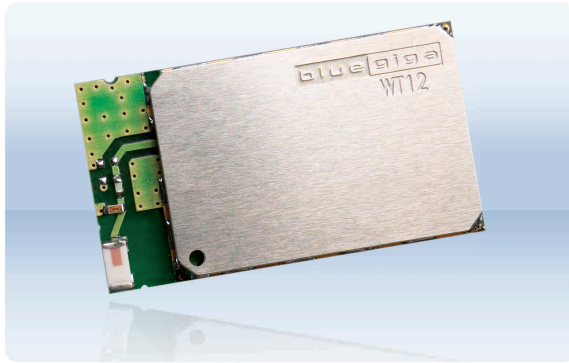**bluegiga**
TECHNOLOGIES

Bluetooth®

WRAP THOR
WT12 Bluetooth ® Module

Key Features

▷ Surface Mount

▷ Integrated Antenna

▷ Small Size

▷ Bluetooth, CE and FCC Qualified - No Additional Certifications Required

▷ Class 2 - Range up to 30 Meters

▷ Bluetooth 2.0 Compliant -Supporting Enhanced Data Rates (EDR)

▷ Industrial Temperature Range from -40C to +85C

▷ Low Power Consumption

▷ iWRAP™ Firmware for Controlling Connections and Configuring Settings

▷ Wi-Fi Compatible – Supports Adaptive Frequency Hopping

▷ Virtual Machine Inside, Enabling Hosting of Custom Applications

Description

The WT12 is a new-generation, robust, software configurable completely integrated Bluetooth® version 2.0 compatible surface mount module. The module facilitates communication range of 10 meters and, when line-of-sight, reaches up to 30 meters. Module is powered with the latest Bluetooth® features example Enhanced Data Rates (EDR) providing speed up to 3Mb per second.

The module enables device manufacturers to easily add secure, robust, and globally exportable wireless standards based Bluetooth connectivity into new or existing applications with very limited development and manufacturing effort. The module is certified as an end-product meaning that OEMs not need to apply any additional certification for the device under development. The WT12 module supports several different integration designs:

● With a host utilizing Bluetooth® as a modem the module acts autonomously

● With host running the upper layer Bluetooth® stack the module is connected through host command interface, HCI

● With I/O lines where the module samples or analyzes the I/O operations autonomously

● With external codec connected to the PCM interface for audio applications

WT12 module is available with several different firmware options for data and audio communications. Bluegiga also provides custom firmware production services, eliminating the need for customers to perform any module flashing on the production line reducing significantly the production cost and time.

By utilizing Bluegiga's world-class integration services and technical support, OEMs can be assured that their products reach the market quickly and cost efficiently.

TECHNICAL DATA
Firmware / Software

- iWRAP™ ASCII based easy-to-use command interface for accessing the Bluetooth serial port (SPP) functionality from a host system and for configuring of the Bluetooth parameters

- HCI firmware available for UART and USB interfaces

- Headset, Handsfree, and Audio Gateway firmware available for PCM interface

- Possibility to use / develop custom Firmware

- 128-bit Bluetooth encryption available for all firmware options

Hardware

- Bluetooth® Class 2 radio (10-30 meters)
  - Nominal output power +2.5 dBm
  - Nominal sensitivity -84 dBm
  - Uses 2.4 GHz ISM band
  - Based on CSR's BC04 chipset

- Integrated antenna

- Host processor interface with UART or USB

- SPI interface for firmware and parameter upgrades

- 6xGPIO

- PCM interface for Audio applications

- Supply voltage: regulated 3.2 – 3.4 VDC

- Power consumption with iWRAP Interface:
  - Link active min: MIN: 7mA, MAX: 60mA
  - Link active in sniff mode: 2.5mA
  - Link active in park mode: 2.5mA
  - Idle with Deep Sleep: 1.3mA

- PCB form factor: 26 x 14 x 3 mm

- Operating temperature: -40 ºC to +85 ºC

- Metal shielding for RF interference

- Reference designs available for HCI, Cable Replacement and audio applications

Product Codes

- iWRAP Firmware   WT12-A-AI

- HCI Firmware   WT12-A-HCI

- Custom Firmware   WT12-A-C

Development and Evaluation

- WT12 Evaluation Kit   EKWT12

- CSR's BlueLab Professional SDK

Other Bluegiga Products

- WRAP THOR® SMD module 2022-1

- WRAP THOR® Board-to-Board module 2022-1-B2B

- WRAP Access Server™ 2291, 2293

Certifications

- Bluetooth 2.0 + EDR

- CE, FCC

Applications

- Cable replacement between devices

- 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