Sterling-LWB+

Wi-Fi + Bluetooth® Modules

Low Power IoT Connectivity Modules with WPA3

Wi-Fi 5 and Bluetooth 5.2 embeddable module (MHF & Chip Antenna)

Wi-Fi 5 and Bluetooth v5.2 embeddable SiP

Laird Connectivity's new Sterling-LWB+ Wi-Fi 4 with Bluetooth 5.2 module, based upon the Infineon AIROC™ CYW43439 chipset, is the latest member of the successful Sterling-LWB radio family. This new modules series is available as a System-in-Package (SIP) and two certified module versions, supporting either an on-board chip antenna or a MHF connector for an external antenna. It is designed to meet the demands of medical and industrial IoT connectivity.

The Sterling-LWB+ contains a fully featured Wi-Fi 4 radio, enabled with our industry-leading software drivers and support. The secure, high performance SDIO solution provides easy integration with any Linux or Android based system. It is designed for 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 802.11b/g/n Wi-Fi and Dual-Mode Bluetooth.
- **Secure:** Supports the latest WPA3 security standards.

- 1x1 **Wi-Fi 4** (802.11b/g/n)
- Host Interface:
  - Wi-Fi: SDIO v2.0
  - BT: HS-UART
- Antenna options:
  - On-board chip antenna
  - MHF4 connector
  - RF Pad
- **Bluetooth 5** Bluetooth Low Energy (LE)
- Advanced **Wi-Fi + Bluetooth coexistence** for seamless connectivity
- Extended Operating Temperature Range (-40°C to +85°C)
- **Global Certifications/Registrations** – FCC, ISED, CE, MIC, RCM & Bluetooth SIG
- **Linux, Linux Backports** for broad kernel support

Features at a Glance

Reliable Connectivity
802.11b/g/n Wi-Fi with integrated PA and LNA.

Software Flexibility and Speed to Market
Open-Sourced 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.

Global Approvals
Broad regulatory coverage including FCC, ISED, 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
- Industrial IoT Sensors

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For documentation, software, sample apps and more visit:
http://www.lairdconnect.com/sterling-lwb-plus

KEY SPECIFICATIONS

CATEGORY	FEATURE	SPECIFICATION
Wireless Specification	Wi-Fi	Wi-Fi 4 (802.11b/g/n)
	Bluetooth®	v5.2, Class 1/2
	Frequency	2.4 GHz (Single band)
	Transmit Power	802.11b: +18 dBm (11 Mbps) 802.11g: +16 dBm (54 Mbps) 802.11n: +15 dBm (HT20, MCS7)
	Receive Sensitivity	802.11b: -94 dBm (1 Mbps) 802.11g: -90 dBm (6 Mbps) 802.11n: -89 dBm (HT20, MCS0)
	Antenna	MHF4, Integrated on-board chip antenna, or RF Pin
	PHY Link Rate (Air)	Up to 65Mbps – MCS7 OFDM (n)
Host Interface and Peripherals	WLAN Interface	SDIO V2.0
	Bluetooth Interface	HCI HS-UART (up to 4Mb/s), PCM (BT Audio)
Key Wi-Fi Features	Wi-Fi 5 (802.11b/g/n)	• 20/40Hz wide channels • 1x1 antenna • Integrated PA/LNA • WPA/WPA2/WPA3™ Personal and Enterprise support • Station and SoftAP
Key Bluetooth Features	Bluetooth Low Energy	• Basic Rate, Enhanced Data Rate and BLE • Bluetooth 5.0 LE Secure Connections • Supports eSCO for enhanced voice quality • Multiple simultaneous A2DP streams • Adaptive frequency hopping (AFH)
Power Supply		3.3VDC (+/- 10%)
Power Consumption	Estimated Current (Wi-Fi)	• Typical Operating Power: 301 mA (11b, 1 Mbps @ +18 dBm Tx power) • Typical Standby Power: 773 µA (VBAT 3.3VDC, DTIM3) • Typical Deep Sleep Mode: 5.5 µA (VBAT 3.3VDC)
Physical	Dimensions (LxWxH)	SIP: 12mm x 12mm x 3mm MHF4/Chip Antenna: 21mm x 15.5mm x 4mm
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	Laird Linux Backport v9.0.0.X and later
	Bluetooth Stack	N/A
Regulatory	Approvals	FCC/ISED/CE/MIC/RCM (Pending)

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

PART #	DESCRIPTION
453-00083	Module, Sterling LWB+ (Infineon 4393), SIP, Tape & Reel
453-00084	Module, Sterling LWB+ (Infineon 4393), MHF4, Tape & Reel
453-00085	Module, Sterling LWB+ (Infineon 4393), Chip Antenna, Tape & Reel
453-00084-K1	Development Kit, Sterling LWB+ (Infineon 4393), MHF4
453-00085-K1	Development Kit, Sterling LWB+ (Infineon 4393), Chip Antenna

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