

# EC32LXX 2.4GHz 802.11 b/g/n Modules

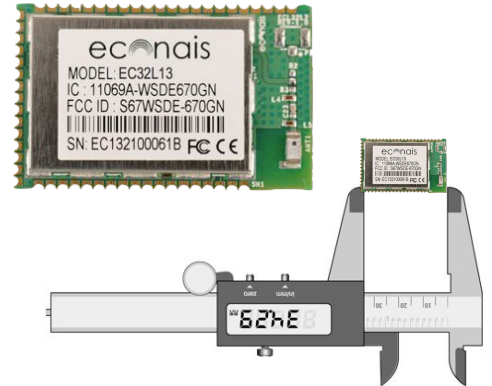
## Fully Certified Wi-Fi Ready MCU Modules

### Open Architecture for Custom App Development



The EC32Lxx family of modules is the ultimate choice for product designers who want to integrate Wi-Fi into their network connected devices and appliances. No previous Wi-Fi experience is needed!

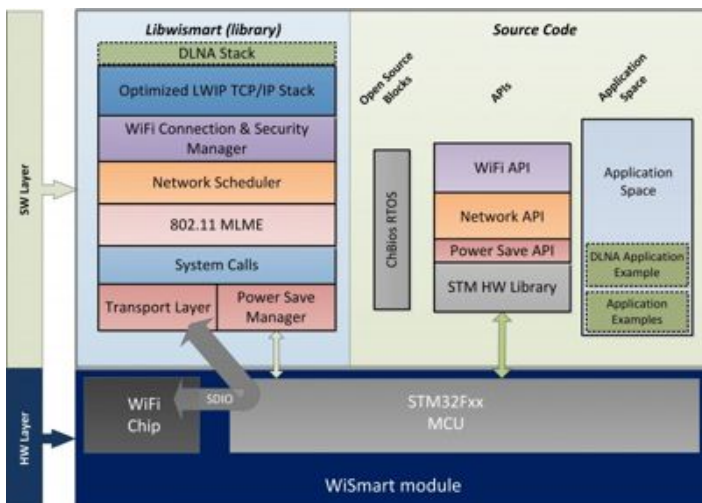
The EC32Lxx includes the most comprehensive software library and open source applications to ensure full customization and rapid path to market for Wi-Fi enabled products. The MCU on the EC32Lxx can be used to replace an existing MCU. Porting customer application code to EC32Lxx saves space, power, and cost.



### Highlights

- Powerful Cortex-M3/M4 Processors with Flash and RAM to support custom applications
- UART to Wi-Fi and SPI to Wi-Fi functions
- Best in class open source RTOS
- Power consumption as low as 2uA
- Network Tx/Rx performance up to 22Mbps
- Complete set of interfaces: GPIOs, USARTs, UARTs, I2C, I2S, SPI, USB, CAN2.0A/B, ADC, DAC
- Full set of open source application examples
- Ideal for OEM/ODM products requiring Wi-Fi network connectivity or media streaming

### Block Diagram



### Applications

- Home Automation and Smart Appliances
- Wi-Fi Audio Speakers and Headphones
- Wi-Fi Audio/Video Monitoring
- Wireless Sensors and Sensor Networks
- Healthcare and Fitness Devices
- Wearable Devices
- Security, Authentication, and Admittance Control
- Lighting
- Toys
- Building/Energy/Industrial Management/Control
- Remote Control, Data Acquisition & Monitoring

# Product Brief

## Features

- ChibiOS/RT RTOS
- Wi-Fi Client and Ad-Hoc support
- Wi-Fi AP support with up to 5 clients
- WPA Personal & Enterprise (with TLS)
- WPS Pin and Push Button Methods
- HTTPS/SSL
- Over-The-Air (OTA) Firmware Upgrades
- Advanced Roaming Algorithms
- DHCP Client/Server
- Configurable Web Server
- IPv4, TCP/UDP sockets
- Cloud services support
- Open source ARM toolchain
- Free sample code provided

## Specifications

Radio Technology	2.4GHz IEEE 802.11b/g/n
Power supply	3.3V
Antenna	SMD or external antenna connector
Max TX power	18 dBm
Max RX sensitivity	-94 dBm
Storage Temp.	-50 to +125 °C
Operating Temp.	-30 to +85 °C
Max Operating Temp.	-40 to +85 °C
Max Distance	400m open space line of sight
Roaming	<20 ms
Certification	FCC, EC, IC, TELEC, RoHS

## EC32LXX Module Selection

Resource	EC32L11	EC32L12	EC32L13	EC32L14	EC32L22	EC32L23	EC32L24	EC32L44
Processor (MCU)	STM32F103RD ARM Cortex-M3 32bit	STM32F103RE ARM Cortex-M3 32bit	STM32F103RF ARM Cortex-M3 32bit	STM32F103RG ARM Cortex-M3 32bit	STM32F205RE ARM Cortex-M3 32bit	STM32F205RF ARM Cortex-M3 32bit	STM32F205RG ARM Cortex-M3 32bit	STM32F405RG ARM Cortex-M4 32bit
Clock	72MHz	72MHz	72MHz	72MHz	120MHz	120MHz	120MHz	168MHz
Flash for user apps	100KB	100KB	150KB	400KB	100KB	150KB	400KB	400KB
RAM for user apps	25KB	25KB	30KB	30KB	90KB	95KB	95KB	160KB
GPIOs	25x	25x	25x	25x	25x	25x	25x	25x
USARTs	3	3	3	3	3	3	3	3
UARTs					2	2	2	2
Serial2Wi-Fi	No	No	Yes	Yes	No	Yes	Yes	Yes
DLNA DMR/DMS	No	No	Yes	Yes	No	Yes	Yes	Yes
OTA FW	No	No	Yes	Yes	No	Yes	Yes	Yes
WPA/WPA2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SSL/HTTPS	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standby	2-4uA	2-4uA	2-4uA	2-4uA	2-4uA	2-4uA	2-4uA	3-5uA
Connected Idle <sup>(1)</sup>	2.3-2.6mA	2.3-2.6mA	2.3-2.6mA	2.3-2.6mA	2.3-2.6mA	2.3-2.6mA	2.3-2.6mA	2.3-2.6mA
TX/RX (TCP)	10/16 Mbps	10/16 Mbps	10/16 Mbps	10/16 Mbps	18 Mbps	18 Mbps	18 Mbps	22 Mbps

(1) DTIM:5

## Evaluation and Development Kits



EC32L13DK



EC32L13WADK

## EC32LXX Dimensions (mm)

