Bluetooth® Solutions for Apple iOS Devices

Topics

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- Bluegiga's Solution for iOS Devices
- Compatible Products
- Summary

Introduction

- ***Bluetooth* BR/EDR compatible iOS devices are:**
  - iPhone 3G, iPhone 3GS, iPhone 4, iPhone 4S and iPhone 5
  - iPod Touch 2nd generation and newer devices
  - iPad, iPad 2, iPad with Retina display and iPad Mini

- ***Bluetooth* 4.0 compatible iOS devices are:**
  - iPhone 4S and iPhone 5
  - iPod 5th generation
  - iPad with Retina display and iPad Mini

Introduction

- **Supported *Bluetooth* profiles on Apple iOS devices are:**
  - The latest list of supported Bluetooth profiles can be found from here

Introduction

- **iOS devices do not implement the *Bluetooth* RFCOMM (SPP) profile**

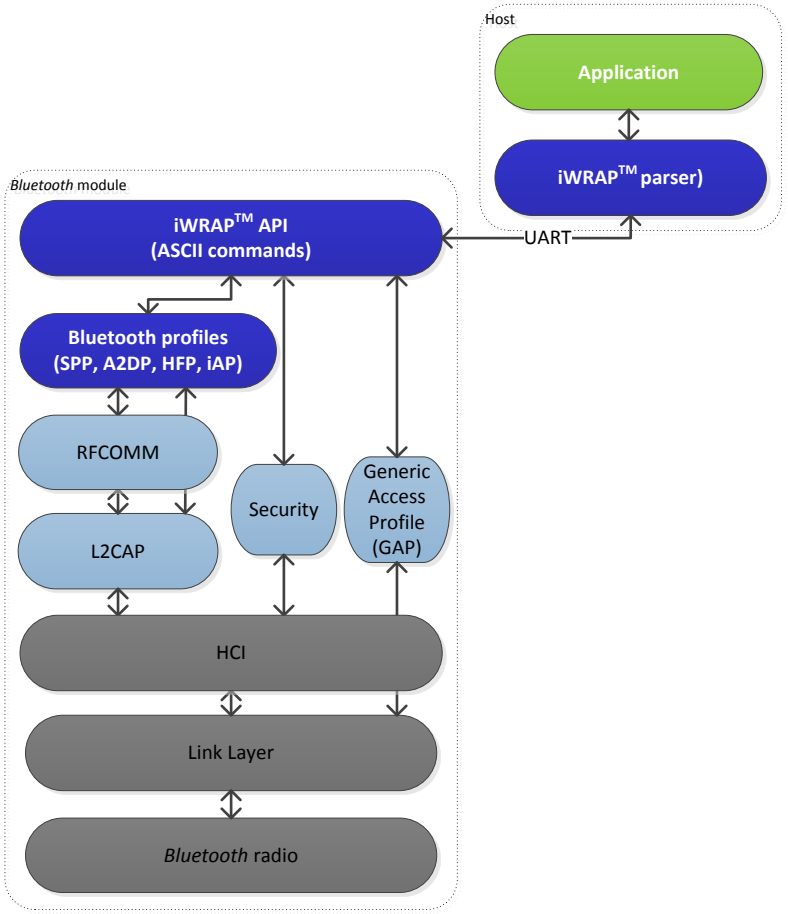
- **Instead *Bluetooth* accessories can use iAP profile to exchange data with iOS devices**
  - iAP is RFCOMM based connection (similar to SPP)
  - It uses Apple proprietary iAP application protocol
  - Allows data exchange between Apps and the accessory

- **Audio, Human Interface (HID), PAN accessories and *Bluetooth* Smart devices are outside MFi program**

- **Learn more about iAP [here]**

Bluegiga's Solution for iOS Devices

- **Bluegiga's iWRAP *Bluetooth* Stack implements the iAP profile**
  - Provides fast Time-to-Market
  - Less development effort
- **Can communicate with any iOS device that supports *Bluetooth***
- **iWRAP has a simple ASCII command API**
  - Simple
  - Fast to lear
- **iWRAP also implements 13 other *Bluetooth* profiles**
  - Serial Port Profile
  - A2DP
  - Hands-Free Profile
  - Human Interface Device Profile
  - Health Device Profile
  - etc.



Bluegiga's Solution for iOS Devices

- **Example use case of a an audio device**
  - Uses A2DP for generic audio streaming
  - Uses AVRCP for generic remote control
  - Uses SPP to communicate with an Android App
  - Uses iAP to communicate with an iOS App

Bluegiga's Solution for iOS Devices

- **Example use case of a medical sensor**
  - Uses iAP to connect to and iOS device
  - Uses SPP to connect to an Android device
  - Uses HDP to connect to a Health Gateway

Bluegiga's Solution for iOS Devices: Compatible products

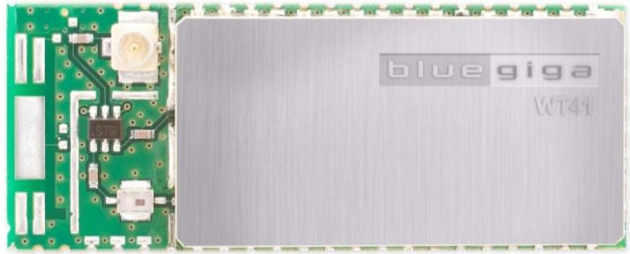
- WT12 *Bluetooth* class 2 module
- *Bluetooth*® 2.1 + EDR compliant, class 2
- Radio performance
  - Transmit power: +3 dBm
  - Receiver sensitivity: -86 dBm
- Integrated chip antenna
- Industrial temperature range from -40C to +85C
- Integrated iWRAP *Bluetooth* stack
- 802.11 co-existence
- *Bluetooth*, CE, FCC, IC Japan and South-Korea qualified

Bluegiga's Solution for iOS Devices: Compatible products

- WT1i1 *Bluetooth* class 1 module
- *Bluetooth*® 2.1 + EDR compliant, class 1
- Excellent radio performance
  - Transmit power: +17 dBm
  - Receiver sensitivity: - 86 dBm
- Integrated chip antenna or RF pin
- Industrial temperature range from -40C to +85C
- Integrated iWRAP *Bluetooth* stack
- 802.11 co-existence
- *Bluetooth*, CE, FCC, IC and Japan qualified

Bluegiga's Solution for iOS Devices: Compatible products

- WT41 *Bluetooth* class 1 long range module



- Extreme radio performance
  - Transmit power: +20 dBm
  - Receiver sensitivity: -90 dBm
  - Range 1000 meters line-of-sight
- Integrated chip antenna, U.FL connector or RF pin
- Industrial temperature range from -40C to +85C
- Integrated iWRAP *Bluetooth* stack
- 802.11 co-existence
- *Bluetooth*, CE, FCC, IC, South-Korea and Japan qualified

Bluegiga's Solution for iOS Devices: Compatible products

- Plug n' play *Bluetooth*® 2.1 + EDR solution for stereo and mono audio solutions

- Radio performance
  - Transmit power: +7 dBm
  - Receiver sensitivity: -88 dBm
- Integrated chip antenna or W.FL connector
- Integrated iWRAP *Bluetooth* stack
- Integrated audio features
  - Stereo codec
  - Digital Signal Processor (DSP)
  - Battery charger
- Optional audio extensions
  - *CVC®* - *Echo cancellation and noise reduction*
  - *aptX®* - *Enhanced audio quality for A2DP*
- *Bluetooth*, CE, FCC, IC, South Korea and Japan qualified

Summary

- **Join MFi program**
  - http://developer.apple.com/programs/mfi/
  - Gives you access to iAP documents and tools

- **Buy products**
  - http://www.bluegiga.com/oem-module-distributors
  - https://mfi.avnet.com/MFI/

- **Develop the product**
  - http://techforum.bluegiga.com
  - support@bluegiga.com