

Actiontec
Expanding Your World of Data Communications

SPECIFICATIONS

of Low Profile PCI 802.11b Card:

802PI25

Version 0.5

Date: 08/09/01

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Device Overall Description

The 802PI25 is designed to provide wireless LAN function on a Low Profile PCI form factor. The wireless LAN function is based on Intersil Prism 2.5 chipset, which implements the full IEEE802.11b standard data rates up to 11Mbps.

802.11 Wireless LAN

Features

- Intersil Prism II.V chipset
- IEEE802.11 Direct Sequence Spread Spectrum (DSSS)
- IEEE802.11 Standard Data Rates: 1, 2, 5.5 and 11Mbps
- Full Implementation of the MAC Protocol Specified in IEEE Standards 802.11-1999 and 802.11b
- Internal Encryption Engine Executes IEEE802.11 WEP
- 128-bit WEP encryption, backward compatible with 64-bit solutions.
- Support BSS (Infrastructure mode) and IBSS (Ad hoc mode).
- Support BSS and IBSS operation under Distributed Coordination Function (DCF) and Point Coordination Function (PCF)
- Support Pseudo IBSS mode which allows two computers to communicate in Ad Hoc configuration and allows backward compatibility with previous generation of Intersil products.
- Onboard Diversity Antenna

Specification Compliance

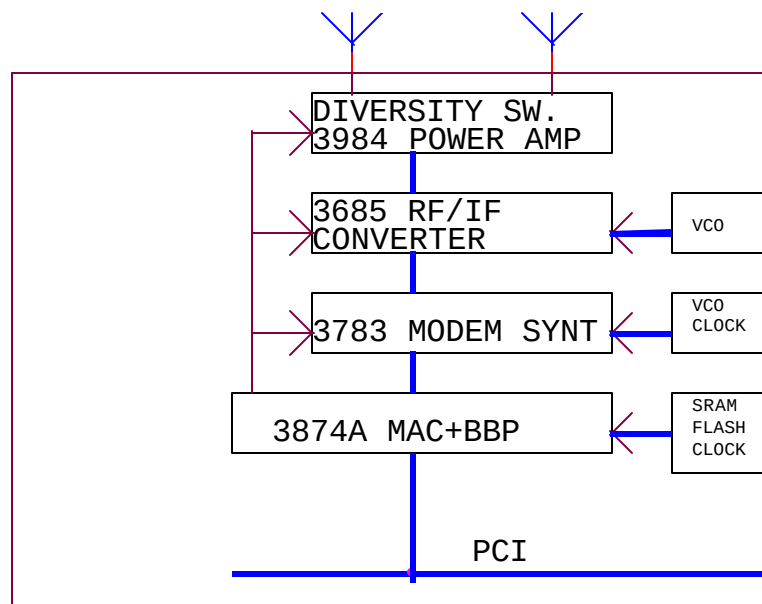
- IEEE 802.11b
- PCI Bus Interface Spec. 2.2

Form factor

- Low Profile PCI Card MD1 form factor
- 119.91mm x 64.41mm (LxH)

802.11 Wireless LAN Block Diagram

ICW3874A:	Intersil, Wireless LAN integrated Medium Access Controller with Baseband Processor
ICW3783:	Intersil, I/Q Modulator/Demodulator and Synthesizer
ICW3183:	Intersil, 748MHz Voltage Controlled Oscillator
ICW3685:	Intersil, 2.4GHz RF/IF Converter and Synthesizer
ICW3984:	Intersil, 2.4GHz Power Amp and Detector



Modulation Methods

	Modulation	spec.
1 Mbps	DBPSK	802.11
2 Mbps	DQPSK	802.11
5.5 Mbps	CCK	802.11b
11 Mbps	CCK	802.11b

Channel Assignment

Channel	Frequency	FCC	IC	ETSI	France	Japan	
1	2412MHz	X	X	X		X	
2	2417MHz	X	X	X		X	
3	2422MHz	X	X	X		X	
4	2427MHz	X	X	X		X	
5	2432MHz	X	X	X		X	
6	2437MHz	X	X	X		X	
7	2442MHz	X	X	X		X	
8	2447MHz	X	X	X		X	
9	2452MHz	X	X	X		X	
10	2457MHz	X	X	X	X	X	
11	2462MHz	X	X	X	X	X	
12	2467MHz			X	X	X	
13	2472MHz			X	X	X	
14	2484MHz					X	

Many countries and region are currently revising the channel assignment.

Security (WEP Key)

Support the IEEE 802.11b compatible 64 bit WEP in all data rate modes.
Support 128 bit 128RC4 algorithm in all data rate modes.

PCI PME & Vaux

There is no standard specification of Wakeup-on-WirelessLAN defined. Therefore, PME pin is not necessary. The PME pin on PCI bus is not connected to this device.

This card is default to get power from PCI +3.3V. There is an option to get power from PCI Vaux pin.

RF Characteristics

RF Characteristics	Minimum	Typical	Maximum	Units
Form Factor		Low Profile PCI		
PC Interface		32-bit PCI		PCI 2.2
Plug and Play Compatible		Yes		
Access Point Capable		Yes		
Internal Antenna Impedance		50		ohms
Ambient Operating Temperature Range	0		70	C
Storage Temperature Range	-20		+85	C
Supply Voltage (3.3 V only)	3.0	3.3	3.6	V
RX Supply Current (at 3.3 V)		235		mA
TX Supply Current (at 3.3 V)		280		mA
802.11 Sleep Supply Current		10	20	mA
Initialization Supply Current			70	mA
RX Adjacent Channel Rejection	35			dB
RX Sensitivity, 1 Mbps		-90	-88	dBm
RX Sensitivity, 2 Mbps		-87	-85	dBm
RX Sensitivity, 5 Mbps		-85	-83	dBm
RX Sensitivity, 11 Mbps		-83	-81	dBm
Diversity Isolation	15	20		dB
TX Output Power	+13.5	+15		dBm
TX Carrier Suppression	15			dB
TX Spectral Mask, 1st side-lobe			-30	dBc
TX Spectral Mask, 2nd side-lobe			-50	dBc
1 Mbps Multipath Tolerance	500 nsec			802.11
2 Mbps Multipath Tolerance	500 nsec			802.11
5.5 Mbps Multipath Tolerance	200 nsec	225 nsec		802.11
11 Mbps Multipath Tolerance	100 nsec	120 nsec		802.11
Maximum input Level		4dbm		
Over-voltage protection		+17dbm		
Dual Antenna Diversity, Short Preamble		BBP HW		
Dual Antenna Diversity, Long Preamble		BBP HW		
Preamble Length		Short/Long		
SRAM		128K X 16		
Serial Flash		128KX8		
802.11 Compliance		Compliant		

Note: Sensitivity based upon 1 kbyte packet length, 8% PER, single antenna driven, diversity enabled.

Note: Adjacent channel rejection based upon 1 kbyte packet length, 8% PER, 25 MHz jammer offset.

Note: Multipath tolerance based upon 1 kbyte packet length, 8% PER, signal level > -60 dBm, single antenna driven, diversity enabled, broadcast packets.

Note: All measurements at the end of 6" of cable through RF Connector with local diversity option.

Software & OS support

OS	Driver
Win95, OSR2	NDIS4
NT4	NDIS4
Win98	NDIS5
Windows Millennium	NDIS5
Win2000	NDIS5
User Configuration Utility	Available

Regulation

US FCC 15.247
Canada RSS
Europe ETSI 300 826 11:1997
ETSI 300 328 11:1996, 2nd Edition
ETSI 300 328 A1 07:1997, 2nd Edition
ERC/DEC/(96) 17, ERC Decision of 1 November 1996
CE Mark
Japan Telec
Others upon requested

Interoperability

Actiontec is an active member of Wireless Ethernet Compatibility Alliance (WECA).
All Actiontec 802.11b Wireless product will be certified by WECA Wi-fi test to assure interoperability between vendor's of 802.11b.

Operating Conditions

Voltage Range	3.3V $\pm$ 0.3V
Operating Temperature Range	0°C - 65°C
Storage Temperature Range	-20°C - 85°C
Relative Humidity during Operating	95%
Relative Humidity during Storage	95%