ANALOG DEVICES MAX86180 Evaluation System Instructions

Contents

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General Description

The MAX86180 evaluation system (EV system) allows for the quick evaluation of the MAX86180 optical AFE for applications at various sites on the body, particularly the wrist. The EV system supports both I2C and SPI-compatible interfaces. The EV system has two optical readout channels that operate simultaneously. The EV system allows flexible configurations to optimize measurement signal quality at minimal power consumption. The EV system supports file logging and flash logging, allowing the user to disconnect from the computer for more convenient data-capturing sessions, such as overnight or outdoor running.

The EV system consists of two boards. MAXSENSORBLE_ EVKIT_B is the main data acquisition board while MAX86180_OSB_EVKIT_B is the sensor daughter board for the MAX86180. To enable PPG measurement capabilities, the sensor board contains seven LEDs (one OSRAM SFH7016, red, green, and IR 3-in-1 LED package, one OSRAM SFH4053 IR LED, one QT-BRIGHTER QBLP601-IR4 IR LED, one Würth Elektronik INC. W150060BS75000 Blue LED and one QT-BRIGHTERQBLP595-AG1 green LED) four discrete photodiodes (VISHAY VEMD8080), and an accelerometer.

The EV system is powered through a LiPo battery attached to it and can be charged using a Type-C port. The EV Sys communicates with MAX86180GUI (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 upgrade is needed. Ordering Information appears at the end of the datasheet. Visit Web Support to complete the nondisclosure agreement (NDA) required to receive additional product information.

Features

- Quick Evaluation of the MAX86180
- Supports Optimization of Configurations
- Facilitates Understanding of MAX86180 Architecture and Solution Strategy
- Real-Time Monitoring
- Data Logging Capabilities

- On-Board Accelerometer
- Bluetooth® LE
- Windows® 10-Compatible GUI Software

EV System Contents

- MAX86180 EV system wristband, including
  - MAXSENSORBLE_EVKIT_B board
  - MAX86180_OSB_EVKIT_B board
  - Flex cable
  - 105mAh Li-Po battery LP-401230
- USB-C to USB-A cable
- MAXDAP-TYPE-C programmer board
- Micro USB-B to USB-A cable

MAX86180 EV System Files

FILE	DESCRIPTION
MAX86180GUISetupV1.0.0_Web.zip	Setup file to install the PC GUI program
MAXSENSORBLE_EVKIT_B.zip	Schematic, BOM, layout
MAX86180_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.

Documents / Resources

	ANALOG DEVICES MAX86180 Evaluation System [pdf] Instructions MAX86180, MAX86180 Evaluation System, Evaluation System, System

References

- Shopping Cart | Analog Devices
- User Manual