**CPE802A** 

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





## 2.4GHz industrial wireless LAN Access Point only choice

## Introduction of Products

Bountec

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<sup>™</sup> 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

ltem	Key specifications
Main chipset	ATHEROS AR9287
TX/RX	🛛 2T2R
_	🛛 USA: 2.400 ~ 2.483GHz
Frequency	Image: 2.400 ~ 2.483GHz
range	🛛 Japan: 2.400 ~ 2.497GHz
	🖾 China: 2.400 ~ 2.483GHz
	⊠ 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),
Modulation technique	DQPSK (Differential Quaternary Phase Shift Keying 2Mbps), and CCK (Complementary Code Keying 5.5&11Mbps), and
technique	OFDM (Orthogonal Frequency Division Multiplexing with BPSK for 6,9Mbps QPSK
	for 12,18Mbps 16QAM for 24,36Mbps 64QAM for 48,54Mbps)
	101 12,10mbps 104Am 101 24,50mbps 044Am 101 40,54mbps)
	🛛 802.11n
	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Host	
interface	PCI Express® Mini Card Electromechanical Specification Revision 1.2
Channel	R com
spacing	⊠ 5MHz
	🛛 802.11 b/g/n
	US/Canada: 11 (1 ~ 11)
Channels	Major European country: 13 (1 ~ 13)
support	France: 4 (10 ~ 13)
	Japan: 11b: 14 (1~13 or 14 <sup>th</sup> ), 11g: 13 (1 ~ 13)
	China: 13 (1 ~ 13)
Operation	⊠ 3.3V +/- 9%
voltage	
	802.11n (2.4GHz)
	Avg/Max (mW)
Power	KTP Tx 1749/ 1947     AP scanning, no association with AP 264/ 290
consumption @25°C	AP scanning, no association with AP 264/290
@25 C	***The maximum current consumption would be impacted by radiation environment and
	the driver mechanism.
	802.11b
	Outdoor: 100 m @11Mbps, 200 m @1Mbps
Operation	Indoor: 50 m @11Mbps, 100 m @1Mbps
	802.11g
	Outdoor: 100 m @54Mbps, 200 m @6Mbps
	Indoor: 50 m @54Mbps, 100 m @6Mbps
Operation	
Operation distance	🛛 802.11n
	⊠ 802.11n Outdoor: 200 m @MCS0/ 20MHz BW
	⊠ 802.11n Outdoor: 200 m @MCS0/ 20MHz BW 50 m @MCS7/ 20MHz BW
	⊠ 802.11n Outdoor: 200 m @MCS0/ 20MHz BW 50 m @MCS7/ 20MHz BW 30 m @MCS7/ 40MHz BW
	⊠ 802.11n Outdoor: 200 m @MCS0/ 20MHz BW 50 m @MCS7/ 20MHz BW 30 m @MCS7/ 40MHz BW Indoor: 80 m @MCS0/ 20MHz BW
distance	⊠ 802.11n Outdoor: 200 m @MCS0/ 20MHz BW 50 m @MCS7/ 20MHz BW 30 m @MCS7/ 40MHz BW
distance	<ul> <li>⊠ 802.11n</li> <li>Outdoor: 200 m @MCS0/20MHz BW</li> <li>50 m @MCS7/20MHz BW</li> <li>30 m @MCS7/40MHz BW</li> <li>Indoor: 80 m @MCS0/20MHz BW</li> <li>50 m @MCS7/20MHz BW</li> <li>30 m @MCS7/40MHz BW</li> </ul>
distance Operation system	⊠ 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
distance Operation system supported PCB	<ul> <li>⊠ 802.11n</li> <li>Outdoor: 200 m @MCS0/20MHz BW</li> <li>50 m @MCS7/20MHz BW</li> <li>30 m @MCS7/40MHz BW</li> <li>Indoor: 80 m @MCS0/20MHz BW</li> <li>50 m @MCS7/20MHz BW</li> <li>30 m @MCS7/40MHz BW</li> </ul>
distance Operation system supported	⊠ 802.11n       Outdoor: 200 m @MC\$0/ 20MHz BW         S0 m @MC\$7/ 20MHz BW       30 m @MC\$0/ 20MHz BW         Indoor:       80 m @MC\$0/ 20MHz BW         50 m @MC\$7/ 20MHz BW       50 m @MC\$7/ 20MHz BW         50 m @MC\$7/ 20MHz BW       30 m @MC\$7/ 40MHz BW         Windows <sup>®</sup> 2K, XP, Vista       ⊠         26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4
distance Operation system supported PCB	⊠ 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       50 m @MCS7/ 20MHz BW         50 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         30 m @MCS7/ 40MHz BW       30 m @MCS7/ 40MHz BW         30 m @MCS7/ 40MHz BW       30 m @MCS7/ 40MHz BW         30 Windows <sup>8</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         ⊠ 64-bit, 128-bit, 152-bit WEP Encryption       30 802.1X. Authentication
Operation system supported PCB dimension Security	⊠ 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       50 m @MCS7/ 20MHz BW         30 m @MCS7/ 40MHz BW       30 m @MCS7/ 40MHz BW         Windows <sup>8</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         ⊠ 44-bit, 128-bit, 152-bit WEP Encryption       3002.825+/-0.15mm x 20.85+/-0.15mm x 1.0+/-0.1mm 2L FR4
Operation system supported PCB dimension	<ul> <li>№ 802.11n         Outdoor: 200 m @MCS0/ 20MHz BW         50 m @MCS7/ 20MHz BW         30 m @MCS7/ 40MHz BW         S0 m @MCS0/ 20MHz BW         50 m @MCS0/ 20MHz BW             50 m @MCS7/ 40MHz BW             30 m @MCS7/ 40MHz BW             <sup>30</sup> ACA A A A A A A A A A A A A A A A A A</li></ul>
Operation system supported PCB dimension Security Operation	⊠ 802.11n       Outdoor: 200 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         Indoor:       80 m @MCS0/ 20MHz BW         50 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         30 m @MCS7/ 40MHz BW       30 m @MCS7/ 40MHz BW         Windows <sup>®</sup> 2K, XP, Vista       Image: State St
Operation system supported PCB dimension Security Operation	⊠ 802.11n       Outdoor: 200 m @MC\$0/ 20MHz BW         S0 m @MC\$7/ 20MHz BW       30 m @MC\$7/ 40MHz BW         S0 m @MC\$7/ 40MHz BW       50 m @MC\$7/ 20MHz BW         S0 m @MC\$7/ 20MHz BW       30 m @MC\$7/ 40MHz BW         Windows <sup>®</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         ⊠ 44-bit, 128-bit, 152-bit WEP Encryption       302.11 web 2.1x Authentication         ⊠ 802.11b: 1, 2, 5.5, 11Mbps       302.11b: 1, 2, 5.5, 11Mbps         ⊠ 802.11b: 1, 2, 5.5, 11Mbps       302.11b: 1, 2, 5.5, 11Mbps         ⊠ 802.11b: 1, 2, 5.5, 11Mbps       302.11b: 1, 2, 5.5, 11Mbps         ⊠ 802.11b: 1, 2, 5.5, 11Mbps       302.11b: 1, 2, 5.5, 11Mbps
Operation system supported PCB dimension Security Operation	⊠ 802.11n       Outdoor: 200 m @MCS0/ 20MHz BW         50 m @MCS7/ 20MHz BW       30 m @MCS7/ 20MHz BW         30 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         Indoor:       80 m @MCS0/ 20MHz BW         50 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         30 m @MCS7/ 40MHz BW       50 m @MCS7/ 40MHz BW         26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         ≦ 25.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         ≦ 44-bit, 128-bit, 152-bit WEP Encryption         ≦ 802.1 x Authentication         △ AES-CCM & TKIP Encryption         ≦ 1nfrastructure & Ad-hoc mode (TBD)         ⑤ 802.11b: 1, 2, 5.5, 11Mbps         ⑤ 802.11b: 6, 9, 12, 18, 24, 36, 48, 54Mbps         ⑧ 802.11b: 800.0Gi(400.0Gi)         ⊠ 20.11b: 800.0Gi(400.0Gi)
distance Operation system supported PCB dimension Security Operation mode	⊠ 802.11n       Outdoor: 200 m @MC\$0/ 20MHz BW         S0 m @MC\$7/ 20MHz BW       30 m @MC\$7/ 40MHz BW         S0 m @MC\$7/ 40MHz BW       50 m @MC\$7/ 20MHz BW         S0 m @MC\$7/ 20MHz BW       30 m @MC\$7/ 40MHz BW         Windows <sup>®</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         ⊠ 44-bit, 128-bit, 152-bit WEP Encryption       302.11 web 2.1x Authentication         ⊠ 802.11b: 1, 2, 5.5, 11Mbps       302.11b: 1, 2, 5.5, 11Mbps         ⊠ 802.11b: 1, 2, 5.5, 11Mbps       302.11b: 1, 2, 5.5, 11Mbps         ⊠ 802.11b: 1, 2, 5.5, 11Mbps       302.11b: 1, 2, 5.5, 11Mbps         ⊠ 802.11b: 1, 2, 5.5, 11Mbps       302.11b: 1, 2, 5.5, 11Mbps
distance Operation supported PCB dimension Security Operation mode	⊠ 802.11n       Outdoor: 200 m @MCS0/ 20MHz BW         50 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         1ndoor:       80 m @MCS0/ 20MHz BW         50 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         30 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         20 Windows <sup>8</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         ⊠ 64-bit, 128-bit, 152-bit WEP Encryption       802.11s Authentication         ☑ AES-CCM & TKIP Encryption       1nfrastructure & Ad-hoc mode (TBD)         ⊠ 802.11b: 1, 2, 55, 11Mbps       8002.11b: 1, 2, 55, 11Mbps         ☑ 800.211b: 1, 2, 55, 11Mbps       1 Nss: 65(72.2) Mbps maximal         ☑ 1 Nss: 65(72.2) Mbps maximal       2 Nss: 130(144.444) Mbps maximal         ☑ 40MHz BW       1 Nss: 65(72.2) Mbps maximal
distance Operation supported PCB dimension Security Operation mode	⊠ 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         50 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         30 m @MCS7/ 40MHz BW       30 m @MCS7/ 40MHz BW         26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4       ≤         ≤ 26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4       ≤         ≤ 44-bit, 128-bit, 152-bit WEP Encryption       ≤         ≤ 802.11 Authentication       AES-cCM & TKIP Encryption         ≤ 802.11b: 1. 2, 5.5, 11Mbps       ≤         ≤ 20MHz BW       ≤         ≤ 11 Mss: 65(72.2) Mbps maximal       ≤         ≤ 2 Nss: 130(144.444) Mbps maximal       ≤
distance Operation supported PCB dimension Security Operation mode Transfer data rate	⊠ 802.11n       Outdoor: 200 m @MCS0/ 20MHz BW         50 m @MCS7/ 20MHz BW       30 m @MCS7/ 20MHz BW         30 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         50 m @MCS7/ 20MHz BW       30 m @MCS7/ 20MHz BW         30 m @MCS7/ 40MHz BW       30 m @MCS7/ 40MHz BW         26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4       ≤         26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4       ≤         64-bit, 128-bit, 152-bit WEP Encryption       ≤         302.11 Authentication       AES-cCM & TKIP Encryption         ≤       802.11b: 1, 2, 5.5, 11Mbps
Operation supported PCB dimension Security Operation mode Transfer data rate Operation temperature	S02.11n       Outdoor: 200 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS0/ 20MHz BW         S0 m @MCS7/ 40MHz BW       50 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         Windows <sup>8</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         S64-bit, 128-bit, 152-bit WEP Encryption       802.11x. Authentication         S02.11b: 1, 2, 55, 11Mbps       802.11b: 1, 2, 55, 11Mbps         S02.11b: 1, 2, 55, 11Mbps       802.11b: 1, 2, 55, 11Mbps         S02.11b: 1, 2, 55, 11Mbps       802.11b: 1, 2, 85, 41, 86, 48, 54Mbps         S02.11b: 1, 2, 55, 11Mbps       1 Nss: 65(72.2) Mbps maximal         S02.11b: 0, 9, 12, 18, 24, 36, 48, 54Mbps       1 Nss: 65(72.2) Mbps maximal         S02.11b: 1, 2, 55, 11Mbps       2 Nss: 130(144.444) Mbps maximal         S02.11b: 1, 1, 25, 11b: 10, 2 Nss: 135(150) Mbps maximal       2 Nss: 270(300) Mbps maximal         S0.11c: 0, 9, 12 Nss: 135(150) Mbps maximal       2 Nss: 270(300) Mbps maximal
Operation supported PCB dimension Security Operation mode Transfer data rate Operation temperature Storage temperature	⊠ 802.11n       Outdoor: 200 m @MCS0/ 20MHz BW         50 m @MCS7/ 20MHz BW       30 m @MCS7/ 20MHz BW         30 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         50 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         30 m @MCS7/ 40MHz BW       30 m @MCS7/ 40MHz BW         26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4       ≤         64-bit, 128-bit, 152-bit WEP Encryption       ≤         802.1x Authentication       AES-cCM & TKIP Encryption         1 Infrastructure & Ad-hoc mode (TBD)       ≤         802.11b: 1, 2, 5, 5, 11Mbps       ≤         802.11b: 1, 2, 5, 11Mbps       ≤         802.11b: 1, 2, 5, 11Mbps       ≤         20MHz BW       ≤         1 Nss: 65(72.2) Mbps maximal       ≤         2 Nss: 130(144.444) Mbps maximal       ≤         2 Nss: 270(300) Mbps maximal       ≤         2 Nss: 270(300) Mbps maximal       ≤
distance Operation supported PCB dimension Security Operation mode Transfer data rate Storage temperature Storage temperature Wi-FIM	S02.11n       Outdoor: 200 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS0/ 20MHz BW         S0 m @MCS7/ 40MHz BW       50 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         Windows <sup>8</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         S64-bit, 128-bit, 152-bit WEP Encryption       802.11x. Authentication         S02.11b: 1, 2, 55, 11Mbps       802.11b: 1, 2, 55, 11Mbps         S02.11b: 1, 2, 55, 11Mbps       802.11b: 1, 2, 55, 11Mbps         S02.11b: 1, 2, 55, 11Mbps       802.11b: 1, 2, 85, 41, 86, 48, 54Mbps         S02.11b: 1, 2, 55, 11Mbps       1 Nss: 65(72.2) Mbps maximal         S02.11b: 0, 9, 12, 18, 24, 36, 48, 54Mbps       1 Nss: 65(72.2) Mbps maximal         S02.11b: 1, 2, 55, 11Mbps       2 Nss: 130(144.444) Mbps maximal         S02.11b: 1, 1, 25, 11b: 10, 2 Nss: 135(150) Mbps maximal       2 Nss: 270(300) Mbps maximal         S0.11c: 0, 9, 12 Nss: 135(150) Mbps maximal       2 Nss: 270(300) Mbps maximal
Operation supported PCB dimension Security Operation mode Transfer data rate Operation temperature Storage temperature	S02.11n       Outdoor: 200 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         Windows <sup>R</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         S4-bit, 128-bit, 152-bit WEP Encryption       802.11s, 4uthentication         AES-CCM & TKIP Encryption       802.11b: 1, 2, 5.5, 11Mbps         802.11b: 1, 2, 5.5, 11Mbps       8002.11b: 1, 2, 5.5, 11Mbps         802.11b: 1, 2, 5.5, 11Mbps       20MHz BW         1 Nss: 65(72.2) Mbps maximal       2 Nss: 130(144.444) Mbps maximal         2 1 Nss: 135(150) Mbps maximal       3 1 Nss: 135(150) Mbps maximal         2 1 Nss: 270(300) Mbps maximal       2 Nss: 270(300) Mbps maximal         2 -10°- 60° C       -20° - 80° C
Operation system supported PCB dimension Security Operation mode Transfer data rate Storage temperature Wi-Fi <sup>M</sup> alliance <sup>M</sup>	S02.11n       Outdoor: 200 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         Windows <sup>R</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         S44-bit, 128-bit, 152-bit WEP Encryption       802.11b: 1.25.5, 11Mbps         S02.11b: 1, 2, 5.5, 11Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11b: 1, 2, 5.5, 11Mbps       800.211b: 1, 2, 5.5, 11Mbps         S02.11b: 1, 2, 5.5, 11Mbps       20MHz BW         S02.11b: 1, 2, 5.5, 11Mbps       20MHz BW         S02.11b: 1, 2, 5.5, 11Mbps       20MHz BW         S02.11b: 1, 2, 5.7, 11Mbps       20MHz BW         S02.11b: 1, 2, 5.7, 11Mbps       20MHz BW         S02.11b: 1, 2, 5.7, 11Mbps       20MHz BW         S02.11b: 1, 2, 5.5, 11Mbps       20MHz BW         S02.11b: 1, 2, 5.5, 11Mbps       21 Nss: 65(72.2) Mbps maximal         S02.11b: 2, 2.5, 2, 18, 24, 36, 48, 54Mbps       21 Nss: 135(150) Mbps maximal         S04.11b: 2, 2, 5.5, 1150) Mbps maximal       2 Nss: 270(300) Mbps maximal         S0.201.12; 2, 152, 2, 152; 2, 152
distance Operation system supported PCB dimension Security Operation mode Transfer data rate Storage temperature Storage temperature Wi-FIN WHQL EMC	<ul> <li>802.11n</li> <li>Outdoor: 200 m @MCS0/ 20MHz BW 50 m @MCS7/ 20MHz BW 30 m @MCS7/ 20MHz BW 50 m @MCS7/ 20MHz BW 50 m @MCS7/ 20MHz BW 30 m @MCS7/ 20MHz BW</li> <li>Windows<sup>8</sup> 2K, XP, Vista</li> <li>26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4</li> <li>64-bit, 128-bit, 152-bit WEP Encryption 802.1x Authentication</li> <li>AES-CCM &amp; TKIP Encryption</li> <li>802.11b: 1, 2, 5.5, 11Mbps</li> <li>802.11b: 1, 2, 5</li></ul>
Operation supported PCB dimension Security Operation mode Transfer data rate Operation temperature Storage temperature Wi-Fi <sup>N</sup> alliance <sup>B</sup>	S02.11n       Outdoor: 200 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         Windows <sup>®</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         S4-bit, 128-bit, 152-bit WEP Encryption       802.11s, authentication         AES-CCM & TKIP Encryption       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       1 Nss: 65(72.2) Mbps maximal         S02.11p: 2, 2, 5.5, 11Mbps       1 Nss: 135(150) Mbps maximal         S02.11p: 2, 2, 5.5, 11Mbps       1 Nss: 135(150) Mbps maximal         S03.11p: 2 Nss: 270(300) Mbps maximal       2 Nss: 270(300) Mbps maximal         S03.11p: 2 Nss: 270(300) Mbps maximal       2 Nss: 270(300) Mbps maximal         S03.20° c = 80° C       10 C RSS210 (Canada)
Operation supported PCB dimension Security Operation mode Transfer data rate Operation temperature Storage temperature Wi-Fi <sup>SI</sup> alliance <sup>SI</sup> WHQL EMC certificate	<ul> <li>802.11n</li> <li>Outdoor: 200 m @MCS0/ 20MHz BW 50 m @MCS7/ 20MHz BW 30 m @MCS7/ 20MHz BW 50 m @MCS7/ 20MHz BW 50 m @MCS7/ 20MHz BW 30 m @MCS7/ 20MHz BW</li> <li>Windows<sup>8</sup> 2K, XP, Vista</li> <li>26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4</li> <li>64-bit, 128-bit, 152-bit WEP Encryption 802.1x Authentication AES-CCM &amp; TKIP Encryption</li> <li>802.11b: 1, 2, 55, 11Mbps</li> <li>800.11b: 1, 2, 55, 11Mbps</li> <li>8</li></ul>
distance Operation system supported PCB dimension Security Operation mode Transfer data rate Storage temperature Storage temperature Wi-FIN WHQL EMC	S02.11n       Outdoor: 200 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       50 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         Windows <sup>®</sup> 2K, XP, Vista       26.65+/-0.15mm x 29.85+/-0.15mm x 1.0+/-0.1mm 2L FR4         S4-bit, 128-bit, 152-bit WEP Encryption       802.11s, authentication         AES-CCM & TKIP Encryption       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       802.11b: 1, 2, 5.5, 11Mbps         S02.11p: 6, 9, 12, 18, 24, 36, 48, 54Mbps       1 Nss: 65(72.2) Mbps maximal         S02.11p: 2, 2, 5.5, 11Mbps       1 Nss: 135(150) Mbps maximal         S02.11p: 2, 2, 5.5, 11Mbps       1 Nss: 135(150) Mbps maximal         S03.11p: 2 Nss: 270(300) Mbps maximal       2 Nss: 270(300) Mbps maximal         S03.11p: 2 Nss: 270(300) Mbps maximal       2 Nss: 270(300) Mbps maximal         S03.20° c = 80° C       10 C RSS210 (Canada)
Operation supported PCB dimension Security Operation mode Transfer data rate Operation temperature Storage temperature Wi-Fi <sup>M</sup> alliance <sup>8</sup> WHQL EMC certificate	S02.11n       Outdoor: 200 m @MCS0/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS0/ 20MHz BW         Indoor: 80 m @MCS0/ 20MHz BW       50 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 20MHz BW         S0 m @MCS7/ 20MHz BW       30 m @MCS7/ 40MHz BW         S0 m @MCS7/ 40MHz BW       30 m @MCS7/ 40MHz BW         S0 Windows <sup>®</sup> 2K, XP, Vista       S26.65+/-0.15mm x 1.0+/-0.1mm 2L FR4         S4-bit, 128-bit, 152-bit WEP Encryption       802.1x Authentication         AES-CCM & TKIP Encryption       AES-CCM & TKIP Encryption         S02.11b: 1, 2, 5, 5, 11Mbps       8002.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps         S02.11b: 1, 2, 5, 5, 11Mbps       8002.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps         S02.11b: 1, 2, 5, 5, 11Mbps       20 Nss: 130(144.444) Mbps maximal         S02.11b: 1, 2, 5, 5, 11Mbps       20 Nss: 130(144.444) Mbps maximal         S02.11b: 2, Nss: 135(150) Mbps maximal       2, Nss: 270(300) Mbps maximal         S010°-60° C       S0-20° - 80° C         WECA Compliant       Microsoft <sup>M2</sup> 2K, XP, Vista Compliant         Microsoft <sup>M2</sup> 2K, XP, Vista Compliant       FCC part 15 (USA)         I C RSS210 (Canada)       TELEC (Japan)         TELEC (Japan)       ETSI, EN301893, EN60950 (Europe)         V VC





 
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