



WLAN6060SD Card Technical Information

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preliminary

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1 Introduction Information



SyChip WLAN6060SD Network Interface Card

WLAN6060SD Card from SyChip Inc is a Secure Digital Card form factor Wireless LAN NIC(Network Interface Card) incorporating the popular wireless Ethernet standard 802.11b. It uses Direct Sequence Spread Spectrum (DSSS) Wireless LAN technology to provide bandwidths of up to 11Mbps at ranges of up to 400 feet. This card enables next generation Pocket PC/PDAs, Cellular Phones, and Ultra-thin notebook computers to access the internet, email, corporate networks and transfer streaming video or audio, images or large files from a WLAN-enabled environment. It allows an extension of the corporate resources by enabling the mobile workforce and telecommuters. The card is ideal for vertical markets such as manufacturing floors, car rentals, retail spaces, hospitals etc. In the consumer market, this WLAN card is ideal for users of next generation Palms, Pocket PCs, Smartphones, printers and scanners. Additionally, the card gives users the ability to work whilst away from the office by connecting to the rapidly expanding public hotspot infrastructure. Such venues as coffee shops, airports, shopping malls, hotels, etc are offering this capability based on the IEEE802.11b standard. For mobile applications, battery life is extended through the use of enhanced power saving features, which reduce the current drain whilst in standby mode (the card is in this state for the majority of the time as it awaits data destined for it).

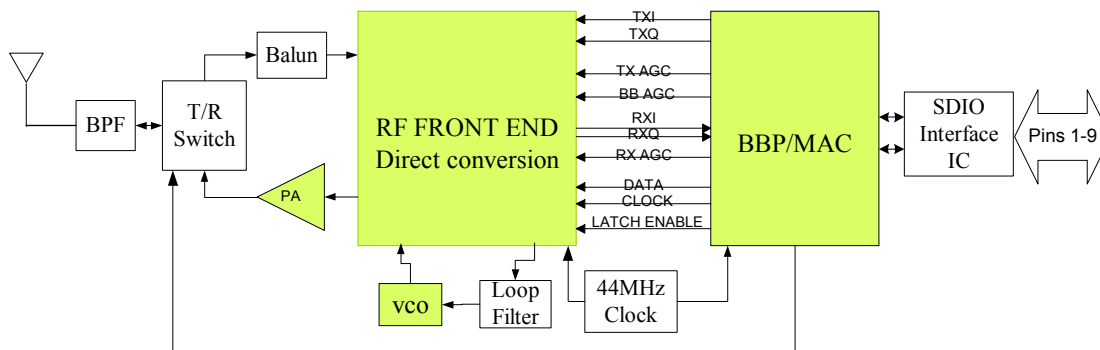
Not only does the WLAN6060SD Card roam seamlessly among multiple 802.11b wireless network access point, it also operates in peer to peer mode (without an access point) to download data from wirelessly equipped laptops without a cradle or network connection, and can share data directly with wireless PDAs.

This is a complete WLAN solution incorporating the Baseband Processor, Mac, Memory, VCO, Transceiver, Antenna, antenna switch and power amplifier and to realize a complete design. The card will be fully WiFi certified.

Key Features:

- Wi-Fi Certified – interoperable with other Wi-Fi certified WLAN products
- Very small footprint: card measured 54.0x24.0x2.1mm³.
- Complete IEEE802.11b functionality integrated BB/MAC, RF, VCO, PA and SDIO interface
- Reduced power consumption in standby mode
- Support WinCE (v3.0 or greater), Palm OS
- Support infrastructure or Peer to Peer connectivity

2 WLAN6060SD Architecture



WLAN6060SD NIC Block Diagram

WLAN6060SD is a complete WLAN(802.11b) system and could be used as a standalone unit or as a plug-and-play accessory in different applications.

The card is built with 2-chip design—an RF Transceiver and a Baseband Processor.

The RF front-end integrated circuit includes a LNA, a transmit pre-amplifier, a quadrature up/down converter, a synthesizer, a low pass filter, and a RX amplifier. It utilizes Direct Conversion technology, eliminating the need for intermediate-frequency mixer(s), amplifier and filter components.

The RF function provides programming of the RF channel frequency from 2.4 GHz to 2.5 GHz in steps of 1 MHz. This covers all of the RF channels frequencies specified in 802.11b standard.

The RF channel frequency for transmission and reception is stable with 25kHz of its final value, 0.75ms after reprogramming or switching from sleep mode to receive mode.

The Baseband Processor is a highly integrated Baseband/MAC which complements the RF front-end, resulting in the significant reduction in component count and enable WLAN6060SD to be built to the world smallest form factor and very competitive for emerging consumer markets.

Through dynamic throughput management, the WLAN6060SD can adjust its transmit/receive speed to 1, 2, 5.5, or 11Mbps. This technique ensures that the card is performing at the optimal transmission rate for the range signal strength while consuming minimum power.

WLAN6060SD I/O interface supports SDIO standard.

WLAN6060SD supports 802.11 WEP 64/128 bit security standard. Future versions will support LEAP and 802.1x.

WLAN6060SD currently supports Win CE3.0 (Pocket PC2002 or higher version), Win CE.NET(4.2) Operating System. Future versions will include Palm OS.

3 WLAN6060SD Package Contents

WLAN6060SD Card package from SyChip includes:

- 1 WLAN6060SD Card
- 1 WLAN6060SD software and document CD

4 WLAN6060SD Key Specifications

Size (LxWxH mm ³):	54.0x24.00x1.6 (2.1mm high for extended antenna section)
Weight(g):	4.3
Transmit Power(dBm):	<16
Power ratings:	
DC (V)	3.3 (2.7~3.6)
Current Consumption(mA):	297 (max)
	35 (average)
	15 (sleep)
Security Standards:	WEP 64/128