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Evaluates: MAX86165

MAX86165 Evaluation Kit

General Description

The MAX86165 evaluation kit (EV kit) provides a quick evaluation of the MAX86165 optical AFE data-acquisition system. The MAX86165 AFE is a completely integrated optical module which contains a programmable LED driver with an IR emitter and a high efficiency PIN photodiode making it ideal for proximity sensing and heart rate detection in small space such as ear buds. The MAX86165 AFE's readout channel provides a low-noise signal conditioning AFE, including a 20-bit ADC and an industry-leading ambient light cancellation (ALC) circuit which results in a 94.5 dB SNR in a white card loop-back test.

The MAX86165 supports I²C compatible interfaces. The MAX86165 EV kit allows flexible configurations to optimize measurement signal quality at minimal power consumption. The EV kit supports file and flash logging, which allows the user to disconnect from the computer for more convenient data capturing sessions, such as overnight or outdoor running.

The MAX86165 EV kit consists of two boards. The MAXSENSORBLE_EVKIT_B is the data acquisition board while the MAX86165_OSBFLEX_EVKIT_B is the sensor daughter board for the MAX86165. The EV kit is powered by a Li-Po battery, which is recharged through a USB-C cable. The EV kit streams data using Bluetooth® through Windows® BLE or a Cypress USB Bluetooth® LE dongle [CY5677](#). The EV kit contains the latest firmware but comes with the programming circuit board MAXDAP-TYPE-C in case a firmware upgrade is needed.

Note: This EV kit is not a medical device.

[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 MAX86165
- Supports Optimization of Configurations
- Facilitates Understanding MAX86165 Architecture and Solution Strategy
- Real-time Monitoring
- Data Logging Capabilities
- On-Board Accelerometer
- Bluetooth® LE
- Windows® 10-Compatible GUI Software

EV Kit Contents

- MAXSENSORBLE_EVKIT_B board
- MAX86165_OSBFLEX_EVKIT_B 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

MAX86165 EV Kit Files

FILE	DESCRIPTION
MAX86165GUISetupVxxx_Web.zip	Setup file to install the PC GUI program
MAXSENSORBLE_EVKIT_B.zip	Schematic, BOM, layout
MAX86165_OSBFLEX_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.

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Notes

