WPEA-110N

802.11a/b/g/n Dual- Band Mini PCI Express Module

Highest performance, Longer Range and Faster Speed with Atheros AR9280 Chip Solution

Features and Benefits:

- Mini PCI Express
- Wireless connection up to 300 Mbps
- Low power consumption and high performance
- 2 antennas to support 2(Tx)×2(Rx) MIMO technology
- Enhanced wireless security
- Windows XP/ Vista driver support

Superior Performance with Longer Range and Faster Speed

SparkLAN Mini PCI Express Wireless Module, WPEA-110N, fully supports the features and functional compliance with IEEE 802.11 a/b/g/n standard, supporting up to 300 Mbps data rates. Comparing to 802.11g technology, 802.11n draft standard makes big improvement on speed and range.

Best Choice for High-End Notebook

The module based on Atheros AR9280 solution, which is dual-band (2.4GHz and 5GHz) 2x2 MIMO PCIe design, targeting enterprise and high-end consumer notebooks. The solution enables up to 10 times the throughput and more than twice the range of 802.11a/g solutions.

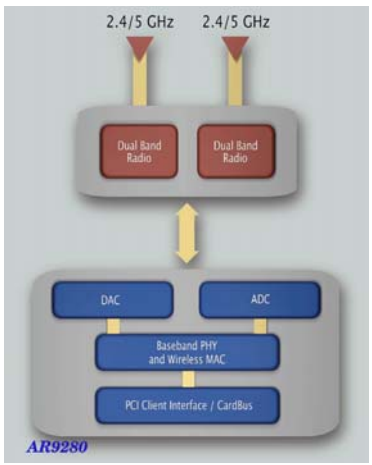
Industry-Leading Power Efficiency

WPEA-110N features Atheros' highest level of 802.11n WLAN throughput, which enables a high performance, cost effective, low power, compact solution that easily fits onto single side of the PCI Express Mini Card.

Secure Wireless Connection

This Mini PCI Express Module WPEA-110N with security support of AES, WEP, and WPA/WPA2 offers enhanced data protection.

Block Diagram



Specifications

Chipset		
Mac/BB /RF	Atheros AR9280	
Host Interface		
Mini PCI Express		
Radio		
Antenna	[U.FL] connectors*2 (2T/2R)	
Operating Frequency	a/b/g/n ISM Band:2.412~2.472, 5.180~5.805 GHz	
Modulation	802.11a:OFDM; 802.11b:CCK,DQPSK,DBPSK 802.11g:OFDM 802.11n:OFDM	
Data rate	802.11b: 1, 2, 5.5, 11Mbps	
	802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54Mbps	
	80.211n GI=800ns:(2 Streams) (20MHz) 13,26,39,52,78,104,117,130 (40MHz)27,54,81,108,162,216,243,270	
	802.11n GI=400ns:(2 Streams) (20MHz)14.4,28.9,43.3,57.8,86.7, 115.6,130,144.4 (40MHz)30,60,90,120,180,240,270,300	
Output Power	802.11a	14dBm +/- 1dBm
	802.11b	19dBm +/- 1dBm
	802.11g	17dBm +/- 1dBm
	802.11n	17dBm +/- 1dBm
Receive Sensitivity	802.11a	-72dBm@54Mbps
	802.11b	-85dBm@11Mbps
	802.11g	-72dBm@54Mbps
	802.11n (2.4GHz)	-64dBm@300Mbps
	802.11n (5 GHz)	-67dBm@270Mbps
Power consumption		
Continue TX	606mA	
Continue RX	454mA	
Idle mode	75mA	
Operating Voltage		
DC 3.3V ± 5%		
Environmental		
Temperature Range	-10 ~ 65°C (Operating) -40~80°C (Storing)	
Operating Humidity	50 ~92% (Non-Condensing)	
Physical Specification		
Dimensions	50.95mmx30mmx3.15mm	
Weight	≤ 7g	
Software		
Driver	Windows XP/ Vista	
Security	64/128/152-bit WEP, 802.1x, LEAP WPA/WPA2, Encryption TKIP/AES	

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Pin Definition

Pin No.	Definition	Basic Description	Type
1	WAKE_L	Request to service a function initiated wake event.	Output
2	3.3v	3.3V power supply	
3	NC	No connect. Should be left open.	Input / Output
4	GND	Ground	
5	NC	No connect. Should be left open.	Input / Output
6	NC	No connect. Should be left open.	
7	CLKREQ_L	Reference clock request.	Output
8	NC	No connect. Should be left open.	
9	GND	Ground	
10	NC	No connect. Should be left open.	
11	REFCLK-	Differential reference clock	Input
12	NC	No connect. Should be left open.	
13	REFCLK+	Differential reference clock	Input
14	NC	No connect. Should be left open.	
15	GND	Ground	
16	NC	No connect. Should be left open.	
17	NC	No connect. Should be left open.	
18	GND	Ground	
19	NC	No connect. Should be left open.	
20	W_DISABLE_L	WLAN disable control.	Input
21	GND	Ground	
22	PERST_L	PCI express fundamental reset	Input
23	PERn0	Differential transmit	Output
24	NC	No connect. Should be left open.	
25	PERp0	Differential transmit	Output
26	GND	Ground	
27	GND	Ground	
28	NC	No connect. Should be left open.	
29	GND	Ground	
30	NC	No connect. Should be left open.	
31	PETn0	Differential receive	Input
32	NC	No connect. Should be left open.	
33	PETp0	Differential receive	Input
34	GND	Ground	
35	GND	Ground	
36	NC	No connect. Should be left open.	
37	GND	Ground	
38	NC	No connect. Should be left open.	
39	NC	No connect. Should be left open.	
40	GND	Ground	
41	NC	No connect. Should be left open.	
42	NC	No connect. Should be left open.	
43	GND	Ground	
44	LED_WLAN_L	Active low signal. The signal is used to provide status indicators via LED.	Output
45	NC	No connect. Should be left open.	
46	NC	No connect. Should be left open.	
47	TP6	Test point	
48	NC	No connect. Should be left open.	
49	NC	No connect. Should be left open.	
50	GND	Ground	
51	NC	No connect. Should be left open.	
52	3.3v	3.3V power supply	

Mechanical Dimensions (in mm)