



Data Sheet

Reprogrammable Bluetooth Module

SEARAN-860

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Reprogrammable Dual Mode Bluetooth Module

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Purpose

- Integrated module with the customer specific configuration
- Reconfigurable for various applications
- Reprogrammable
- Platform for development, test and production

Description

- Consists of a carrier board to host Laird's dual-mode BR/EDR/BLE v4.2 BT860 module based on Cypress' CYW20704 A2
- The carrier board incorporates STM32L4 with 160KB SRAM, 512KB Flash at 80Mhz to run SEARAN dotstack and customer specific application
- Control via AT commands or binary set of commands
- Includes a set of profiles from a variety of [profiles available by SEARAN](#)
- May include an MFI Authentication Chip to support connection to iOS devices via iAP, and populated only for iAP customers. Optional – can be connected externally.
- I2C external interface
- USB v2.0, connector optional
- 2 UART host interfaces with hardware flow control
- JTAG and Serial Wire Debug interfaces
- Castellated Mounting Holes
- 1 reset and 1 application push button
- 1 power and 1 application LED
- Serial Audio Interface (SAI)
- Audio Interface (PCM)



- Input power – 5V
- Small factor carrier board 13mm x 40.75mm, without USB connector
- Industrial Operating Temp -30° to +85°C

Compliance

- Bluetooth SIG Approved
 - Hardware Controller Subsystem by Laird
 - Host Subsystem by SEARAN
 - Profile Subsystem by SEARAN
- MFI certification if required by customer - optional
- Regulatory Approvals FCC, CE by Laird for BT860
- Customers are advised to apply for EPL (End Product Listing) and complete required IOP testing (Interoperability testing) with SEARAN's support

Programmability and Control

SEARAN-860 comes preprogrammed per customer specification.

SEARAN provides customers with a simple control of the module using

- AT commands, or
- binary commands for multi-connect applications

SEARAN can optionally provide customers access to Bluetooth application on module via [API](#).

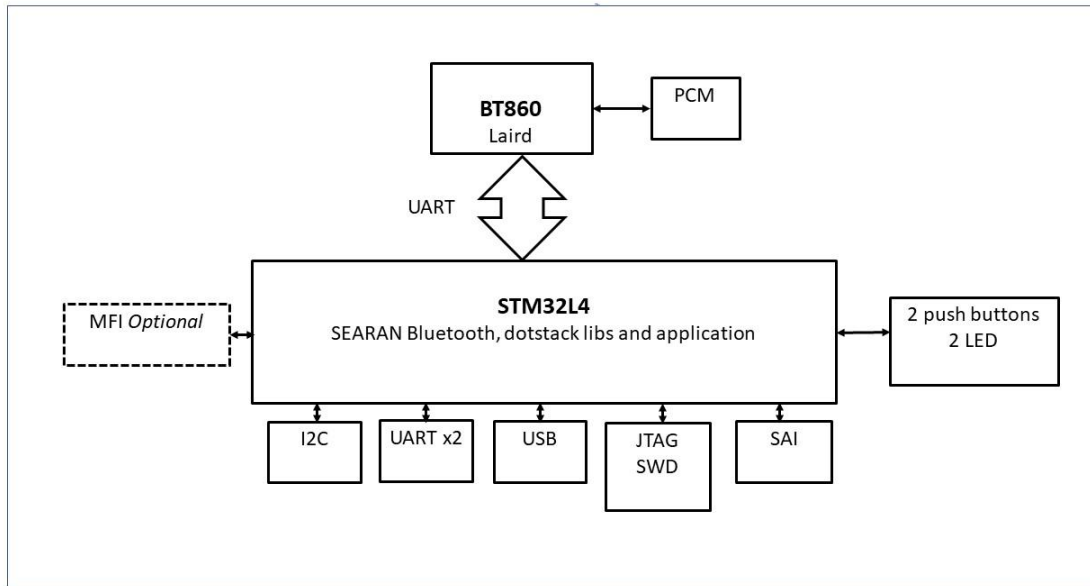
Applications available

The following applications for the modules are readily available

1. Data Packet transfer using SPP, iAP and BLE working concurrently
2. USB dongle seamlessly bridges USB to Bluetooth for plug-and-play connection to external headphones for streaming music and making phone and Skype calls
3. Audio Player for streaming audio
4. Audio Router to work with smart- and headphones for streaming audio and phone calls

Please contact SEARAN with your specific requirements.

Block Diagram



Module Configurations

Several module configurations are available.

1. Internal or External antenna
 - a. SEARAN-860 comes with a chip antenna - BT860-SA
 - b. SEARAN-860 comes with BT860-ST for an external antenna. Antenna to be designed in by customer
2. USB connector and associated circuitry are optional
3. MFI chip on module is optional, to be installed either by customer or SEARAN. Alternatively, MFI chip can be connected externally on customer "mother board".

Module Assemblies



Module assemblies with and without USB connector. The module with USB connector can be used as an USB dongle. The module without USB connector to be used as part of customer hardware assembly.