

BLED112

USER GUIDE

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Version 1.0

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VERSION HISTORY

Version	Comment
1.0	

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1 Installation

Please refer to BLEGUI User Guide. BLEGUI User Guide can be down loaded from (<http://www.bluegiga.com/support>).

2 General Information and Specifications

BLED112, Bluetooth low energy USB Dongle is a single mode USB device enabling Bluetooth low energy connectivity for PC's and other devices having a USB port.

BLED112 Bluetooth Dongle integrates all Bluetooth 4.0 single mode features. The USB dongle can simulate standard USB device, virtual COM port or USB HID device. The HID can be used for accessories like keyboards and mice, because no driver is needed. The COM port emulation enables simple host application development using a simple application programming interface.

The BLED112 can be used for Bluetooth low energy development. With two BLED112 dongles you can quickly prototype new low energy application profiles by utilizing Bluegiga BG Profile Toolkit™ and also automate inmodule software functions with BGScript™.

Key Features

- Bluetooth v.4.0, single mode compliant
- Supports master and slave modes
- 4+ simultaneous connection in master mode
- Integrated Bluetooth low energy stack
- GAP, GATT, L2CAP, SMP
- Bluetooth low energy profiles
- Radio performance
- TX power: +4 dBm to -23dBm
- RX sensitivity: -87dBm to -93dBm
- USB, USB HID and virtual COM port emulation

Bluetooth Low Energy Features

- Bluetooth 4.0 single mode compliant radio
- Master and slave mode support
- L2CAP, GAP, ATT and GATT support
- Security manager
- Advertising, broadcasting, connections
- Built-in profiles

Hardware Features

- Bluetooth low energy radio
- Built-in antenna
- 8051 microcontroller
- 8 kB RAM
- 128kB flash
- USB 2.0 device
- Programmable led
- 3 x timer
- Integrated temperature sensor

3 Certifications

3.1 Bluetooth

BLED112 Bluetooth low energy module is *Bluetooth* qualified and listed as an End Product.

3.2 FCC and IC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

FCC Caution : To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

IC Statements:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio

interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Déclaration d'IC :

Ce dispositif est conforme aux normes RSS exemptes de licence d'Industrie Canada. Son fonctionnement est assujéti aux deux conditions suivantes : (1) ce dispositif ne doit pas provoquer de perturbation et (2) ce dispositif doit accepter toute perturbation, y compris les perturbations qui peuvent entraîner un fonctionnement non désiré du dispositif.

Selon les réglementations d'Industrie Canada, cet émetteur radio ne doit fonctionner qu'avec une antenne d'une typologie spécifique et d'un gain maximum (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Pour réduire les éventuelles perturbations radioélectriques nuisibles à d'autres utilisateurs, le type d'antenne et son gain doivent être choisis de manière à ce que la puissance isotrope rayonnée équivalente (P.I.R.E.) n'excède pas les valeurs nécessaires pour obtenir une communication convenable.

3.3 CE

BLED112 is in conformity with the essential requirements and other relevant requirements of the R&TTE Directive (1999/5/EC). The product is conformity with the following standards and/or normative documents.

- EMC EN 301 489-17 V.1.3.3 in accordance with EN 301 489-1 V1.8.1
- Radiated emissions EN 300 328 V1.7.1
- Safety EN 60950-1

4 Contact Information

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