

TI HealthTech

Engineering components for life.

TI HealthTech: Wireless Sensor Hub Demonstrations



 Health, Fitness, Imaging

Introduction

- Purpose
 - To show how TI components enable health and fitness technology
- Objectives
 - Discuss wireless sensor hubs from TI
- Content
 - Hand-to-hand & Foot-to-Foot Body Composition Demo
 - Wrist Based Heart Rate Watch Demo
 - Finger Clip Pulse Ox Demo
 - Single Lead ECG Demo
 - Pedometer / Motion Tracker Demo

HealthTech: Health Hub Demos

Body worn sensors with Bluetooth low energy for health and fitness applications

- End-to-end solution with sensors, AFEs, MCUs and wireless connectivity
- Includes pulse-oximeter, body composition meter, heart rate monitor and ECG
- iPad as data aggregator

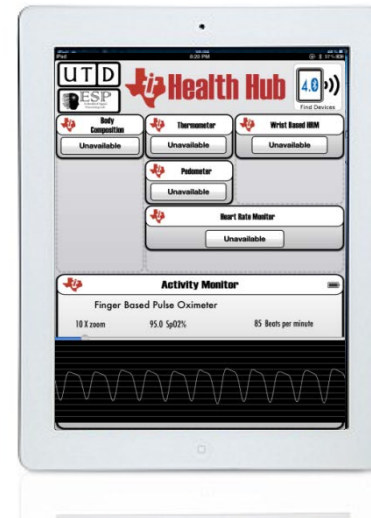
TI HealthTech

Engineering components for life.



Hand to Hand Body Composition Foot to Foot Body Composition

- Off-the-shelf hand meter and weigh scale— insides replaced with 100% TI parts
 - AFE4300 for bio-impedance and weight measurement
 - MSP430F5528 MCU for holding calibration data and computing weight, TBW, ECW, and body comp analysis
 - BLE module connection featuring TI's CC2541
 - iPAD as data aggregator



TI HealthTech

Engineering components for life.

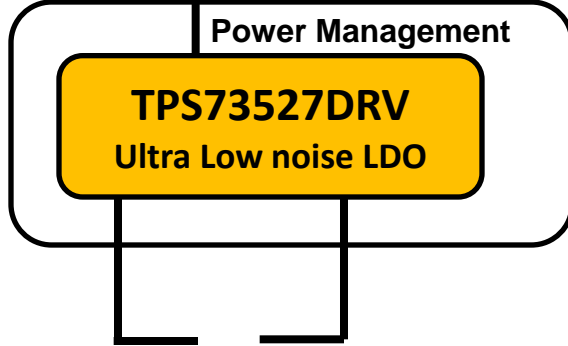
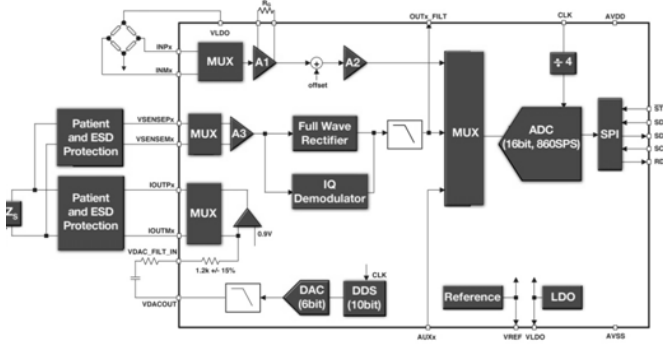


Health Hub: Body Composition

Hand to Hand or
Foot to Foot

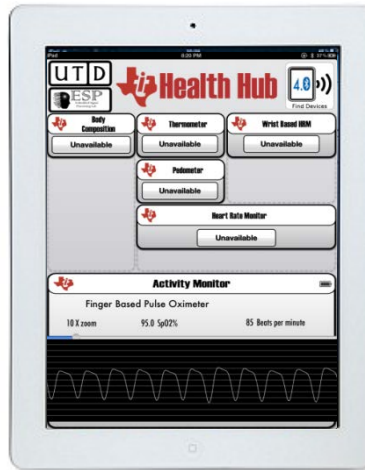


AFE4300



Wrist Based Heart Rate Monitor

- A Wireless wrist watch heart rate monitor demo based on PPG
 - AFE4400 for measuring pulse from veins in the wrist
 - MSP430F5528 MCU for holding motion cancellation calibration data
 - BLE module connection featuring TI's CC2541
 - iPad as data aggregator

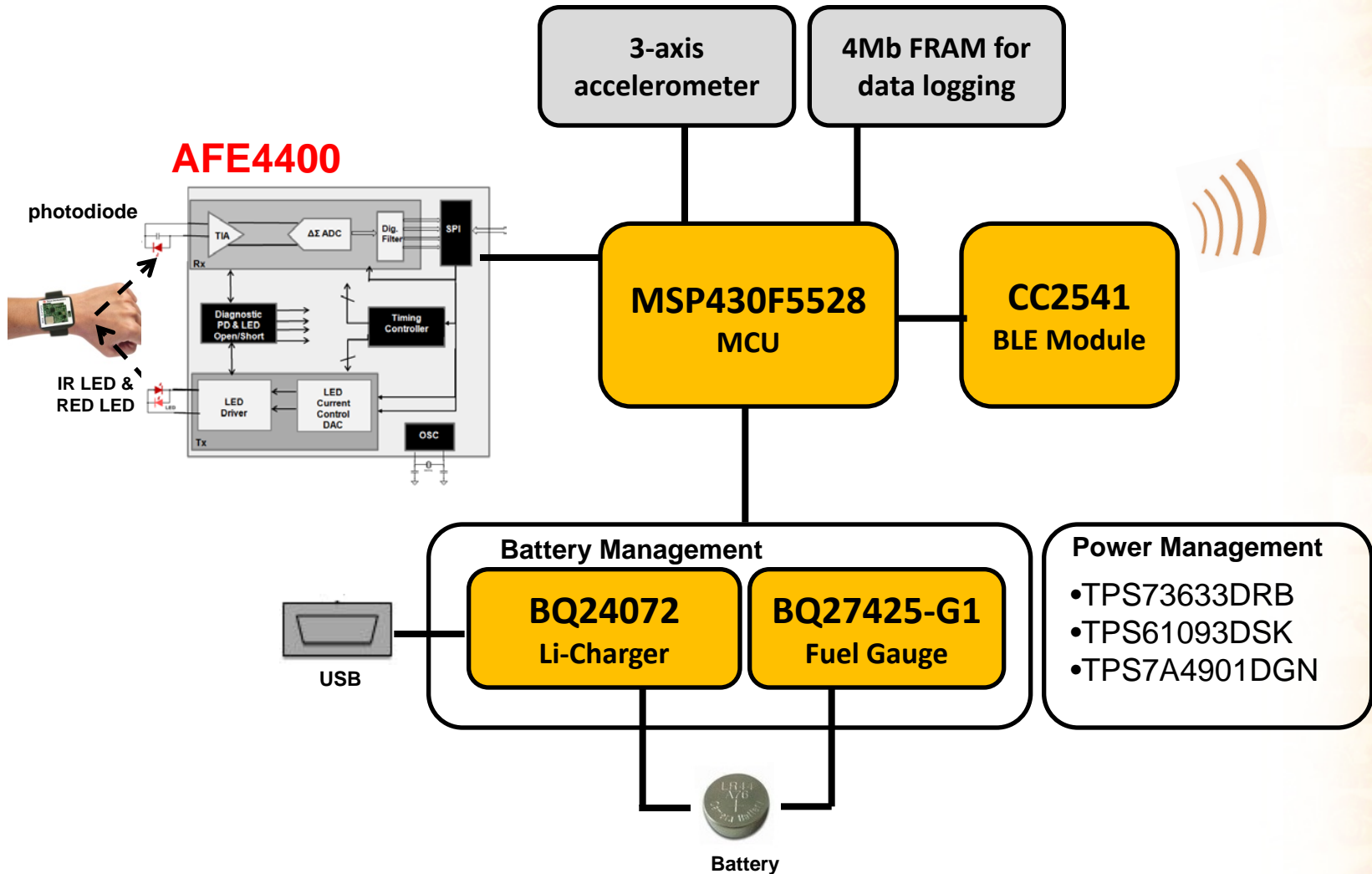


TI HealthTech

Engineering components for life.

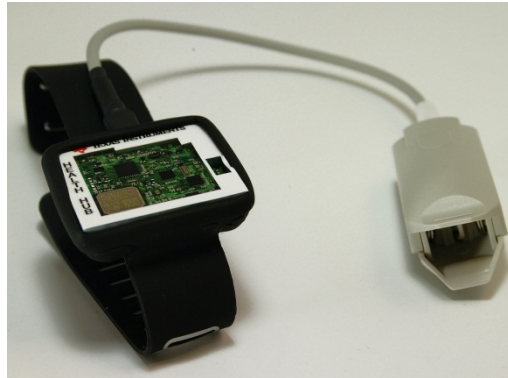


Health Hub: Wrist Based HRM



Finger Clip Pulse Ox

- Off-the-shelf pulse ox cable modified to plug into TI board
 - AFE4490 for LED transmit and receive paths
 - MSP430F5528 MCU
 - BLE module connection featuring TI's CC2541
 - iPad as data aggregator

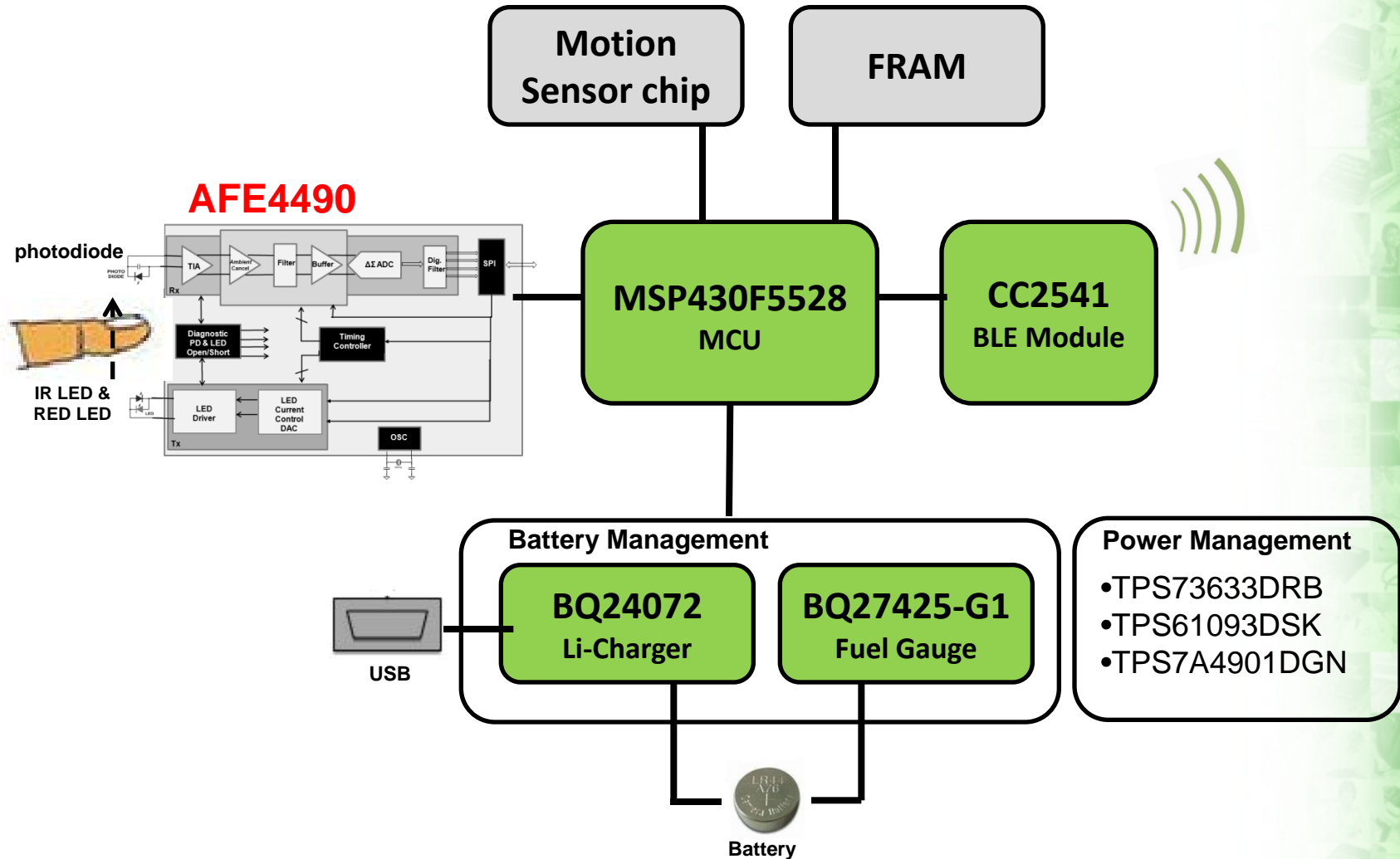


TI HealthTech

Engineering components for life.



Health Hub: Finger Clip Pulse Ox



Single Lead ECG

- Off-the-shelf heart rate strap with TI board connected
 - ADS1292 for integrated ECG front end
 - MSP430F5528 MCU
 - BLE module connection featuring TI's CC2541
 - iPad as data aggregator



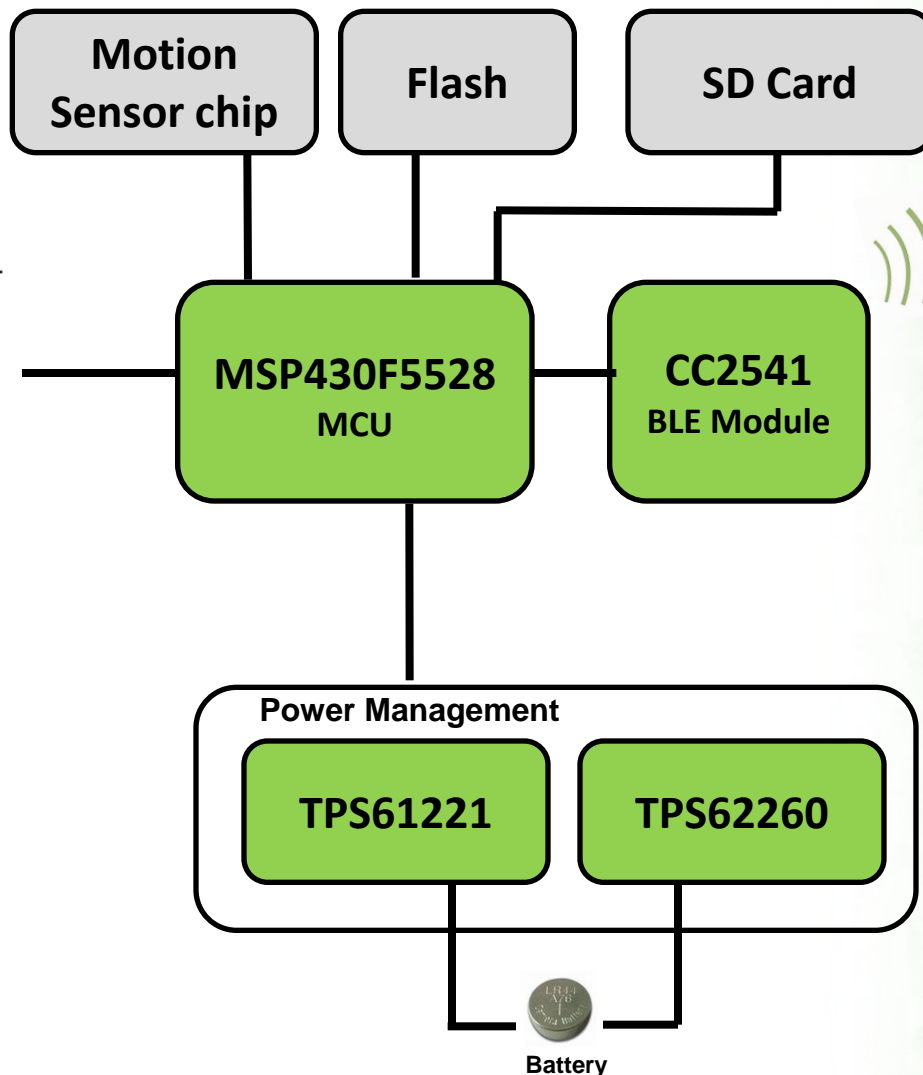
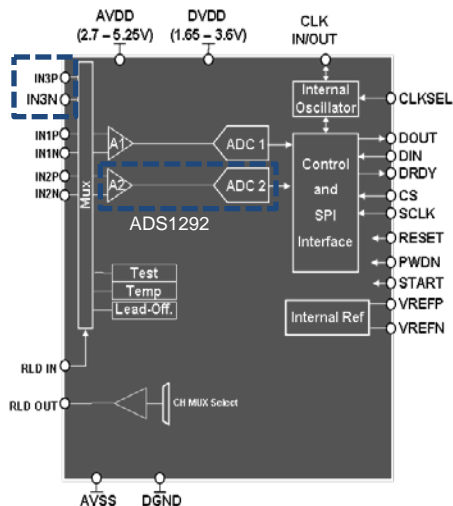
TI HealthTech

Engineering components for life.



Health Hub: Single Lead ECG

ADS1292R



Pedometer / Motion Tracker

- Off-the-shelf accelerometer integrated into board on a watch
 - MSP430F5528 MCU
 - BLE module connection featuring TI's CC2541
 - iPad as data aggregator



TI HealthTech

Engineering components for life.



Summary

- TI HealthTech's Wireless Sensor Hub Demo's are a suite of health and fitness demo's that show what is possible using TI component technology.
- To find out more visit www.ti.com/healthtech