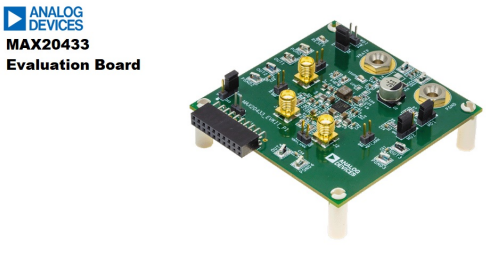

ANALOG DEVICES MAX20433 Evaluation Board User Guide

Contents

ANALOG DEVICES MAX20433 Evaluation Board

Specifications

- Product: MAX20433 Evaluation Kit
- Evaluates: MAX20433
- Input Range: 3.5V to 36V
- Features: Two modes of watchdog operation, challenge/response and simple windowed mode
- Software: Simple I2C.exe for installing EV kit files onto a computer

Product Usage Instructions

Quick Start
The MAX20433 EV kit is fully assembled and tested. Follow these steps to install the EV kit software, make required hardware connections, and start the operation of the kit.

Procedure

1. Verify that all jumpers are in their default configuration according to Table 1.
2. If using the MINIQUSB, connect the USB cable from the PC to the MINIQUSB board and then plug it into J1 on the EV kit. If using the PICO board, connect SDA, SCL, GND, and VDD pins to the EV kit using separate cables.
3. Connect the positive and negative terminals of the power supply to VSUP and PGND test pads, respectively.
4. Set the power supply voltage to 13.5V, and then turn on the power supply.
5. If using Simple I2C, open the software and load in the register map for MAX20433 by selecting Regmap in the menu bar and then Load Regmap. Enable Auto Read on the left menu bar.
6. To establish a connection to the EV kit, select Device in the menu bar and then Scan for Address. The software should find the default address (0x38). Click OK.

General Description
The MAX20433 evaluation kit (EV kit) is a fully assembled and tested application circuit for the MAX20433 high-efficiency, four-output power management IC (PMIC). This EV kit can test all outputs to full load within the normal operation input range of 3.5V to 36V. The IC features two modes of watchdog operation—challenge/response and

simple windowed mode—which can also be disabled for simplified evaluation.
To configure the MAX20433 and monitor errors, I2C communication must be used. Using a PC-to-I2C interface such as the MINIQUSB or MAX32625PICO and software such as Simple I2C for reading and writing to I2C registers simplifies testing. Windows®-based graphical-user interface (GUI) software is available for use with the EV kit and can be downloaded from the Analog Devices website at www.analog.com/MAX20433 (under the Design & Development tab). Windows 7 or newer is required to use the EV kit software.

Features and Benefits

- Integrated IC Minimizes Board Area and Layout
- Input Voltage Range from 3.5V to 36V
- User-Programmable Settings through I2C
- Challenge/Response or Simple Windowed Watchdog
- 2.1MHz Fixed-Frequency Switching with Spread-Spectrum Option
- Status Monitoring through RESET Pin and I2C Status Registers
- Fully Assembled and Tested
- Proven PCB Layout with Automotive-Grade Components Tested

MAX20433 EV Kit Files

- **FILE Simple** I2C.exe
- **DESCRIPTION** Installs EV kit files onto computer

Ordering Information appears at end of data sheet.

Quick Start

Required Equipment

- MAX20433 EV Kit
- I2C Read/Write Software such as Simple I2C
- I2C Interface such as MINIQUSB or MAX32625PICO (PICO Board)
- DC Power Supply (Capable of 0 to 36V Output)
- Digital Multimeters (DMM)
- Electronic Load

Note: In the following sections, software-related items are identified by bolding. Text in bold refers to items directly from the EV kit software.

Procedure

The MAX20433 EV kit is fully assembled and tested. Follow these steps to install the EV kit software, make required hardware connections, and start the operation of the kit. The EV kit software can be run without hardware. Note that after communication is established, the IC must still be configured correctly for the desired operation mode. Make sure the PC is connected to the internet throughout the process so that the USB driver can be automatically installed.

1. Verify that all jumpers are in their default configuration according to Table 1.
2. If using the MINIQUSB, connect the USB cable from the PC to the MINIQUSB board and then plug it into J1 on

the EV kit. If using the PICO board, separate cables must be used to connect the SDA, SCL, GND, and VDD pins to the EV kit.

3. Connect the positive and negative terminals of the power supply to VSUP and PGND test pads, respectively.
4. Set the power supply voltage to 13.5V, and then turn on the power supply.
5. If using Simple I2C, open the software and load in the register map for MAX20433 by selecting Regmap in the menu bar and then Load Regmap. Check and enable Auto Read on the left menu bar.
6. To establish a connection to the EV kit, select Device in the menu bar and then Scan for Address. The software should find the default address (0x38). Click OK.

Visit **Web Support** to complete the nondisclosure agreement (NDA) required to receive additional product information.

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DOCUMENT FEEDBACK

- Tel: 781.329.47 00

Note

analog.com

FAQs

Q: Can the EV kit be used without hardware?
A: Yes, the EV kit software can be run without hardware for evaluation purposes.

Q: Where can I find additional product information?
A: Visit Web Support to complete the nondisclosure agreement (NDA) required to receive additional product information.

Documents / Resources

	**ANALOG DEVICES MAX20433 Evaluation Board** [pdf] User Guide MAX20433, MAX20433 Evaluation Board, Evaluation Board, Board

References

- Mixed-signal and digital signal processing ICs | Analog Devices
- Document Feedback Form | Analog Devices
- Mixed-signal and digital signal processing ICs | Analog Devices
- Support | Analog Devices
- User Manual