

# Small, Wireless, 6-Lead ECG Holter Monitor Reference Design With Respiration, Pace, and Temperature



## Description

The wearable biosensing Holter reference design provides an evaluation platform for TI's latest offerings in continuous monitoring of vital signs such as electrocardiogram (ECG), heart rate, respiration, pace pulse, temperature, and motion. The design utilizes the AFE159RP4 for low-power, high-resolution, and highly integrated ECG signal acquisition with up to 6 leads (4 channels) and the TMP119 for body temperature monitoring. The measured data is transferred by the CC2674R10 (with Bluetooth® Low Energy 5.3 support) to a remote terminal such as a smartphone or medical monitoring system for real-time display. The onboard light-emitting diode (LED) indicates the status of the system like lead-off, low power, and Bluetooth® Low Energy connection. The full system can be powered by 2 × CR2032 battery (3V input) or 1 × AAA battery (1.5V input) with an operating life of six days.

## Resources

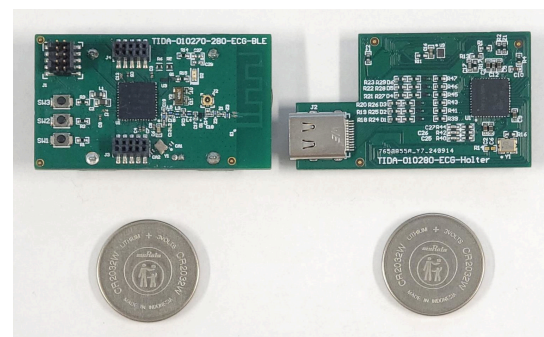
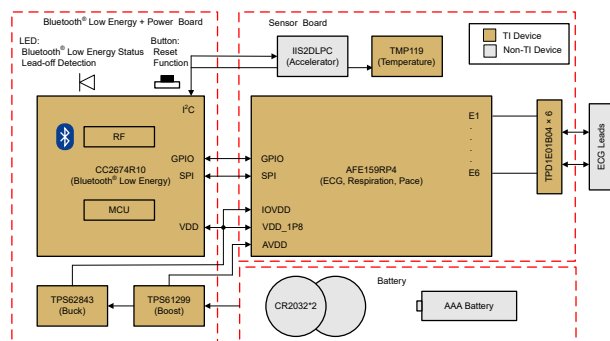
<a href="#">TIDA-010280</a>	Design Folder
<a href="#">AFE159RP4, CC2674R10</a>	Product Folder
<a href="#">TMP119, TPD1E01B04</a>	Product Folder
<a href="#">TPS62843, TPS61299</a>	Product Folder

## Features

- Small, multiparameter, single-chip Holter monitor design for synchronized ECG, respiration, and pace pulse detection
- High-accuracy digital temperature sensor for real-time body temperature monitoring
- High-performance, 2.4G Bluetooth® Low Energy 5.3, Arm® Cortex®-M33 processor supports wireless data transfer
- Highly efficient DC/DC converter to support both 2 × CR2032 (3V, 210mAh coin-cell battery) and 1 × AAA battery (1.5V, 500mAh) with an operating life of 6 days
- Flexible Bluetooth® Low Energy platform to support the wearable patch and Holter monitor design
- [SimpleLink™ Connect mobile application](#) for real-time ECG, respiration, pace pulse, and temperature display

## Applications

- [Medical sensor patches](#)
- [Electrocardiogram \(ECG\)](#)
- [Wearable fitness and activity monitor](#)



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