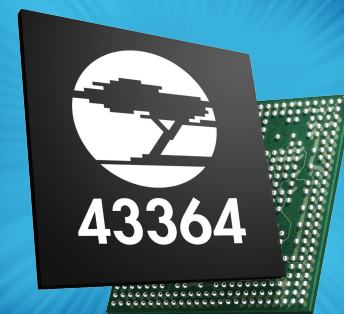CYPRESS

CYW43364: Single-Chip IEEE 802.11 B/G/N MAC/Baseband/Radio

OVERVIEW

The Cypress CYW43364 is a highly integrated single-chip solution and offers the lowest RBOM in the industry for Internet of Things (IoT) and a wide range of other portable devices. The chip includes a 2.4 GHz WLAN IEEE 802.11 b/g/n MAC/baseband/radio. In addition, it integrates a low-noise amplifier (LNA) for best-in-class receiver sensitivity, and an internal transmit/ receive (iTR) RF switch, further reducing the over- all solution cost and printed circuit board area.

The WLAN host interface supports gSPI and SDIO v2.0 modes, providing a raw data transfer rate of up to 200 Mbps when operating in 4-bit mode at a 50 MHz bus frequency.

Using advanced design techniques and process technology to reduce active and idle power, the CYW43364 is designed to address the needs of highly mobile devices that require minimal power consumption and compact size. It includes a power management unit that simplifies the system power topology while maximizing battery life.

KEY FEATURES

- WICED Wi-Fi SDK v3.2 ready
- Wi-Fi 1x1 for IEEE 802.11n
- The CYW 43364 is the core part of the CYW 943364 WCD4_EVB reference design.

CYW43364	
✓	M2M IoT Applications
✓	Consumer Smart Devices
✓	Health and Fitness Monitoring

BENEFITS

- Supports diversity antenna
- Supports a battery voltage range from 3.0V to 4.8V with an internal switching regulator
- Programmable dynamic power management
- 4 Kbit one-time programmable (OTP) memory for storing board parameters
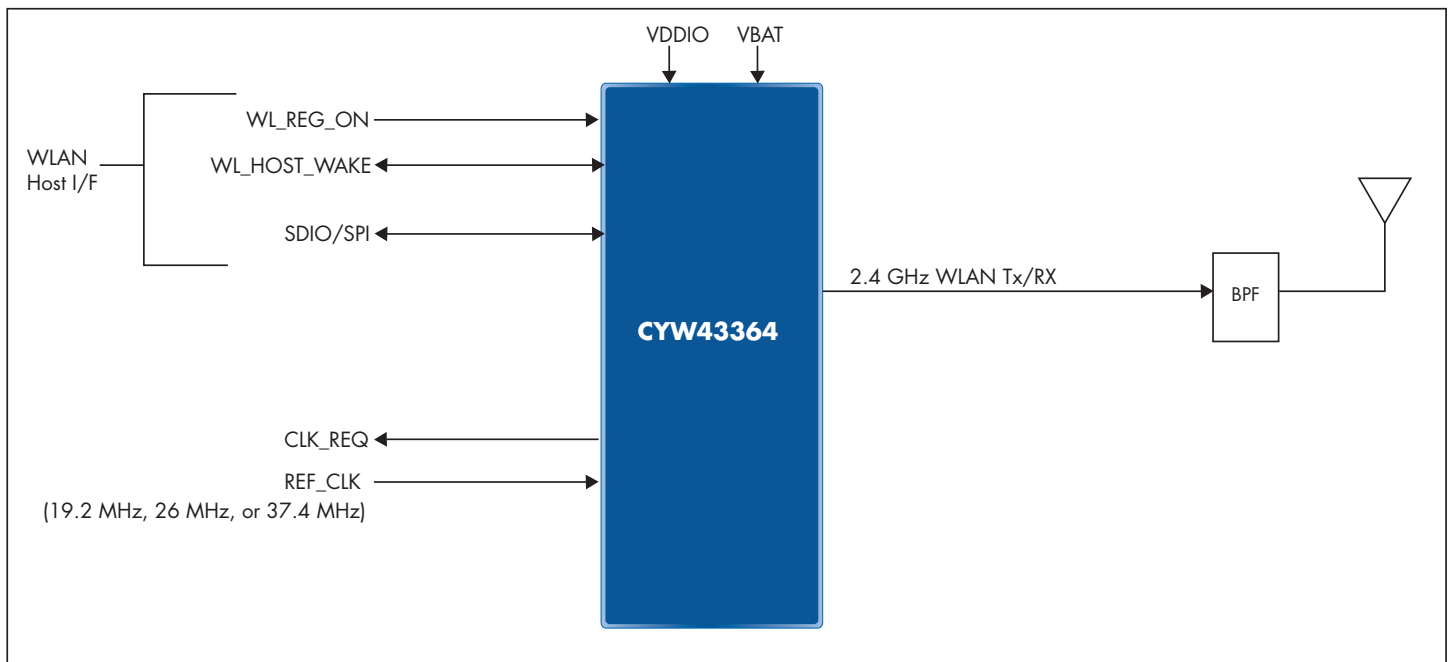- Can be routed on low-cost 1-x-1 PCB stack-ups

GENERAL FEATURES

- Security:
  – WPA and WPA2 (Personal) support for powerful encryption and authentication.
  – AES in WLAN hardware for faster data encryption and IEEE 802.11i compatibility.
  – Reference WLAN subsystem provides Cisco®-Compatible Extensions (CCX, CCX 2.0, CCX 3.0, CCX 4.0, CCX 5.0)
- Reference WLAN subsystem provides Wi-Fi protected setup (WPS)
- Worldwide regulatory support: Global products supported with worldwide homologated design
- 74-ball WLBGA package

IEEE 802.11X KEY FEATURES

- Single-band 2.4 GHz IEEE 802.11b/g/n
- Support for 2.4 GHz Cypress TurboQAM® data rates (256-QAM) and 20 MHz channel bandwidth
- Integrated iTR switch supports a single 2.4 GHz antenna
- Supports explicit IEEE 802.11n transmit beam forming.
- Tx and Rx low-density parity check (LDPC) support for improved range and power efficiency.
- Supports standard SDIO v2.0 and gSPI host interfaces.
- Supports 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. This allows for further minimization of power consumption, while maintaining the ability to field-upgrade with future features. On-chip memory includes 512 KB SRAM and 640 KB ROM.
- OneDriver™ software architecture for easy migration from existing embedded WLAN

WICED™ by CYPRESS®

CYPRESS EMBEDDED IN TOMORROW™

CYW43364 System Block Diagram

Part number	ORDERING INFORMATION
CYW43364KUBG	74-ball WLBGA halogen-free package (4.87 mm x 2.87 mm, 0.40 pitch)

ORDERING INFORMATION

Contact your local Cypress Representative

For additional information on WICED modules currently in production, go to:

https://community.cypress.com/community/wiced-wifi

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