

# AUDIO CODEC PROTO™

## Manual

*All Mikroelektronika's development systems feature a large number of peripheral modules expanding microcontroller's range of application and making the process of program testing easier. In addition to these modules, it is also possible to use numerous additional modules linked to the development system through the I/O port connectors. Some of these additional modules can operate as stand-alone devices without being connected to the microcontroller.*

# Additional board

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# AUDIO CODEC PROTO

The AUDIO CODEC PROTO additional board enables the microcontroller to be connected to a microphone and headphones via I2C and SPI serial communications.

## Key features:

- Stereo CODEC;
- Driver for earphones;
- Low power consumption;
- 3.3V power supply voltage.



Figure 1: AUDIO CODEC PROTO

## How to connect the board?

The additional board is connected to a microcontroller via pads CN2. A 3.5mm connector CN23 is used to connect a microphone, whereas the CN22 connector is used to connect earphones.

## How to use the board?

The board is used to convert digital audio recording into analog audio signal that is reproduced via headphones. It is also used to convert analog audio signal from microphone into digital audio recording. Data transfer between the microcontroller and additional board is performed via the Serial Peripheral Interface (SPI), whereas the operation of the board is controlled by the microcontroller via I2C communication.

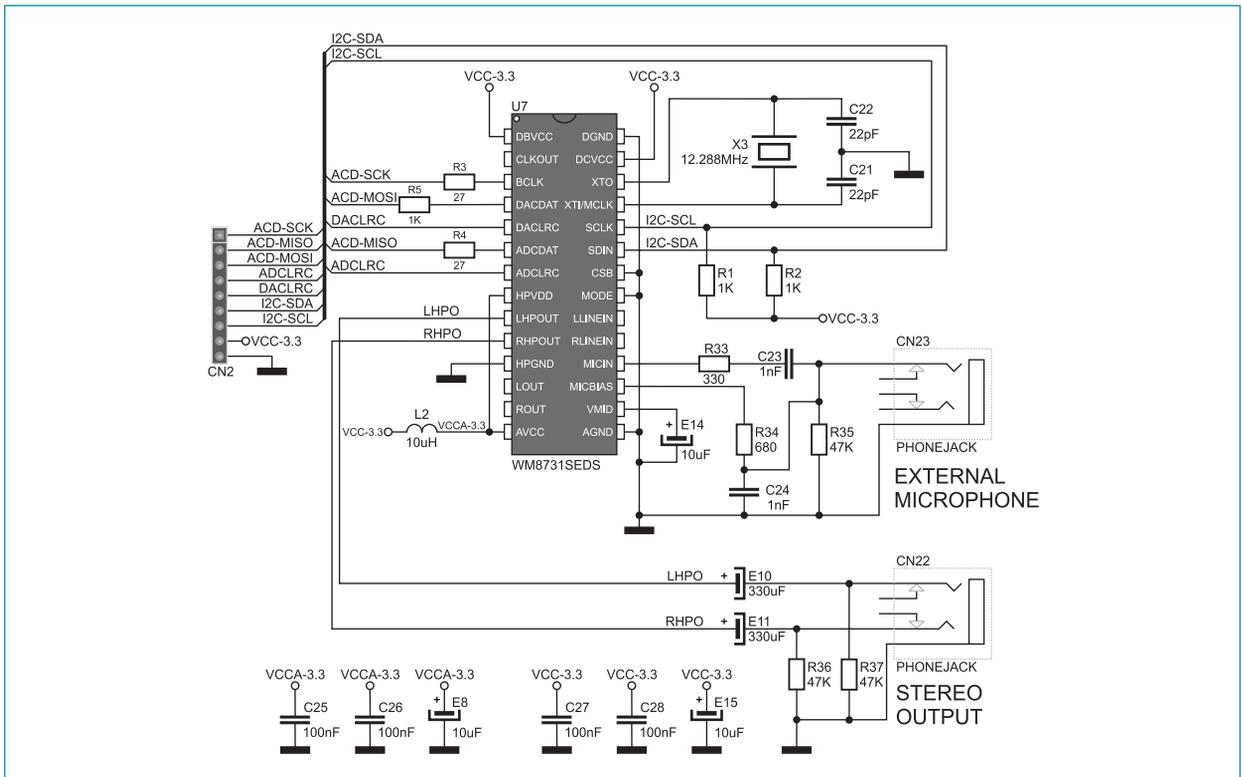


Figure 2: AUDIO CODEC PROTO additional board connection schematic

The function of pins:

- SCK - Digital Audio Bit Clock, Pull Down
- MISO - ADC Digital Audio Data Output
- MOSI - DAC Digital Audio Data Input
- ADCL - ADC Sample Rate Left/Right Clock, Pull Down
- ADCLRC - DAC Sample Rate Left/Right Clock, Pull Down
- SDA - 3-Wire MPU Data Input / 2-Wire MPU Data Input
- SCL - 3-Wire MPU Clock Input / 2-Wire MPU Clock Input

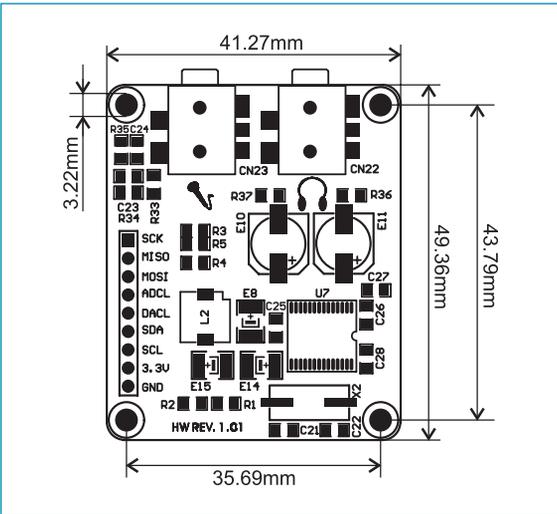


Figure 3: Dimensions of the additional board

**NOTE:** Pull up/pull down is only present when Control Register Interface is ACTIVE=0 in order to save power.



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