# CYPRESS PRODUCT SELECTOR GUIDE
# INTERNET OF THINGS (IoT) SOLUTIONS

FUTURE ELECTRONICS

CYPRESS®
EMBEDDED IN TOMORROW™

# WIRELESS CONNECTIVITY

## Internet of Things

Everything Connected
to the Network

## Connectivity

Wi Fi

Bluetooth®

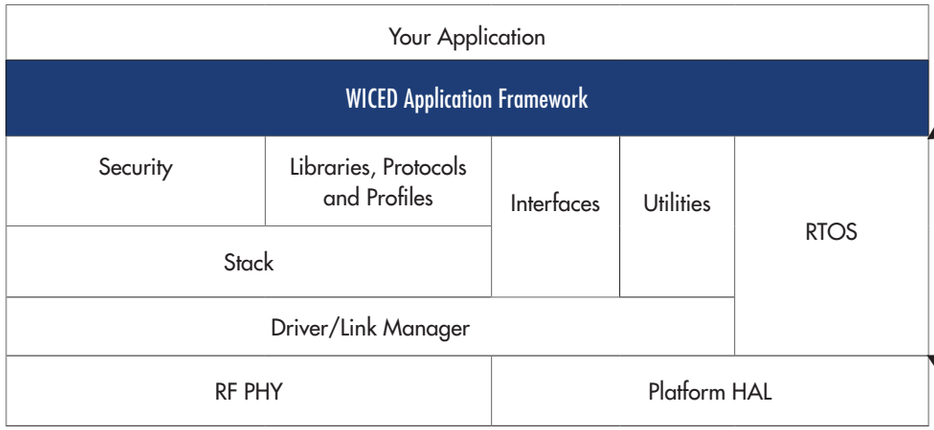
Smart Devices
Control and Analyze

## Wearables

Body-Borne Computing
and Sensors

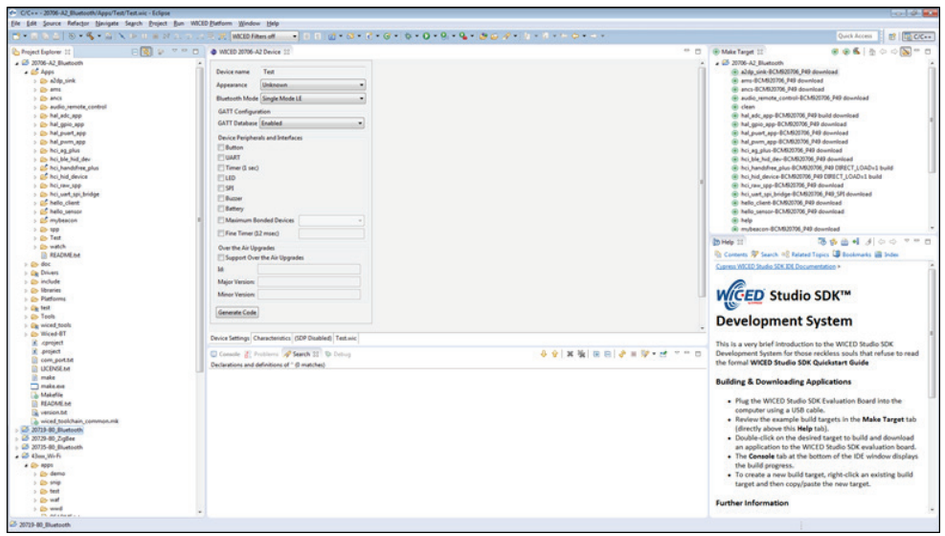
# WICED® STUDIO THE ONLY SDK THAT INTEGRATES BLUETOOTH AND WI-FI

### WICED® APIs and Application Framework abstract complexity




### Extensive support for industry standards


### An intuitive graphical IDE simplifies development




### HIGHLIGHTS

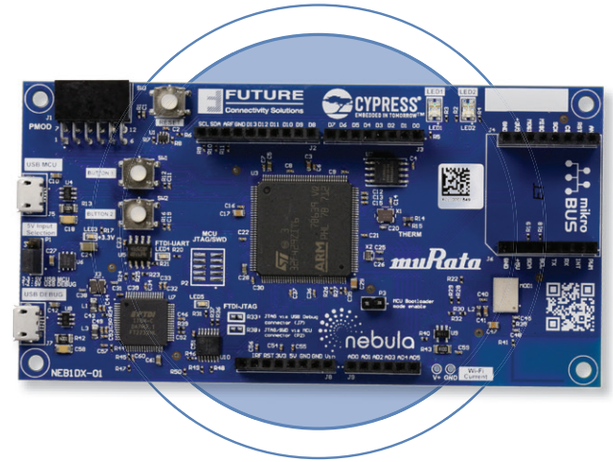
- Runs on Windows, OS X, and Linux through Eclipse-based integrated development environment (IDE)
- Single installer package with support for:
  -Wi-Fi
  -Bluetooth (BR/EDR and BLE)
- Sample applications for many popular use cases
- Code snippets for understanding WICED APIs
- Applications for manufacturing and certification
- Applications support for leveraging low-level drivers
- WICED Studio standardizes on tools, naming conventions, and structure from previous WICED SDKs

WICED® STUDIO by CYPRESS®

# NEBULA IoT REFERENCE DESIGN BOARD

The Nebula board is an IoT cloud ready board developed by Future Electronics which allows developers to quickly prototype and deploy their IoT ecosystems. The Nebula board supports application development through Cypress' WICED® (Wireless Internet Connectivity for Embedded Devices) platform. WICED Studio provides a single common development environment for multiple wireless technologies with a simplified application programming interface, code snippets, sample applications and Cloud agents to accelerate the development process. The board is designed for users to explore the vast opportunities in IoT applications such as asset tracking, energy management, fitness, lighting controls, HVAC, portable controls, security and building automation.

- Wireless connectivity is supported by the Murata 1DX module which houses the Cypress-based CYW4343W Wi-Fi and Bluetooth Classic (BR/EDR)/BLE chipset radio.
- The board contains STMicroelectronics' STM32F429 MCU which is an Arm® Cortex®-M4, with 32 bit RISC core, 2MB Flash and up to 256kB SRAM.
- The board is equipped with 4 different interfaces to access the STM32F429 peripherals to enable developers to create any IoT application:
  1. Arduino™ Compatible Shield
  2. mikroBUS™ Socket
  3. Pmod™ Type 2A
  4. USB Device
- In addition, the Nebula board explores easy hardware expandability through a large number of standardized add-on boards via these connectors, with each one focusing on a different application such as motor controls, sensors and wireless connectivity to enable IoT development.




To purchase a board for ONLY $99 or for more information on WICED® Wi-Fi products, go to http://bit.ly/2xPgQet

CYPRESS® EMBEDDED IN TOMORROW™

nebula

WICED® by CYPRESS®

muRata INNOVATOR IN ELECTRONICS

FUTURE ELECTRONICS

# WICED Wi-Fi/Combo

**WICED Wi-Fi/Combo.** Cypress provides a full-featured WICED Development Kit and is working with partners to deliver turnkey hardware solutions of various form factors to readily enable Wi-Fi connectivity in system designs. The following reference WICED boards are available for development and device prototyping:

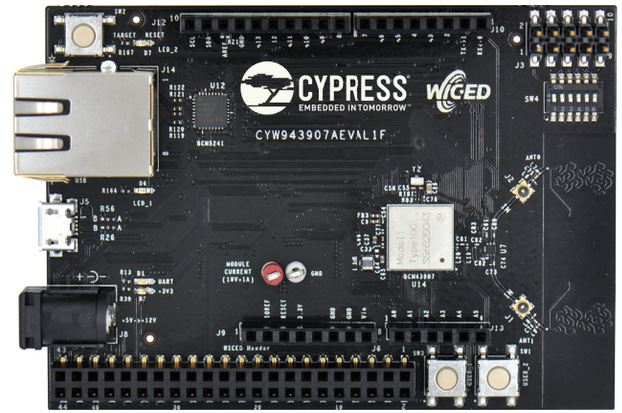
- **BCM943362WCD4_EVB:** The BCM943362WCD4 SIP module is mounted on a full-featured USB-based evaluation and development board that is fully compatible with the WICED Wi-Fi Software Development Kit (SDK). The onboard SIP module leverages the CYW43362 802.11n 2.4 GHz Wi-Fi controller with integrated antennas and diversity to improve the quality and reliability of a wireless link, plus the STM32F205 32-bit Arm® microcontroller.

- **BCM943364WCD1_EVB:** The BCM943364WCD1 SIP module is mounted on a full-featured USB-based evaluation and development board that is fully compatible with the WICED Wi-Fi Software Development Kit (SDK). Designed to be a lower cost alternative to the popular CYW43362, the onboard SIP module leverages the CYW43364 2.4 GHz WLAN IEEE 802.11b/g/n MAC/baseband/radio. In addition, the module integrates a power amplifier (PA) that meets the output power requirements of most handheld systems, a low-noise amplifier (LNA) for best-in-class receiver sensitivity, and an internal transmit/receive (iTR) RF switch, further reducing the overall solution cost and printed circuit board area. Powered by the STM32F411 32-bit Arm microcontroller.

- **CYW94343WWCD1_EVB:** The CYW94343WWCD1 SIP module is mounted on a full-featured USB-based evaluation and development board that is fully compatible with the WICED Wi-Fi SDK. Designed to be a lower cost alternative to the popular CYW4334X series, the onboard SIP module leverages the CYW4343W featuring an 802.11b/g/n MAC/baseband /radio and Bluetooth 4.x support. In addition, the module integrates a power amplifier (PA) that meets the output power requirements of most handheld systems, a low-noise amplifier (LNA) for best-in-class receiver sensitivity, and an internal transmit/receive (iTR) RF switch, further reducing the overall solution cost and printed circuit board area. Powered by the STM32F411 32-bit Arm microcontroller.

- **CYW943907AEVAL1F:** The CYW943907AEVAL1F is a full-featured USB-based evaluation and development board that is fully compatible with the latest version of WICED Studio. The onboard SIP module leverages the CYW43907 802.11n dual-band (2.4 GHz and 5 GHz) Wi-Fi SoC which features an internal 320-MHz Arm® Cortex®-R4 processor and support for various on-chip interfaces like Ethernet (RMII/MII), UART, SPI/QSPI and I²C. Additionally, the board offers Arduino compatible headers for hardware expansion.

**HomeKit Support:** Due to external MCU memory constraints on most WICED based evaluation boards, iCloud support under HomeKit is not supported. To leverage WICED Studio for iCloud support under HomeKit, please use CYW954907AEVAL1F or CYW943907AEVAL1. The BCM943362WCD4_EVB, BCM943364WCD1_EVB, CYW94343WWCD1_EVB, CYW920719Q40EVB-01 and CYW920706WCDEVAL evaluation boards will all support HomeKit when not used with iCloud. Also note that the Apple MFi Authentication Chip is not populated on WICED evaluation platforms.




The CYW943907AEVAL1F is a full-featured evaluation and development board that is fully compatible with the latest version of WICED Studio.

WICED® by CYPRESS®

HomeKit

# WICED Wi-Fi/Combo

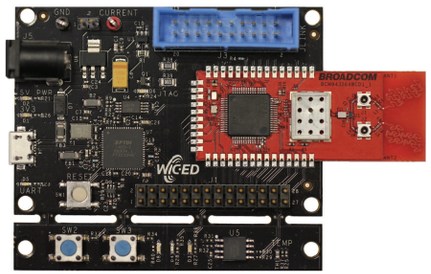
**WICED Wi-Fi/Combo.** Cypress provides a full-featured WICED Development Kit and is working with partners to deliver turnkey hardware solutions of various form factors to readily enable Wi-Fi connectivity in system designs. The following reference WICED boards are available for development and device prototyping:

**WICED Wi-Fi Software Development Kit.**
The WICED Wi-Fi SDK includes the following:

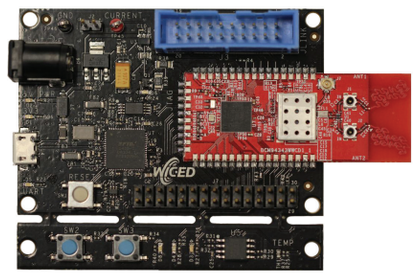
- An open-source build system and toolchain based on GNU 'make'.
- A GUI development environment based on Eclipse CDT that seamlessly integrates with a JTAG programmer and single-step, thread-aware debugger based on OpenOCD and gdb.
- A comprehensive software stack with a choice of several RTOS/TCP stack options including Express Logic, ThreadX/NetX, ThreadX/NetX Duo, and FreeRTOS/LwIP*.
- Advanced security and networking features, incorporating SSL/TLS, IPv4/IPv6 networking, and mDNS (Bonjour) device discovery.
- WICED Application Framework incorporating production-ready features, including bootloader, Flash storage API, over-the-air (OTA) upgrades, factory reset, and system monitor.
- Production-ready sample applications and application snippets that demonstrate how to use the WICED API feature set, including examples of Wi-Fi to Bluetooth (BT/BLE) bridging and Apple HomeKit (requires MFi license).
- Support for Amazon Web Services (AWS), Alibaba Aliyun and IBM Bluemix.
- Various test applications to aid manufacturing and certification.
- Full documentation included in the SDK.

For additional information on WICED modules currently in production, go to:
http://community.Cypress.com/community/wiced-wifi

*FreeRTOS/LwIP support not available within WICED Studio 4.x.



The BCM943364WCD1 WICED module mounted on a full-featured BCM943364WCD1_EVB development board.



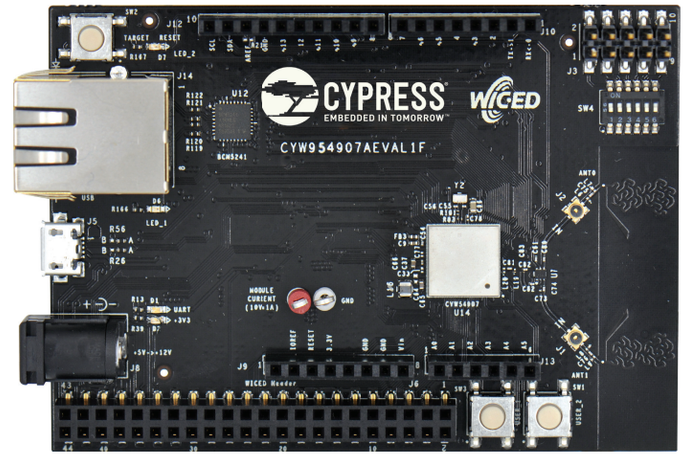
The CYW94343WWCD1 SIP module mounted on a full-featured CYW94343WWCD1_EVB evaluation board.

# WICED Wi-Fi/Combo - New Releases

The Cypress CYW954907AEVAL1F Evaluation kit enables you to evaluate and develop single-chip Wi-Fi applications using the CYW54907 device. The kit uses a module based on CYW54907 device. CYW54907 is a single-chip 802.11ac dual-band (2.4 GHz and 5 GHz) Wi-Fi SoC that features 320-MHz Arm Cortex-R4 MCU for application subsystem and various on-chip interfaces like Ethernet (RMII/MII), UART, SPI/QSPI and $I^2C$ that in totality offers a very small-footprint IoT solution. This kit helps evaluate device functionality and develop applications quickly for faster time to market. Arduino compatibility allows to plug in off-the-shelf shields to expand hardware functionality for quick prototyping.

**Kit Features:**

- CYW54907 based module
- On-board PCB antenna with an option to connect external antenna
- Arduino compatible headers for hardware expansion
- Custom header to bring out additional GPIOs (WICED header)
- User switches and LEDs
- On-board programmer and debugger using USB interface and USB-UART bridge
- RJ45 connector for Ethernet
- 5 V to 12 V input using USB connector or power jack




**Kit Contents:**

- CYW954907AEVAL1F Evaluation board
- USB Standard-A to Micro-B cable
- Quick Start Guide

The PSoC® 6 WiFi-BT Pioneer Kit (CY8CKIT-062-WiFi-BT) is a low-cost hardware platform that enables design and debug of the PSoC 62 MCU and the Murata LBEE5KL1DX Module (CYW4343W WiFi + Bluetooth Combo Chip).

The PSoC 6 WiFi-BT Pioneer Kit features the PSoC 62 MCU: a single- or dual-core MCU, with an Arm Cortex-M4 and Arm Cortex-M0+, 1MB of Flash, 288KB of SRAM,104 GPIO, 7 programmable analog blocks, 56 programmable digital blocks, Full-Speed USB, a serial memory interface, a PDM-PCM digital microphone interface, and industry-leading capacitive-sensing with CapSense®.

PSoC Creator and WICED Studio are required to develop and design with the PSoC 6 WiFi-BT Pioneer Kit. PSoC Creator 4.2 or later is used to design standalone PSoC 6 MCU projects and WICED Studio 6.1 or later is used to design PSoC 6 + WiFi/BT projects.

To learn more about this kit, please refer to the User's Guide and other documentation located here
http://www.cypress.com/documentation/development-kitsboards/cy8ckit-062-wifi-bt-pioneer-kit

# WICED Studio Bluetooth

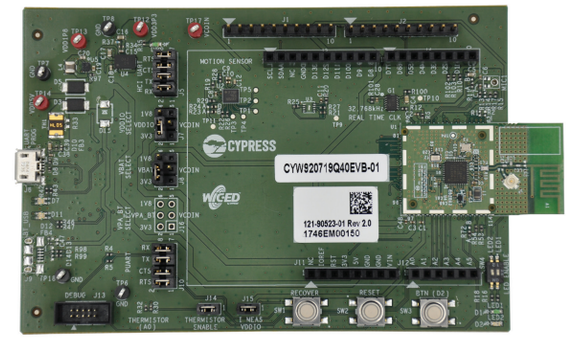
Cypress's WICED Studio Bluetooth portfolio consists of dual-mode Bluetooth solutions that supports Bluetooth Classic i.e. Basic Rate (BR) and Enhanced Data Rate (EDR) as well as Bluetooth Low Energy (BLE). The Cypress WICED Studio Bluetooth portfolio includes Bluetooth 4.2 and Bluetooth 5.0 core specification-compliant, BR + EDR + BLE solutions that integrate Bluetooth standard profiles and protocols for embedded applications.

The Cypress CYW920719Q40EVB-01 Evaluation Kit enables you to evaluate and develop single-chip Bluetooth applications using the CYW20719, an ultra-low-power dual-mode Bluetooth 5.0 wireless MCU device. The CYW20719 is a stand-alone baseband processor with an integrated 2.4 GHz transceiver supporting BR/EDR/BLE. Manufactured using advanced CMOS low-power process, the CYW20719 employs the high of integration to reduce external components, thereby minimizing the device's footprint and cost. This kit helps evaluate device functionality and develop applications quickly for faster time-to-market.

The CYW20719 device and this evaluation kit are supported in WICED Studio 6.1 (or later).

**Kit Features:**

- 40-QFN CYW20719 Bluetooth 5.0-compliant BT/BLE wireless MCU
- Arduino compatible headers for hardware expansion
- On-board sensors - a 9-axis motion sensor (3D digital linear acceleration sensor, 3D digital angular rate sensor, and 3D digital magnetic sensor) and a thermistor
- User switches and LEDs
- USB connector for power, programming and USB-UART bridge



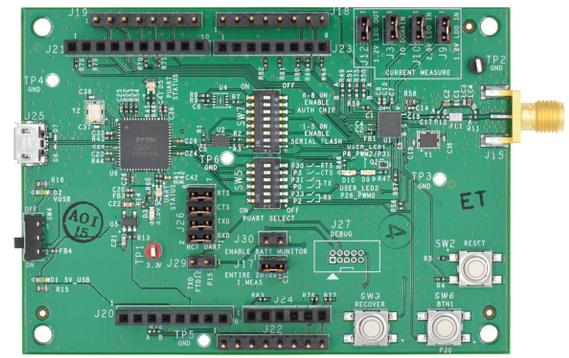

**Kit Contents:**

- CYW920719Q40EVB-01 Evaluation board
- USB Standard-A to Micro-B cable
- Quick Start Guide

The Cypress CYW920706WCDEVAL Evaluation Kit enables you to evaluate and develop single-chip Bluetooth applications using the CYW20706 device. The Cypress CYW20706 is a single-chip Bluetooth 4.2-compliant, stand-alone baseband processor with an integrated 2.4 GHz transceiver. This kit helps evaluate device functionality and develop applications quickly for faster time-to-market.

**Kit Features:**

- CYW20706 Bluetooth 4.2-compliant SoC
- Arduino compatible headers for hardware expansion
- User switches and LEDs
- USB connector for power, programming and USB-UART bridge
- The CYW20706 device and this evaluation kit are supported within WICED Studio



**Kit Contents:**

- CYW920706WCDEVAL Evaluation board
- USB Standard-A to Micro-B cable
- Quick Start Guide

# WICED SMART

**WICED SMART (Embedded Bluetooth Low Energy):** WICED SMART is a very low-power family of pin-compatible modules that, when paired with the included SDK, vastly reduces the effort required to add "Bluetooth Smart" wireless connectivity and cable replacement capabilities to a range of embedded applications.

- Pin-Compatible Family: CYW20732, CYW20736 (Wireless Charging), and CYW20737 (RSA).
- BCM92073X_LE_KIT: A complete evaluation and development kit that includes the CYW20737, a fully integrated Bluetooth Smart SoC, and is configured for easy evaluation and software development.
- CYW20732S/CYW20736S/CYW20736E/CYW20737S/CYW20737L: A production module providing cable replacement functionality via an integrated Bluetooth Smart solution that includes onboard stack, crystal, antenna, and regulatory approvals (internal antenna and regulatory approvals not available on the CYW20736E).
- BCM92073X_LE_TAG4: Adds sensors for pressure, magnetometer, humidity, temperature, accelerometer, and gyroscope.

Support for these products is available within the Cypress Support Community forums at: http://community.Cypress.com/welcome-wiced

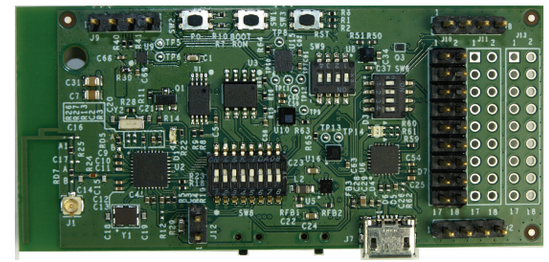
**WICED SMART Software Development Kit:** Cypress provides a WICED SMART SDK and is working with partners to deliver turn key hardware solutions to enable Bluetooth Smart connectivity. Cypress's WICED SMART Development Kit eases development effort and simplifies the implementation of wireless connectivity in an array of consumer, medical, fitness, and home automation devices—especially those without existing networking support.

Developers use the WICED SMART Development Kit to create secure Bluetooth SMART wireless applications. The development kit contains the following:

- WICED SMART BCM92073X_LE_TAG4 small form-factor development board (includes coin cell holder) with added sensors for pressure, magnetometer, humidity, temperature, accelerometer, and gyroscope.
- SDK
- A full suite of documentation (data sheet, hardware user's guide, quick start guide, etc.).
- Integrated Eclipse-based IDE allowing access to peripherals, timers, stack, and profiles.
- Support for Arm RealView RVDS and CodeSourcery G++ Lite toolchains.
- Linux, OSX, or Windows development support.
- Sample profiles include: Proximity, Heart Rate Monitor, Health Thermometer, Blood Pressure Monitor, Time, Automation I/O, Glucose Meter, Cycling Speed Cadence, Running Speed Cadence, I²C Temperature Sensor, SPI Master and Slave, SPI Pressure Sensor, multiple beacons, OTA Firmware Upgrade, UART Firmware Upgrade, Indoor Position, Location and Navigation, Long Characteristics, Rezence-based (A4WP) Power Transmitting Unit (PTU) and Power Receiving Unit (PRU) profiles, support for Simultaneous Master/Slave, PWM tones (pwm_tones), the ability to test data transfer speed/throughput (speed_test), and a wearables (watch) sample (which includes Apple Notification Center Service, Find Me client, Time client, and HID service).

**WICED SmartBridge/Bluetooth Internet Gateway:**

A multiple-connection Bluetooth SmartBridge/ Bluetooth Internet Gateway with the following features: whitelist, bond storage, attribute caching, GATT procedures, configurable maximum concurrent connections, directed advertisements, and device address initialization for seamless bridging between Wi-Fi and Bluetooth low energy products.



CYW20737 mounted on a BCM92073X_LE_TAG4 full-featured WICED SMART development board with sensors.

# WICED SMART PRODUCT SELECTOR

**WICED SMART (Embedded Bluetooth Low Energy):** WICED SMART is a very low-power family of pin-compatible modules that, when paired with the included SDK, vastly reduces the effort required to add "Bluetooth Smart" wireless connectivity and cable replacement capabilities to a range of embedded applications.

| | Devices | Description | Key Features | Software | Status |
|---|---|---|---|---|---|
| Value/Price | CYW20732 | 5 x 5 QFN | On-chip stack, Arm Cortex-M3, 1.2V operation. | Base device with embedded stack and key Bluetooth profiles preloaded in ROM. Supported by SDK 1.x. | Available |
| | CYW20732S | 6.5 x 6.5 SIP Module (includes BT SMART, Crystal, EEPROM, BPF, Antenna, Passives, and Regulatory). | | | |
| | CYBLE-013025-00 | PCB Module (includes BT silicon, Crystal, SFlash, Antenna, and Regulatory/Bluetooth compliance). 14 x 19 mm footprint. | On-chip stack, Arm Cortex-M3, simultaneous central and peripheral operation. Full modular certification for FCC, ISED, CE, and MIC. End Product qualified and listed against BT 4.1 specification. | Embedded stack and key Bluetooth profiles preloaded in ROM. Simultaneous Central, and Peripheral Operation.Supported by SDK 2.x. Preprogrammed with EZ-Serial FW platform to further decrease design cycle time. | Available |
| | CYBLE-013030-00 | PCB Module (includes BT silicon, Crystal, Antenna, and Regulatory/Bluetooth compliance). 14 x 19 mm footprint. | | | |
| Value/Features | CYW20736 | QFN | On-chip stack, Arm Cortex-M3, 1.2V operation, wireless charging, simultaneous central and peripheral operation. | Adds Wireless Charging, Simultaneous Central, and Peripheral Operation to BCM20732-based products. Supported by SDK 2.x. | Available |
| | CYW20736S | SIP Module (includes BT SMART, Crystal, EEPROM, BPF, Antenna, Passives, and Regulatory). | | | |
| | CYW20736E | SIP Module (includes BT SMART, Crystal, EEPROM, BPF, and Passives). | | | |
| Performance | CYW20737 | QFN | On-chip stack, Arm Cortex-M3, 1.2V operation, wireless charging, simultaneous central and peripheral operation, NFC pairing, RSA security library, LE audio | Adds NFC Pairing, RSA Security Library, LE Audio, and Mesh Capabilities to BCM20736-based products. Supported by SDK 2.x. | Available |
| | CYW20737S | SIP Module (includes BT SMART, Crystal, EEPROM, BPF, Antenna, Passives, and Regulatory). | | | |
| | CYW20737L | SIP Module (includes BT SMART, Crystal, EEPROM, BPF, Antenna, Passives, and Regulatory). Supports an external DC-DC regulator to optimize power consumption. | | | |
| Evaluation | BCM920732_BLE_KIT | Full-featured development board for the CYW20732. | USB support for PC dev. Integrated Eclipse-based IDE. | Supported by SDK 1.x. | Available |
| | BCM92073X_LE_KIT | Full-featured development board for the CYW20737. | USB support for PC dev. Integrated Eclipse-based IDE. | Supported by SDK 2.x. | |
| | BCM92073X_LE_TAG4 | Full-featured development board for the CYW20737 with added sensors for pressure, magnetometer, humidity, temperature, accelerometer, and gyroscope. | USB support for PC dev. Integrated Eclipse-based IDE. | Supported by SDK 2.x. | |
| | CYBLE-013025-EVAL | Evaluation board for CYBLE-0130xx-00 EZ-BLE module products. | USB support for PC development Arduino compatible. | Supported by SDK 2.x. | |

# CYPRESS BLUETOOTH MODULES

| Cypress Module | | Size (LxW, mm) | Availability | | IDE | EZ-Serial | Available User Resources/Features | | | | | Certification/Qualifications | | Tx/Rx | Range (meters) | Operating Temp |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Samp. Qtr | Prod. Qtr | | | Flash (KB) | RAM (KB) | GPIO | Serial IO | Analog IO | Countries Certified | BT Sig Qualified | | | |
| Value | CYBLE-013030-00 | 14x19 | Now | Now | WICED SMART | Yes | - | 60 | 16 | SPI/I²C/UART | ADC, PWM | FCC, IC, CE, MIC | Yes - 4.1 | 4dBm - 94dBm | 70 | -30~85C |
| | CYBLE-013025-00 | 14x19 | Now | Now | WICED SMART | Yes | 128 | 60 | 18 | SPI/I²C/UART | ADC, PWM | FCC, IC, CE, MIC | Yes - 4.1 | 4dBm - 94dBm | 70 | -30~85C |
| | CYBLE-012011-00 | 14x19 | Now | Now | Creator | Yes | 128 | 16 | 23 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver | FCC, IC, CE, MIC, KC | Yes - 4.1 | 3dBm - 87dBm | 50 | -40~85C |
| | CYBLE-212019-00 | 14x19 | Now | Now | Creator | Yes | 256 | 32 | 23 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver | FCC, IC, CE, MIC, KC | Yes - 4.1 | 3dBm - 87dBm | 50 | -40~85C |
| | CYBLE-212020-01 | 14x19 | Now | Now | Creator | Yes | 256 | 32 | 23 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver | FCC, IC, CE, MIC, KC | Yes - 4.2 | 3dBm - 87dBm | 50 | -40~85C |
| Size | CYBLE-022001-00 | 10x10 | Now | Now | Creator | Yes | 128 | 16 | 16 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver | FCC, IC, CE, MIC, KC | Yes - 4.1 | 3dBm - 87dBm | 50 | -40~85C |
| | CYBLE-222005-00 | 10x10 | Now | Now | Creator | Yesr | 256 | 32 | 16 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver | FCC, IC, CE, MIC, KC | Yes - 4.1 | 3dBm - 87dBm | 50 | -40~85C |
| | CYBLE-222014-01 | 10x10 | Now | Now | Creator | Yes | 256 | 32 | 16 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver | FCC, IC, CE, MIC, KC | Yes - 4.2 | 3dBm - 87dBm | 50 | -40~85C |
| | CYW20737S/37L | 6.5x6.5 | Now | Now | WICED SMART | No | 64 | 60 | 21 | SPI/I²C/UART | ADC, PWM | Limited - FCC, IC, CE, MIC | Yes - 4.1 | 4dBm - 94dBm | 70 | -30~85C |
| | CYW20736S/36E | 6.5x6.5 | Now | Now | WICED SMART | No | 64 | 60 | 21 | SPI/I²C/UART | ADC, PWM | Limited - FCC, IC, CE, MIC | Yes - 4.1 | 4dBm - 94dBm | 70 | -30~85C |

# CYPRESS BLUETOOTH MODULES

| Cypress Module | | Size (LxW, mm) | Availability | | IDE | EZ-Serial | Available User Resources/Features | | | | | Certification/Qualifications | | Tx/Rx | Range (meters) | Operating Temp |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Samp. Qtr | Prod. Qtr | | | Flash (KB) | RAM (KB) | GPIO | Serial IO | Analog IO | Countries Certified | BT Sig Qualified | | | |
| Long Range | CYBLE-202013-11 | 15x23 | Now | Now | Creator | Yes | 256 | 32 | 19 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver, Opamp, Comparator | Not Certified | Yes - 4.2 | 7.5dBm - 93dBm | 400 | -40~85C |
| | CYBLE-212006-01 | 15x23 | Now | Now | Creator | Yes | 256 | 32 | 19 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver, Opamp, Comparator | FCC, ISED, CE, MIC, KC | Yes - 4.2 | 7.5dBm - 93dBm | 400 | -40~85C |
| | CYBLE-202007-01 | 15x23 | Now | Now | Creator | Yes | 256 | 32 | 19 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver, Opamp, Comparator | FCC, ISED, CE, MIC, KC | Yes - 4.2 | 7.5dBm - 93dBm | 400 | -40~85C |
| | CYBLE-224110-00 | 9.5x15 | Now | Now | Creator | Yes | 256 | 32 | 25 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver, Opamp, Comparator , UDBs | FCC, ISED, CE, MIC, KC | Yes - 4.1 | 9.5dBm - 95dBm | 400 | -40~105C |
| | CYBLE-224116-01 | 9.5x15 | Now | Now | Creator | Yes | 256 | 32 | 25 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver, Opamp, Comparator , UDBs | FCC, ISED, CE, MIC, KC | Yes - 4.2 | 9.5dBm - 95dBm | 400 | -40~105C |
| Integration | CYBLE-014008-00 | 11x11 | Now | Now | Creator | Yes | 128 | 16 | 25 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver, Opamp, Comparator , UDBs | FCC, ISED, CE, MIC, KC | Yes - 4.1 | 3dBm - 87dBm | 50 | -40~85C |
| | CYBLE-214009-00 | 11x11 | Now | Now | Creator | Yes | 256 | 32 | 25 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver, Opamp, Comparator , UDBs | FCC, ISED, CE, MIC, KC | Yes - 4.1 | 3dBm - 87dBm | 50 | -40~85C |
| | CYBLE-214015-01 | 11x11 | Now | Now | Creator | Yes | 256 | 32 | 25 | SPI/I²C/UART/I²S | CapSense, PWM, ADC, DAC, LCD Driver, Opamp, Comparator , UDBs | FCC, ISED, CE, MIC, KC | Yes - 4.2 | 3dBm - 87dBm | 50 | -40~85C |
| Dual-Mode | CYBT-343026-01 | 12x15.5 | Now | Now | WICED STUDIO | Q3'18 | 512 | 352 | 11 | SPI/I²C/PCM/I²S/ UART | ADC, PWM | FCC, ISED, CE, MIC | Yes - 5.0 | BT: 12 dBm BLE: 9 dBm Rx: -96.5dBm | 200 | -30~85C |
| Dual-Mode | CYBT-353027-02 | 9x9 | Q2'18 | Q2'18 | WICED STUDIO | Q3'18 | 512 | 352 | 8 | SPI/I²C/PCM/I²S/ UART | ADC | FCC, ISED, CE, MIC | Yes - 5.0 | BT: 12 dBm BLE: 9 dBm Rx: -96.5dBm | 150 | -30~85C |
| Dual-Mode | CYBT-423028-02 | 11x11 | Q1'18 | Q2'18 | WICED STUDIO | Q3'18 | 1024 | 512 | 17 | SPI/I²C/PCM/I²S/ UART | ADC, PWM, PDM | FCC, ISED, CE, MIC | Yes - 5.0 | BT: 4 dBm BLE: 4 dBm Rx: -95.5dBm | 70 | -30~85C |

# CYPRESS BLUETOOTH MODULES: EVALUATION KITS

| Dev/Eval Kit Part Number | | Description | Associated Modules/Silicon |
|---|---|---|---|
| Development/Evaluation Kits | BCM920732_BLE_KIT | Full-featured development board for the CYW20732 | CYW20732 |
| | BCM92073X_LE_KIT | Full-featured development board for the CYW20737 | CYW2073x |
| | BCM92073X_LE_TAG4 | Full-featured development board for the CYW20737 with added sensors for pressure, magnetometer, humidity, temperature, accelerometer, and gyroscope. | CYW2073x |
| | CYBLE-012011-EVAL | Evaluation board for CYBLE-012011-00 and CYBLE-012012-10 modules; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-012011-00, CYBLE-012012-10 |
| | CYBLE-212019-EVAL | Evaluation board for CYBLE-212019-00 and CYBLE-212023-10 modules; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-212019-00, CYBLE-212023-10 |
| | CYBLE-212020-EVAL | Evaluation board for CYBLE-212020-01 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-212020-01 |
| | CYBLE-013025-EVAL | Evaluation board for CYBLE-013025-00 module | CYBLE-013025-00, CYBLE-013030-00 |
| | CYBLE-022001-EVAL | Evaluation board for CYBLE-022001-00 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-022001-00 |
| | CYBLE-222005-EVAL | Evaluation board for CYBLE-222005-00 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-222005-00 |
| | CYBLE-222014-EVAL | Evaluation board for CYBLE-222014-01 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-222014-01 |
| | CYBLE-224110-EVAL | Evaluation board for CYBLE-224110-00 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-224110-00 |
| | CYBLE-212006-EVAL | Evaluation board for CYBLE-212006-00 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-212006-01 |

# CYPRESS BLUETOOTH MODULES: EVALUATION KITS

| Dev/Eval Kit Part Number | | Description | Associated Modules/Silicon |
|---|---|---|---|
| Development/Evaluation Kits | CYBLE-202007-EVAL | Evaluation board for CYBLE-202007-00 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-202007-01 |
| | CYBLE-202013-EVAL | Evaluation board for CYBLE-202013-00 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-202013-11 |
| | CYBLE-224116-EVAL | Evaluation board for CYBLE-224116-00 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-224116-01 |
| | CYBLE-014008-EVAL | Evaluation board for CYBLE-014008-00 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-014008-00 |
| | CYBLE-214009-EVAL | Evaluation board for CYBLE-214009-00 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-214009-00 |
| | CYBLE-214015-EVAL | Evaluation board for CYBLE-214015-01 module; Use stand-alone or with CY8CKIT-042-BLE base | CYBLE-214015-01 |
| | CYBT-343026-EVAL | Evaluation board for CYBT-343026-01 module | CYBT-343026-01 |
| | CYBLE-022001-PROG | Programming Kit for CYBLE-x220xx-0x modules; Use with CY8CKIT-042-BLE base | CYBLE-022001-00, CYBLE-222005-00, CYBLE-222014-00 |
| | CYBLE-012011-PROG | Programming Kit for CYBLE-x120xx-xx module; Use with CY8CKIT-042-BLE base | CYBLE-012011-00, CYBLE-012012-10, CYBLE-212019-00, CYBLE-212023-10, CYBLE-212020-01 |
| | CYBLE-224110-PROG | Programming Kit for CYBLE-22411x-0x modules; Use with CY8CKIT-042-BLE base | CYBLE-224110-00, CYBLE-224116-01 |
| | CYBLE-014008-PROG | Programming kit for CYBLE-x140xx-0x modules; Use with CY8CKIT-042-BLE base | CYBLE-014008-00, CYBLE-214009-00, CYBLE-214015-01 |
| | CYBLE-212006-PROG | Programming kit for CYBLE-2x20xx-xx modules; Use with CY8CKIT-042-BLE base | CYBLE-212006-01, CYBLE-202007-01, CYBLE-202013-11 |
| | CYBLE-212019-SHIELD | Arduino compatible shield using CYBLE-212019-00 module with pre-loaded EZ-Serial Firmware Platform | CYBLE-212019-00 |

# WICED WI-FI AND BLUETOOTH PARTNER MODULES

| Partner | PN | Status | Wi-Fi /BT PN | Wi-Fi /BT Support | MCU | CPU | Area (mm) | Regulatory | Diversity | Linux | Interfaces | Highlights |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alinket | ALX41X | Prod | CYW20736 | BLE | Arm Cortex-M3-Internal | 24MHz | 19 x 13.5 x 1.8 | FCC/CE/ROHS | No | No | UART, SPI ADC, GPIO | PCB Antenna, 1MB Flash, BLE MIDI Support, Master mode (up to 8 Slaves) & Bridge mode (Slave - Master - Slave) |
| Alinket | ALX420 | Prod | CYW20706 | BT/BLE | Arm Cortex-M3-Internal | 96MHz | 8 x 8 x 2 | No | No | No | HCI UART, PUART SPI, I²S, I²C, ADC, GPIO | BT 4.2, Custom Antenna Designs Supported, Supports Master/Slave mode, A2DP SRC & SNK & iAP2, MFi (HomeKit) |
| Alinket | ALX420A | Prod | CYW20706 | BT/BLE | Arm Cortex-M3-Internal | 96MHz | 16 x 10 x 2 | FCC/CE/ROHS | No | Yes | HCI UART, PUART SPI, I²S, I³C, ADC, GPIO | BT 4.2, On-Board Antenna, 1MB Flash, Supports Master/Slave mode, A2DP SRC & SNK & iAP2, MFi (HomeKit) |
| Alinket | ALX421A | Prod | CYW20707 | BT/BLE | Arm Cortex-M4-STM32F411 | 100MHz | 19 x 12 x 2.4 | FCC/CE/ROHS | No | Yes | UART, SPI, USB, SDIO I²S, I²C, ADC, GPIO | BT 4.2, On-Board Antenna, 1MB Flash, Supports Master/Slave mode, A2DP SRC & SNK & iAP2, MFi (HomeKit) |
| Alinket | ALX422A | Prod | CYW20707 | BT/BLE | Arm Cortex-M4-STM32F412 | 100MHz | 21 x 12 x 2.4 | FCC/CE/ROHS | No | Yes | UART, SPI, USB, SDIO I²S, I³C, ADC, GPIO | BT 4.2, On-Board Antenna, 1MB Flash, Support both Slave & Master mode, A2DP SRC & SNK, HFP & iAP2, MFi (HomeKit) |
| Alinket | ALX830X | Prod | CYW43362 | 2.4GHz, 802.11b/g/n | Arm Cortex-M4-STM32F411 | 100MHz | 28 x 14.3 x 2.2 | FCC/CE/ROHS | No | Yes | UART, SPI, USB, SDIO I²S, I³C, ADC, GPIO | On-Board or External Antenna (with U.FL connector), 1MB Flash, supports STA & SoftAP mode, Fast Roaming & EAP |
| Alinket | ALXC12X | Prod | CYW43438 | 2.4GHz, 802.11b/g/n, BT/BLE | Arm Cortex-M4-STM32F411 | 100MHz | 32 x 16 x 3.1 | FCC/CE/ROHS | No | Yes | UART, SPI I²C, GPIO | On-Board or External Antenna (with U.FL connector), 1MB Flash, supports STA & SoftAP mode, Fast Roaming & EAP, Bluetooth to WiFi Bridge |
| Alinket | ALXC10 | Prod | CYW43438 | 2.4GHz, 802.11b/g/n, BT/BLE | Radio only | N/A | 8 x 8 x 1.6 | No | No | Yes | SDIO, UART PCM | Custom Antenna Designs Supported, Host interfaces include SDIO/SPI for Wi-Fi, UART for Bluetooth |
| Alinket | ALX850X | Prod | CYW43340 | 2.4 / 5GHz, 802.11a/b/g/n, BT/BLE | Arm Cortex-M4-STM32F411 | 100 MHz | 28 x 14.3 x 2.2 | FCC/CE/ROHS | No | No | UART, SPI, USB I²S, I⁴C, ADC, GPIO | On-Board or External Antenna (with U.FL connector), 1MB Flash, supports STA & SoftAP mode, Fast Roaming & EAP |
| Alinket | ALXC20X | Prod | CYW43340 | 2.4 / 5GHz, 802.11a/b/g/n, BT/BLE | Arm Cortex-M4-STM32F411 | 100 MHz | 28 x 14.3 x 2.2 | FCC/CE/ROHS | No | No | UART, SPI, USB I²S, I²C, ADC, GPIO | On-Board or External Antenna (with U.FL connector), 1MB Flash, supports STA & SoftAP mode, Fast Roaming & EAP, Bluetooth to WiFi Bridge |
| Alinket | ALX870X | Prod | CYW43340 | 2.4 / 5GHz, 802.11a/b/g/n, BT/BLE | Arm Cortex-M4-STM32F407 | 166MHz | 32 x 16 x 3.1 | FCC/CE/ROHS | No | No | UART, SPI, USB I²S, I²C, ADC, GPIO | On-Board or External Antenna (with U.FL connector), 1MB Flash, supports STA & SoftAP mode, Fast Roaming & EAP, Bluetooth to WiFi Bridge |
| Alinket | ALXC28 | Prod | CYW43340 | 2.4 / 5GHz, 802.11a/b/g/n, BT/BLE | Radio only | N/A | 12 x 12 x 1.5 | No | No | Yes | SDIO, UART I²S, PCM | Custom Antenna Designs Supported, Host interfaces include SDIO/SPI for Wi-Fi, UART for Bluetooth |

Partner Evaluation Kits: https://community.cypress.com/community/wiced-wifi/wiced-wifi-partners

# WICED WI-FI AND BLUETOOTH PARTNER MODULES

| Partner | PN | Wi-Fi /BT PN | Wi-Fi /BT Support | MCU | CPU | Area (mm) | Regulatory | Diversity | Linux | Interfaces | Highlights |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Azurewave | AW-BT304 | CYW20719 | BT/BLE | Arm Cortex-M4-Internal | 96 MHz | 6.0 x 5.2 | None | No | Yes | UART | UART interface, BT 5.0 |
| Azurewave | AW-NH650 | CYW43362 | 2.4GHz, 802.11b/g/n, | Radio only | N/A | 8 x 8 | None | No | Yes | SDIO,SPI | SDIO interface WiFi and BT/BLE Radio only |
| Azurewave | AW-CU307 | CYW43362 | 2.4 GHz, 802.11b/g/n | Arm Cortex-M4-STM32F411 | 100 MHz | 16 x 32 x 3.1 | None | No | No | SPI , I²S, USART, CAN | 1 MB MCU FLASH+ 256 KB RAM, 2MB SFLASH, Printed Antenna, u.FL |
| Azurewave | AW-NM288SM | CYW43362 | 2.4 GHz, 802.11b/g/n | Radio only | N/A | 12 x 12 | None | No | Yes | SDIO | SDIO interface, Radio only |
| Azurewave | AW-CU287 | CYW43362 | 2.4GHz, 802.11b/g/n | Arm Cortex-M4-STM32F412 | 100 MHz | 16 x 32 x 3.1 | None | No | No | SPI , I²S, USART, CAN | 1 MB MCU FLASH+ 256 KB RAM, 2MB SFLASH, Printed Antenna, u.FL |
| Azurewave | AW-AH640 | CYW43340 | 2.4/5GHz, 802.11a/b/g/n, BT/BLE | Radio only | N/A | 9 x 9 | None | No | Yes | SDIO,UART | SDIO interface WiFi and BT/BLE Radio only |
| Azurewave | AW-NB197SM | CYW43438 | 2.4 GHz, 802.11b/g/n, BT/BLE | Radio only | N/A | 12 x 12 | None | No | Yes | SDIO,UART | SDIO interface WiFi and BT/BLE Radio only |
| Azurewave | AW-NM230NF | CYW43438 | 2.4 GHz, 802.11b/g/n, BT/BLE | Radio only | N/A | M.2 1216 | FCC/IC/NCC/CE | Yes | Yes | SDIO,UART | SDIO interface WiFi and BT/BLE Radio only , Module Certification |
| Azurewave | AW-CU289 | CYW43438 | 2.4GHz, 802.11b/g/n, BT/BLE | Arm Cortex-M4-STM32F412 | 100 MHz | 16 x 32 x 3.1 | None | No | No | SPI , I²S, USART, CAN | 1 MB MCU FLASH+ 256 KB RAM, 2MB SFLASH, Printed Antenna, u.FL |
| Azurewave | AW-CM256SM | CYW43455 | 2.4 / 5GHz, 802.11a/b/g/n + ac, BT/BLE | Radio only | N/A | 12 x 12 | None | No | Yes | SDIO,UART | SDIO interface, Radio only |
| Azurewave | AW-CH639 | CYW4339 | 2.4/5GHz, 802.11 ac/a/b/g/n, BT/BLE | Radio only | N/A | 10 x 10 | None | No | Yes | SDIO,UART | SDIO interface WiFi and BT/BLE Radio only |
| Azurewave | AW-CU315 | CYW43907 CYW20707 | 2.4/5GHz, 802.11a/b/g/n, BT/BLE (BT4.2) | Arm Cortex-R4-Internal | 160/320 MHz | 36 x 18 | CE/FCC | Yes | Yes | SPI, UART, I²C, I²S, USB, SDIO | 2 MB RAM,Module Certification, BT 4.2 |

Partner Evaluation Kits: https://community.cypress.com/community/wiced-wifi/wiced-wifi-partners

# WICED WI-FI AND BLUETOOTH PARTNER MODULES (Cont.)

| Partner | PN | Wi-Fi/BT PN | Wi-Fi/BT Support | MCU | CPU | Area (mm) | Regulatory | Diversity | Linux | Interfaces | Highlights |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inventek | ISM 43362-L36 | CYW 43362 | 2.4 GHz, 802.11b/g/n | Radio Only | NA | 14.5 x 24 | FCC/IC/ CE/TELEC | No | Yes | SDIO | Virtual WICED or Linux drivers |
| Inventek | ISM43362-M3G-L44-E/U | CYW43362 | 2.4 GHz, 802.11b/g/n | Arm Cortex-M3-STM32F205 | 120MHz | 15 x 30 | FCC/IC/ CE/TELEC | No | No | UART, SPI | Configurable through AT Commands or WICED, OnBoard Antenna, or U.FL. |
| Inventek | ISM43362-B81 | CYW43362 | 2.4 GHz, 802.11b/g/n | Radio Only | N/A | 8 x 8 | None | No | Yes | SDIO | Virtual WICED or Linux drivers |
| Inventek | ISM43364-WM-L44 -C/U | CYW43364 | 2.4 GHz, 802.11b/g/n | Arm Cortex-M3-STM32F411 | 100 MHz | 15 x 34 | FCC/IC/CE | No | No | UART | Configurable through AT Commands or WICED, OnBoard Antenna, or U.FL. |
| Inventek | ISM4390-L57 | CYW4390 | 2.4 GHz, 802.11b/g/n | Arm Cortex-M3-Internal | 48MHz | 10.5 x 10.5 | None | Yes | No | UART | Configurable through AT commands or WICED |
| Inventek | ISM4390-M3H -L44-ED | CYW4390 | 2.4 GHz, 802.11b/g/n | Arm Cortex-M3-Internal | 48MHz | 14.5 x 30 | FCC/IC/CE | Yes | No | UART | Configurable though AT commands or WICED, On-Board Etched Antenna and U.FL |
| Inventek | ISM43340 -M4G-L44-C/U | CYW43340 | 2.4 / 5GHz, 802.11a/b/ g/n, BT/BLE | Arm Cortex-M4-STM32F405 | 168MHz | 14.5 x 34 | FCC/IC/CE | No | No | UART, SPI | Configurable though AT commands or WICED, On-Board Chip Antenna or U.FL |
| Inventek | ISM43340-M4G-L44-10C/U | CYW43340 | 2.4 / 5GHz, 802.11a/b/ g/n, BT/BLE | Arm Cortex-M4-STM32F405 | 168MHz | 14.5 x 34 | FCC/IC/CE | No | No | UART, SPI | Configurable though AT commands or WICED, On-Board Chip Antenna or U.FL 10 Additional I/O added for MFI (LGA44+10) etc |
| Inventek | ISM43340-L77 | CYW43340 | 2.4 / 5GHz, 802.11a/b/ g/n, BT/BLE | Radio Only | NA | 13 x 14 | FCC/IC/CE | No | No | SDIO | Virtual WICED or Linux Drivers External Chip Antenna |
| Inventek | ISM4343-WBM-L44-10C/U | CYW4343W | 2.4 GHz, 802.11b/g/n, BT/BLE | Arm Cortex-M4-STM32F411 | 100MHz | 14.5 x 30 | FCC/IC/CE | No | No | UART, SPI | Configurable though AT commands or WICED, On-Board Chip Antenna or U.FL, 10 Additional I/O added for MFI |
| Inventek | ISM4343-WBM-L151 | CYW4343W | 2.4 GHz, 802.11b/g/n, BT/BLE | Arm Cortex-M4-STM32F411 | 100MHz | 10 x 10 | FCC/IC/CE | No | No | UART, SPI | Configurable though AT commands or WICED |
| Inventek | ISM4343-WBM-L44-C/U | CYW4343W | 2.4 GHz, 802.11b/g/n, BT/BLE | Arm Cortex-M4-STM32F412 | 100MHz | 15 x 34 | FCC/IC/CE | No | No | UART | Configurable through AT Commands or WICED, On-Board Antenna or U.FL |
| Inventek | ISM4343-L77 | CYW4343W | 2.4 GHz, 802.11b/g/n, BT/BLE | Radio Only | NA | 13 x 14 | FCC/IC/CE | No | Yes | SDIO | Virtual WICED or Linux Drivers |
| Inventek | ISM4343-L151 | CYW4343W | 2.4 GHz, 802.11b/g/n, BT/BLE | Radio Only | NA | 10 x 10 | FCC/IC/CE | No | Yes | SDIO | Virtual WICED or Linux Drivers |
| Inventek | ISM43907-WM-L170 | CYW43907 | 2.4/5 GHz, 802.11b/g/n | Arm Cortex-R4-Internal | 160/300MHz | 11 x 11 | FCC/IC/CE | No | No | UART, SPI, USB | Configurable though AT commands or WICED |
| Inventek | ISM43907-WM-L44 | CYW43907 | 2.4/5 GHz, 802.11b/g/n | Arm Cortex-R4-Internal | 160/300MHz | 14.5 x 30 | FCC/IC/CE | No | No | UART, SPI, USB | Configurable though AT commands or WICED, On-Board Chip Antenna or U.FL |
| Inventek | ISM43907-WBM-L170 | CYW43907 CYW20707 | 2.4 / 5GHz, 802.11a/b/ g/n, BT/BLE | Arm Cortex-R4-Internal | 160/300MHz | 11 x 11 | FCC/IC/CE | No | No | UART, SPI, USB | Configurable though Inventek's IWIN API (AT commands & Cloud Agent FW) or WICED, On-Board Chip Antenna or U.FL |
| Inventek | ISM43903-R48-L54-E/U | CYW43903 | 2.4/5 GHz, 802.11b/g/n | Arm Cortex-R4-Internal | 160/300MHz | 14.5 x 30 | FCC/IC/CE | No | No | UART, SPI, USB | Configurable though AT commands or WICED, On-Board Chip Antenna or U.FL |

Partner Evaluation Kits: https://community.cypress.com/community/wiced-wifi/wiced-wifi-partners

# WICED WI-FI AND BLUETOOTH PARTNER MODULES (Cont.)

| Partner | PN | Wi-Fi/BT PN | Wi-Fi/BT Support | MCU | CPU | Area (mm) | Regulatory | Diversity | Linux | Interfaces | Highlights |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Inventek | ISM20732S | CYW20732 | BLE | Arm Cortex-M3-Internal | 24MHz | 6.5 x 6.5 | FCC/IC/CE | No | No | SPI, I²C, JTAG | Lowest Cost BLE SiP Module Solution |
| Inventek | ISM20736S | CYW20736 | BLE | Arm Cortex-M3-Internal | 24MHz | 6.5 x 6.5 | FCC/IC/CE | No | No | SPI, I²C, JTAG | Wireless charging, simultaneous central and peripheral operation |
| Inventek | ISM20706A2S | CYW20706 | BT/BLE | Arm Cortex-M3-Internal | 96MHz | 6.0 x 8.6 | FCC/IC/CE | No | No | SPI, I²C, JTAG | Embedded Antenna BT4.2+HS SIP Module |
| Iton | CW2438-44P | CYW43438 | 2.4 GHz, 802.11b /g/n, BT/BLE | Radio Only | N/A | 12 x 12 x 1.8 | No | No | Yes | SDIO, SPI, UART | Host interface: SDIO for Wi-Fi, UART for BT, 2.4GHz 11n Wi-Fi and BT/BLE 4.2 combo, Radio only. |
| Iton | CW2455-44P | CYW43455 | 2.4 / 5GHz, 802.11a /b/g/n + ac, BT/BLE | Radio Only | N/A | 12 x 12 x 1.8 | No | No | Yes | SDIO, UART, PCM | Host interface: SDIO for Wi-Fi, UART and PCM for BT, 2.4G and 5G DB Wi-Fi, BT 4.2 802.11ac, Radio only. |
| Laird | TiWi-C-W (450-0118) | CYW 4390 | 2.4 GHz, 802.11b /g/n | Arm Cortex-M3-Internal | 48 MHz | 10.5 x 10.5 | FCC/IC/ CE/ETSI | Yes | No | I²C, USB, JTAG | Pre-integrated cloud agent for TiWiConnect IoT Platform (www.tiwiconnect.com), Multiple 2.4 GHz antenna options: SMT Chip, Dipole, FlexPIFA™, Industrial Temp Rated: -40 to 85 C, Dev Kit featuring TiWiConnect available. |
| Laird | Sterling-LWB (450-0152) | CYW 4343W | 2.4 GHz 802. 11b/g/n, BLE/BT | Radio Only | N/A | 15.5 x 21 (Int. Antenna) | FCC/IC/CE/ Giteki/RCM | No | Yes | SDIO, UART, I²S | On-Module Antenna Version with advanced chip antenna with greater resistance to de-tuning vs. other chip or trace antennas, Nearly 60% lower Active Rx power consumption vs. LSR's current TiWi-BLE module, Multiple 2.4 GHz antenna options: SMT Chip, Dipole, FlexPIFA™ & FlexNotch™, Industrial Temp Rated: -40 to +85° C, On-Module version with U.FL external antenna port (Item # 450-0148) also available. Sterling-LWB for WICED' reference platform enables Sterling-LWB to be used for embedded MCU applications, validated with STM32F411 (Evaluation board 450-0173). |
| Laird | Sterling-LWB (450-0148) | CYW 4343W | 2.4 GHz 802. 11b/g/n, BLE/BT | Radio Only | N/A | 15.5 x 21 (Int. Antenna) | FCC/IC/CE/ Giteki/RCM | No | Yes | SDIO, UART, I²S | On-Module version with U.FL external antenna port for simplified integration, Nearly 60% lower Active Rx power consumption vs. LSR's current TiWi-BLE module, Multiple 2.4 GHz antenna options: SMT Chip, Dipole, FlexPIFA™ & FlexNotch™, Industrial Temp Rated: -40 to +85° C, On-Module Antenna Version (Item # 450-0152) also available, with advanced chip antenna with greater resistance to de-tuning vs. other chip or trace antennas. Sterling-LWB for WICED' reference platform enables Sterling-LWB to be used for embedded MCU applications, validated with STM32F411 (Evaluation board 450-0173). |

Partner Evaluation Kits: https://community.cypress.com/community/wiced-wifi/wiced-wifi-partners

# WICED WI-FI AND BLUETOOTH PARTNER MODULES (Cont.)

| Partner | PN | Wi-Fi/BT PN | Wi-Fi/BT Support | MCU | CPU | Area (mm) | Regulatory | Diversity | Linux | Interfaces | Highlights |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Laird | Sterling-LWB (450-0159) | CYW 4343W | 2.4 GHz 802. 11b/g/n, BLE/BT | Radio Only | N/A | 10 x10 (SiP only, no antenna) | FCC/IC/ CE/ Giteki/ RCM | No | Yes | SDIO, UART, I²S | Nearly 60% lower Active Rx power consumption vs. LSR's current TiWi-BLE module, Multiple 2.4 GHz antenna options: SMT Chip, Dipole, FlexPIFA™ & FlexNotch™, Industrial Temp Rated: -40 to +85° C, On-Module Antenna Version available (Item # 450-0152), with advanced chip antenna with greater resistance to de-tuning vs. other chip or trace antennas, On-Module version with U.FL external antenna port (Item # 450-0148) also available. Sterling-LWB for WICED' reference platform enables Sterling-LWB to be used for embedded MCU applications, validated with STM32F411 (Evaluation board 450-0173). |
| Laird | Sterling-LWB5 (450-0162) | CYW 43353 | 2.4 / 5GHz, 802.11a/b/g/n + ac, BT/BLE | Radio Only | N/A | 10 x10 (SiP only, no antenna) | FCC/IC/ CE/ETSI | No | Yes | SDIO, UART, I²S | Industry leading dual-band Wi-Fi/Combo module that supports 802.11 ac for ultra-high data rate applications, broad country certifications and multiple certified antenna options, Industrial Temp Rated: -40 to 85 C. Similar to Sterling-LWB, also comes in configurations that include on-module chip antennas OR U.FL connectors. Module versions (450-0168, 450-0169) are pin and footprint compatible with the Sterling-LWB. |
| Laird | Sterling-LWB5 (450-0169) | CYW 43353 | 2.4 / 5GHz, 802.11a/b/g/n + ac, BT/BLE | Radio Only | N/A | 15.5 x 21 (Int. Antenna) | FCC/IC/ CE/ETSI | No | Yes | SDIO, UART, I²S | Industry leading dual-band Wi-Fi/Combo module that supports 802.11 ac for ultra-high data rate applications, broad country cerfifications and multiple certified antenna options, Industrial Temp Rated: -40 to 85 C. Similar to Sterling-LWB, also comes in configurations that include on-module chip antennas OR U.FL connectors. Module versions (450-0168, 450-0169) are pin and footprint compatible with the Sterling-LWB. |
| Laird | Sterling-LWB5 (450-0168) | CYW 43353 | 2.4 / 5GHz, 802.11a/b/g/n + ac, BT/BLE | Radio Only | N/A | 15.5 x 21 (Ext. Antenna) | FCC/IC/ CE/ETSI | No | Yes | SDIO, UART, I²S | Industry leading dual-band Wi-Fi/Combo module that supports 802.11 ac for ultra-high data rate applications, broad country certifications and multiple certified antenna options, Industrial Temp Rated: -40 to 85 C. Similar to Sterling-LWB, also comes in configurations that include on-module chip antennas OR U.FL connectors. Module versions (450-0168, 450-0169) are pin and footprint compatible with the Sterling-LWB. |
| Murata | Type 1PA (LBCA1KU1PA-279) | CYW 20719 | BT/BLE | Arm Cortex-M4- Internal | N/A | 5.9 x 5.1 x 1.1 | CE/FCC/ IC | N/A | No | UART, SPI | BT 5.0 |
| Murata | Type 1GR (LBCA1ZZ1GR-084) | CYW 20736 | BLE | Cortex-M3 (Internal) | N/A | 9.0 x 7.0 x 1.2 | CE/FCC/ IC | External | No | UART, SPI | Bluetooth 4.1, with Antenna, |
| Murata | Type 1BW (LBEH5DU1BW-777) | CYW 43340 | 2.4 / 5GHz, 802.11a/b/g/n, BT/ BLE | Radio Only | N/A | 8 x 7.5 | No | External | Yes | WLAN: SDIO BT: UART | Part of i.MX6 platform with Linux drivers integrated in NXP/Freescale Linux distribution, -20 to +75° C |
| Murata | Type 1CD Imp003 (LBWA1ZV1CD-716) | CYW 43362 | 2.4 G, b/g/n | Arm Cortex-M4- STM32F405 | 168 MHz | 10 x 7.9 | CE/FCC/ IC | External | No | UART, SPI | Same as YD but with Electric Imp Cloud support. Modular Cert., -20 °C to +70 °C |
| Murata | Type YDD (LBWB1ZZYDZ-683) | CYW 43362 | 2.4 GHz, 802.11b/g/n | Arm Cortex-M3- STM32F205 | 120 MHz | 33 x 18 | CE/FCC/ IC/TELEC | No | No | UART, SPI | Ayla Cloud Support,1024KB FLASH 128KB RAM 32KHZ OSC, -40 °C to +85 °C |
| Murata | Type 1FX (LBWA1KL1FX-875) | CYW 43364 | 2.4 GHz, 802.11b/g/n | Radio Only | N/A | 6.95 x 5.15 | CE/FCC/ IC | External | Yes | SDIO, SPI | Pin to Pin compatible to 1DX. Diversity w/ SW control pins.Part of i.MX6 platform with Linux drivers integrated in NXP/Freescale Linux distribution, -20 °C to +75 °C. Reference Certified |

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# WICED™ WI-FI AND BLUETOOTH PARTNER MODULES (Cont.)

| Partner | PN | Wi-Fi/BT PN | Wi-Fi/BT Support | MCU | CPU | Area (mm) | Regulatory | Diversity | Linux | Interfaces | Highlights |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Murata | Type 1CK (LBEE5ZZ1CK-982) | CYW 4339 | 2.4 GHz, 802.11b/g/n | Radio Only | N/A | 33 x 18 | FCC/IC | External | Yes | WLAN: SDIO BT: UART | Part of i.MX6 platform with Linux drivers integrated in NXP/Freescale Linux distribution, -20 to +75° C This is a daughter card based on ZP module with on board antenna |
| Murata | Type ZP (LBEH5HMZPC-869) | CYW4339 | 2.4 / 5GHz, 802.11a/b/g/n + ac, BT/BLE | Radio Only | N/A | 7.8 x 7.4 | No | External | Yes | WLAN: SDIO BT: UART | Part of i.MX6 platform with Linux drivers integrated in NXP/Freescale Linux distribution, -20 to +75 deg.C |
| Murata | Type 1HD (LBWA1ZZ1HD-004) | CYW43438 | 2.4 GHz, 802.11b/g/n, BT/BLE | Arm Cortex-M4-STM32F412 | 100 MHz | 21 x 17.5 | CE/FCC/IC/TELEC | External | No | UART, SPI | 1024KB FLASH 256KB RAM WICED, Apple HomeKit support, Low current, Certified with embedded antenna, -20 °C to +75 °C |
| Murata | Type 1LD (LBEE5PA1LD-005) | CYW43438 | 2.4 GHz, 802.11b/g/n | Arm Cortex-M4-STM32F412 | 100 MHz | 8.9 x 7.8 | CE/FCC/IC/TELEC | External | No | UART, SPI, I²C, I²S, GPIO | 1024KB FLASH 256KB RAM WICED, Apple HomeKit support, Low current, -20 °C to +75 °C |
| Murata | Type 1MD Imp004m (LBWA1ZZ1MD-011) | CYW43438 | 2.4 GHz, 802.11b/g/n, BT/BLE | Arm Cortex-M4-STM32F412 | 100 MHz | 21 x 17.5 | CE/FCC/IC/TELEC | External | No | UART, SPI, I²C, PWM, GPIO, ADC | 1024KB FLASH 256KB RAM, ElectricImp Imp004m, Certified with embeded antenna, -20 °C to +75 °C |
| Murata Ayla | Type 1VD (LBEE5ZZ1VD-225) | CYW43438 | 2.4GHz, 802.11b/g/n+BLE | Arm Cortex-M4-STM32F412 | 100 MHz | 21 x 17.5 | CE/FCC/IC/TELEC | External | No | UART, SPI | 1024KB FLASH 256KB RAM Supported by Ayla Apple HomeKit support, Low current, Certified with embedded antenna, -20 °C to +75 °C |
| Murata | Type 1DX (LBEE5KL1DX-883) | CYW4343W | 2.4 GHz, 802.11b/g/n, BT/BLE | Radio Only | N/A | 6.95 x 5.15 | CE/FCC/IC | External | Yes | WLAN: SDIO BT: UART | Part of i.MX6 platform with Linux drivers integrated in NXP/Freescale Linux distribution, -20 °C to +75 °C, Reference Certified Use Future Electronics Nebula kit for WICED support. |
| Murata | Type 1LN (LBEE5KL1LN-081) | CYW 4343W | 2.4GHz, 802.11b/g/n, BT/BLE | Radio Only | N/A | 6.95 x 5.15 | CE/FCC/IC/TELEC | External | Yes | WLAN: SDIO BT: UART | Part of i.MX6 platform with Linux drivers integrated in NXP/Freescale Linux distribution, -20 °C to +85 °C, Reference Certified, Supports 4wire coex(GPIO1~4) |
| Murata | Type 1MW (LBEE5HY1MW-230) | CYW 43455 | 2.4 / 5GHz, 802.11a/b/g/n + ac, BT/BLE | Radio Only | N/A | 7.9 x 7.3 | CE/FCC/IC | External | Yes | WLAN: SDIO BT: UART | Part of i.MX6 platform with Linux drivers integrated in NXP/Freescale Linux distribution, High throughput on 11ac, -20 to +75° C |
| Murata | Type 1AD (LBWA1CS1AD-806) | CYW 4390 | 2.4 GHz, 802.11b/g/n | Arm Cortex-M3-Internal | 48 MHz | 9.4 x 8.9 | CE/FCC/IC/TELEC | External | No | I²C, USB, JTAG | Lowest cost cloud enabled module CYW4390. 2MB FLASH and 448KB SRAM Supported with Ayla software only. Modular Cert., -30 °C to +85 °C |
| Murata | Type 1AD-D (LBWB1ZZ1AD-812) | CYW 4390 | 2.4 GHz, 802.11b/g/n | Arm Cortex-M3-Internal | 48 MHz | 33 x 18 | CE/FCC/IC/TELEC | External | No | I²C, USB, JTAG | Same as 1AD but with Antenna. For Japan markets, -30 °C to +85 °C |
| Murata | Type 1GC (LBWA1UZ1GC-958) | CYW 43907 | 2.4 / 5GHz, 802.11a/b/g/n | Arm Cortex-R4-Internal | 320 MHz | 10 x 10 | CE/FCC/IC | External | No | UART, SPI, I²C, I²S, PWM, GPIO, USB, Ethernet | WICED, High performance CPU. Gateway for WLAN and Ethernet. Audio streaming. Modular Cert. RAM 2MB, -20 °C to +70 °C |
| Murata | Type 1GC Imp005 (LBWA1UZ1GC-901) | CYW 43907 | 2.4 / 5GHz, 802.11a/b/g/n | Arm Cortex-R4-Internal | 320 MHz | 10 x 10 | CE/FCC/IC | External | No | UART, SPI, I²C, I²S, PWM, GPIO, USB, Ethernet | Electric Imp, High performance CPU. Gateway for WLAN and Ethernet. Audio streaming. Modular Cert. RAM 2MB. ElectricImp Imp005,-20 °C to +70 °C |
| Murata | Type 1QP (LBEE5WQ1QP-276) | CYW43907 CYW20707 | 2.4 / 5GHz, 802.11a/b/g/n + BT/BLE | Arm Cortex-R4-Internal | 320 MHz | 11 x 11 | CE/FCC/IC | External | No | UART, SPI, I²C, I²S, PWM, GPIO, USB, Ethernet | WICED, High performance CPU. Gateway for WLAN and Ethernet. Audio streaming. Modular Cert. RAM 2MB, -20 °C to +70 °C |
| Murata | Type 1PS (LBWA1UZ1PS-241) | CYW 54907 | 2.4 / 5GHz, 802.11a/b/g/n + ac | Arm Cortex-R4-Internal | 320 MHz | 10 x10 | CE/FCC/IC | External | No | UART, SPI, I²C, I²S, PWM, GPIO, USB, Ethernet | WICED, High performance CPU. Gateway for WLAN and Ethernet. Audio streaming. Modular Cert. RAM 2MB, -20 °C to +70 °C |

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