

# AirborneM2M™ Ethernet Dual Band (2.4 GHz, 5 GHz) Industrial Access Points

Models BB-APXN-Q5420, BB-APXN-Q5428

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## PRODUCT FEATURES

- RS-232/422/485, 10/100 Mbps Ethernet to 802.11a/b/g/n Dual Band (2.4/5 GHz)
- Combination Access Point / Client, 2 serial ports, 1 Ethernet port
- 2 kV serial ESD surge suppression
- Extended operating temperature range: -40 to +85 °C
- Supports up to 10 Wi-Fi clients
- Advanced Enterprise class wireless security
- BB-APXN-Q5428 only: PoE 802.3af support (power draw only) or external 5-36 VDC power source (not included, sold separately)

AirborneM2M industrial wireless access points are built for networking equipment in an array of machine-to-machine (M2M) applications. AirborneM2M™ access points feature industrial strength packaging and a wide temperature rating (-40 to +85°C) to withstand challenging M2M environments.

### Combination Access Point and Client Capability

AirborneM2M access points enable M2Mequipment to create a self sufficient Wi-Fi network and provide easy access to equipment data or resources from Wi-Fi enabled devices. The product also has the capability to be switched from an access point to a client; supporting dual RS-232/422/485 serial ports or a single 10/100 Mbps Ethernet port. The Ethernet port can be placed into either router mode or bridge mode.

### Dual-Band Wi-Fi

AirborneM2M products establish wireless connections over 2.4 GHz or 5 GHz bands. Whenever the 2.4 GHz airspace is overcrowded with competing wireless transmission, AirborneM2M products can be switched over to 5 GHz band to keep data flowing.

### Enterprise Class Security

Security protocols are important to mission critical wireless M2M applications. AirborneM2M access point's multi-layer security addresses the requirements of Enterprise-class networks and corporate IT departments. These advanced security features include wireless security (802.11i/WAP2 enterprise), authentication security using WPA2 (AES-CCMP) and device security (multi-layered encryption). AirborneM2M access points include a fully functional DHCP server to provide unique addresses for each authenticated client. Up to 10 clients can be supported on the local Wi-Fi network.

### Powering Options - Model BB-APXN-Q5420

\_External 5-36 VDC power source (not included, sold separately)

### Powering Options - Model BB-APXN-Q5428

\_External 5-36 VDC power source (not included, sold separately)

\_Power-over-Ethernet ("PoE") 802.3af, Powered Device ("PD"), power draw only

## ORDERING INFORMATION

MODEL NO.	DESCRIPTION	POE Power-over-Ethernet
BB-APXN-Q5420	<b>Industrial Access Point –</b> Dual serial port/s OR single 10/100 Ethernet Port to 802.11a/b/g/n, Dual Band (2.4/5 GHz)	No
BB-APXN-Q5428	<b>Industrial Access Point –</b> Dual serial port/s OR single 10/100 Ethernet Port to 802.11a/b/g/n, Dual Band (2.4/5 GHz)	Yes

**World-wide.** Check with your local distributor for availability and options.

**AirborneM2M™ industrial products can be integrated and deployed into a wide range of applications and industries, including:**

- Vehicle Telematics & Diagnostics
- Material Handling & Logistics
- Industrial Automation Test & Measurement
- Security & Access Control

All product specifications are subject to change without notice.  
APXN-Q542x\_DualBandIndustrialAccessPoints\_3919ds

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## SPECIFICATIONS

TECHNOLOGY	
Wireless Technology	IEEE 802.11 a/b/g/n, Wi-Fi Compliant
Wired Interface	2 ports, RS-232/422/485, (RS-232/422 4-wire or RS-485 2-wire) 10/100 Ethernet port with bridge or router (NAT3) modes, Software selectable
Frequency	2.4~2.4835 GHz (US/Canada/Europe) 2.4~2.497 GHz (Japan) 5.150 ~ 5.350 GHz 5.725 ~ 5.825 GHz
Modulation Technology	DSSS, CCK, OFDM
Modulation Type	DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM
Network Access Modes	Access Point Infrastructure (Client), Ad Hoc
Wireless Data Rates	802.11a/g = 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11b = 11, 5.5, 2, 1 Mbps 802.11n = 65, 58.5, 42, 39, 26, 19.5, 13, 6.5 Mbps
Network Protocols	TCP/IP, ARP, ICMP, DHCP, DNS, UDAP, TFTP, UDP, PING, HTTP, FTP
Receive Sensitivity - 802.11 b/g	54Mb/s = -72 dBm 36Mb/s = -78 dBm 18Mb/s = -84 dBm 6Mb/s = -89 dBm 11Mb/s = -86 dBm 1Mb/s = -92 dBm
Receive Sensitivity - 802.11 a	54Mb/s = -74 dBm 36Mb/s = -80 dBm 36Mb/s = -80 dBm 6Mb/s = -90 dBm
Wireless Security	Open, WEP 64 & 128 bit, WPA-PSK (TKIP), WPA2-PSK (AES), 802.1x (EAP), WPA-Enterprise, WPA2-Enterprise, EAP-TLS/MSCHAPv2, EAP-TTLS/MSCHAPv2, EAP-TTLS (MD5), EAP-PEAPv0/MSCHAPv2, LEAP Zero host security footprint. Advanced certificate storage and management.
Secure Communications	SSH and SSL tunneling. Encrypted configuration.
Transmit Power	802.11b = 15 dBm (31.6mW) 802.11g = 12.6dBm (18.12mW) 802.11a = 17 dBm (50.1mW)

POWER	
Input Voltage	5-36VDC +/-5%, 500mA (maximum)
Power Connection	2-position terminal block, 2.1mm barrel jack. PoE 802.3af (Model# BB-APXN-Q5428)
Power Use	2.5W at 5VDC
Supply In-rush Current	3000mA (maximum) for 20ms
Source (all models)	External, required. (not included, sold separately)
PoE Option	PoE using a 802.3af Class 1 PSE device, power draw only (# BB-APXN-Q5428)
LED INDICATORS	
4 LEDs	COMM, LINK, POWER, POST (Power On Self Test)
ENVIRONMENTAL	
Operating Temperature	-40 to +85 °C
Storage Temperature	-40 to +85 °C
Operating Humidity	5 to 95%, non-condensing
MECHANICAL	
Antenna	RP-SMA omni-directional, 2dBi, 2.4/5GHz antenna
Enclosure	Metal enclosure
Mounting	Panel mount; optional DIN rail brackets
Dimensions	12.01 x 12.01 x 2.92 cm (4.89 x 4.73 x 1.15 in)
MEANTIME BETWEEN FAILURES (MTBF)	
MTBF	# BB-APXN-Q5428 = 450186 hours # BB-APXN-Q5420 = 382290 hours
MTBF Calc. Method	MIL 217F Parts Count Reliability Prediction
APPROVALS, DIRECTIVES & STANDARDS	
North America	FCC Part 15.247, Class B Sub C Modular Approval
Canada	Industry Canada RSS-210
CE - Directives (Europe)	2014/35/EU - Low Voltage Directive 2014/53/EU - Radio Equipment Directive (RED) Hereby, Advantech B+B SmartWorx declares that the radio equipment type 802.11a/b/g/n access point is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <a href="http://www.advantech.com">www.advantech.com</a> 2011/65/EU - Reduction of Hazardous Substances (RoHS) 2012/19/EU - Waste Electrical & Electronic Equipment (WEEE)
CE - Standards (Europe)	<b>EMC:</b> ETSI EN 300 328 v2.1.1 - EMC & Radio Spectrum Matters (ERM) Wideband Transmission Systems - 2.4 GHz ISM Band ETSI EN 301 893 v2.1.1 - EMC & Radio Spectrum Matters (ERM) Wideband Transmission Systems - 5 GHz ISM Band ETSI EN 301 489-1 v2.1.1 - Applied in accordance with the specific requirements of: ETSI EN 301 489-17 v3.1.1 - EMC & Radio Spectrum Matters (ERM) Broadband Data Systems EN 55032+AC, Class A - Information Technology Equipment (ITE) - RF Emissions EN 55024 - Information Technology Equipment (ITE) - Immunity Characteristics - Limits and Methods of Measurement  <b>Safety:</b> EN 60950-1 + A1 + A11 + A12 + A2 - Information Technology Equipment - Safety - Part 1: General Requirements  <b>RF Exposure:</b> EN 62311 - Assessment of electronic and electrical equipment related to human exposure restrictions for EM fields (0 Hz to 300 GHz)

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