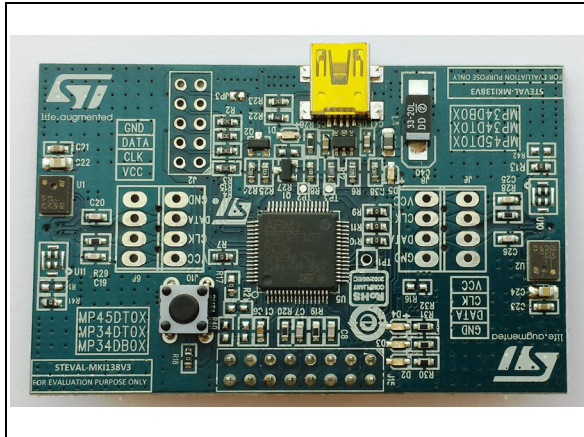


STAudioHub USB interface board based on MP45DT02 and STM32

Data brief



Features

- Sound card automatically recognized by a PC as an audio device.
- MEMS microphones provide a high frequency data stream (1 to 3.25 MHz) of 1-bit digital samples (PDM technique)
- Audio signals collected from the microphones are sent to the PC by USB (powered and connected to PC through USB)
- LED status indicator
- RoHS compliant

Description

The purpose of the STEVAL-MKI138V3 STAudioHub evaluation board is to demonstrate the decoding and streaming performance of digital MEMS microphone outputs.

The STEVAL-MKI138V3 hosts the MP45DT02 top-port digital microphone, which works as a sensor, and the STM32F107RC microcontroller, working as an audio decoder.

These microphones are analog-to-digital transducers. They are able to sense sound pressure and convert this signal into a digital signal using the PDM technique.

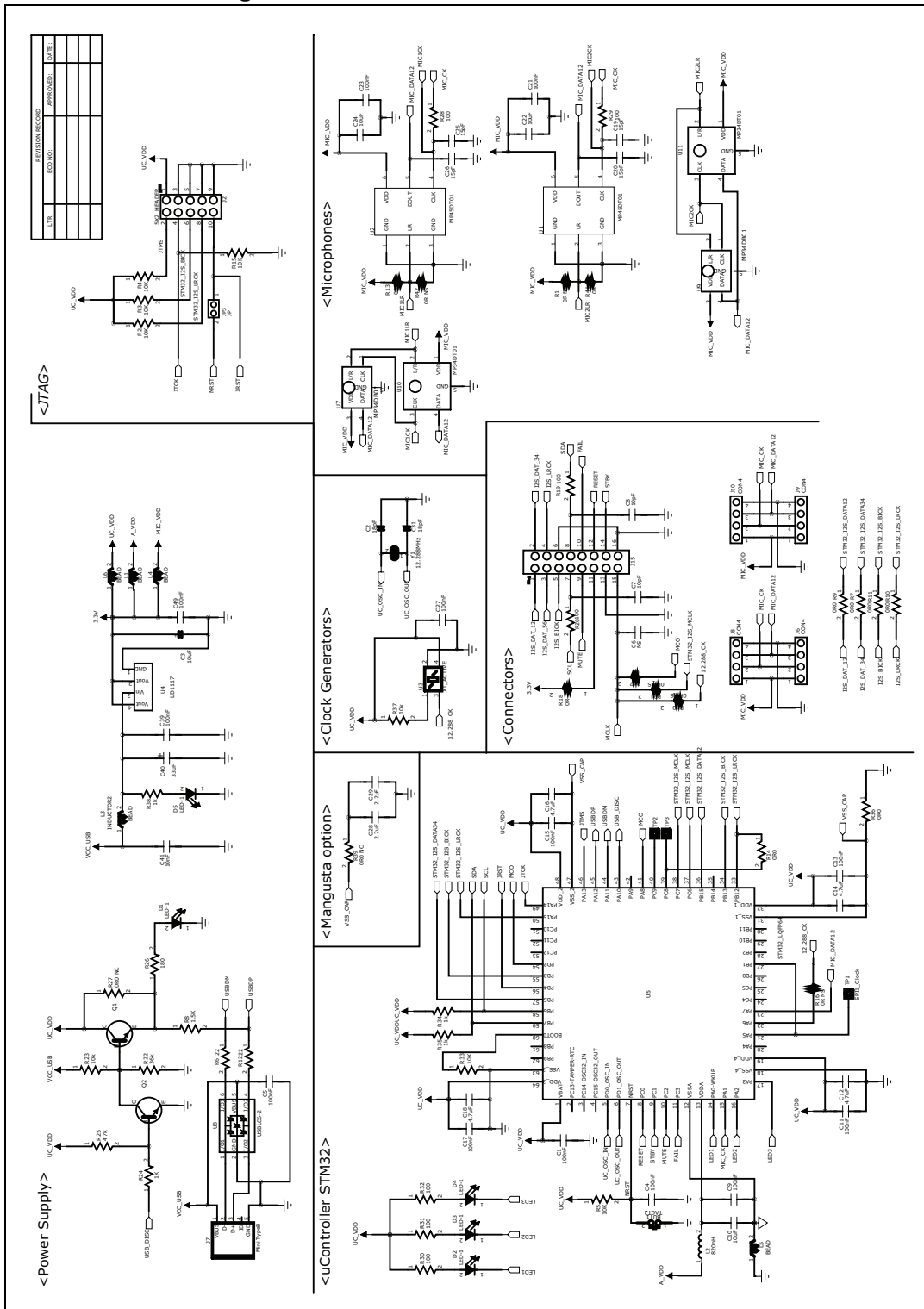
The STM32 microcontroller decodes the PDM signal coming from the microphones and streams the audio via the USB.

The STEVAL-MKI138V3 evaluation board is a sound card which is automatically recognized by a PC as an audio device. Connection is made through a USB cable, which also supplies the board, and then streams the audio collected from the microphones to the PC.

It is also possible to use the board as an interface for other microphone PCBs (STEVAL-MKI126Vx). In this case is recommended the use of the APWorkbench software tool.

1 Schematic diagram

Figure 1. STEVAL-MKI138V3 circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
17-Jun-2014	1	Initial release.

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