

## 3 Bluegiga's Bluetooth 4.0 products

### 3.1 BLE112 - Bluetooth Smart Module

BLE112 is a *Bluetooth* smart module targeted for low power sensors and accessories. It integrates all features required for a *Bluetooth* smart application: *Bluetooth* radio, software stack and GATT based profiles. BLE112 *Bluetooth* smart module can also host end user applications, which means no external micro controller is required in size or price constrained devices. BLE112 *Bluetooth* smart module also has flexible hardware interfaces to connect to different peripherals and sensors. BLE112 *Bluetooth* smart module can be powered directly from a standard 3V coin cell battery or pair of AAA batteries. In lowest power sleep mode it consumes only 400nA and will wake up in few hundred microseconds.

#### KEY FEATURES

- *Bluetooth* v.4.0, single mode compliant
  - Supports master and slave modes
- Integrated *Bluetooth* Smart stack
  - GAP, GATT, L2CAP and SMP
  - *Bluetooth* Smart profiles
- Radio performance
  - Transmit power : +3 dBm to -23dBm
  - Receiver sensitivity: -87dBm to -93dBm
- Ultra low current consumption
  - Transmit: 27mA (0 dBm)
  - Sleep mode 3: 0.4uA
- Flexible peripheral interfaces
  - UART or SPI
  - Software I2C
  - PWM, GPIO
  - 12-bit ADC
- Host interfaces
  - UART
  - USB
- Programmable 8051 processor for stand-alone operation
  - Simple Bluegiga BGScript™ scripting language for quick application development
  - Bluegiga Profile Toolkit™ allowing the quick development of GATT based profiles
  - Free Software Development Kit
- *Bluetooth*, CE, FCC, IC and South-Korea qualified

#### PHYSICAL OUTLOOK





## 3.2 BLED112 - Bluetooth 4.0 single mode USB dongle

BLED112 is a *Bluetooth* 4.0 Smart USB dongle and enables *Bluetooth* low energy connectivity for PCs and other devices with a USB host port. BLED112 offers all *Bluetooth* Smart features: radio, stack and profiles. The BLED112 supports USB CDC, HID and raw USB device classes and can be used to connect to accessories like keyboards, mice and proximity tags.

BLED112 can be controlled with using the BGAPI binary protocol, but also on-board applications can be developed with the BGScript scripting language.

The BLED112 can also be used for *Bluetooth* Smart development. With two BLE112 dongles you can quickly prototype and test new low energy applications

### KEY FEATURES

- Bluetooth v.4.0, single mode compliant
  - Supports master and slave modes
- Integrated Bluetooth low energy stack
  - GAP, GATT, L2CAP and SMP
  - Bluetooth low energy profiles
- Good radio performance
  - Transmit power : +3 dBm to -23dBm
  - Receiver sensitivity: -87dBm to -93dB
- Programmable 8051 processor for stand-alone operation
  - Simple BGScript scripting language for quick application development
  - Profile Toolkit allowing the quick development of GATT based profiles
  - Free Software Development Kit
- Bluetooth end product, CE, FCC, IC, Telec and South-Korea qualified

### PHYSICAL OUTLOOK



### 3.3 DKBLE112 - BLE112 Development Kit

BLE112 development kit provides a quick environment for prototyping Bluetooth 4.0 Smart applications. It provides both a hardware and a software development environment for evaluating BLE112 Bluetooth 4.0 single mode product.

#### Package contains:

- 1 BLE112 evaluation board
  - BLE112 module
  - Display
  - Accelerometer
  - Potentiometer
  - UART, USB and I/O interfaces
  - Current measurement points
  - CR2032 battery holder
  - Programming interface
- 2 BLE112 Bluetooth 4.0 single mode modules
- 1 BLE112 Bluetooth 4.0 single mode USB dongle
- 1 CC debugger firmware programming cable
- 1 USB cable
- 1 CR2032 coin cell battery
- Bluetooth low energy software development kit

#### Example applications:

- Health Thermometer
- Heart Rate Transmitter
- FindMe target
- Proximity Profile

