CPE802A
IEEE 802.11b/g/n 2T2R Wi-Fi mini PCI Express Card

Bointec

BOINTEC TAIWAN
CPE802A
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CPE802A

2.4GHz industrial wireless LAN Access Point only choice

Introduction of Products

BOINTEC CPE802-A is a WLAN card in half-mini PCIe type supporting PCI Express interface. This card supplies better wireless connectivity, higher speed, and extended distance for notebook platforms, embedded devices and high end gaming machines. With PCIe interface, It packs the Atheros Signal-Sustain Technology (SST) technology that enhances rate-over-range performance. Features are enabled by 802.11n including LDPC, TxBF and MLD. Impressively increase in rate-over-range of ~+100% at short range, ~+50% at mid range and ~+25% at long range.

Bointec CPE802-A consumes less power in every operation mode – active TX, active RX, idle associated and sleep than other Atheros previous chipsets. It keeps the notebook and other computing platforms running much longer on a single battery-charge, while providing TCP throughput of more than 200 Mbps when used in 2x2 mode. Bointec CPE802-A is also optimized for Atheros Direct Connect™ P2P applications. With its Fast Channel Switch (FCS) feature, the channel switching time between the 2.4 GHz bands is reduced from 10 ms to as little as 1 ms.

Product Highlight

*2T2R Mode, 20MHz/40MHz bandwidth.

*802.11b: 1, 2, 5.5, 11Mbps; 802.11g: 6, 9, 12, 24, 36, 48, 54Mbps ;

*802.11n: Support PHY rate up to 300Mbps.

*Support Soft-AP; QoS-WMM, WMM-PS; WiFi Direct

*Support WPS/WPS 2.0: Pin, PBC

*Support Wi-Fi Direct native hardware layer

*Worldwide regulatory compliance

*RoHS compliant

Specification

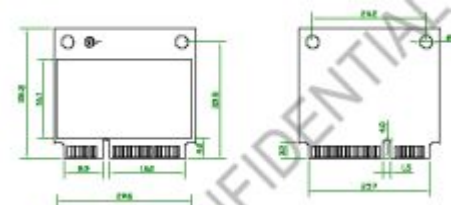| Item	Key specifications
Main chipset	☒ ATHEROS AR9287
TX/RX	☒ 2T2R
Frequency range	☒ USA: 2.400 ~ 2.483GHz ☒ Europe: 2.400 ~ 2.483GHz ☒ Japan: 2.400 ~ 2.497GHz ☒ China: 2.400 ~ 2.483GHz
Modulation technique	☒ 802.11 Legacy b/g DSSS (DBPSK, DQPSK, CCK) OFDM (BPSK, QPSK, 16-QAM, 64-QAM) DSSS (Direct Sequence Spread Spectrum) with DBPSK (Differential Binary Phase Shift Keying 1Mbps), DQPSK (Differential Quaternary Phase Shift Keying 2Mbps), and CCK (Complementary Code Keying 5.5&11Mbps), and OFDM (Orthogonal Frequency Division Multiplexing with BPSK for 6,9Mbps QPSK for 12,18Mbps 16QAM for 24,36Mbps 64QAM for 48,54Mbps) ☒ 802.11n OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Host interface	☒ PCI Express® Mini Card Electromechanical Specification Revision 1.2
Channel spacing	☒ 5MHz
Channels support	☒ 802.11 b/g/n US/Canada: 11 (1 ~ 11) Major European country: 13 (1 ~ 13) France: 4 (10 ~ 13) Japan: 11b: 14 (1~13 or 14th), 11g: 13 (1 ~ 13) China: 13 (1 ~ 13)
Operation voltage	☒ 3.3V +/- 9%
Power consumption @25°C	802.11n (2.4GHz) Avg/Max (mW) ☒ FTP Tx 1749/ 1947 ☒ AP scanning, no association with AP 264/ 290 ***The maximum current consumption would be impacted by radiation environment and the driver mechanism.

Operation distance	☒ 802.11b
	Outdoor: 100 m @11Mbps, 200 m @1Mbps
	Indoor: 50 m @11Mbps, 100 m @1Mbps
	☒ 802.11g
	Outdoor: 100 m @54Mbps, 200 m @6Mbps
	Indoor: 50 m @54Mbps, 100 m @6Mbps
	☒ 802.11n
	Outdoor: 200 m @MCS0/ 20MHz BW
	             50 m @MCS7/ 20MHz BW
	             30 m @MCS7/ 40MHz BW
	Indoor: 80 m @MCS0/ 20MHz BW
	             50 m @MCS7/ 20MHz BW
	             30 m @MCS7/ 40MHz BW

Operation system supported	☒ Windows® 2K, XP, Vista
PCB dimension	☒ 26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4
Security	☒ 64-bit, 128-bit, 152-bit WEP Encryption ☒ 802.1x Authentication ☒ AES-CCM & TKIP Encryption
Operation mode	☒ Infrastructure & Ad-hoc mode (TBD)

Transfer data rate	☒ 802.11b: 1, 2, 5.5, 11Mbps
	☒ 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
	☒ 802.11n: @800GI/400GI)
	    ☒ 20MHz BW
	        ☒ 1 Nss: 65(72.2) Mbps maximal
	        ☒ 2 Nss: 130(144.444) Mbps maximal
	    ☒ 40MHz BW
	        ☒ 1 Nss: 135(150) Mbps maximal
	        ☒ 2 Nss: 270(300) Mbps maximal

Operation temperature	☒ -10° ~ 60°C
Storage temperature	☒ -20° ~ 80°C
Wi-Fi® alliance®	☒ WECA Compliant
WHQL	☒ Microsoft® 2K, XP, Vista Compliant
EMC certificate	☒ FCC part 15 (USA) ☒ IC RSS210 (Canada) ☒ TELEC (Japan) ☒ ETSI, EN301893, EN60950 (Europe) ☒ VCCI CLASS B
Media access protocol	☒ CSMA/CA with ACK architecture 32-bit MAC
Antenna	☒ 2 x SMT Ultra-miniature coaxial connectors (U.FL-R-SMT)

Product quick glance

ME Drawing/placement

Figure 3-1. CPE802A General Dimension

Block diagram

Bointec Authorized Distributer

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