

BL600 Series

Single-Mode BT v4.0 Module with *smartBASIC*

FULLY PROGRAMMABLE. LOW POWER. DRIVEN BY SMARTBASIC.



BL600 Series modules from Laird Technologies make it easy to add single-mode Bluetooth Low Energy (BLE), or Bluetooth Smart™, to small, portable, power-conscious devices, including those powered by AAA or coin cell batteries. The fully approved, programmable modules feature Laird's innovative, event-driven *smartBASIC* programming language, which significantly simplifies BLE integration.

- **Bluetooth Smart (BLE v4.0)**
- **Onboard Microcontroller** – Nordic nRF51822 for hostless operation
- **Tiny footprint** (19mm x 12.5mm x 2.5 mm)
- ***smartBASIC*** powers rapid design and deployment
- **Proximity-based secure pairing** – Laird's unique Whisper Mode prevents unauthorized pairing by requiring devices be nearby to pair
- **Large sample application library** – Sample applications help jump start your development

Features at a Glance



TRULY HOSTLESS OPERATION FOR AUTOMATED USE CASES

Award-winning Nordic nRF51822 microcontroller and *smartBASIC* make an ideal pair for sensor applications.



SPEED TO MARKET WITH *smartBASIC*

Easily write event-driven apps for any use case and run in the module. No toolchain required.



PROXIMITY PAIRING TO SCREEN OUT INTRUDERS

Laird's Whisper Mode requires devices be in close proximity, making it harder for intruders to connect.



GLOBAL APPROVALS – MAKE YOURSELF AT HOME

Carries several modular FCC, IC, CE, MIC and Bluetooth SIG approvals.



PERSONAL SUPPORT FROM DESIGN TO MANUFACTURE

Support works onsite with Laird engineering to speed your design to market.

Application Areas



Health and Medical Devices



Enterprise Internet of Things Sensors and Connected Devices



Beacons and Local Messaging

Key Specifications

| Category | Feature | Specification |
|-------------------------------|---------------------|---|
| Wireless Specification | Bluetooth® | V4.0 – Single-Mode |
| | Frequency | 2.402 - 2.480 GHz |
| | Max Transmit Power | 4dBm |
| | Receive Sensitivity | -91dBm (typical) |
| | Whisper Mode | Down to -55dBm (Transmit) |
| | Link Budget | 95 dB (@ 1 Mbps) |
| | Raw Data Rates | 1 Mbps (over the air) |
| Host Interfaces | Total | 28 lines – multi function |
| | UART | TX, RX, CTS, RTS. DTR, DSR, DCD, RI can be implemented in smartBASIC. Default 9600, N, 8, 1. From 1,200 to 1,000,000bps |
| | Other | GPIO (Up to 28 lines), SPI (3), I2C (2), ADC (6 plus ADC reference) |
| Profiles | | Blood Pressure, Heart Rate, Health Thermometer/ Proximity & Find Me/ Custom Services |
| Services | | Generic Access, Battery Service, Device Information Service, Heart Rate Service, Health Thermometer Service, Immediate Alert Service, Link Loss Service, Tx Power Service, Blood Pressure Service |
| Control Protocols | | Any that can be implemented using smartBASIC |
| Encryption | AES | 128 bit using CCM encryption |
| Supply Voltage | Supply | 1.8V – 3.6V – internal LDO |
| | | 2.1V – 3.6V – internal DCDC converter |
| Power Consumption | Current | 'System Idle' – 3.5 uA |
| | | 'Transmit' – 10.5 mA @ 0 dBm |
| Physical | Dimensions | 19mm x 12.5mm x 3mm |
| Environmental | Operating Temp. | -40°C to +85° C |
| | Storage Temp. | -40°C to +85°C |
| Miscellaneous | Lead Free | Lead-free and RoHS compliant |
| | Warranty | 1-Year Warranty |
| Development Tools | Development Kit | Development board and free Software Tools |
| Approvals | Bluetooth® | End Product Listing (EPL) |
| | FCC / IC / CE / MIC | All BL600 Series |

For full specifications on BL600 modules, please see the **BL600 Datasheet (Hardware Integration Guide)**.

Ordering Information

| | |
|---------------------------|---|
| BL600-SA-0x | Single Mode BLE Module featuring smartBASIC (internal antenna) |
| BL600-SC-0x | Single Mode BLE Module featuring smartBASIC (IPEX MHF4 antenna connector) |
| BL600-ST-0x | Single Mode BLE Module featuring smartBASIC (trace pin) |
| BL600-SA-32 | Single Mode BLE Module Nordic QFAC (256K/32K) |
| DVK-BL600-SA / ST / SC-0x | Development Kit for each BL600 series module above |



Did You Know?

LSR, a Laird Business, is a leader in Wireless Product Development, offering true end-to-end solutions through its array of services & technical expertise



Design Services

- RF Hardware & Antenna Design
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