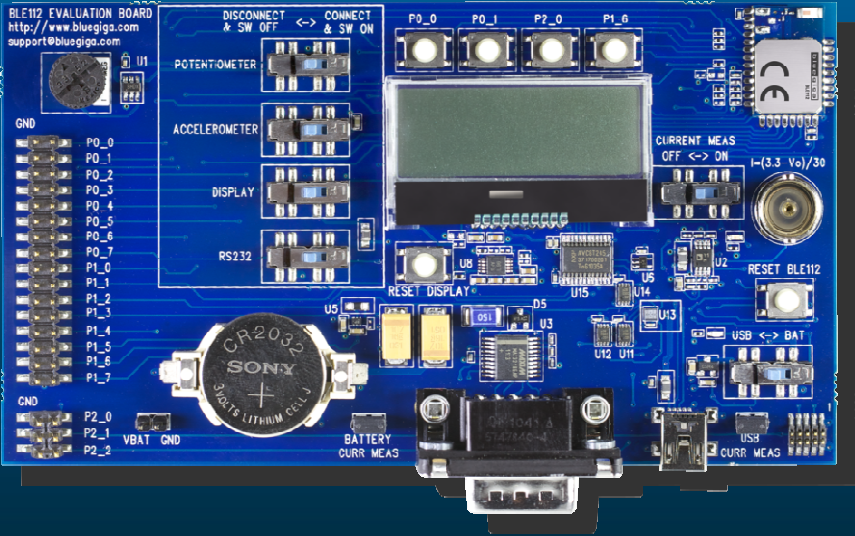


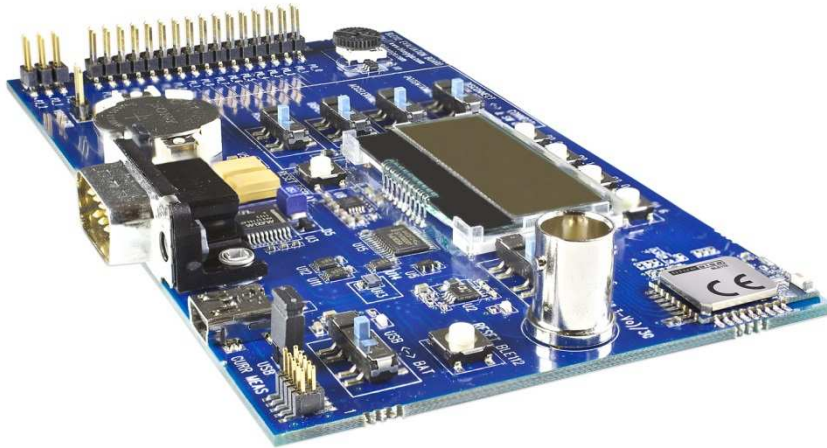


BLE112 *Bluetooth*[®] 4.0 DEVELOPMENT KIT



DKBLE112 introduction & Promotion

New Bluegiga BLE112 *Bluetooth*® 4.0 single mode Development Kit



DKBLE112 package contents

- 1 x BLE112 evaluation board
- 1 x Firmware programming cable
- 1 x BLD112 USB dongle
- 2 x BLD112 Modules
- Cables and documentation

Access the Bluegiga's *Bluetooth* 4.0 Software Development Kit:

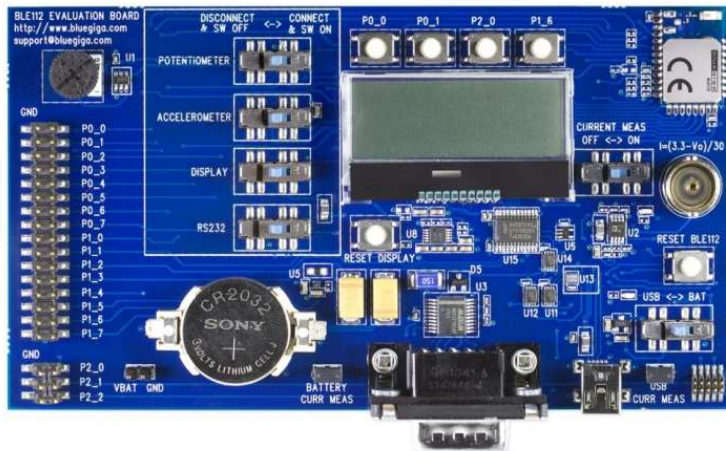
- BGAPI binary protocol
for applications with separate host
- BGScript™ scripting language
for standalone applications
- Profile Toolkit™
for Bluetooth low energy profile development
- More information: <http://www.bluegiga.com/bluetooth-low-energy>

Bluegiga's *Bluetooth* 4.0 Software Development Kit



- **The SDK is a full *Bluetooth* low energy application development suite**
- **It supports several application development models**
 - Host (external MCU) based applications
 - Standalone applications running inside BLE112
 - *Bluetooth* GATT based profile development
- **The SDK consists of the following components**
 - The *Bluetooth* 4.0 single mode stack
 - BGAPI command & control protocol between BLE112 and the host
 - BGScript™ scripting language for stand alone applications
 - Profile Toolkit™ GATT based profile development kit
- **Example applications**
 - FindMe reporter
 - Heart rate transmitter
 - Health thermometer
 - etc.

DKBLE112 *Bluetooth* 4.0 single mode Development Kit



- Includes BLE112 single mode module
 - *Bluetooth* 4.0 single mode compliant
 - Supports master and slave modes
- Integrated peripherals
 - 3-axis accelerometer (SPI)
 - LCD display (SPI)
 - Temperature sensor (ADC)
 - Battery monitor (ADC)
 - Potentiometer (ADC)
 - 4 buttons
- All I/Os available via header
- CR2032 battery or USB power supply
- Suitable for applications like
 - Heart Rate Sensor
 - FindMe Target
 - Proximity Reporter
 - Health Thermometer
 - Battery Profile

Bluegiga's *Bluetooth* 4.0 products

BLED112: Key features



- **Bluetooth v.4.0, single mode compliant**
 - Supports master and slave modes
- **Integrated Bluetooth low energy stack**
 - GAP, GATT, L2CAP, SMP
 - Bluetooth low energy profiles
- **Radio performance**
 - Transmit power: +3 dBm to -23dBm
 - Receiver sensitivity: -87dBm to -93dBm
- **Ultra low current consumption**
 - Transmit: 27mA (0 dBm)
 - Receive: 19.6mA
 - Sleep mode 3: 0.5uA
- **Programmable 8051 processor for embedding full applications**
- **Bluetooth end product, CE, FCC and IC qualified***



* In progress

BLE112: Benefits



- **Fully integrated solution**
 - Lower cost
 - Faster time to market
- **Application hosting capabilities**
 - All application code can be executed on the BLE112
 - Simple and fast implementation
 - Lower cost
- **Flash based**
 - Firmware is field upgradable
 - Application data can be stored on the flash
 - Settings can be stored on the flash
- **Good radio performance**
 - Long range and robust connections
 - Programmable TX power
- **Bluetooth Qualified**
 - Proven interoperability
 - No qualification costs



BLED112: Key features



- **Bluetooth v.4.0, single mode compliant**
 - Supports master and slave modes
- **Integrated Bluetooth low energy stack**
 - GAP, GATT, L2CAP, SMP
 - Bluetooth low energy profiles
- **Radio performance**
 - Transmit power: +3 dBm to -23dBm
 - Receiver sensitivity: -87dBm to -93dBm
- **Integrated USB device classes**
 - USB communications device class
 - USB HID device class*
- **Bluetooth end product, CE, FCC and IC, South-Korea and Telec qualified***



* In progress

BLED112: Benefits



- **Standalone operation**
 - No OS drivers or application needed
 - Application does not need to run for dongle to operate
- **Wide Operating System support**
 - Windows®
 - Linux
 - Android 3.1 and newer
- **BGAPI software interace**
 - A well defined API, OS independent API
 - For example QT based applications run on Windows, Linux and MAC
- **Firmware and GATT data base upgradable**
 - On the field updates
 - New profile support
- **Bluetooth Qualified**
 - Proven interoperability
 - No qualification costs



What is *Bluetooth* low energy?

***Bluetooth* low energy is designed for new emerging applications and markets such as:**

- Health and fitness
- Consumer medical
- Smart energy
- Security
- Proximity and presence

It still embraces the same features we already know from the classical, well established *Bluetooth* technology:

- Robustness and reliability
- Security
- Global availability
- Interoperability

***Bluetooth* low energy devices come in two flavours:**

- ***Single-mode*** - devices that only support *Bluetooth* low energy and are optimized for low-power, low-cost and small size solutions.
- ***Dual-mode*** - devices that support *Bluetooth* low energy and classical *Bluetooth* technologies and are interoperable with all the previously *Bluetooth* specification versions.

Bluetooth 4.0 single mode



- ***Bluetooth***® technology is a wireless communications system intended to replace the cables connecting many different types of devices, from mobile phones and headsets to heart monitors and medical equipment.
- ***Bluetooth 4.0 - Bluetooth low energy*** is a new, open standard developed by the ***Bluetooth SIG***. It's targeted to address the needs of new modern wireless applications such as ultra-low power consumption, fast connection times, reliability and security. ***Bluetooth low energy*** consumes 10-20 less power and is able to transmit data 50 times quicker than classical ***Bluetooth*** solutions.

About Bluegiga



- Bluegiga Technologies Inc. provides *Bluetooth* based wireless modules and access device solutions to OEMs, systems integrators and network operators. By innovative products and outstanding customer service to health and medical, automotive, audio, industrial, and consumer markets, our complete solution approach is able to help shorten development cycles, reduce design uncertainty, and improve time to market when creating *Bluetooth* enabled solutions.
- Bluegiga – Offers a range of Bluetooth products from classical *Bluetooth* to *Bluetooth* low energy. All products offer a high integration level and including antenna, *Bluetooth* radio a protocol stack, application programming interfaces and radio type approvals. Bluegiga's iWRAP™ *Bluetooth* stack for classical *Bluetooth* products and *Bluetooth* low energy development suite enable device manufactures to quickly add secure and robust Bluetooth connectivity into new and exciting applications.
- Bluegiga's Linux based `Access Devices` products are ideal for connecting *Bluetooth* enabled peripherals such as point of sale terminals, medical sensors or Bluetooth enabled mobile phones and tables to other networks such as Ethernet, Wi-Fi or 2G/3G. The devices can be remotely managed and configured with the Bluegiga Solution Manager (BSM) device management software.



blue giga

Thank you!

www.bluegiga.com