Miniaturized Optical Heart Rate Reference Design

(ACTIVE) TIDA-00301 No reviews yet. Add your review and give us feedback

Description & Features | Technical Documents | Support & Community | Order Now

View the Important Notice for TI Designs covering authorized use, intellectual property matters and disclaimers.

Description

This reference design is for a miniaturized **Optical Heart Rate Monitor** measurement solution (no chest strap!) specifically targeted for wearable and mobile applications. The small form factor module can easily interface to smartphones, tablets, and wearables. With TI's AFE4403 AFE, you can accelerate and simplify your Optical HRM design while still ensuring measurement performance needed for serious Fitness designs. This design is a smaller form factor than TIDA-00011.

Dimensions: 0.579in x 0.413in

TIDA-00301 Miniaturized Optical Heart Rate Reference Design

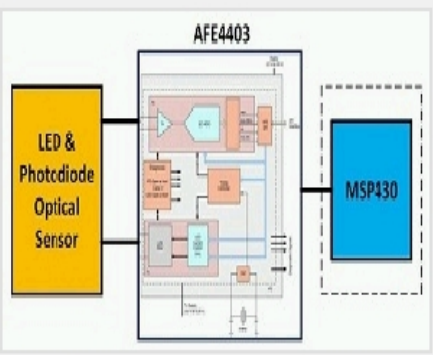
Features

- Supports optical heart rate measurement
- Features AFE4403 and third party optical sensor module for measuring heart rate
- Targeted for smart phones, tablets, wearables
- MSP430F5528 MCU for holding algorithm for each measurement
- This design is tested and provides everything you need to complete your design including Schematics, Layout, Gerber files, and BOM

Fully assembled board (shown above) developed for testing and performance validation only, not available for sale.

Schematic/Block Diagram

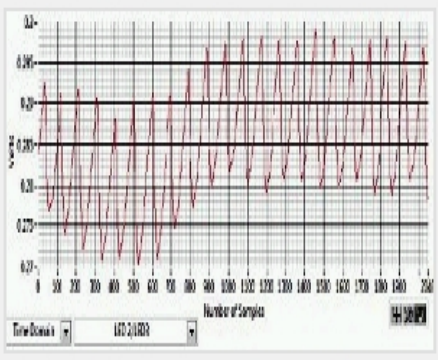
Quickly understand overall system functionality.



Download Schematic

Test Data

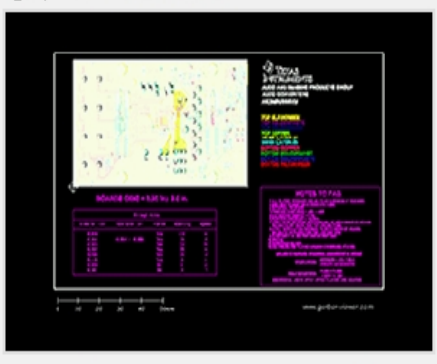
Get results faster with test and simulation data that's been verified.



Download Test Data

Design Files

Download ready-to-use system files to speed your design process. Get Viewer.



Download Design File

Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

TI Devices (2)

Order samples, get tools and find more information on the TI products in this reference design.

Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
AFE4403	Ultra-Small, Integrated Analog Front-End for Heart Rate Monitors and Low-Cost Pulse Oximeters	Analog Front End (AFE)	Sample & Buy	View Design Kits & Evaluation Modules
MSP430F5528	16-Bit Ultra-Low-Power Microcontroller, 128KB Flash, 8KB RAM, USB, 12Bit ADC, 2 USCIs, 32Bit HW MPY	Low Power + Performance	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
MSP430F5528	VQFN (RGC) | 64	Download	-
	DSBGA (YFF) | 64	Download	-
	BGA MICROSTAR JUNIOR (ZQE) | 80	Download	-

Texas Instruments and Accelerated Designs Inc. have collaborated together to provide TI customers with schematic symbols and PCB layout footprints for TI products.

Step 1: Download and install the Ultra Librarian software ZIP: 62MB

Step 2: Download the Symbol and Footprint .bxl file.

- read more -

Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
Miniaturized Pulse Oximeter (TIDA-00301 Reference Guide)		PDF	1220	05 Aug 2014	231

Design Files (5)

Title	Abstract	Type	Size (KB)	Date	Views
TIDA-00301 Gerber		ZIP	279	05 Aug 2014	30
TIDA-00301 PCB Layout		ZIP	406	05 Aug 2014	50
TIDA-00301 Assembly Files		ZIP	832	05 Aug 2014	45
TIDA-00301 BOM		PDF	73	05 Aug 2014	70
TIDA-00301 Schematic		PDF	146	05 Aug 2014	138

Support & Community

TI E2E™ community

TI E2E™ Community

As a member of my.TI you can join the TI E2E™ Community where you can ask questions, share ideas and collaborate with fellow engineers and TI experts

Contents are provided "AS IS" by the respective TI and Community contributors and do not constitute TI specifications. See Terms of use.

Engage in the Community

- Amplifiers
- Broadband RF/IF & Digital Radio
- Clocks & Timers
- Data Converters
- DLP® & MEMS
- Interface
- Logic
- Power Management
- Wireless Connectivity

Wikis

Visit the TI Wiki

Other Support

- TI E2E Community
- Contact Technical Support

Customer Reviews BETA

No reviews yet. Add your review and give us feedback

Your History

Products You Recently Viewed

- TIDA-00294
- TIDA-00293
- TIDA-00292
- TIDA-00290
- TIDA-00274

TI is a global semiconductor design and manufacturing company. Innovate with 100,000+ analog ICs and embedded processors, along with software, tools and the industry's largest sales/support staff.

© Copyright 1995-2014 Texas Instruments Incorporated. All rights reserved.
Trademarks | Privacy policy | Terms of use | Terms of sale