Specification

Standards

• IEEE 802.11b
• IEEE 802.11g
• IEEE 802.11n

Wireless Signal Rates

• IEEE 802.11b: 11, 5.5, 2 and 1Mbps
• IEEE 802.11g: 54, 48, 36, 24, 18, 12, 9 and 6Mbps
• IEEE 802.11n: (20 MHz BW)144, 130, 117, 104, 78, 52, 39, 26, 13Mbps
(40 MHz BW) 300, 270, 243, 216, 162, 108, 81, 54, 27Mbps

Security

• 64/128-bit WEP
• WPA —Wi-Fi Protected Access
• WPA-PSK (Pre-Shared Key)

Radio and Modulation Type

• DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64-QAM

Channels

For product available in the USA/Canada market, only channel 1-11 can be operated. Selection of other channels is not possible.

Wireless Frequency Band

• 2.4GHz ISM Band (2412M-2462MHz)

Bandwidth

•20MHz/40MHz

Output power

•20dBm(MAX)

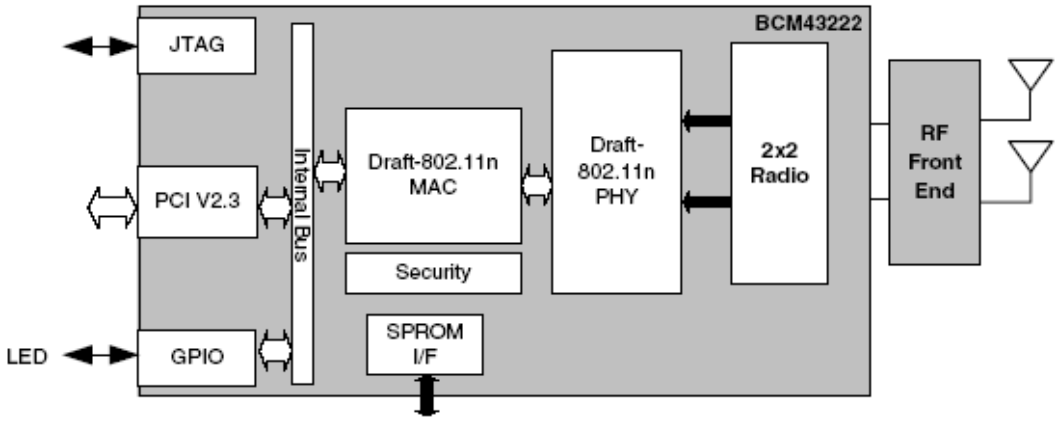
Antenna

•3dBi Detachable Omni-directional antenna
•With MIMO, information is sent and received over two antennas simultaneously using the same frequency band thus providing greater range and increasing throughput. Supports 2×2 antennas for Layer 2 throughput of over 200 Mbps with its fully integrated dual-band radio transceiver and optional switched diversity with 3 or 4 antennas.

Wireless Operating Range

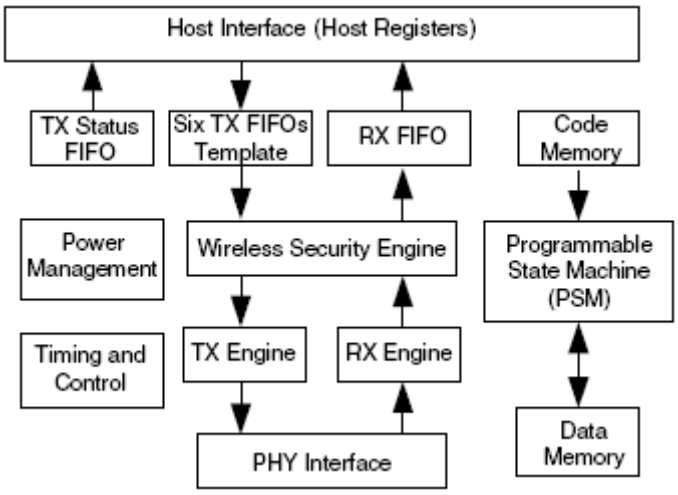
• Indoors: Up to 328 feet (100 meters)
• Outdoors: Up to 1,312 feet (400 meters)

Function Diagram



MAC Block and its Diagram: The MAC core supports the transmission and reception of sequences of packets, together with related timing, without any packet-by-packet driver interaction. Time-critical tasks requiring response times of only a few milliseconds are handled in the MAC core. This achieves the required timing on the medium while keeping the host driver easier to write and maintain. Also, incoming packets are buffered in the MAC core, which allows the MAC driver to process them in bursts, enabling high bandwidth performance.

The MAC driver interacts with the MAC core to prepare queues of packets to transmit and to analyze and forward received packets to upper software layers. The internal blocks of the MAC core are connected to a programmable state machine (PSM) through the host interface that connects to the internal bus.



DUAL-BAND RADIO TRANSCEIVER

Integrated into the BCM43222 is Broadcom's world-class dual-band radio transceiver that ensures low-power consumption and robust communications for applications operating in the 2.4-GHz band. Channel bandwidths of 20 MHz and 40 MHz are supported as specified in Draft-802.11n.

RECEIVER PATH

The BCM43222 has a wide dynamic range, direct conversion receiver. It employs high order on-chip channel filtering to ensure reliable operation in the noisy 2.4-GHz ISM band. The excellent noise figure of the receiver makes an external LNA unnecessary.

TRANSMITTER PATH

Baseband data is modulated and upconverted to the 2.4-GHz ISM band. Linear on-chip Power Amplifiers are included, which are capable of delivering a nominal output power exceeding +18 dBm in the G band and +15 dBm in the A band while meeting the IEEE 802.11g specifications. The TX gain has a 78 dB range with a resolution of 0.25 dB.