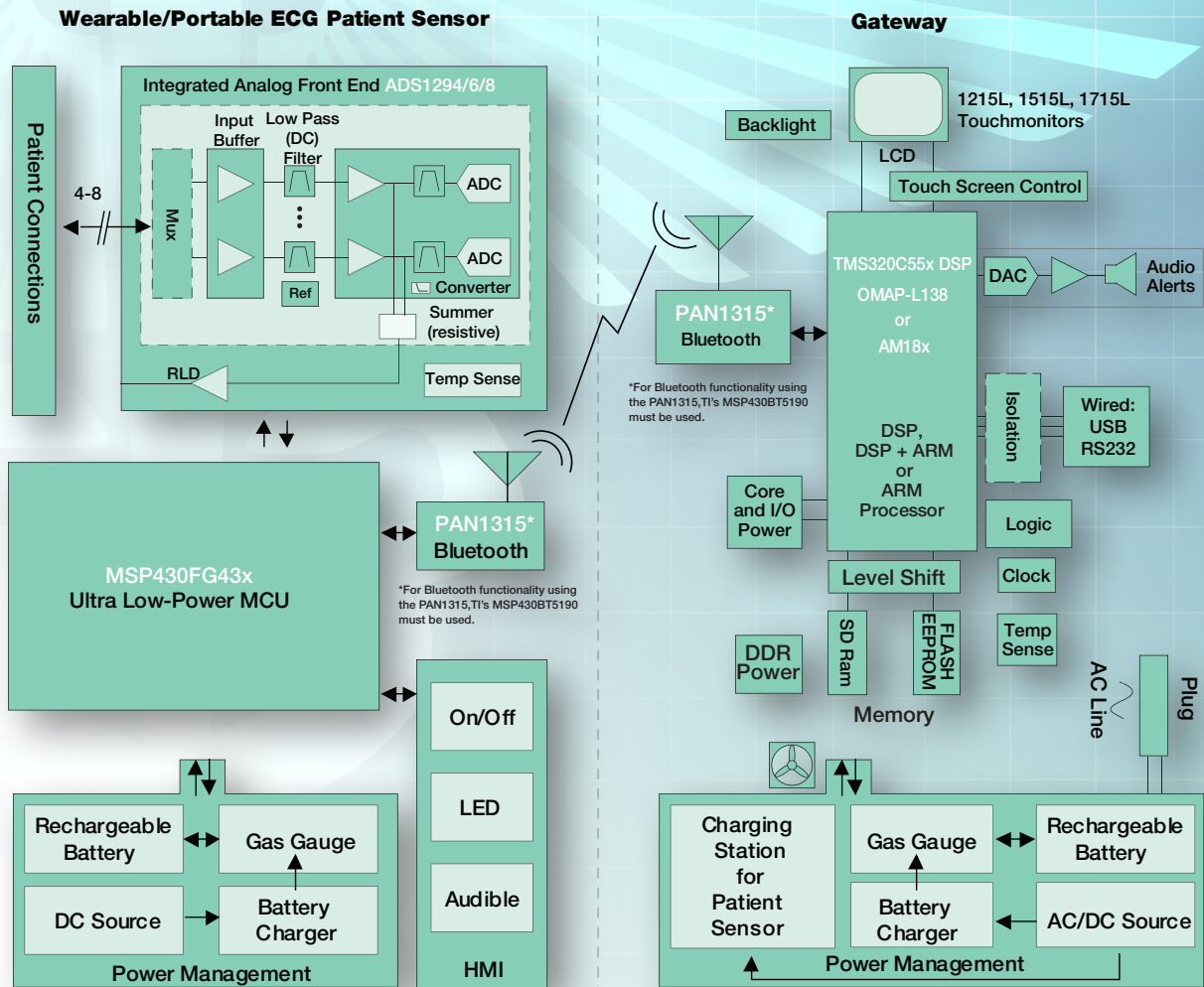


# Electrocardiogram

SOLUTIONS APPLICATION SHEET

Electrocardiogram



## 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.arrow.com/medical](http://www.arrow.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 ECG Application Design

Patient monitoring systems present designers with considerable challenges. Measuring very small electrical signals amid much larger common-mode voltages and noise. Front-end amplification. Refined systems communication. Biophysical signal measurements. Successfully meeting the signal acquisition challenge requires ICs with appropriate characteristics, features, and performance. That's where we come in.

A powerful alliance, Arrow, Texas Instruments, Elo TouchSystems, and Panasonic combine decades of proven experience and superior technology to provide best-in-class ECG application solutions. This fusion of the industry's foremost suppliers assures you longer lifecycles, decreased time to market, and reliable innovation for all your vital medical system needs.

## MEDICAL TECHNOLOGY



### 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  $<0.15$  mW/MHz
- Standby power consumption at  $<0.12$  mW
- Performance up to 600 MIPS

#### Data Converter Solutions ADS1298 Integrated Front End

- Reduces components and board size by 95%
- 1 mW/channel reduces solution power by 95%
- Single-chip solution increases system reliability and patient mobility
- Eight high-resolution, simultaneous sampling ADCs
- Integrated amplifier for right-leg drive
- Integrated amplifiers for Wilson Central Terminal (WCT) and Goldberger Central Terminals (GCT)
- Eight low-noise PGAs

### 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
- ECG 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

### Tyco Electronics' Elo TouchSystems

#### 1x15L Family of ELO Touchmonitors

- Completely sealable against water and other liquid splashes
- Can be activated with finger, rubber-gloved hand, or stylus
- Space-saving—up to 800 x 600 resolution at 75 Hz
- Available with AccuTouch five-wire resistive technology
- Removable stand and VESA mounting options
- Digital on-screen display (OSD)
- Viewing angle Horizontal:  $\pm 70^\circ$  or  $140^\circ$  total, Vertical:  $\pm 50^\circ$  or  $100^\circ$  total
- Input voltages AC: 85-265 VAC, 47-63 Hz and DC: 12.0 V  $\pm$  0.75V

### 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

