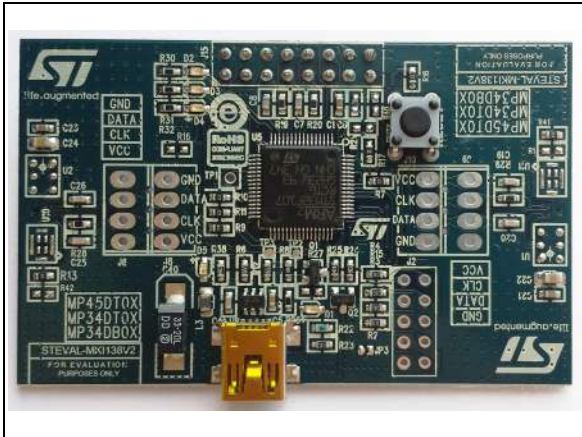


STAudioHub USB interface board based on the MP34DB01 and STM32

Data brief



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

The STEVAL-MKI138V2 evaluation board is a sound card that is automatically recognized by the 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 can also be used as an interface board for other microphone PCBs (STEVAL-MKI126Vx), in which case it is recommended to use the APWorkbench software tool.

Features

- Sound card automatically recognized by the 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 collected from the microphones is sent to the PC through USB (powered and connected to PC through USB)
- LED status indicator
- RoHS compliant

Description

The purpose of STEVAL-MKI138V2 evaluation board is to provide an example of decoding and streaming of digital MEMS microphone outputs.

The STEVAL-MKI138V2 evaluation board hosts the MP34DB01 (top-port digital microphone), working as a sensor and the STM32F107RC microcontroller as an audio decoder.

These microphones are analog-to-digital transducers. They are capable of sensing sound pressure and converting this signal into a digital signal using the PDM technique.

1 Schematic diagrams

Figure 1. Power supply

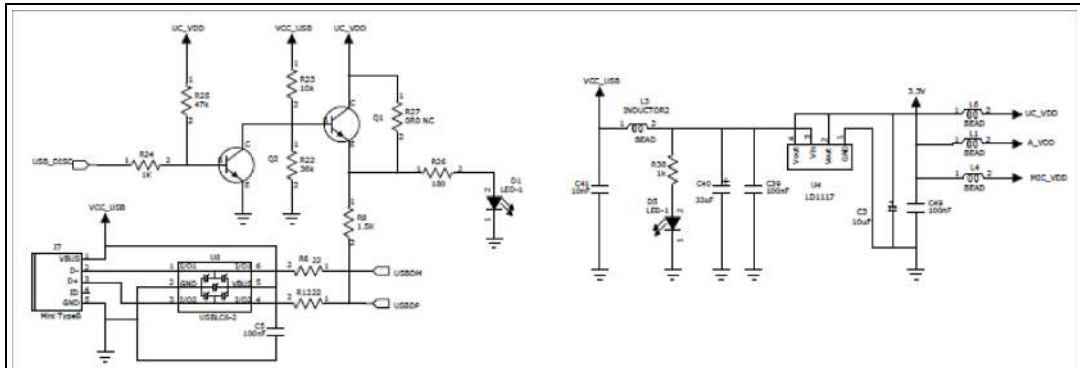


Figure 2. JTAG

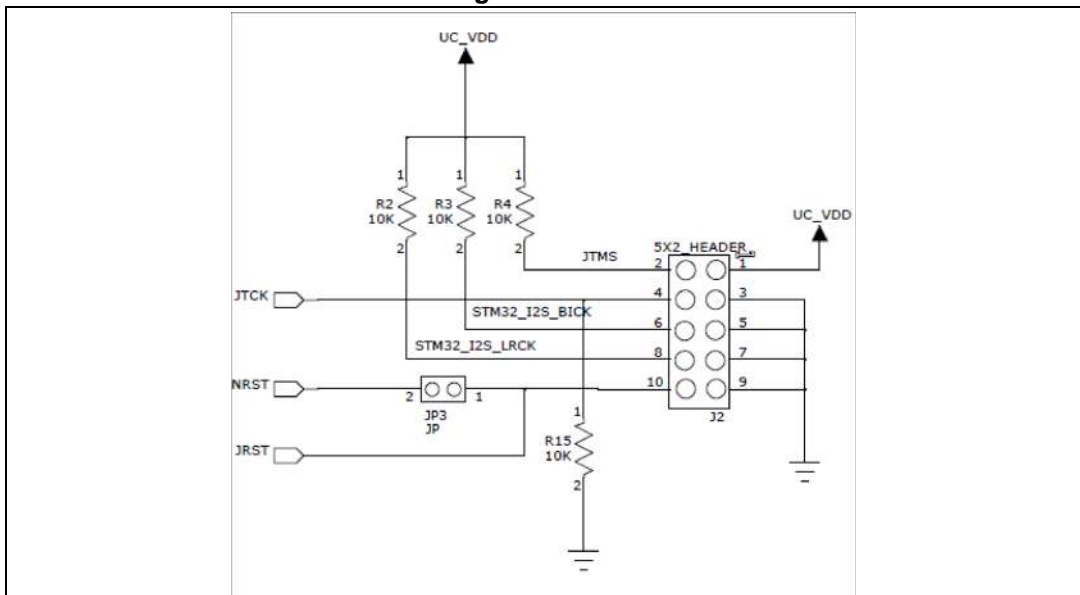


Figure 3. STM32 microcontroller

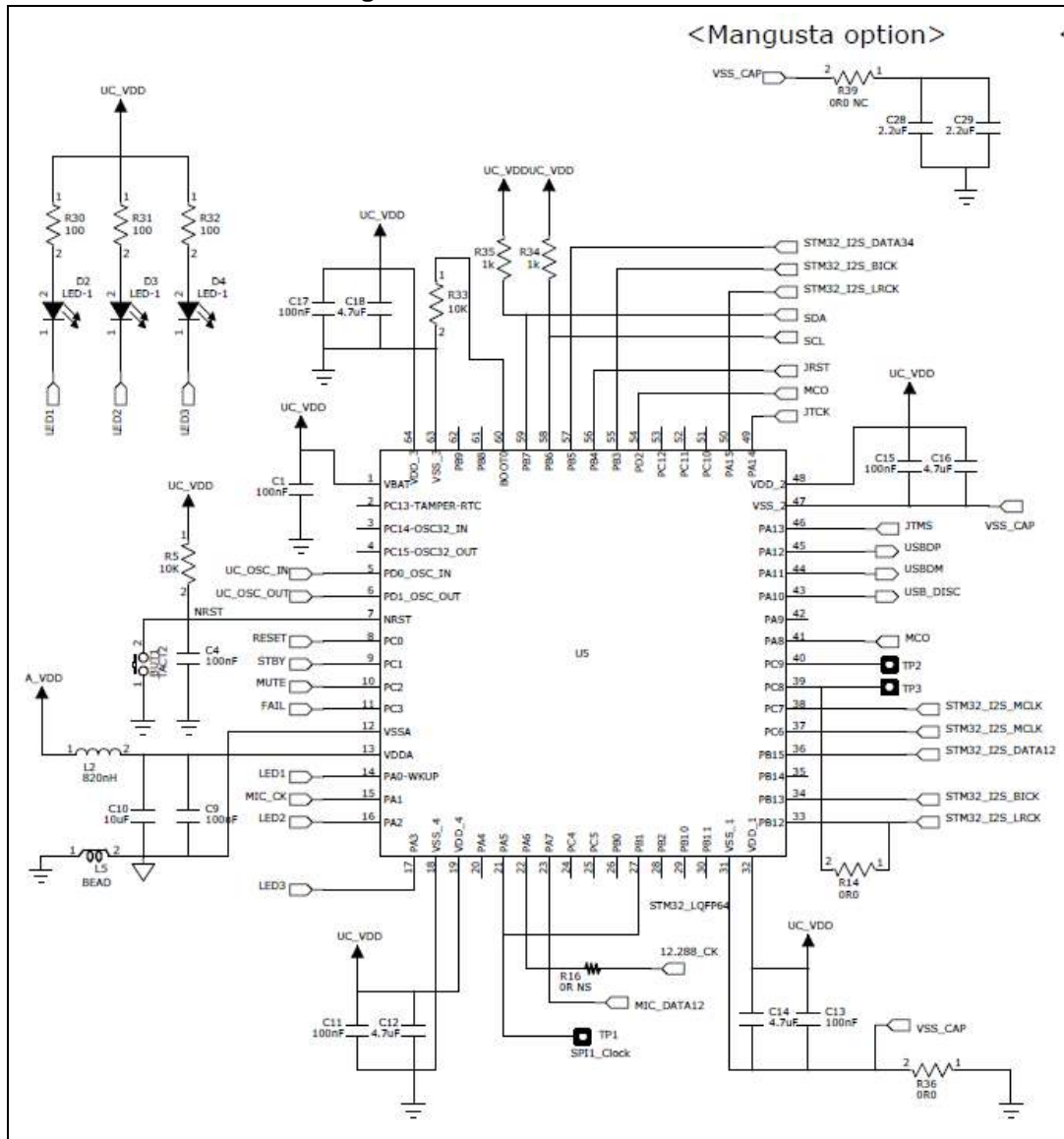


Figure 4. Clock generators

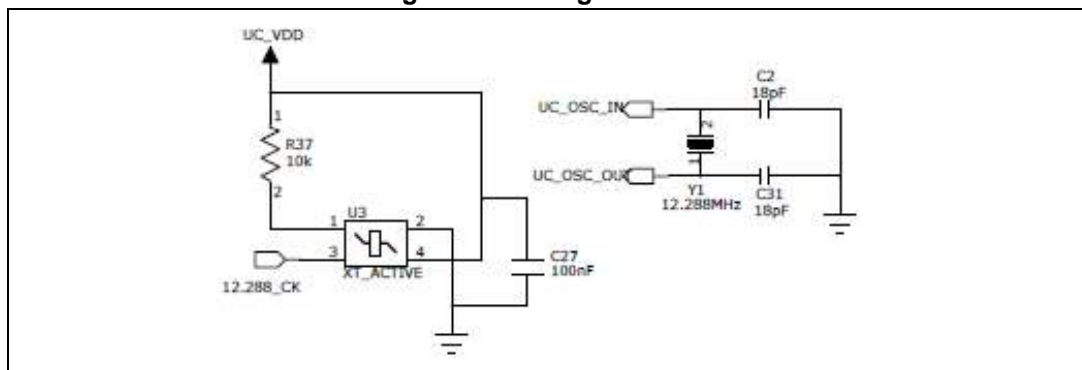


Figure 5. Connectors

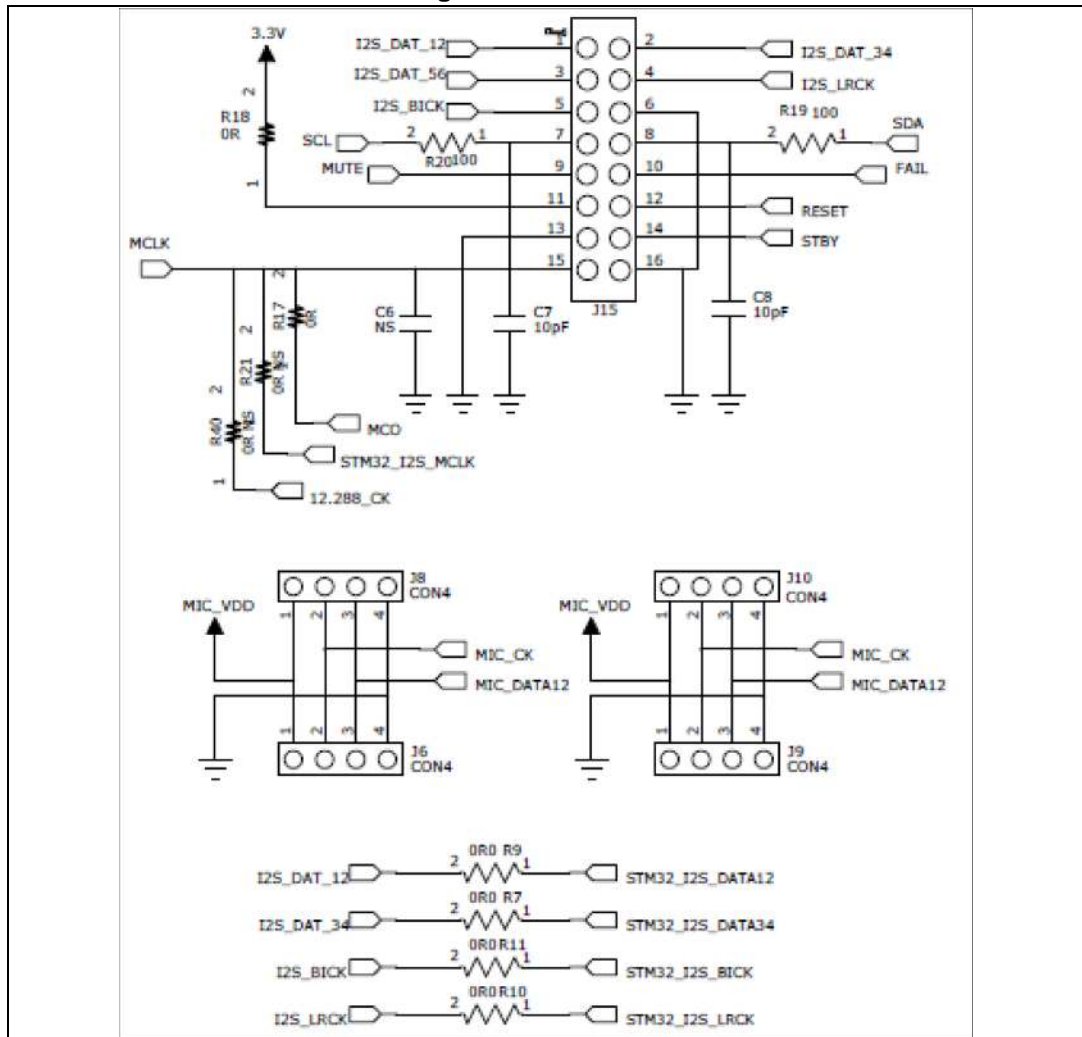
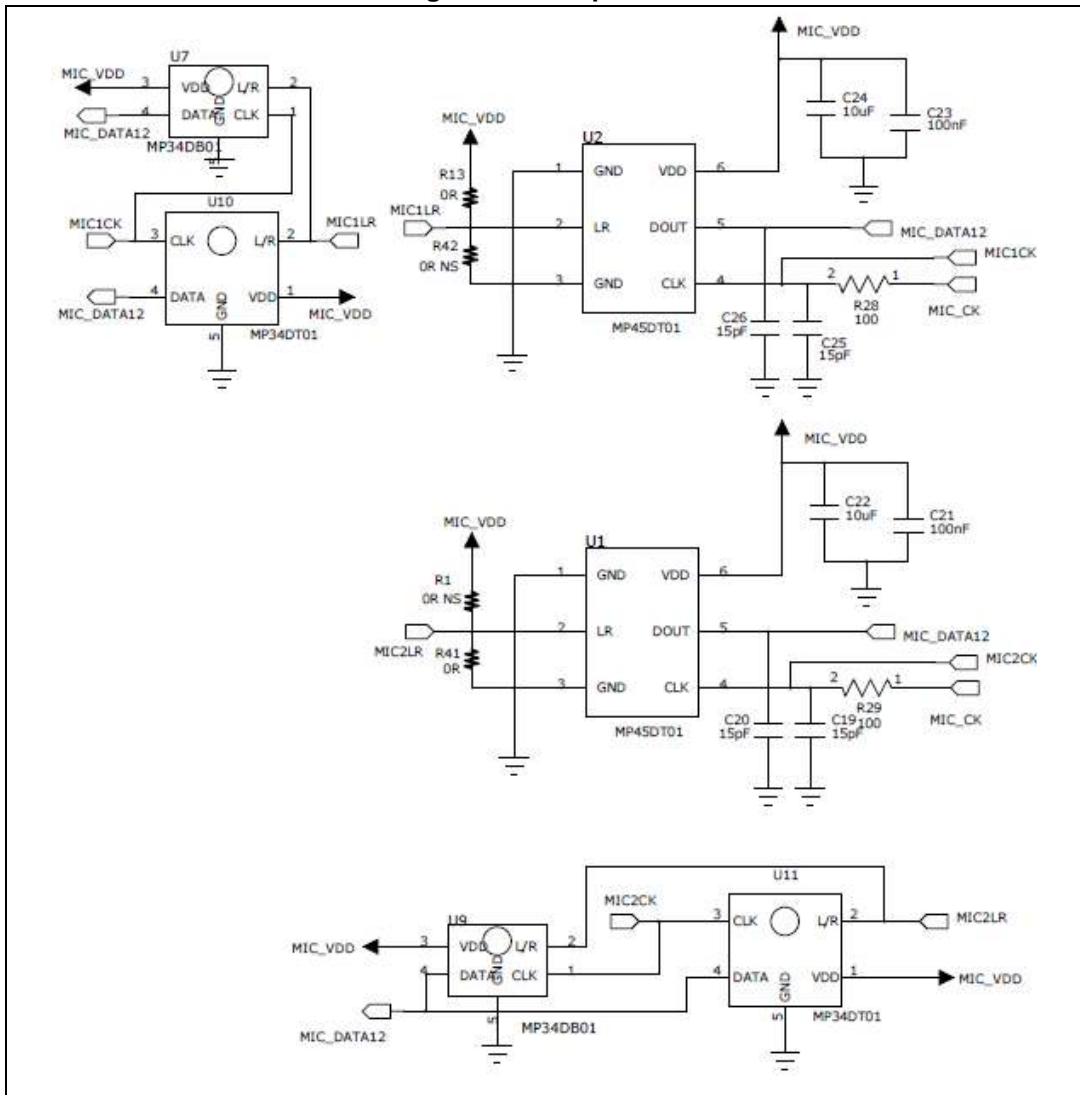


Figure 6. Microphones



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
29-Jul-2014	1	Initial release.

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