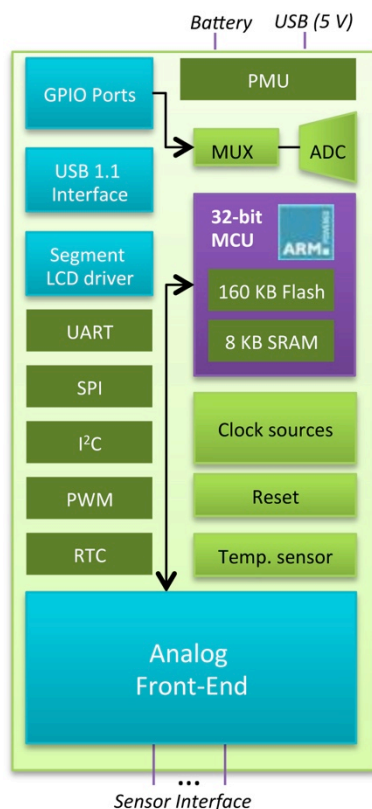


## Ernie Features

- ARM M0 32-Bit MCU
- 160kB Flash RAM
- 8kB SRAM
- USB 1.1 Interface
- One 16-Bit Sigma-Delta ADC
- Two 14-bit DACs
- Integrated power management
- 18 GPIO control pins
- RTC with Date/Time/Alarm
- 12MHz RC Oscillator
- Buffered 32.768 kHz Clock
- 10kHz Auxiliary Clock
- UART, I<sup>2</sup>C, SPI interfaces
- 3V Battery or USB Powered



## Recommended Applications

Commercial and Home Medical Applications

## iND86201 - “Ernie”

### Integrated Glucose Meter IC for Medical Applications

#### Device Description

Ernie is a highly integrated glucose meter system on chip (SoC) specifically designed for the commercial and home medical markets.

Ernie contains a high performance 32-bit wide ARM M0 core with 160kB of flash RAM and 8kB of SRAM. A real time clock (RTC), 12MHz RC oscillator, 32kHz sleep mode clock, 10kHz auxiliary clock, and watchdog timer are all fully integrated on die for high performance, low power design.

The high performance analog front end (AFE) consists of a state of the art 16-bit sigma-delta ADC and two 14-bit DACs which together allow for fast, highly precise chemical measurements with low calibration requirements.

Ernie includes integrated power management and is capable of running entirely off either a 3V battery or the integrated USB port. An integrated charge pump is capable of generating 4.5V from the battery and supplies power to the LCD. No other components are required for power regulation of the IC, creating an efficient, low cost design.

Ernie integrates multiple interface options. It can drive up to 120 display elements in a 4 x 30 LCD segment display for feature-rich measurement readouts. Ernie also includes a USB 1.1 serial interface supporting control, bulk, and interrupt transfers so that data can be stored and downloaded at a later time.

Ernie easily interfaces to other discrete ICs through standardized UART, I<sup>2</sup>C or SPI interfaces and provides 18 GPIO controls to interface with other on-board components.

Ernie is pre-certified in medical devices and is currently available in mass production quantities.

#### Ordering Information

Device Ordering Name	Platform	Temp Range	Package	Pins
iND86201 Ernie	Commercial and Home medical glucose appliances	-40C to +85C	8x8 mm BGA	120 Pins @ 0.65 mm Pitch