

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

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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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	

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

PART #	DESCRIPTION
453-00083R	Module, Sterling LWB+ (Infineon 43439), SIP, Tape & Reel
453-00083C	Module, Sterling LWB+ (Infineon 43439), SIP, Cut Tape
453-00084R	Module, Sterling LWB+ (Infineon 43439), MHF4, Tape & Reel
453-00084C	Module, Sterling LWB+ (Infineon 43439), Cut Tape
453-00085R	Module, Sterling LWB+ (Infineon 43439), Chip Antenna, Tape & Reel
453-00085C	Module, Sterling LWB+ (Infineon 43439), Cut Tape
453-00084-K1	Development Kit, Sterling LWB+ (Infineon 43439), MHF4
453-00085-K1	Development Kit, Sterling LWB+ (Infineon 43439), Chip Antenna