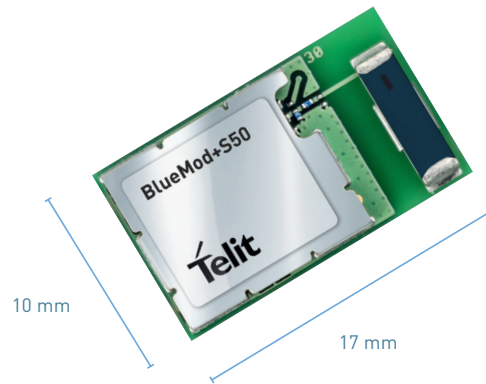


BlueMod+S50

Bluetooth Low Energy 5 Single Mode Module
NFC



Product Description

The powerful BlueMod+S50 is Telit's Bluetooth single mode BT 5-qualified module. This next generation module blends the latest silicon with Telit's state of the art engineering for an overall richer, more intelligent user experience. Advanced features include NFC Handover and support for Terminal I/O and most GATT based profiles.

By doubling the amount of data that devices can transfer, more efficient use of broadcasting channels, improved coexistence in 2.4GHz band and LTE, this efficient module reduces the time required for transmitting and receiving data while facilitating rapid uploads and over-the-air firmware updates for mobile devices.

The significant increase to broadcasting capacity makes the secure BlueMod+S50 an ideal solution for industrial applications and for medical devices. Smartphone connectivity and cable replacement applications also benefit from the low energy consumption and reliable line-of-sight range of more than 800* meters. (*250m with Android phone and iPhone). With an operating temperature range of -40°C to +85°C, this high-end Bluetooth module is suitable for demanding applications and environments.

Apps and demo source code for various types of applications are available for Android and iOS.

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 Features

- Bluetooth v5 qualified module
- Integrated or external pad antenna
- RED, FCC, IC certified module M2M grade operating temperature range, 40°C to +85°C
- Powerful Cortex M4F MCU
- GATT Client Server
- LE Secure Connection with 128bit AES encryption
- Configurable DIS (Device Information Service)
- 2 MB/s PHY for LE
- Broadcasting channel improvements
- Slot Availability Mask
- Designed for low power applications
- Best of its class range performance
- Best of its class throughput performance
- Terminal I/O (SPP-like) for Easy Transparent Data Transfer (720Kbps)
- UART low power serial protocol mode
- Sample Code for iOS and Android

NFC Handover

NFC handover simplifies device pairing and connection setup. The BlueMod+S50 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+SR (BT4.0), BlueMod+S (BLE4.1) BlueMod+S42 (BLE4.2) and the BlueMod+S50 modules are mechanically and electrically compatible. The modules also have compatible software interfaces and can be swapped easily without additional changes to the hardware or software.



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BlueMod+S50

Firmware Version

- 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 /server for data exchange with third party devices
- Host access to BT scanning functionality for implementing location based services (RSSI based)
- NFC handover
- Support for OTA Firmware update
- Automatic external clock detection (32kHz)
- iOS and Android sample application available in source code

Environmental

- LGA 48pads
- Integrated ceramic Antenna: +3 dBi (AI version)
- External Antenna: PAD A8 (AP version)
- Length x Width x Height: 17x10x2.6 mm
- Temperature range: -40°C to +85°C

Interfaces

- UART: 9600 – 921600 bps and 1Mbps (asynchronous)
- Other interfaces: I²C, SPI, PWM, ADC
- GPIOs: Up to 21

Approvals

- Bluetooth Qualification 5
- RED, FCC, IC

Electrical & Sensitivity

- Power supply: 1.7V to 3.6V
- Transmit Power: Up to +4 dBm (programmable)
- Receiver Sensitivity: -93 dBm
- Power consumption:
 - TX @ 0 dBm: 5.3 mA
 - Advertising on 3 channels 1,28 s: 13µA
 - Power consumption sleep: 0,3µA

Tools

- BlueDev+S50 development kit
Telit's developer kit enables rapid development of customer's own firmware using Nordic Semiconductor's SDK environment.
- BlueEva +S50 evaluation kit
Telit evaluation kit with Telit embedded software enables quick customer evaluation and Bluetooth modules implementation in their application.

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