SINGLE-CHIP IEEE 802.11ABGN/BLUETOOTH/FM (RX AND TX)

Highlights

- Single-band 2.4 GHz IEEE 802.11 b/g/n or dual-band 2.4 GHz and 5 GHz 802.11 a/b/g/n.
- Bluetooth Core Specification Version 4.0 + HS compliant with provisions for supporting future specifications.
- FM receiver: 65 MHz to 108 MHz FM bands support the European Radio Data Systems (RDS) and the North American Radio Broadcast Data System (RBDS) standards.
- Integrated WLAN and Bluetooth power amplifiers, LNA, and PMU.
- Supports standard HSIC 1.0, SDIO v2.0 (50 MHz, 4-bit, and 1-bit), gSPI (48 MHz), and UART host interfaces.

	BCM4330
Mobile Phones	●
Handheld Devices	●
Tablets	●

◐ Supported ● Best Choice

Overview

The Broadcom® BCM4330 is a third-generation combo device that provides the highest level of integration for a mobile or handheld wireless system, with integrated IEEE 802.11 a/b/g and single-stream IEEE 802.11n (MAC/ baseband/ radio), Bluetooth 4.0 + HS, and FM radio receiver and transmitter.

An integrated Power Management Unit (PMU), Power Amplifiers (PA), and Low Noise Amplifier (LNA) address the needs of mobile devices that require minimal power consumption and compact size. The BCM4330 provides a small form-factor solution with minimal external components to keep the cost down for mass volumes and allows flexibility in size, form, and function.

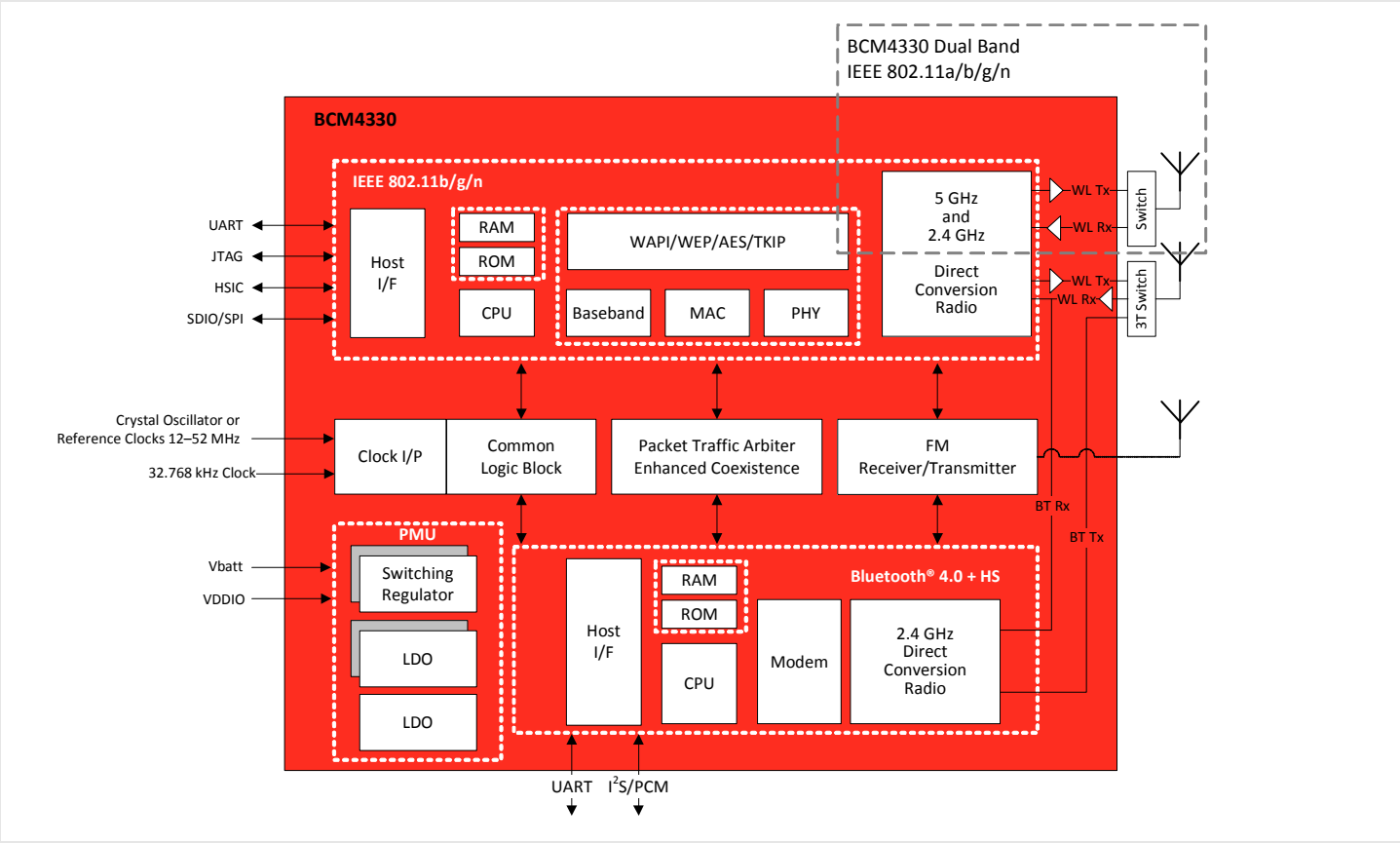
The BCM4330 implements the industry's most advanced radio coexistence algorithms and hardware mechanisms to allow an extremely collaborative WLAN and Bluetooth coexistence scheme, along with coexistence support for external radios (such as GPS and WiMax). The result is an enhanced overall quality for simultaneous voice, video, and data transmission on a handheld system.

Benefits

- Low power consumption
- Small solution area
- Low BOM count and cost
- Best-in-class coexistence
- Multiple packages to meet requirements for different form factors

IEEE 802.11™ Features

- Single-stream IEEE 802.11n support for 20 MHz channels provides PHY layer rates up to MCS7 (72 Mbps) for typical upper-layer throughput in excess of 45 Mbps.
- Supports a single antenna shared between WLAN 5G, WLAN 2.4G, and Bluetooth blocks.
- Supports optional external antenna diversity.
- Shared Bluetooth and WLAN receive signal path eliminates the need for an external power splitter while maintaining excellent sensitivity for both Bluetooth and WLAN.
- Internal fractional nPLL allows support for a wide range of reference clock frequencies.
- Supports IEEE 802.15.2 external 3-wire coexistence scheme to support additional wireless technologies such as GPS, WiMax, or UWB.
- Integrated ARM® Cortex™-M3 processor and on-chip memory for complete WLAN subsystem functionality, minimizing the need to wake up the application processor for standard WLAN functions. This allows for further minimization of power consumption, while maintaining the ability to field upgrade with future features.
- OneDriver™ software architecture for easy migration from existing embedded WLAN and Bluetooth devices as well as future devices.
- WPA™ and WPA2™ (personal) support for powerful encryption and authentication.
- Full WAPI support.
- Hardware accelerators support faster data encryption and 802.11i compatibility in WAPI, AES, and TKIP modes.
- Reference WLAN subsystem provides Cisco® Compatible Extension (CCX, CCX 2.0, CCX 3.0, CCX 4.0, CCX 5.0) certified.
- Reference WLAN subsystem provides Wi-Fi Protected Setup™ (WPS).
- Worldwide regulatory support: global products supported with worldwide homologated design.



BCM4330 Block Diagram

Bluetooth and FM Features

- Integrated class 1 PA for extended range.
- SmartAudio® technology dramatically improves voice quality in Bluetooth headsets.
- Simultaneous A2DP music streaming to up to five Bluetooth stereo headsets.
- Interface support — host controller interface (HCI) uses a high-speed UART interface and PCM/I^2S for audio data.
- The FM unit supports HCI for communication and stereo analog output.
- Supports external or internal FM antenna configurations.
- Automatic frequency detection for standard crystal and TCXO values.
- FM transmitter, 76–108 MHz bands, supports both RDS and RBDS standards, as well as programmable output power.

General Features

- Supports a battery voltage range of 2.3–5.5V supplies, with internal switching regulator.
- Programmable dynamic power management.
- OTP to store board parameters.
- Package options:

  144-ball FCBGA
  (6.5 mm × 6.5 mm, 0.5 mm pitch)

  133-ball WLBGA
  (4.92 mm × 5.16 mm, 0.4 mm pitch)

  225-bump WLCSP
  (4.92 mm × 5.16 mm, 0.2 mm pitch)

BCM4330: Product Family	BCM4330FKFFBG BCM4330FKUBG BCM4330FKWBG	BCM4330GKFFBG BCM4330GKUBG BCM4330GKWBG	BCM4330XKFFBG BCM4330XKUBG BCM4330XKWBG
2.4G WLAN	X	X	X
5G WLAN	–	–	X
Bluetooth 4.0	X	X	X
FM	X	–	X

BCM4330 Ordering Information	Package	Ambient Operating Temperature
BCM4330FKFFBG	144-ball FCBGA (6.5 mm × 6.5 mm, 0.5 mm pitch)	– 30°C to +85°C
BCM4330FKUBG	133-ball WLBGA (4.89 mm × 5.33 mm, 0.4 mm pitch	– 30°C to +85°C
BCM4330FKWBG	225-bump WLCSP (4.89 mm × 5.33 mm, 0.2 mm pitch)	– 30°C to +85°C
BCM4330GKFFBG	144-ball FCBGA (6.5 mm × 6.5 mm, 0.5 mm pitch)	– 30°C to +85°C
BCM4330GKUBG	133-ball WLBGA (4.89 mm × 5.33 mm, 0.4 mm pitch)	– 30°C to +85°C
BCM4330GKWBG	225-bump WLCSP (4.89 mm × 5.33 mm, 0.2 mm pitch)	– 30°C to +85°C
BCM4330XKFFB	144-ball FCBGA (6.5 mm × 6.5 mm, 0.5 mm pitch)	– 30°C to +85°C
BCM4330XKUBG	133-ball WLBGA (4.89 mm × 5.33 mm, 0.4 mm pitch)	– 30°C to +85°C
BCM4330XKWBG	225-bump WLCSP (4.89 mm × 5.33 mm, 0.2 mm pitch)	– 30°C to +85°C

About Broadcom

Broadcom Corporation is a major technology innovator and global leader in semiconductors for wired and wireless communications. Broadcom products enable the delivery of voice, video, data and multimedia to and throughout the home, the office and the mobile environment. We provide the industry's broadest portfolio of state-of-the-art system-on-a-chip and software solutions to manufacturers of computing and networking equipment, digital entertainment and broadband access products, and mobile devices.

These solutions support our core mission: Connecting everything®.

Broadcom, one of the world's largest fabless communications semiconductor companies, with 2010 revenue of $6.82 billion, holds more than 4,300 U.S. and 1,800 foreign patents, and has more than 7,900 additional pending patent applications, and one of the broadest intellectual property portfolios addressing both wired and wireless transmission of voice, video, data and multimedia.

A FORTUNE 500® company, Broadcom is headquartered in Irvine, Calif., and has offices and research facilities in North America, Asia and Europe. Broadcom may be contacted at +1.949.926.5000 or at www.broadcom.com.

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课程网址：http://www.edatop.com/peixun/antenna/134.html

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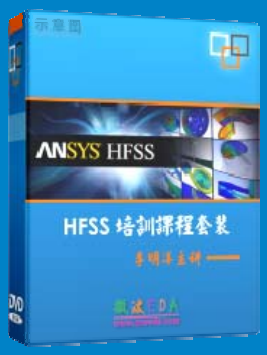
课程网址：http://www.edatop.com/peixun/cst/24.html



HFSS 学习培训课程套装

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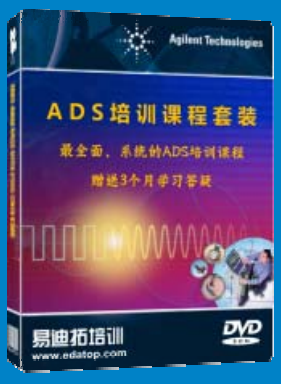

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※ 一直致力并专注于微波射频和天线设计工程师的培养，更了解该行业对人才的要求

※ 经验丰富的一线资深工程师讲授，结合实际工程案例，直观、实用、易学

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