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BCM4326 PRODUCT Brief



AirForce One™ SINGLE-CHIP IEEE 802.11b/g™ MAC/BASEBAND/RADIO WITH INTEGRATED CPU

FEATURES

- Highly integrated one-chip MAC, baseband, direct conversion radio, and ARM7™ processor for low-power embedded applications.
- Designed to meet exacting requirements of mobile devices, including small form factor, ultra-low power consumption, and low cost.
- Footprint-compatible with BCM4328 single-chip IEEE 802.11a/b/g™ dual-band MAC/baseband/radio with integrated CPU.
- Support for multiple interface options popular in embedded designs: SDIO (1- and 4-bit) and USB 2.0.
- Embedded ARM7 CPU that executes the full WLAN driver, eliminating the need for complicated wireless LAN integration into the host platform.
- Portable streamlined software interface for easy migration to embedded operating systems.
- Support for advanced Bluetooth® coexistence algorithms with hardware interface targeted at voice and multimedia applications.
- On-chip boot ROM and SRAM for a complete WLAN subsystem.
- Internal fractional nPLL allows support for a wide range of reference clock frequencies.
- Requires only a single 3.3V external supply voltage.
- 3.3V/1.8V-tolerant I/O.
- Support for 2.5V–5.5V VBAT supplies with a single external switching regulator.
- On-chip UART and JTAG interfaces for ease of debugging.
- Available in FBGA (0.5-mm pitch) and WLCSP (0.25-mm pitch) packages.
- Integrated power amplifier for medium-transmit power embedded devices; interface to external power amplifier for high-power applications.

POWER MANAGEMENT

- DSP architecture reduces the power required to transmit data by 30 percent.
- Low power consumption improves battery life of Wi-Fi® devices, including handheld devices and consumer electronics.
- Integrated CPU; designed for low CPU usage to ensure that system resources are available for handheld applications.
- Dynamic power management through on-board PMU.
- Only a single 3.3V external supply voltage is required.

AirForce™ FEATURE SET

- SmartRadio™: continuous calibration reduces test time and improves manufacturability.
- Xpress™ technology: standards-based frame bursting improves overall network efficiency.
- 125 High Speed Mode™: standards-plus performance enhancement delivers best real-world performance when both client and AP support high-speed mode.
- Enhanced BroadRange™ technology: standards-compliant features increase receive sensitivity to improve range and distance performance at higher data rates.
- Security:
  - WPA™ (personal) and WPA2™ (personal) certified for powerful encryption and authentication
  - AES and TKIP in hardware for faster data encryption and IEEE 802.11i™ compatibility
  - Cisco® Compatible Extensions (CCX, CCX2.0, CCX3.0, CCX4.0) certified
  - SecureEasySetup™ for simple Wi-Fi setup and WPA2/WPA security configuration
- Worldwide support: global products supported with worldwide homologated design.
- OneDriver™: single driver across all platforms—IEEE 802.11a/b/g/n—simplifies driver update process and improves customer satisfaction.

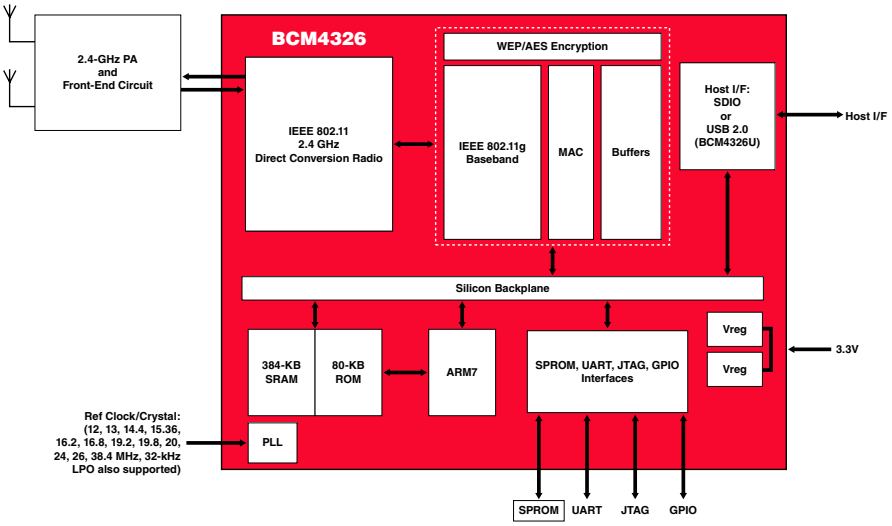
BCM94326 Sample Module





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BLOCK DIAGRAM AND SPECIFICATIONS



Interface	SDIO (4-wire, 1-wire, SPI), USB 2.0 (BCM4326U)
System Bus Support	SDIO, USB 2.0
Standard	IEEE 802.11g, IEEE 802.11b
Data Rate	IEEE 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps; IEEE 802.11b: 11, 5.5, 2, 1 Mbps
Modulation	OFDM, CCK, DQPSK, DBPSK
Network Architectures	Infrastructure and ad hoc
Operating Frequencies	2.4 GHz to 2.497 GHz
Operating Channels	11 for North America; 13 for Europe; 14 for Japan
RF Output Power	20 dBm maximum
Antenna Connectors	Hardware diversity support—transmit and receive
Power Requirements	3.3V (2.5V–5.5V VBAT power supplies provided by using a single external switching regulator)
Power Consumption	Receive: < 295 mW Transmit: < 425 mW (at 7 dBm), < 625 mW (at 15 dBm; varies depending on external power amplifier)
Security	IEEE 802.1X; WEP, WEP2, WPA (personal), WPA2 (personal); TKIP and AES hardware acceleration, IEEE 802.11i
Dimensions	FBGA: 10 mm x 10 mm
Software Support	• Windows® CE 5.0, Linux®,Windows® XP • Portable software interface for easy migration to other embedded operating systems including Symbian, Rex, iTRON, VxWorks®
Certifications	IEEE 802.11-compliant; Wi-Fi CERTIFIED™

For ordering information, contact your Broadcom Sales Representative.

Broadcom®, the pulse logo, **Connecting everything®**, the Connecting everything logo, **AirForce™**, **AirForce One™**, **SecureEasySetup™**, **OneDriver™**, **BroadRange™**, **SmartRadio™**, **125 High Speed Mode™**, and **Xpress™** are among the trademarks of Broadcom Corporation and/or its affiliates in the United States, certain other countries and/or the EU. **Bluetooth®** is a trademark of the Bluetooth SIG. Any other trademarks or trade names mentioned are the property of their respective owners.

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