

WI-FI 5 USB ADAPTER FOR EMBEDDED DEVICES



Wi-Fi 5 Dual band USB Adapter (Dongle)

Laird Connectivity's customers asked for a robust packaged adapter: one that's rugged, small, simplifies their BOM, is globally certified, has reliable connectivity, and easy to integrate. Our new Sterling-LWB5+ USB Adapter is the latest member of the successful Sterling-LWB5+ radio family, based upon the **Infineon CYW4373E** chipset.

Available in a compact, rugged enclosure, it's designed to meet the demands of medical and industrial IoT connectivity. It provides a fully featured Wi-Fi 5 solution combined with Bluetooth v5.2, enabled with the industry leading Laird Connectivity software drivers and support. The secure, high performance solution provides easy integration with any Linux based system offering an existing USB-A connection. It's IoT from the start: fully certified, easy to integrate, and is the fastest route to the market for wireless IoT applications.

Compatible: Our **Linux Backports** package supports many Linux kernels.

Reliable: High quality drivers and extended product life support.

Robust: Rich feature-set including 802.11ac Wi-Fi and Dual-Mode Bluetooth Low Energy.

Secure: Supports the latest WPA3 security standards.

- 1x1 **Wi-Fi 5** (802.11ac)
- **USB-A** pluggable device
- **USB/USB** (Wi-Fi + BT) host interfaces
- Integrated dual-band antenna
- **Bluetooth 5** Bluetooth Low Energy (LE)
- Advanced Wi-Fi + Bluetooth coexistence for seamless connectivity
- **USB 2.0** - High Speed host interface
- Extended Operating Temperature Range (-40°C to +85°C)
- **Regulatory Pre-certified/Registered** – FCC, ISSED, CE, MIC, RCM & Bluetooth SIG
- **Linux, Linux Backports** for broad kernel support

NOTE – Device requires installation of Linux driver before operation.

FEATURES AT A GLANCE



RELIABLE CONNECTIVITY

802.11ac Wi-Fi with integrated PA and LNA.



SOFTWARE FLEXIBILITY AND SPEED TO MARKET

Open-Source software and Linux Backports ensure compatibility with a wide variety of Linux kernels.



EXTENDED OPERATING RANGE

Designed with an extended temperature range of -40 °C to +85 °C for every component utilized.



REGULATORY APPROVALS

Broad regulatory coverage including FCC, ISSED, CE, RCM, MIC and Bluetooth SIG registration.



PERSONAL SUPPORT FROM DESIGN TO MANUFACTURE

Our industry-renowned support is passionate about helping you speed your design to market.



APPLICATION AREAS



Rugged Handheld Devices



Industrial IoT Connectivity



Medical Devices (Pumps, monitors, beds, carts)

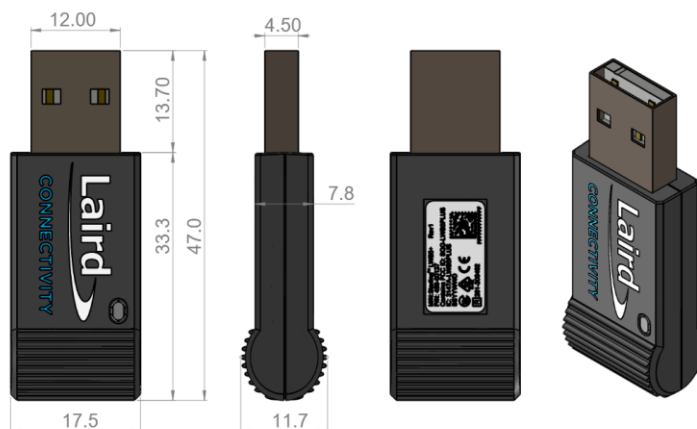


Telematics/Logistics Devices (Printers, terminals, gateways, robotics)

KEY SPECIFICATIONS

| CATEGORY | FEATURE | SPECIFICATION |
|--------------------------------|----------------------|---|
| Wireless Specification | Wi-Fi | Wi-Fi 5 (802.11ac) |
| | Bluetooth® | v5.2 Low Energy, Class 1/2 |
| | Frequency | Dual-Band 2.4GHz & 5GHz |
| | Transmit Power | + 18 dBm (maximum) |
| | Receive Sensitivity | -96 dBm (maximum) |
| | Antenna | Integrated on-board |
| | PHY Link Rate (Air) | Up to 433.3Mbps - MCS9, 80MHz, 256QAM, SGI |
| Host Interface and Peripherals | WLAN Interface | USB 2.0 (HS/FS) |
| | Bluetooth Interface | USB 2.0 (HS/FS) |
| Key Wi-Fi Features | Wi-Fi 5 (802.11ac) | <ul style="list-style-type: none"> • 20, 40, and 80MHz wide channels • MU-MIMO Wave 2 support • Single-stream spatial multiplexing up to 433.3 Mbps PHY data rate. • Integrated PA/LNA |
| Key Bluetooth Features | Bluetooth Low Energy | <ul style="list-style-type: none"> • Central/Peripheral roles • Up to 7 BLE connections • Adaptive frequency hopping (AFH) • Quality of service (QoS) • Secure simple pairing (SSP) • LE Secure Connections • LE Privacy 1.2 • LE Data Length Extension • Fast connect (interlaced page and inquiry scans) |
| Power Supply | | 500mA @ 5VDC (+/- 10%) via USB port |
| Power Consumption | Estimated Current | <ul style="list-style-type: none"> ▪ Continuous TX: ▪ 2.4 GHz band – 369 mA (1 Mbps @ +18 dBm Tx power) ▪ 5 GHz band – 441 mA (VHT80 MCS0 @ +17.5 dBm Tx power) |
| Physical | Dimensions | 17.5mm x 47.0mm x 11.7mm (inc. USB connector) |
| Environmental | Temp Range | -40°C to +85°C |
| Miscellaneous | Lead Free | Lead-free and RoHS-compliant |
| Qualifications | Bluetooth® SIG | Bluetooth v5.2 |
| Software | Driver OS Support | LWB Linux Backports v8.5.0.7 and later (Linux Kernel version 4.1 and later) |
| | Bluetooth Stack | BlueZ v5.x |
| Regulatory | Approvals | FCC/ISED/CE/MIC/RCM (Pending) |

For full specifications on the integrated Sterling-LWB5+ module, please see the appropriate datasheet.



| PART # | DESCRIPTION |
|-------------------|--|
| 450-00137 | USB Adapter, Sterling LWB5+ (Infineon 4373E), Integrated Trace Antenna, Single |
| 450-00137B | USB Adapter, Sterling LWB5+ (Infineon 4373E), Integrated Trace Antenna, Bulk |