
# SMT BLE Module - Industrial Temperature (GC-BLE300-BGA)

## Features:

- Surface Mount BLE (Bluetooth 4.2) Embedded Module
- Low cost and Compact Wireless Networking Device (Size 13 x 18 mm)
- Internal Chip Antenna
- High Speed UART Data Interface
- UART Interface is +1.8V Compatible and Supports Free/ Auto Frame Function
- BLE, Bluetooth Classic and Blue-tooth Audio Protocols
- Maximum of XX BLE Connections
- 128-bit AES-CCM Data Encyption
- MCU available to run your custom software
- Mesh-capable (coming in 2016)
- +1.8 - 4.2Vcc Power Supply (30 mA (peak)
- Customizable via SDK
- FCC/CE Certi ied

* SDK Required

## Description:

The low cost GC-BLE300-BGA Embedded BLE Module provides support for Bluetooth 4.2 networking for a printed circuit board device design. The compact module is a high performance feature rich surface mount (SMT) embedded module. For optimal performance, the GC-BLE300-BGA has an internal PCB antenna. (See the table on the reverse side for a summary of the GC-BLE300-BGA ordering options.)

Based on the Marvell 88MB300 SoC, the GC-BLE300-BGA is a feature-rich module that can provide Bluetooth support for an exisiting CPU or can host an application on the module. Interface with the GC-BLE300-BGA via GPIOs or high speed UART. Configure the device with Marvell's BLE development toolkit (contact Grid Connect for more information). The GC-BLE300-BGA can support BLE, Bluetooth Classic and Bluetooth Audio.

With a small footprint, low cost, and a rich feature set, the GC-BLE300-BGA Em-bedded WiFi Module is well suited for many applications. The module is small enough to be added to handheld devices. With an industrial temperature range, the GC-BLE300-BGA can be used in devices designed for harsh environments. Multiple antenna options allow the GC-BLE300-BGA to be added to existing device designs or to provide engineers with the design flexibility to meet specific application requirements. The GC-BLE300-BGA is a member of a complete line of Embedded Modules provided by Grid Connect. Need a smaller device size, lower power, SPI interface? Grid Connect can help pick the best embedded module to meet your needs.

Development is done via our GC-BLE300-BGA-EVK which brings out all the pins and interfaces on the module to allow for quick development.

## Specifications:

| | |
|---|---|
| Security | 128-bit Encyption |
| Data Rates | UART: 1200 bps - 230400 bps |
| Frequency Band | 2.4 GHz |
| Encryption | AES-CCM |
| Power | 1.8 - 4.2 Vcc  Current: ~ mA ( 30 mA Peak) |
| Dimensions | 13mm x 18mm x 3 mm SMT |
| Interfaces | Wireless: Bluetooth Serial: UART, GPIO - Up to 32* |
| Protocols | BLE, Bluetooth Classic, Bluetooth Audio (Bluetooth 4.2) |
| Antenna Options | Chip antenna |
| Product Weight | 0.1 lb |
| User Configuration | AT Commands |
| Network Type(s) | Piconet, Scatternet |
| Firmware | Upgradeable via OTA |
| Interfaces | • (2) UART<br>• (2) I2C<br>• (2) SSP/SPI |
| Certifications | FCC, CE |
| Application Software | Custom software via SDK (contact Grid Connect for more information)<br>Marvell BLE Toolkit |
| Connector(s) | 40-pin SMT Package |
| Temperature Range | Operating: -40ºC to +85ºC (-40ºF to +185ºF)<br>Storage: -45ºC to +125ºC (-40ºF to +185ºF) |

* Requires customization via SDK

**GC-BLE300-BGA Ordering Summary**

| | |
|---|---|
| GC-BLE300-BGA | SMT Package, Internal PCB Antenna |
| GC-BLE300-BGA-EVK | BLE300 SMT Eval Kit |

**Call for Volume Pricing**

## Contact Us:

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gridconnect.

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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 or more 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 Radiation Exposure Statement

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: “Contains Transmitter Module FCC ID: 2AFC3BLE300SMTINT or Contains FCC ID: 2AFC3BLE300SMTINT”

when the module is installed inside another device, the user manual of this device must contain below warning statements;

1. 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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product