

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

Model BB-APXN-Q5420

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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 9 Wi-Fi clients
- Advanced Enterprise class wireless security
- External 5-36 VDC power source (not included, sold separately)

Model BB-APXN-Q5420 industrial wireless access point is built for networking equipment in an array of machine-to-machine (M2M) applications. The AirborneM2M™ access point features industrial strength packaging and a wide temperature rating (-40 to +85 °C) to withstand challenging M2M environments.

Combination Access Point and Client Capability

The AirborneM2M access point enables M2M equipment to create a self sufficient Wi-Fi network and provides 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

Model BB-APXN-Q5420 establishes wireless connections over 2.4 GHz or 5 GHz bands. Whenever the 2.4 GHz airspace is overcrowded with competing wireless transmissions, the access point can be switched to 5 GHz the band to keep data flowing.

Enterprise Class Security

Security protocols are important to mission critical wireless M2M applications. Model BB-APXN-Q5420 access point's multi-layer security addresses the requirements of Enterprise-class networks and corporate IT departments.

Advanced security features include: wireless security (802.11i/WAP2 enterprise), authentication security using WPA2 (AES-CCMP) and device security (multi-layered encryption). The access point includes a fully functional DHCP server to provide unique addresses for each authenticated client. Up to 9 clients can be supported on the local Wi-Fi network.

Power

The access point is powered by an external 5-36 VDC power source (not included, sold separately).

ORDERING INFORMATION

MODEL NO.	DESCRIPTION
BB-APXN-Q5420	Industrial Access Point – Dual serial port/s OR single 10/100 Ethernet port to 802.11a/b/g/n, Dual band (2.4/5 GHz)

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

ACCESSORIES - sold separately

BB-MDR-20-24 – Power supply, 24VDC, 120-240 VAC, 50/60 Hz, 1.0A DIN rail

BB-PS-WDS – Power supply, 5VDC, 120-240VAC, 50/60Hz, 3A, 15W, barrel connector. (Note: includes USA cord; other cords sold separately.)

BB-ACH2-AT-DP003-G – Antenna replacement, Wi-Fi 2.4/5GHz, 3.8/5.5dBi, RP-SMA

BB-9PAMF6 – Serial Cable, RS-232 DB9M to DB9F, 1.8 m (6 ft)

BB-TBKT7 – Terminal block replacement, 2-position, 3.5mm, screw, Euro RA, plug

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.
BB-APXN-Q5420_DualBandIndustrialAccessPoint_4720ds

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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.
Power Use	2.5W at 5VDC
Supply In-rush Current	3000mA (maximum) for 20ms
Source	External, required. (not included, sold separately)
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	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: www.advantech.com 2011/65/EU amended by (EU) 2015/863 Reduction of Hazardous Substances (RoHS) 2012/19/EU - Waste Electrical & Electronic Equipment (WEEE)
CE - Standards (Europe)	EMC: 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 Safety: EN 60950-1 + A1 + A11 + A12 + A2 - Information Technology Equipment - Safety - Part 1: General Requirements RF Exposure: EN 62311 - Assessment of electronic and electrical equipment related to human exposure restrictions for EM fields (0 Hz to 300 GHz)