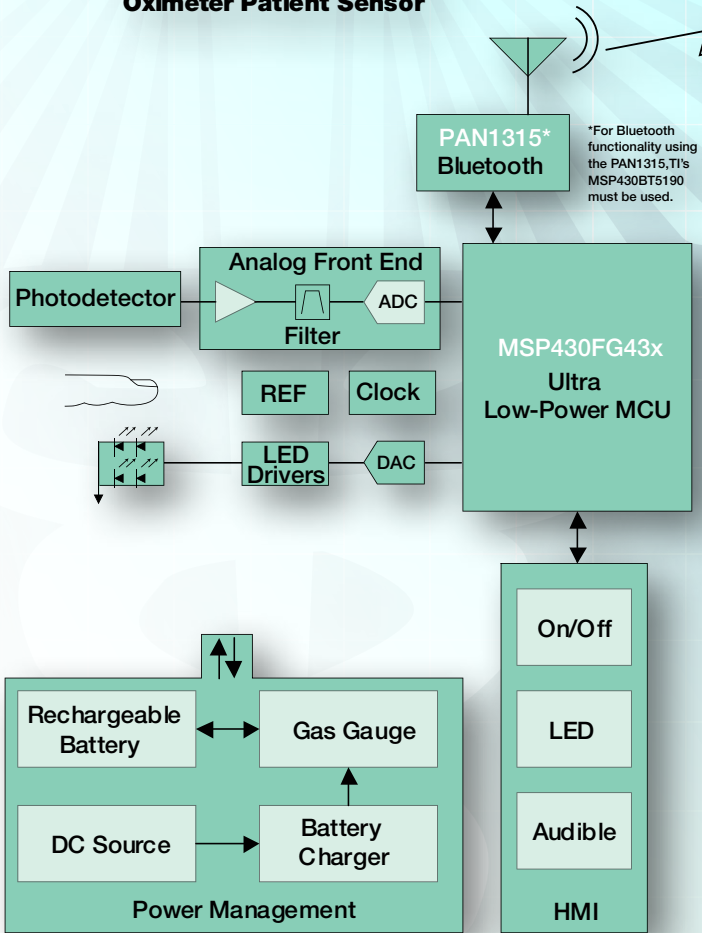


# Pulse Oximetry

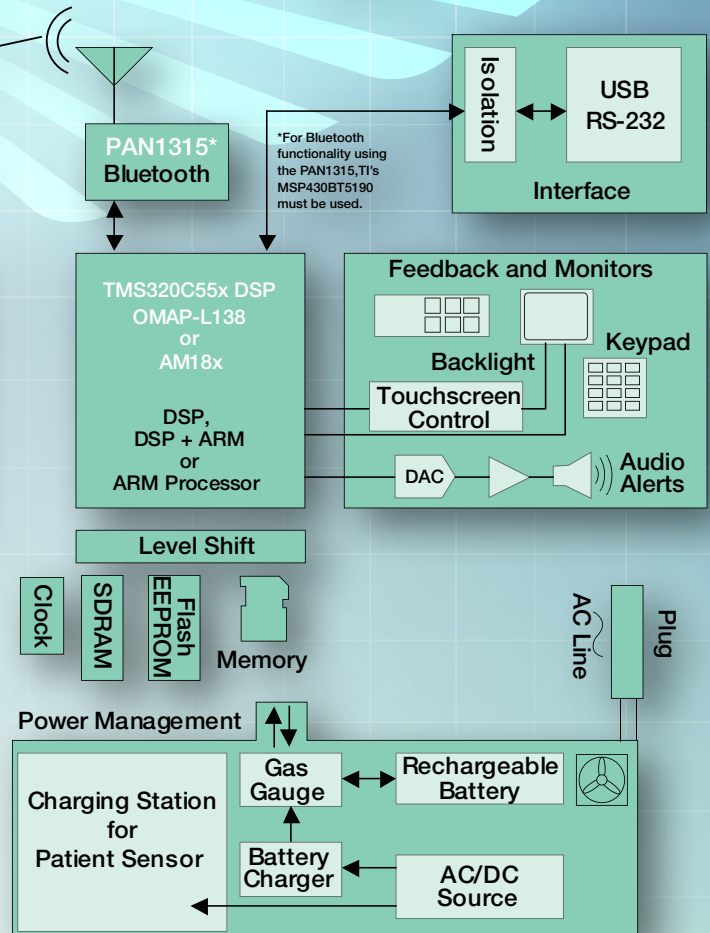
SOLUTIONS APPLICATION SHEET

Pulse Oximetry

## Wearable/Portable Pulse Oximeter Patient Sensor



## Gateway



### Arrow Electronics Medical

[See back for solution descriptions >>](#)

Arrow Electronics Medical is fully dedicated to serving the needs of medical original equipment manufacturers (OEMs), systems integrators, and the EMS industry with services and expertise that are unmatched in the industry. We deliver the value you require in a full-service supply chain partner through engineering services, supply chain solutions, and end-of-life support. We provide a superior level of medical technology expertise, and help you accelerate your time to market for your next innovative medical device. From components to complete integrated solutions, Arrow can help you succeed in today's demanding and ever-changing medical marketplace.

### Look to Arrow Medical to help with your next design:

- Unmatched industry expertise
- FDA expertise and certifications
- Unrivalled engineering support
- Broad medical linecard
- Manufacturing capabilities
- Global logistics services
- EOL support

For more information on Arrow's Medical solutions visit [www.arrownac.com/medical](http://www.arrownac.com/medical) call Arrow Medical at 866-260-1401, or email [medicalsolutions@arrow.com](mailto:medicalsolutions@arrow.com)



## Put a Team of the Industry's Best to Work for You on Your Next Pulse Oximetry Application Design

Arrow Electronics' recent collaboration with Texas Instruments, supported by two of the medical industry's leading suppliers of components, Elo TouchSystems and Panasonic, now provides world-class pulse oximetry application solutions. Pulse oximeters measure arterial blood oxygen saturation via wavelengths of light. A basic meter is comprised of an attachable sensing probe and a data acquisition system that calculates oxygen saturation level, heart rate, and blood flow. To address these complex needs, we've put decades of proven experience into creating the industry's most dependable, innovative medical technology...technology that can be relied upon to decrease time to market, increase product lifecycles, and provide better performance when and where it's needed most.



### Texas Instruments

#### Single-Lead Processor Solution MSP430FG43x MCU Series

- MCU configurations with two 16-bit timers
- High-performance 12-bit A/D converter. Dual 12-bit D/A converter
- Three configurable operational amplifiers
- One universal synchronous/asynchronous communication interface (USART), DMA, 48 I/O pins
- Liquid Crystal Display (LCD) driver
- Ultra low-power consumption—active mode: 300  $\mu$ A at 1 MHz, 2.2V standby mode: 1.1  $\mu$ A and off mode (RAM retention): 0.1  $\mu$ A

#### Multi-Lead Processor Solutions Low-Power ARM + DSP or ARM Only— OMAP-L1x or AM18x Processors:

- ARM9 and ARM9-plus-DSP architectures
- Variety of peripherals for networking
- Linux or WinCE for ARM and/or DSP/BIOS™ real-time kernel for operating system flexibility
- Power consumption ranges from 7 mW in standby to 400 mW total power
- Liquid Crystal Display (LCD) driver

#### Ultra Low Power TMS320C55x Fixed-point DSP

- Broad portfolio of the industry's lowest power DSP
- Total power consumption at <0.15mW/MHz
- Standby power consumption at <0.12mW
- Performance up to 600 MIPS

#### Data Converter Solutions ADS8328 low power, 16-bit, 500-ksps ADC

- 2.7-V to 5.5-V Analog Supply, Low Power: 10.6 mW (500 kHz, +VA = 2.7 V, +VBD = 1.8 V)
- 500-kHz Sampling Rate
- Excellent DC Performance:
  - ±1.5 LSB Typ, ±2 LSB Max INL
  - ±0.6 LSB Typ, ±1 LSB Max DNL
- 1.65 V to 1.5×(+VA) I/O Supply
- Comprehensive Power-Down Modes
- Unipolar Input Range: 0 V to Vref

### Panasonic OEM Batteries

#### BR and CR Lithium Cells

- Reliable and safe
- Applications: Low power consuming compact cordless devices, glucose meters, pain management, hearing aids, and memory backup

#### Lithium Cylindrical Cells

- High durability and stability
- Applications: Electronic measurement equipment, AEDs, and infusion pumps
- Oximeter wearable sensors

#### VRLA

- Maintenance-free, long service life
- Quick chargeability
- Applications: Backup power, wheelchairs, and emergency lighting
- Uninterruptible and Backup Power Supplies (UPS)

#### Alkaline

- Excellent storage life and resistance to leakage
- Applications: Electronic door locks and other cordless products

### Elo TouchSystems

#### 1x15L Family of ELO Touchmonitors

- Different sizes and configurations
- Custom finishes
- Private labeling
- Custom enclosures
- Sealing and shielding
- Special cabling
- In-house prototyping
- Proof-of-concept models
- Compliance engineering
- Global agency certifications: UL, CSA, cUL, FCC, CE, CISPR, CTICK, VDE, and TUV

### Panasonic Electronic Components

Visit [www.panasonic.com/ti](http://www.panasonic.com/ti) for Bluetooth RF Module design-in assistance.

- Powerful, highly flexible, cost effective RF modules
- Applications: Wide variety of wireless Personal Area Network (PAN) applications
- New extended range products and small footprints
- Network firmware flexibility

#### PAN1315ETU Series (Easy-To-Use)

- Plug directly into evaluation kits
- Header connectors simplify prototype wiring and field trials

#### New PAN1315 Host-Controlled Interface (HCI) Bluetooth RF module

- Utilizes the TI CC2560 Bluetooth core integrated circuit
- Easy-to-use module format
- Tiny footprint—only 58.5 mm<sup>2</sup>
- Accommodates PCBs pad pitch of 1.3 mm
- As little as two layers for easy implementation and manufacturing
- Programmable output power for transmission distance and power consumption management
- For Bluetooth functionality using the PAN1315, TI's MSP430BT5190 must be used

