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ANALOG DEVICES MAX86174 Evaluation System

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Product Information

Specifications

- **Product:** MAX86174 Evaluation System
- **Evaluates:** MAX86174A
- **Functionality:** PPG analog frontend solution with dual optical-readout channels
- **LED Support:** Up to 4 LEDs
- **Photodiode Inputs:** 2 inputs
- **Power Source:** 105 mAh Li-Po battery LP-401230
- **Connectivity:** Bluetooth LE

Product Usage Instructions

1. Connect the MAXSENSORBLE_EVKIT_B microcontroller board and MAX86174A_OSB_EVKIT_B sensor board.
2. Insert the 105 mAh Li-Po battery into the system for power.
3. Use the provided USB-C to USB-A cable to connect the system to a computer for programming.

Installing Software

1. Download the MAX86174GUISetupV1.0.0_Web.zip file from the provided resources.
2. Run the setup file to install the PC GUI program for real-time monitoring and plotting.

Data Logging and Monitoring

1. Utilize the software to enable data logging capabilities.
2. Monitor PPG measurements and optimize configurations using the GUI program.

Troubleshooting and Support

- If you encounter any issues, refer to the provided schematics and BOM files for troubleshooting guidance.

FAQ

- **Q:** How can I obtain additional product information?
- **A:** Visit Web Support to complete the nondisclosure agreement (NDA) required to receive more details about the product.
- **Q:** What is the maximum number of LEDs supported by the MAX86174A?
- **A:** The MAX86174A supports up to 4 LEDs for photoplethysmogram (PPG) measurements.

General Description

The MAX86174 evaluation system (EV Sys) provides a platform to evaluate the functionality and features of the MAX86174A with photoplethysmography (PPG) measurement capabilities. The EV Sys allows for flexible hardware and software configurations to help the user quickly learn how to configure and optimize the MAX86174A for their applications.

The MAX86174A is an ultra-low power PPG analog frontend solution that has dual optical-readout channels and supports up to 4 LEDs and 2 photodiode inputs. For more information, refer to the MAX86174A data sheet.

The MAX86174 EV Sys consists of two boards. MAXSENSORBLE_EVKIT_B is the microcontroller (MCU) board

while MAX86174A_OSB_EVKIT_B is the sensor board containing the MAX86174A. To enable PPG measurement capabilities, the sensor board contains 3 LEDs (red, green, and IR in a single package: OSRAM SFH7016), three discrete photodiodes (Vishay VEMD8080), and an accelerometer. The EV Sys is powered through the included LiPo Battery. The EV Sys communicates with MAX86174GUI (should be installed in the user's system) using Bluetooth built into Windows (Win BLE). The EV Sys contains the latest firmware but comes with the programming circuit board MAXDAP-TYPE-C in case a firmware change is needed.

Features

- Convenient Platform to Evaluate the MAX86174A
- Many Easy-to-Reach Test Points
- Real-Time Monitoring and Plotting
- Data Logging Capabilities
- Bluetooth LE
- Windows®-10-Compatible GUI software

EV Sys Contents

- MAXSENSORBLE_EVKIT_B microcontroller board
- MAX86174A_OSB_EVKIT_B sensor board
- 105 mAh Li-Po battery LP-401230
- USB-C to USB-A cable
- MAXDAP-TYPE-C programmer board
- Micro USB-B to USB-A cable

MAX86174 EV Sys Files

FILE	DESCRIPTION
MAX86174GUISetupV1.0.0_Web.zip	Setup file to install the PC GUI program
MAXSENSORBLE_EVKIT_B.zip	Schematic, BOM, layout
MAX86174A_OSB_EVKIT_B.zip	Schematic, BOM, layout

Note

1. The GUI setup files can be obtained by the procedure described in the Quick Start section
2. MAXSENSORBLE_EVKIT and EVKIT design files are attached at the end of this document.

Ordering Information appears at the end of the datasheet.

- Visit **Web Support** to complete the nondisclosure agreement (NDA) required to receive additional product information.
- Windows is a registered trademark of Microsoft Corporation.

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Documents / Resources

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References

- **User Manual**