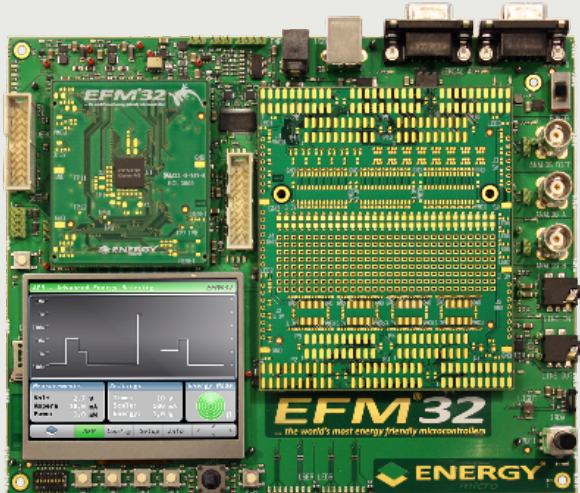# EFM32 Gecko Development Kit

EFM32-G2XX-DK/EFM32-G8XX-DK

Preliminary

The EFM32 Gecko Development Kit is a platform for rapid prototyping of ultra low power microcontroller applications. It consists of a mother board, a replaceable MCU-board and a prototyping-board, along with a comprehensive software development environment.

The development kit contains a unique Advanced Energy Monitoring (AEM) system that allows designers to have full control over their application's energy consumption. Combined with the possibility to isolate the motherboard's components not relevant for the end application, designers can optimize all variables that will make their application as energy efficient as possible.

The on-board emulator enables extremely simple set-up, and combined with the versatile peripherals (e.g. accelerometer, TFT-display, audio input/output, RS232, user LEDs / buttons), the development kit gives a complete basis for application design and prototyping.

- **Advanced Energy Monitor (AEM)**
  - Precise measurement of current and voltage
  - 0.1 µA to 50 mA measurement range
  - Always available by pushing a button
- **Software**
  - Comprehensive set of board support functions
  - 32 KB evaluation versions of:
    - KEIL[TM] MDK-ARM Microcontroller Development Kit
    - IAR Embedded Workbench[®]

- **User Interface**
  - 320×240 TFT display
  - 16 User LEDs
  - 8 rocker style miniature DIP switches
  - 4 pushbutton switches
  - Miniature joystick
  - 1 system reset pushbutton switch
  - Potmeter
- **Analog Features**
  - Ambient light sensor / Photo resistor
  - 3 axis accelerometer
  - Temperature sensor
  - Line-in / Line-out analog interface
  - Two single ended and one differential analog input
- **Communication**
  - 2 RS232 serial ports
  - Infrared transceiver
- **Debugging**
  - Onboard SEGGER J-Link USB emulator
  - ARM 20 pin JTAG/SWD standard Debug in/out connector
- **Memory**
  - 4 Mbit fast access SRAM
  - 32 Mbit NOR flash
  - 2 kbit I^2C bus EEPROM
  - 16 Mbit SPI Flash
  - Micro SD expansion port
- **Power**
  - Two separate power domains allowing for accurate current and voltage measurements of the application energy consumption.
  - External 5 V supply
  - 5 V / 500 mA USB supply
- **Prototype Board**
  - All EFM32 GPIO pins available
  - 3 power domains; 5 V unregulated, AEM measured V_{DDm} and unmeasured V_{DD}
  - User LEDs
- **MCU Board**
  - LCD (EFM32-G8XX-DK only)
  - 32.768 kHz crystal
  - 32 MHz crystal
  - LEDs indicating power and reset
- **Setup Control**
  - FPGA controlling switches and connections
  - I^2C EEPROM for identification of prototype- and MCU-boards

1 Ordering Information

Table 1.1. Available Products

Ordering Code	Description
EFM32-G2XX-DK	EFM32 Gecko Development Kit with EFM32G290F128 MCU plugin board
EFM32-G8XX-DK	EFM32 Gecko Development Kit with EFM32G890F128 MCU plugin board with 160 segment LCD
EFM32-GXXX-PTB	EFM32 Gecko Development Kit prototyping board

1.1 Energy Micro Corporate Headquarters

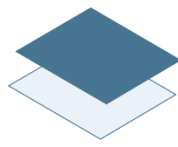| Postal Address	Visitor Address	Technical Support
Energy Micro AS P.O. Box 4633 Nydalen N-0405 Oslo NORWAY	Energy Micro AS Sandakerveien 118 N-0405 Oslo NORWAY	support@energymicro.com Phone: +47 40 10 03 01

www.energymicro.com
Phone: +47 23 00 98 00
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1.2 Global Contacts

Visit **www.energymicro.com** for information on global distributors and representatives or contact **sales@energymicro.com** for additional information.

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