

CYPRESS

CYW4343W

Single-chip, ultra-low power, IEEE 802.11b/g/n MAC/baseband/radio with integrated Bluetooth® 5.1 for IoT applications

SINGLE-CHIP SOLUTION FOR IoT APPLICATIONS

Cypress' CYW4343W is a highly-integrated, single-chip solution that offers the lowest BOM in the industry for wearables, Internet of Things (IoT) gateways, home automation, and a wide range of other portable devices. The chip includes a 2.4 GHz WLAN IEEE 802.11b/g/n MAC/baseband/radio and Bluetooth 5.1 support. Additionally, it 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. Using advanced design techniques and process technology to reduce active and idle power, the CYW4343W is designed to address the needs of highly mobile devices that require minimal power consumption and a compact size. It includes a power management unit that simplifies the system power topology and allows for operation directly from a rechargeable mobile platform battery, while maximizing battery life. The CYW4343W implements the world's most-advanced enhanced collaborative coexistence algorithms and hardware mechanisms, allowing for an extremely collaborative WLAN and Bluetooth coexistence.

WI-FI® CAPABILITIES

- Single-band 2.4 GHz IEEE 802.11b/g/n
- Integrated iTR switch supports a single 2.4 GHz antenna shared between WLAN and Bluetooth
- Tx and Rx Low-density Parity Check (LDPC) support for improved range and power efficiency
- Supports standard SDIO v2.0 host interface
- Includes Space-Time Block Coding (STBC) in the receiver
- Integrated Arm® Cortex®-M3 processor and on-chip memory for complete WLAN subsystem functionality, minimizing the need to wake up the applications processor for standard WLAN functions
- On-chip memory includes 512 KB SRAM and 640 KB ROM
- OneDriver™ software architecture for easy migration from existing embedded WLAN and Bluetooth devices and future devices

BLUETOOTH CAPABILITIES

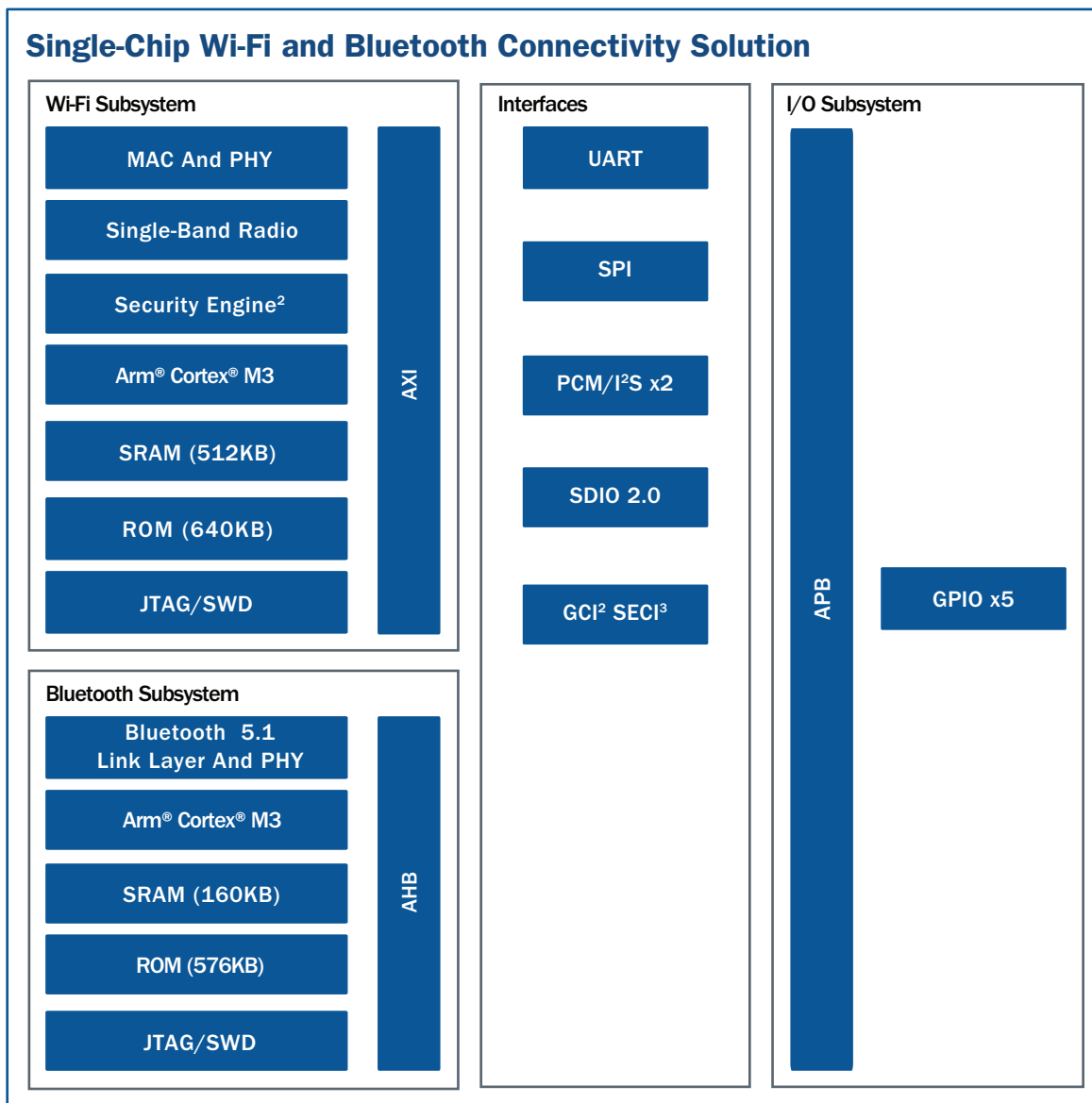
- Complies with Bluetooth core specification version 5.1 with provisions for supporting future specifications
- Bluetooth Class 1 or Class 2 transmitter operation
- Supports extended Synchronous Connections (eSCO), for enhanced voice quality by allowing for retransmission of dropped packets
- Adaptive Frequency Hopping (AFH) for reducing radio frequency interference
- Interface support — Host Controller Interface (HCI) using a high-speed UART interface and PCM for audio data
- Low-power consumption improves battery life of handheld devices
- Supports multiple simultaneous Advanced Audio Distribution Profiles (A2DP) for stereo sound
- Automatic frequency detection for standard crystal and TCXO values

ADDITIONAL CAPABILITIES

- Supports battery voltage range from 3.0V to 4.8V with an internal switching regulator
- Programmable dynamic power management
- 4 Kb One-Time Programmable (OTP) memory for storing board parameters
- Worldwide regulatory support

BUILT-IN SECURITY FEATURES

- WPA, WPA2 (Personal), WPA3 (Personal) support for powerful encryption and authentication
- AES in WLAN hardware for faster data encryption and IEEE 802.11i compatibility
- Reference WLAN subsystem provides Wi-Fi Protected Setup (WPS)



CYW4343W Block Diagram



GET STARTED NOW

For additional information: www.cypress.com/products/wireless-connectivity

Cypress Semiconductor Corporation

198 Champion Court, San Jose CA 95134
 phone +1 408.943.2600 fax +1 408.943.6848
 toll free +1 800.858.1810 (U.S. only) Press "1" to reach your local sales representative

© 2018-2019 Cypress Semiconductor Corporation. All rights reserved. All other trademarks are the property of their respective owners.
 002-25437 Rev.*B

