

## 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.



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



## 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

## SPECIFICATIONS

Category	Feature	Specification
<b>Chipset</b>	Wireless	Cypress CYW4343W
	MCU	ST Micro STM32F412 Cortex M4
<b>Microcontroller</b>	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
<b>Wi-Fi</b>	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
<b>Bluetooth</b>	Standards	Bluetooth v4.2 BR/DR/LE
	Class	Class 2
	Additional Features	HCI Interface using High Speed UART
<b>Security</b>	Supported Modes	Open, WEP, WPA Personal, WPA2 Personal, WPA2 Enterprise, AES, TKIP
<b>Electrical</b>	Operating Voltage	3.0V to 3.6V
<b>Physical</b>	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
<b>Software</b>	WICED	Cypress's WICED Studio
<b>Regulatory</b>	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>