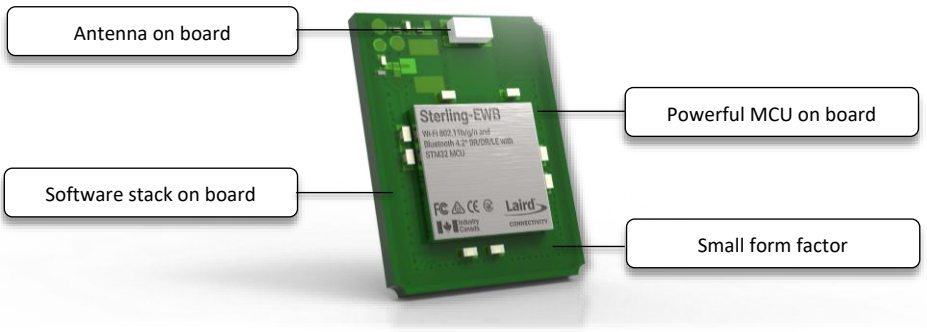
Sterling-EWB

Embedded 802.11b/g/n + Bluetooth 4.2 with STM32 ARM Cortex M4 MCU

THE STERLING-EWB IS A MATCH MADE FOR IoT



The Sterling-EWB is a simple, secure, reliable way to gather meaningful IoT intelligence. It's easier than ever to gather sensor data and wirelessly send it to cloud services like Amazon AWS.

powered by aws

The Sterling-EWB's variety of fully-certified form factors give you design flexibility, reduce complexity and simplify the overall hardware design.

Based on Cypress's WICED SDK, the Sterling-EWB is a comprehensive IoT platform in a cost-effective package. Extremely power conscious, the Sterling-EWB is ideal for battery powered devices. The development kit is designed to simplify application development and evaluations. Built for a variety of IoT use cases, the Sterling-EWB makes it easier than ever to bring your data to the cloud.

- **Onboard STM32F412 Cortex M4 Microprocessor** – 256 KB of SRAM, 1 MB internal flash, and 2MB SPI flash, fully compatible with Cypress's WICED SDK
- **Wi-Fi and Bluetooth via Cypress 4343W** – 802.11b/g/n and Bluetooth 4.2 BR/DR/LE
- **Wireless Security** – WPA/WPA2, AES, TKIP, and much more
- **Industrial Temp Range** – Operating temperature of -40° to +85° C
- **Global Certified** –FCC (USA), IC (Canada), ETSI (Europe), Giteki (Japan), and RCM (AU/NZ) [all pending]
- **Simplify your Manufacturing** – PCB module variants feature larger pinouts to simplify manufacturing and trace layouts
- **Module Options** – SIP module, PCB module with onboard chip antenna, or PCB module with u.FL connector
- **On-board Chip Antenna** – Chip antenna variant offers high resistance to detuning for ideal performance in a smaller package and simplifies the certification process for end-products

CYPRESS EMBEDDED IN TOMORROW™ WICED STUDIO life.augmented

FEATURES AT A GLANCE

WIDE RANGE OF INTERFACES

Onboard STM32F412 Cortex M4 Microcontroller exposes SPI, QSPI, USART, PCM, ADC, I2C, I2S, GPIO, and JTAG.

WIRELESS SECURITY

Your data is valuable – secure it with our enterprise security options, including a wide array of protocols and authentication methods.

DEPLOY WITH CONFIDENCE

Wireless security, smart power management, and integration with popular cloud services so your device can continue gathering data autonomously.

CYPRESS'S WICED STUDIO

Cypress's WICED studio provides a suite of tools that simplifies complicated configurations. Our development kit includes an environmental sensor and sample applications to get your device up and running quickly.

CERTIFIED FOR DEPLOYMENT AROUND THE WORLD

Certifications for FCC (USA), IC (Canada), ETSI (Europe), Giteki (Japan), and RCM (AU/NZ) [all pending].

PERSONAL SUPPORT FOR YOUR IMPLEMENTATION

Free antenna scans, design reviews, on-site EMC support and a global team of FAEs and Tier 2 support help accelerate your product to market.

APPLICATION AREAS

- Security and Building Automation
- Wireless Sensor Connectivity
- Internet of Things Connectivity
- Connected Home

Interested in Laird's Sterling-EWB?
Visit us at **https://connectivity.lairdtech.com/sterling-ewb**

SPECIFICATIONS

Category	Feature	Specification
Chipset	Wireless	Cypress CYW4343W
	MCU	ST Micro STM32F412 Cortex M4
Microcontroller	Memory	256 kB of SRAM 1 MB Internal Flash 2 MB SPI Flash
	Interfaces	SPI, QSPI, USART, PCM
	Additional Features	ADC, I2C, I2S, GPIO, Timers
	Debugging	JTAG
Wi-Fi	Standards	802.11b/g/n
	Typical transmit power	+17.5 dBm, 11 Mbps, CCK (b), +14.0 dBm, 54 Mbps, OFDM (g), +12.5 dBm, HT20 MCS7 (n)
	Typical receive sensitivity	-88 dBm, 8% PER,11 Mbps (b), -75 dBm, 10% PER, 54 Mbps (g), -72 dBm, 10% PER, MCS7 (n)
	Additional Features	Internal Power Amplifier, Internal Low Noise Amplifier, Internal T/R Switch Wi-Fi + BT coexistence
Bluetooth	Standards	Bluetooth v4.2 BR/DR/LE
	Class	Class 2
	Additional Features	HCI Interface using High Speed UART
Security	Supported Modes	Open, WEP, WPA Personal, WPA2 Personal, WPA2 Enterprise, AES, TKIP
Electrical	Operating Voltage	3.0V to 3.6V
Physical	Dimensions	SiP module: 10 mm x 10 mm PCB modules: 16mm x 21 mm
	Operating Temperature	-40° to +85° C
	Storage Temperature	-40° to +125° C
Software	WICED	Cypress's WICED Studio
Regulatory	Approvals	FCC, IC, ETSI, Giteki, RCM (all pending)
	Environmental	REACH and RoHS compliant

For full specifications on the Sterling-EWB modules, please see the appropriate Datasheet.

ORDERING INFORMATION

Part	Description
453-00013C	Module, Sterling-EWB, U.FL, Cut Tape
453-00013R	Module, Sterling-EWB, U.FL, Tape & Reel
453-00014C	Module, Sterling-EWB, Chip Antenna, Cut Tape
453-00014R	Module, Sterling-EWB, Chip Antenna, Tape & Reel
453-00012C	Module, Sterling-EWB, SIP, Cut Tape
453-00012R	Module, Sterling-EWB, SIP, Tape & Reel
455-00030	Dev Kit, Sterling-EWB Module, Chip Antenna
455-00031	Dev Kit, Sterling-EWB Module, FlexPIFA Antenna

Figure 1: 455-00030 Sterling-EWB Development Kit w/ Chip Antenna

LAIRD CONNECTIVITY SPEEDS YOUR DESIGN TO MARKET

DESIGN SERVICES

Laird Connectivity delivers complete system solutions from concept to manufacturing. We are your wireless M2M solutions partner, providing complete turnkey services and solutions.

- RF Design/Engineering
- Software/Firmware Design
- Antenna Design
- Industrial Design
- Mechanical Engineering

EMC TESTING & CERTIFICATION

We understand it is critical for you to have a compliant product supported by the appropriate documentation, ready for deployment into the market. We provide the experience and knowledge to provide quality test services that meet your timeline and budget.

- On-Site FCC / IC /CE EMC Certification
- Wireless & Antenna Testing
- EMC Testing
- International Testing Services

WIRELESS PRODUCTS

We offer the fastest, lowest cost way to add wireless capabilities to your product concept. Our fully-certified modules and antennas accelerate your time-to-market and support the full breadth of communication technologies, including:

- Wi-Fi®
- Bluetooth® Classic and BLE
- ZigBee®
- 802.15.4 & proprietary protocols

Interested in Laird's Sterling-EWB?
Visit us at **https://connectivity.lairdtech.com/sterling-ewb**