# Connectivity Solutions
## Bluetooth Line Card

Laird

Laird's Bluetooth product portfolio is designed to expedite time to market with the minimum development time required. Our Classic Bluetooth and Bluetooth Low Energy modules are agency-approved and offer feature-rich protocols in an assortment of data rates, ranges (power), and configurations. Our highly reliable Bluetooth modules are easily integrated and can be readily customized by our local support teams to meet your precise requirements.

| | BLUETOOTH LOW ENERGY | | DUAL-MODE BLUETOOTH | | | | CLASSIC BT |
|---|---|---|---|---|---|---|---|
| | **BL652** | **SaBLE-x** | **BT900** | **BT900-US** | **BT800/BT830** | **BT820** | **BT7x0 Series** |
| **Chipset** | nRF52832 | TI2640 | CSR8811 | CSR8811 | CSR8510/CSR8811 | CSR8510 | CSRBC04 |
| **Wireless Standards** | Bluetooth v4.2 (BLE) + NFC | Bluetooth v4.2* (BLE) | Dual-Mode Bluetooth v4.0 | Dual-Mode Bluetooth v4.0 | Dual-Mode Bluetooth v4.0 | Dual-Mode Bluetooth v4.0 | Bluetooth v2.0 and v2.1 |
| **Range** | Up to 100 m | Up to 100 m | Up to 100 m | Up to 100 m | Up to 100 m | Up to 100 m | Up to 1 km |
| **Type** | Surface Mount Module with onboard MCU (ARM Cortex M4F, 512k/64k) | Surface Mount Module with onboard MCU (ARM Cortex M3) | Surface Mount Module with onboard MCU (ARM Cortex M3) | Pluggable USB Adapter with integrated MCU (ARM Cortex M3) | Surface Mount Module | Pluggable USB Adapter | Surface Mount Module |
| **Size** | 14 x 10 mm | 11.6 x 17.9 mm | 12.5 x 19 mm | 50.74 x 18.39 mm | 8.5 x 13 mm | 16 x 43 mm | 15.29 x 28.71 mm |
| **Antenna Options** | Internal Antenna OR External via IPEX MHF4 | Trace Antenna OR External via U.FL | Internal Antenna OR External via U.FL | Internal Antenna | Internal Antenna or External via Trace Pin | Internal Antenna | Internal Antenna OR External via U.FL |
| **Data / Control** | UART, GPIO, ADC, PWM, FREQ output, I²C, SPI | UART, SPI, I2C, PWM, ADC, | UART, GPIO, SPI, I²C, ADC | USB - Virtual COM Port | USB/UART GPIO/I²S/PCM | USB | UART/GPIO |
| **Transmit Power** | -40 to +4 dBm | -46 to +5 dBm | -20 to +8 dBm | -20 to +8 dBm | Up to +8 dBm | Up to +8 dBm | Up to +18 dBm |
| **Receiver Sensitivity** | -96 dBm typical | -96 dBm at 0.1% BER | -90 dBm typical | -90 dBm typical | -89 dBm | -89 dBm | Better than -87 dBm |
| **Temperature Range** | -40°C to 85°C (-40°F to 185°F) | -40°C to 85°C (-40°F to 185°F) | -40°C to 85°C (-40°F to 185°F) | -40°C to 85°C (-40°F to 185°F) | -40°C to 85°C (-40°F to 185°F) | -40°C to 85°C (-40°F to 185°F) | -40°C to 85°C (-40°F to 185°F) |
| **Software/ Firmware** | smartBASIC in Hosted or Hostless mode, OR use Nordic SDK | Programmable via Serial-to-BLE API or TI SDK | Hostless or hosted mode with smartBASIC app environment | Programmable mode with smartBASIC app environment | Standard HCI interfaces over USB/UART | Standard HCI interfaces over USB | Programmable via AT Command Set |
| **Profiles Supported** | Any custom services via smartBASIC / Nordic SDK | Any supported by the TI SDK | SPP. HID, Any custom BLE Service via smartBASIC | SPP. Any custom BLE Service via smartBASIC | Any supported by chosen BT stack | Any supported by chosen BT stack | SPP, HID |
| **Additional Features** | Added proximity pairing via NFC tag | LSR Developer Tool Suite application | Simultaneous Classic BT and BLE Connections | Works with virtually any OS with USB Interface | Plus support for Cortex M3/M4 BT Stack | Works with any Windows/ Linux BT stack via USB | Ultra long range with Class I output power |
| **Certifications** | FCC, IC, ETSI, Giteki, Bluetooth SIG | FCC, IC, ETSI, Giteki, RCM, Bluetooth SIG | FCC, IC, ETSI, Giteki, Bluetooth SIG | FCC, IC, ETSI, Bluetooth SIG | FCC, IC, ETSI, Giteki, Bluetooth SIG | FCC, IC, ETSI, Giteki, Bluetooth SIG | FCC, IC, ETSI, Bluetooth SIG |

*Modules not shown at actual size. Full list of all available modules at www.lairdtech.com/connectivity-solutions*

## To learn more, visit www.lairdtech.com/connectivity-solutions
### or contact us at CS-Sales@lairdtech.com

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