V2S200D Evaluation Kit – Quick Start Guide

DESCRIPTION

The V2S200D Evaluation Kit allows for basic evaluation of Knowles Voice Vibration Sensor (V2S) along with a SiSonic™ Digital MEMS microphone in an Earbud form factor.

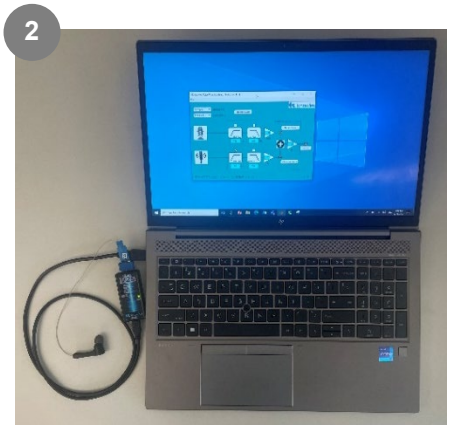
For more information, visit https://www.knowles.com/V2S, email us at sales@knowles.com, or contact your nearest Knowles representative.

IN THE BOX

- Earbud instantiating V2S200D sensor and a MEMS microphone (SPC18P8LM4H-1 Marina)
- PDM to USB audio streaming board USB cable

HARDWARE SETUP

1. Plug-in Earbud connector to the streaming board, aligning the “P O G” labels on both ends
2. Connect the streaming board to a PC using a USB cable
3. Move the dip switch to a desirable PDM clock rate (non-OFF)

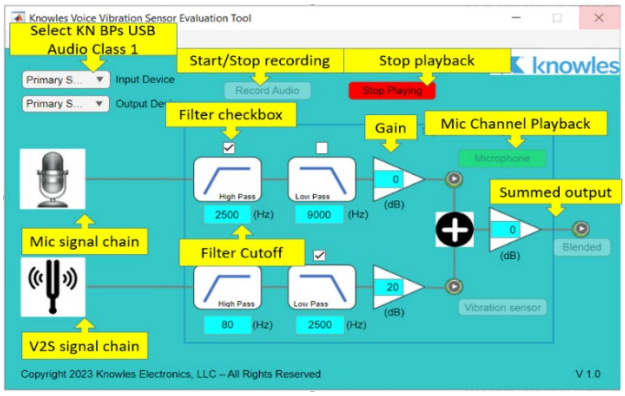


BASIC EVALUATION SUGGESTIONS

1. V2S200D Evaluation kit will be recognized by PC as a USB stereo recording device. No special driver is needed to start the recording. The Left channel on the recording will contain V2S sensor vibration data and the Right will contain microphone audio data.
2. Any commercial audio software that can access stereo left and right channels independently can be used to evaluate the kit. Alternatively, the Knowles Voice Vibration Sensor Evaluation Tool can be used for a simple evaluation.
3. Due to the nature of voice vibrations transferring from the user’s body through to the earbud, please note the following for good experience:
   a. ~20-25dB gain is recommended on the V2S sensor channel to boost the signal for audibility
   b. The user’s bones, cartilage, skin as well as the rubber ear tip, earbud shell, behave as Low Pass Filter for the vibration signals reaching the sensor. This attenuates the higher frequency content (typically above 1KHz). For initial evaluation, it is recommended to apply a low pass filter with corner frequency at 2KHz to the V2S channel.

VOICE VIBRATION SENSOR EVALUATION TOOL

Optional evaluation tool to aid in sensor evaluation. Please download and install from the Knowles V2S Webpage



The intended use of all tools and software discussed here is to support R&D activities, and is not intended for qualification or production test use