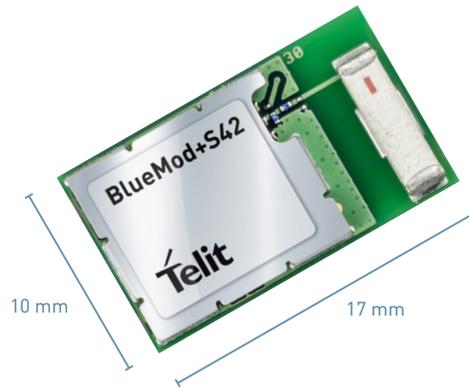


BlueMod+S42

Bluetooth Low Energy Single Mode Module



Product description

The BlueMod+S42 is a high-performance Bluetooth 4.2 qualified single mode module. It features very low energy consumption and flexibility for designers such as Terminal I/O profile for serial cable replacement use cases as well as most GATT based Bluetooth profiles through a generic GATT implementation.. Although a single mode low energy module it offers a high throughput of up to 470kbit/s using Telit's unique SPP like Terminal I/O service.

Telit's developer kits enables rapid prototyping of customer's own firmware: solutions are based on a simple and powerful scripting language, Lua, supported by Telit Appzone development environment or using silicon vendor SDK for C++ development.

Telit evaluation kits enable quick customer evaluation and Bluetooth modules implementation in their application. For each of the different FW Versions a separate Evaluation Kit is available.

Profiles

Terminal I/O works similar to SPP and offers a simple point-to-point connection, including flow control over-the-air, for use cases that require low data rate and transparent data exchange. It is controlled by an AT command interface. The module also comes with a generic GATT interface. This interface allows the use of most Bluetooth Low Energy standard profile as well as customer specific proprietary profiles. The module will allow for concurrent central and peripheral operations.

Key Benefits

- Standalone IOT platform or Bluetooth hosted applications
- Bluetooth v4.2 qualified module
- RED, FCC, IC, KC, MIC, RCM, Anatel certified
- Powerful Cortex M4F MCU
- Designed for low power applications
- Best of its class range performance
- Best of its class throughput performance
- Generic GATT Client or Server Implementation
- LE Secure Connection with 128bit AES encryption

NFC Handover

BlueMod+S42 supports the NFC functionality of the Nordic nRF52382 chip. NFC handover simplifies device pairing and connection setup. The BlueMod+S42 emulates an NFC Forum compliant Tag Type 2 and provides a standardized Bluetooth handover record to the reader, thus allowing for automatic pairing without manual interaction. Telit provides a dedicated NFC utility app for Android devices for evaluating the handover feature.

Family Concept

The BlueMod+S and BlueMod+SR as well as the BlueMod+S42 modules are mechanically and electrically compatible. The modules also have compatible software interfaces, and can easily be replaced by each other without additional changes to the hardware or software.



Combine your BLE module with

Cellular modules



GNSS modules



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BlueMod+S42

Firmware Versions

Central: Terminal I/O and GATT for transparent point to (multi-) point cable replacement applications

- Terminal I/O central and peripheral support for fast and easy data exchange
- Host access to up to 4 concurrent connections
- Host access to generic GATT client for data exchange with third party devices
- Host access to BT scanning functionality for implementing location based services (RSSI based)
- Support for OTA Firmware update
- iOS and Android sample application available in source code

ADC/LUA: IoT Platform Peripheral with LUA Scripting for host-less applications

- Designed for host-less battery driven operations
- Based on Lua 5.3.4 powerful scripting language (<https://www.lua.org/about.html>)
- Up to 32kB of FLASH and 20kB of RAM are available to implement and run custom scripts Simple development of scripts as text files, no complex toolchain needed Supported by Telit IOT Appzone development environment Script access to the same AT command set that is available in hosted firmware versions Script access to generic GATT server do allow definition of GATT services Script access to build in Terminal I/O implementation for easy data exchange
- Script access to BT scanning functionality for implementing location based services (RSSI based)
- Script access to external sensors via TWI (I²C) and a 12bit ADC
- Script access to up to 8 fully configurable GPIOs

ADC/TWI: Automation I/O Peripheral for simple sensors and/or actuators

- Designed for host-less battery driven operations
- OTA access of GPIO and ADC live data via Automation I/O profile
- OTA access to the same AT command set that is available in hosted firmware versions
- OTA access to external sensors via TWI (I²C) and a 12bit ADC

- OTA access to up to 8 fully configurable GPIOs
- Support for OTA Firmware update
- iOS and Android sample application available in source code

Environmental

- LGA pads
- Integrated ceramic Antenna: +2 dBi
- Length x Width x Height: 17x10x2.8mm
- Temperature range: -40°C to +85°C

Interfaces

- UART: 9600 bps – 921600 bps (asynchronous)
- Other interfaces: I²C, SPI, PWM, ADC
- GPIOs: Up to 21

Approvals

- Bluetooth Qualification 4.2
- RED, FCC, IC, KC, MIC, RCM, Anatel

Electrical & Sensitivity

- Power supply: 1.7V to 3.6V
- Transmit Power: Up to 5 dBm (programmable)
- Receiver Sensitivity: -93dBm
- Power consumption transmission: 7.5 mA
- Advertising on 3 channels 1,28s: 17µA
- Power consumption sleep: 0,9µA

Tools

- BlueEva+S42: evaluation kit
- BlueDev+S42: development kit



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For a quicker and more rewarding integration experience join the Telit Technical Forum. There you can browse the first open forum covering all IoT topics, get direct support by region (EMEA, North America, Latin America, APAC), take part in this quickly growing IoT community and exchange experiences.