



Every BT740 series Bluetooth® module from Laird Technologies is designed to add robust, long-range Bluetooth data connectivity to any device. Based on the market-leading Cambridge Silicon Radio (CSR) BC04 chipset, BT740 modules provide exceptionally low power consumption with outstanding Class 1 range via 18 dBm of transmit power. The modules support the latest Bluetooth Version 2.1 specification, including Secure Simple Pairing, which improves security and enhances the ease of use for end customers. A broad range of Bluetooth profiles such as Serial Port Profile (SPP) and other vital features make BT740 modules superior to other Bluetooth modules.

With a compact footprint of 15.29 x 28.71 mm, the modules deliver maximum range with a minimum size. Another integration advantage is the inclusion of a complete Bluetooth protocol stack with support for multi-point connections and numerous Bluetooth profiles, including Serial Port Profile (SPP), Human Interface Device profile (HID), and Health Device Profile (HDP). BT740 modules are fully qualified as a Bluetooth End Products, enabling designers to integrate the modules in devices without the need for further Bluetooth Qualification.

An integrated AT command processor interfaces to the host system over a serial port using an extensive range of AT commands. The AT command set abstracts the Bluetooth protocol from the host application, saving many months of programming and integration time. It provides extremely short integration times for data oriented Bluetooth applications.

Included firmware provides programming support for multi-point applications that use up to seven simultaneous data connections to and from the robust BT740 module. A low-cost developer's kit makes it easy for an OEM to integrate the module and guarantees the fastest route to prototype and then mass production.

global solutions: local support

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#### Features & Benefits



- Bluetooth v2.1
- External or Internal Antennas
- Comprehensive AT command set
- Bluetooth EPL
- Compact Footprint
- Class 1 output - 18dBm
- UART interfaces with GPIO & ADC
- Industrial Temperature range
- Multipoint Capabilities with up to 7 simultaneous connections

#### Application Areas

- Medical devices
- ePOS terminals
- Automotive Diagnostic Equipment
- Barcode Scanners
- Industrial Cable Replacement

Full detailed product documentation is available at:-

<http://www.lairdtech.com/Products/BT740-Series>



| CATEGORIES             | FEATURE                 | IMPLEMENTATION  |
|------------------------|-------------------------|---|
| Wireless Specification | Bluetooth®              | V2.1  |
|                        | Frequency               | 2.402 - 2.480 GHz   |
|                        | Max Transmit Power      | Class 1<br>18dBm from antenna   |
|                        | Receive Sensitivity     | Better than -87dBm  |
|                        | Range                   | Up to 1000m   |
|                        | Data Rates              | Up to 2.1Mbps (over the air)  |
|                        | UART Data Transfer Rate | Circa 350kbps   |
| Host Interface         | UART                    | TX, RX, DCD, RI, DTR, DSR, CTS, RTS<br>Default 9600, n,8, 1<br>From 1,200 to 921,600bps |
|                        | GPIO                    | 8 configurable lines  |
|                        | ADC                     | 2 lines, 8 bit resolution   |
| Profiles               | SPP                     | Serial Port Profile   |
|                        | HID                     | Human Interface Device  |
|                        | HDP                     | Health Device Profile   |
| Control Protocols      |                         | AT Command Set - 1 connection<br>Multi-Point API - 7 simultaneous connections           |
| Supply Voltage         | Supply                  | 3.3 – 5.0V  |
|                        | I/O                     | 3.3V  |
| Power Consumption      | Current                 | Idle Mode – 1.25mA<br>Transmit (Max Data) – 35mA  |
| Antenna Options        | Internal                | Multilayer ceramic - BT740-SA   |
|                        | External                | Connection via u.FL - BT740-SC  |
| Physical               | Dimensions              | 15.29 mm x 28.71 mm x 3 mm  |
| Environmental          | Operating               | -40C to +85C  |
| Miscellaneous          | Lead Free               | Lead-free and RoHS compliant  |
|                        | Warranty                | 1-Year Warranty   |
| Development Tools      | Development Kit         | Development board and Software Tools  |
| Approvals              | Bluetooth®              | End Product Listing (EPL)   |
|                        | FCC / IC / CE           | All BT740 Series  |

### Ordering Information

|               |   |
|---------------|---|
| BT740-SA      | Enhanced Class 1 Bluetooth v2.1 Module (internal antenna) |
| BT740-SC      | Enhanced Class 1 Bluetooth v2.1 Module ( u.FL connector)  |
| DVK- BT740-SA | Development Kit (internal antenna)                        |
| DVK- BT740-SC | Development Kit (u.FL connector)                          |

CONN-DS-BT740 v1.0

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#### Revision History

| Version | Date        | Changes | Approved By |
|---------|-------------|---------|-------------|
| 1.0     | 16 Oct 2013 | Initial | J. Kaye     |