

## Dual-Band Media Access Controller (MAC) for WLAN System Solutions

The PMB 8789 WLAN media access controller is one chip of the wireless system solution from Infineon Technologies that addresses the need of the emerging market for wireless LAN and wireless home-networking products. Using a plurality of host interfaces, the PMB 8789 supports the MAC and data buffer management functions and is fully compliant with the IEEE802.11a/b and 11g WLAN standards.

The PMB 8789 is designed to form an Infineon WLAN chipset in combination with the PMB 8680 dual-band RF Transceiver, the PMB 8825 dual-band Power Amplifier and the PMB 8787 dual-band Modem IC (PHY).



### Features

- Full implementation of the 802.11 WMAC protocol including the following:
  - IEEE 802.11a and 11g standards, including all optional data rates
  - IEEE 802.11b standard data rates
  - Supports up to 54 Mbit/s data rate
- Multiple queue management facilities to support QoS provisions, including IEEE 802.11e QoS
- Supports 802.11i security encryption algorithms without impacting device throughput performance and latency:
  - Advanced Encryption Standard (AES)
  - Up to 128-bit wired equivalent privacy (WEP)
  - Temporal Key Integrity Protocol (TKIP) per Wi-Fi® Protected Access (WPA) and draft 802.11i standard

- Host interface support of the following:
  - PCI V2.3 bus mastering device featuring 32-bit transfers at 33 MHz
  - MiniPCI Specification 1.0
  - CardBus 32-bit, 33 MHz transfers
  - USB V1.1
  - PC card interface supports full 16-bit implementation per PCMCIA release 7

### Applications

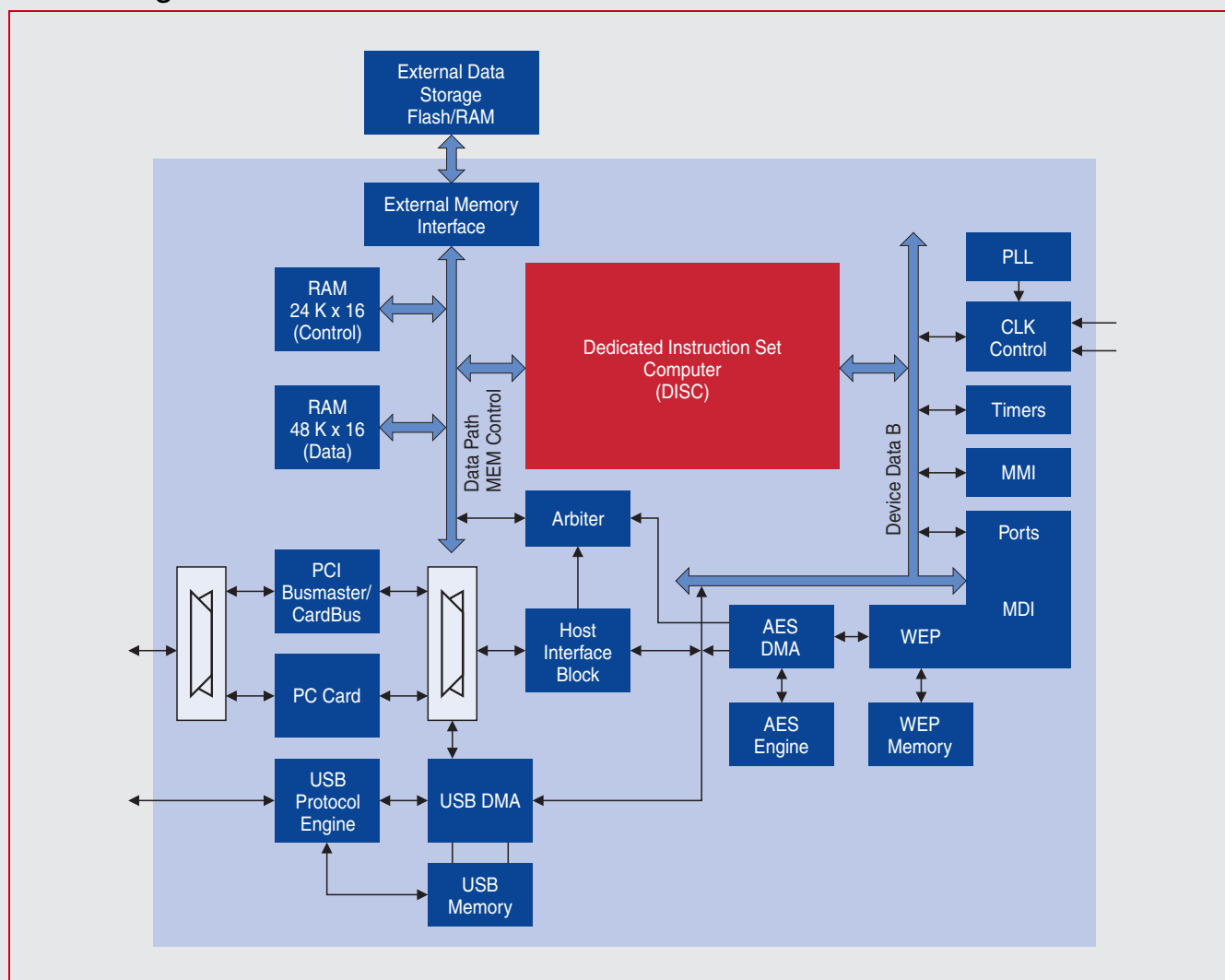
- High data-rate wireless LAN
- PC card wireless LAN adapters
- (Mini) PCI wireless LAN cards
- CardBus wireless LAN adapters
- Compact flash wireless LAN cards
- USB wireless LAN adapters
- Wireless LAN modules, access points, bridge products, and point-to-multipoint systems

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Dual-Band Media Access Controller



## Block Diagram



### Features

- On-chip 64k x 16 static RAM supports full 802.11 station and client functionality without external memory
- Flexible modem data interface
- Flexible modem management interface
- Flexible external memory expansion:
  - Programmable wait states for slow external memo
  - Multiple memory organization up to 4 Mbytes
- Supports Bluetooth™ coexistence through a two-wire interface

- Device is capable of low-power operation
- An optional 32.768 kHz crystal can be connected for ultralow power-down mode
- Operation at 3.0 V to 3.6 V single supply
- Supports IEEE1149.1 boundary scan standard

### Ordering Information

Please contact the local Infineon sales office for dedicated information on our Wireless LAN products

| Type            | Sales Code | Package   |
|-----------------|------------|-----------|
| WLAN 802.11 MAC | PMB 8789   | FSBGA-196 |

How to reach us:  
<http://www.infineon.com>

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Infineon Technologies is an approved CECC manufacturer.

### Information

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### Warnings

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