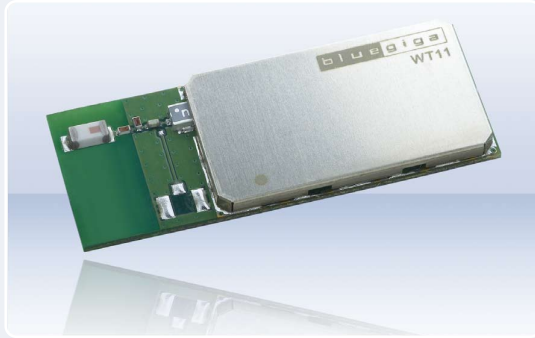


## WT11 Bluetooth® Module™ Description



### Key Features

- ▶ Bluetooth Class 1
- ▶ Two antenna options: integrated chip antenna or U.FL connector
- ▶ Enhanced Data Rates (EDR) with data throughput up to 2-3Mbps
- ▶ Support for Adaptive Frequency Hopping (AFH) and 802.11 co-existence
- ▶ USB version 2.0
- ▶ UART with bypass mode
- ▶ 8Mbits of flash memory
- ▶ Supported Bluetooth profiles: SPP, DUN, OBEX OPP, HFP v.1.5, DID, HID + HCI
- ▶ Industrial temperature range from -40°C to +85°C
- ▶ RoHS compliant
- ▶ Simple iWRAP™ firmware for controlling Bluetooth wireless technology
- ▶ Fully qualified end product with Bluetooth 2.1 + EDR, CE, FCC and IC

WT11 is a next-generation, class 1, Bluetooth 2.1 + EDR module. It introduces three times faster data rates compared to the existing Bluetooth 1.2 modules even with a lower power consumption. WT11 is a highly integrated and sophisticated Bluetooth module, containing all the necessary elements from Bluetooth radio antenna to a fully implemented protocol stack. Therefore WT11 provides an ideal solution for developers who want to integrate Bluetooth wireless technology into their designs with limited knowledge of Bluetooth and RF technologies.

WT11 module combined with Bluegiga's complete development, testing and verification services and excellent developer support; OEMs and designers ensure that their products reach the market rapidly and cost-efficiently in relation to time and resources. Bluegiga has extensive in-house knowledge of both software and hardware, offering customers a single point of contact to all Bluetooth related issues.

By default, WT11 module is equipped with powerful and easy-to-use iWRAP firmware. iWRAP enables users to access Bluetooth functionality with simple ASCII commands delivered to the module over serial interface.

With iWRAP software you have several implementation options:

- iWRAP can be configured to operate autonomously,
  - - as a Bluetooth cable replacer
  - To create sophisticated applications - a host system can be used to control iWRAP with ASCII commands
  - The GPIO interface in WT11 module can be used to connect host and iWRAP

Besides the iWRAP firmware, Bluegiga also offers several other firmware options for WT11 module. Standard Host Command Interface (HCI) firmware is supported and an ideal solution for systems where the host system is capable of running the entire Bluetooth stack and profiles and WT11 is utilized as the physical radio over UART or USB interface.



## TECHNICAL DATA

### Firmware

- iWRAP™ command interface to access the *Bluetooth* functionality and to configure the parameters with simple ASCII commands
- HCI firmware available for UART and USB interfaces
- Possibility to use / develop custom firmware
- 128-bit *Bluetooth* encryption available for all firmware options

### Hardware

- *Bluetooth* Class 1 radio (range up to 200 meters)
  - Nominal output power +15 dBm
  - Nominal sensitivity -82 dB
  - Uses 2.4 GHz ISM band
  - Based on CSR's BC04 chipset
- Integrated antenna or U.FL connector
- Host processor interface with UART or USB
- SPI interface for firmware and parameter upgrades
- 6xGPIO, 1xAIO
- PCM interface for audio applications
- Supply voltage: regulated 3.2 – 3.4 VDC
- PCB form factor: 35.3 x 14 x 2.3 mm
- Operating temperature: -40 °C to +85 °C
- Metal shielding
- Reference designs available for HCI, cable replacement and audio applications

### Product Codes

- iWRAP Firmware, chip antenna WT11-A-AI
- HCI Firmware (USB), chip antenna WT11-A-HCI
- Custom Firmware, chip antenna WT11-A-C
- iWRAP Firmware, U.FL WT11-E-AI
- HCI Firmware (USB), U.FL WT11-E-HCI
- Custom Firmware, U.FL WT11-E-C

## Development and Evaluation

- WT11-A Evaluation Kit EKWT11-A
- WT11-E Evaluation Kit EKWT11-E
- CSR's BlueLab Professional SDK

## Other Products

- WT12 Class 2 *Bluetooth* Module™
- WT32 *Bluetooth* Audio Module™
- Bluegiga Access Server™ 2291, 2293

## Certifications

- *Bluetooth* 2.1 + EDR
- CE, FCC and IC

## Applications

- Cable replacement
- Point-of-sales systems
- Barcode readers and pay terminals
- Telemetry and machine-to-machine devices
- Logistics and transportation systems
- Automotive inspection and measurement systems
- Medical systems
- Fitness and sports telemetry devices
- PDAs and other portable terminals
- PCs and laptops
- Audio applications

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