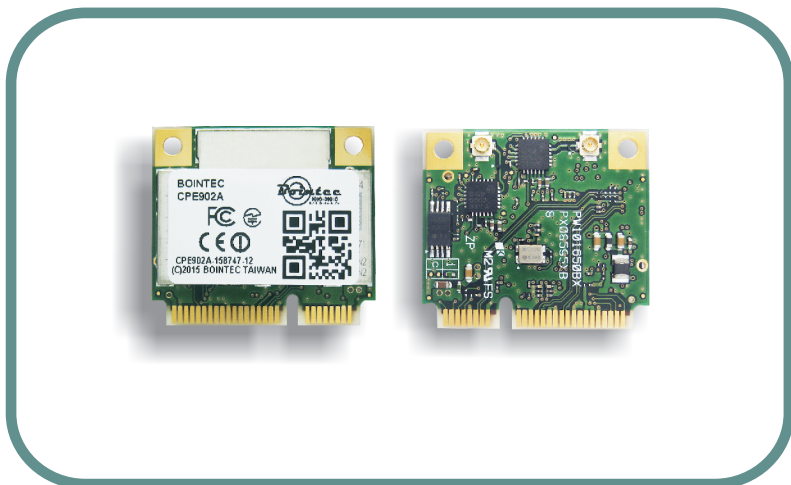




# CPE902A

Industrial grade 802.11a/b/g/n mini PCI Express Card



CPE902A

2.4GHz industrial wireless LAN Access Point only choice

## Introduction of Products

Bointec CPE902A included industrial grade chipset, is a single-chip, dual-band (2.4/5 GHz), 2-stream 11n solution. 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 CPE902A 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 CPE902A 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 and 5 GHz bands is reduced from 10 ms to as little as 1 ms.

## Product Highlight

- Industrial grade highly integrated Single-chip, 802.11n-certified wireless LAN client solution
- IEEE 802.11a/b/g/n compliant 2.4/5 GHz dual band
- Based on Atheros' fourth-generation 802.11n technology Fully Support 2-stream MIMO performance with data rate up to 300 Mbps
- PCI Express Half-Mini Card 1.2 compliant
- Compliant with IEEE 802.11b, 802.11g, 802.11d, 802.11e, 802.11i, and 802.11n
- Signal-Sustain Technology (SST) rate-over-range enhancements: LDPC, MLD, TxBF
- Conserves power with 1x1 downshift, using Dynamic MIMO Power Save
- Driver offering includes Linux, Windows 7 and Embedded XP
- Linux supplicant available for WPA/WPA2-PSK & 802.1x EAP
- Customer Driver development available
- IEEE 802.11e QOS support
- Lead-free RoHS compliant



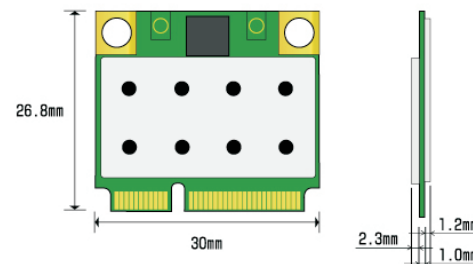
# Specification

Specification						
Dimensions	26.80(+/-0.1mm)* 29.85(+/-0.1mm) * 3.37(+/-0.1mm)					
Main Chip	Atheros® AR9592					
Host Interface	PCI Express® Mini Card Electromechanical Specification Revision 1.2.					
Operation voltage	3.3V +/- 5%					
Transfer data rate	<ul style="list-style-type: none"> <li>802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps</li> <li>802.11b: 1, 2, 5.5, 11Mbps</li> <li>802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps</li> <li>802.11n: @800G(400GI)                             <ul style="list-style-type: none"> <li>20MHz BW</li> </ul> </li> </ul>					
	1 Nss: 65(72.2) Mbps maximal					
	2 Nss: 130(144.444) Mbps maximal					
	<ul style="list-style-type: none"> <li>40MHz BW</li> </ul>					
	1 Nss: 135(150) Mbps maximal					
RF connector	2 x SMT Ultra-miniature coaxial connectors					
TX/RX	2T2R (2x2 with MCS 0-15)					
Electronics characteristics						
Operating Temperature	-40° ~ 85°C					
Storage Temperature	-40° ~ 105°C					
Power Consumption						
Transmit Power consumption @ 25°C	(mA)	802.11a	802.11b	802.11g	802.11n (2.4GHz)	802.11n (5GHz)
		Avg	Avg	Avg	Avg	Avg
	100% TX duty	550	405	436	365	445
This can be treated as the peak current consumption during operation.						
Radio						
Radio TX & Power Setting	802.11a :					
	802.11b :					
	802.11g :					
	802.11n :					
Transmit spectrum mask	Frequency mask is marginal to comply with IEEE 802.11spec.					
Radio RX Sensitivity	Comply with IEEE 802.11 a/b/g/n standard					
TX Center Frequency Tolerance	11a : +/- 20ppm, 11b/g : +/- 25ppm (The transmitted center frequency tolerance shall be ± 25 ppm maximum.)					
Power Control Accuracy	+1.5dB/-1.5dB					
Frequency range	USA: 2.400 ~ 2.483GHz, 5.15 ~ 5.35GHz, 5.47 ~ 5.725GHz, 5.725 ~ 5.85GHz					
	Europe: 2.400 ~ 2.483GHz, 5.15 ~ 5.35GHz, 5.47 ~ 5.725GHz					
	Japan: 2.400 ~ 2.497GHz, 5.15 ~ 5.35GHz, 5.47 ~ 5.725GHz					
	China: 2.400 ~ 2.483GHz, 5.725 ~ 5.85GHz					
Channels support	802.11n b/g					
	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)					
	802.11n a					
	1. US/Canada: 12 non-overlapping channels (36, 40, 44, 48, 52, 56, 60, 64; 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165)					
	2. Europe: 19 non-overlapping channel (36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140)					
	3. Japan: 19 non-overlapping channels (36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140)					
4. China: 5 non-overlapping channels (149, 153, 157, 161, 165)						

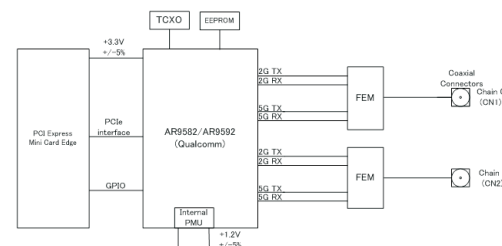
## Product quick glance



## ME Drawing/placement



## Block diagram



## Ordering Information

PART NUMBER	DESCRIPTION
T.CPE902A	CPE902A, Single packed
T.CPE902A-DK	CPE902A-DK development kit packed
TFGA-CPE902A0-11	finished non packaging, Bointec, CPE902A



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