

Evaluates: MAX86180

MAX86180 Evaluation System

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 sys supports both I²C and SPI compatible interfaces. The EV sys has two optical readout channels that operate simultaneously. The EV sys allows flexible configurations to optimize measurement signal quality at minimal power consumption. The EV sys 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 sys 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-BRIGHTEK QBLP601-IR4 IR LED, one Würth Elektronik INC. W150060BS75000 Blue LED and one QT-BRIGHTEK QBLP595-AG1 green LED) and four discrete photodiodes (VISHAY VEMD8080), and an accelerometer. The EV sys is powered through a LiPo battery attached inside it, and can be charged using a Type-C port. The EV Sys communicates with MAX86180GUI (should be installed in 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 end of data sheet.

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

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Features

- Quick Evaluation of the MAX86180
- Supports Optimization of Configurations
- Facilitates Understanding 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 wrist band, 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.

Notes

