

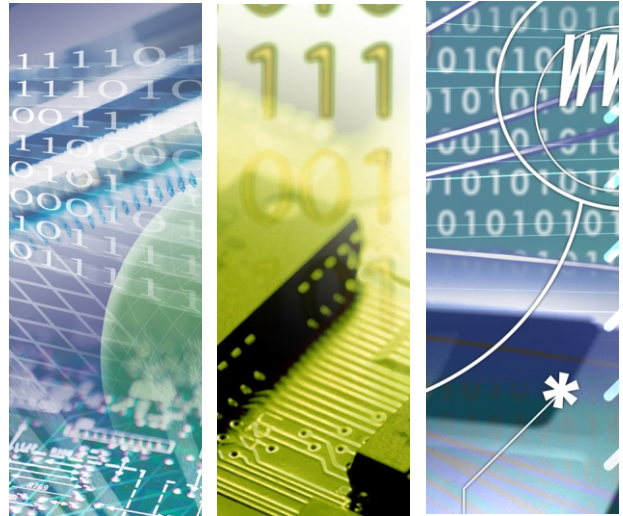


# DPE909AA

802.11abgn WiFi with BT4.0 Combo miniPCI Express



*Perfect for WiFi and Bluetooth in one slot*



DPE909AA

## Introduction of Products

Bointec DPE909-AA is a ultra solution that combines dual-band (2.4/5 GHz), 2-stream 802.11n and Bluetooth 4.0 technologies for notebooks, netbooks and tablets. The highly integrated solution not only provides customers with greater design flexibility, but can actually improve the wireless experience for consumers.

Bointec DPE909-AA brings industry-leading 2x2 802.11n performance to increasingly smaller computing and CE devices. It delivers data rates of 300 Mbps and TCP throughput of more than 200 Mbps when used in 2x2 mode. It also offers a unique set of advanced 11n technologies known as Signal-Sustain Technology™ (SST), which ensures stronger wireless connections across the entire WLAN link. SST features include Low Density Parity Checking (LDPC), Transmit Beam Forming (TxBF), Maximum Ratio Combining (MRC) and Maximum Likelihood Demodulation (MLD) – which together can increase rate-over-range performance by up to 100% at short range, 50% at mid-range and 25% at long range.

Bointec DPE909-AA also supports the latest Bluetooth 4.0 specification, which includes both High Speed and Low-Energy operation to extend personal area connectivity to a variety of devices.

Bointec DPE909-AA also delivers superior WLAN/Bluetooth coexistence to ensure the best possible wireless experience. DPE909-AA offers advanced algorithms developed to mitigate interference and takes advantage of the physical proximity of the WLAN and Bluetooth radios to provide maximum performance.

While offering superior performance and a high degree of integration, the Bointec DPE909-AA also consumes lower power in every operation mode. This enables notebooks, tablets and other computing platforms to run much longer on a single battery charge.

## Product Highlight

- Highly integrated solution combining Atheros' dual-band, 2x2 802.11n and Bluetooth 4.0
- WLAN
  - IEEE802.11 a/b/g/n compliant 2.4GHz/5GHz
  - 2-stream 802.11n offers a maximum PHY rate of 300 Mbps
  - Conserves power with 1x1 downshift, using Dynamic MIMO Power Save
  - Supports Atheros' Signal-Sustain Technology™ (SST), which includes advanced WLAN features such as LDPC, TxBF, MLD, and STBC
- Bluetooth
  - Supports High Speed and Low Energy operation
  - Supports Enhanced Data Rate (EDR) of both 2 Mbps ( $\pi/4$ -DQPSK) and 3 Mbps (8-DPSK)
- Wake on Wireless LAN (WoW) and Wake on Bluetooth (WoBT)
- Fast Channel Switch (1 ms within band and 2 ms across bands)
- Advanced integrated coexistence features (beyond discrete chipset coexistence) to maximize combo performance
- Supports antenna sharing between Bluetooth and WLAN
- Driver offering include Linux(including Chrome OS and Android), Windows Visra, 7/8 (32 and 64 bit), Windows XP and embedded XP
- Worldwide regulatory compliance
- RoHS compliant

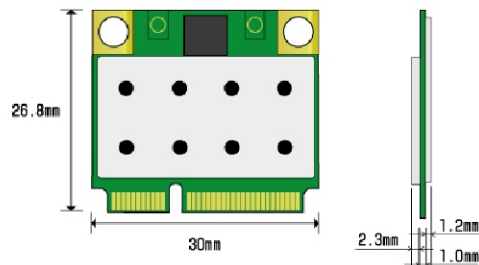


<b>BOINTEC DPE909AA SPECIFICATION</b>	
<b>WiFi Specification</b>	
<b>Main Chipset</b>	Atheros® AR9462
<b>Transfer data rate</b>	802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: @800G(400GI) 20MHz BW, 65(72.2) Mbps maxima, 130(130) Mbps maxima, 40MHz BW, 135(150) Mbps maxima, 270(130) Mbps maxima,
<b>RF connector</b>	2 x SMT Ultra-miniature coaxial connectors (U.FL-R-SMT)
<b>Operation mode</b>	Infrastructure & Ad-hoc mode
<b>Tx/Rx</b>	2T2R
<b>Channels support</b>	• 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) • 802.11 a/n 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) Europe: 19 non-overlapping channel (36,40,44,48,52,56,60,64; 100,104,108,112,116,120,124,128,132,136,140) Japan: 19 non- overlapping channels (36,40,44,48,52,56,60,64; 100,104,108,112,116,120,124,128,132,136,140) China: 5 non- overlapping channels (149,153,157,161,165)
<b>Security</b>	64-bit, 128-bit, 152-bit WEP Encryption 802.1x Authentication AES-CCM & TKIP Encryption
<b>Host Interface</b>	PCI Express® Mini Card Electromechanical Specification Revision 1.2.
<b>Bluetooth Specification</b>	
<b>Bluetooth</b>	Bluetooth v4.0
<b>Main Chipset</b>	Atheros® AR9462
<b>Frequency range</b>	2400 ~ 2483.5MHz
<b>Initial carrier frequency tolerance</b>	+/- 40kHz (typical)
<b>Modulation technique</b>	Frequency hopping, 1600 hops/sec
<b>Channel spacing</b>	1MHz
<b>Channels support</b>	79 channels
<b>Output power (dBm)</b>	2dBm typical, class 2 device (-6dBm < output power <4dBm).
<b>Sensitivity</b>	-85 dBm (typ.) for pi/4-DQPSK, 0.1%BER
<b>Antenna</b>	1 x SMT Ultra-miniature coaxial connectors (U.FL-R-SMT)
<b>Emission</b>	
<b>EMC certificate</b>	FCC part 15 (USA) IC RSS210 (Canada) TELEC (Japan) ETSI, EN301893, EN60950 (Europe) VCCI CLASS B
<b>Mechanical and Environment</b>	
<b>Dimensions (W x L x H)</b>	26.65(+/-0.15mm)* 29.85(+/-0.15mm) * 3.37(+/-0.1mm) (2L FR4)
<b>Operating Temperature</b>	-10~+60 °C
<b>Storage Temperature</b>	-40~+80 °C
<b>Humidity</b>	5~95% RH@40°C, non-condensing
<b>Power Management</b>	
<b>Power Requirement</b>	3.3V +/- 9%
<b>Power consumption @ 25°C</b>	802.11a:550mA(avg.) 802.11b: 405mA(avg.) 802.11g: 436mA(avg.) 802.11n(2.4GHz): 365mA(avg.) 802.11n(5GHz): 445mA(avg.) Bluetooth(idle mode): 15.1mA(avg.) Bluetooth(DH5 TX): 68.8mA(avg.) *data are count as continuously Tx in mA **The maximum current consumption would be impacted by radiation environment and the driver mechanism
<b>Operation System</b>	
<b>OS Support</b>	Standard driver support : Linux / Android , Microsoft® XP, Vista, Windows 7 / 8 For specific driver for various embedded system(CPU,platform), please contact Bointec Sales
<b>WHQL</b>	Microsoft® XP, Vista, Windows 7 Compliant

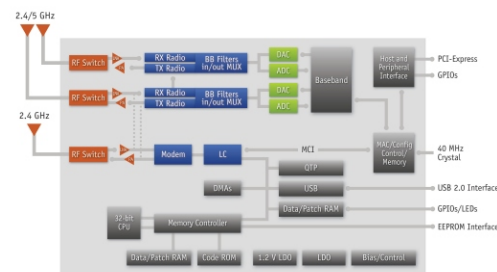
## Product quick glance



## ME Drawing/placement



## Block diagram



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Bointec Authorized Distributer



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