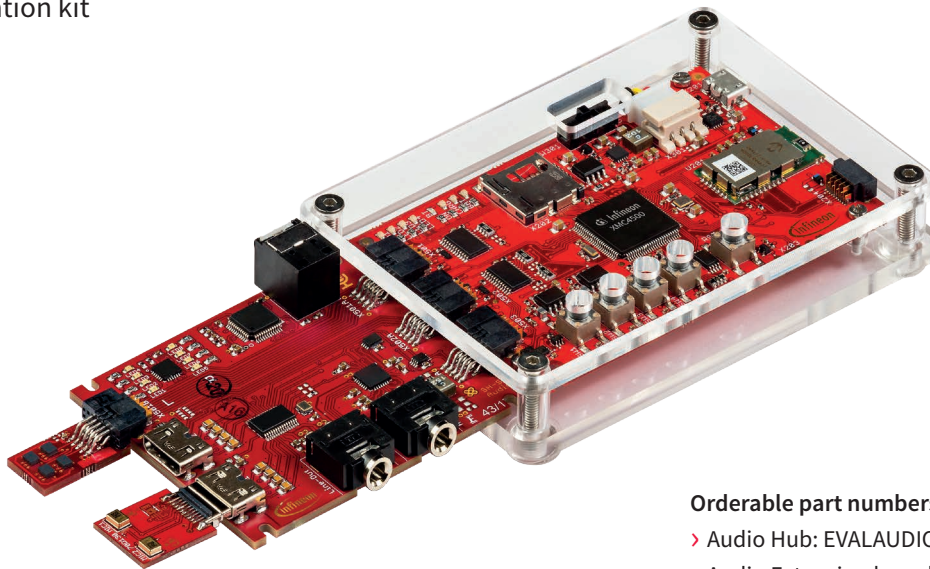
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## Board connectors



## Audio hub evaluation kit



### Orderable part numbers

- > Audio Hub: EVALAUDIOHUBV01TOB01
- > Audio Extension board: EVALIMABV01TOB01

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