

# AirborneM2M™ 2.4/5 GHz Dual-band, 802.11x Wi-Fi Enterprise Ethernet Bridge/Router & Serial Server

## BB-ABDN-er-se-DP551x model series

# ADVANTECH

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### PRODUCT FEATURES

- 10/100 Mbps to 802.11a/b/g/n dual band (2.4 GHz, 5 GHz)
- Wide operating temperature range: -20 to +85 °C
- Compact form factor
- Advanced Enterprise Class wireless security (WPA2-Enterprise, WPA, WEP, EAP)
- 5 VDC external power input (powered from AC or USB port)
- External power supply required
- Available in OEM version (without enclosure)

AirborneM2M enterprise wireless bridges and access routers are built for networking equipment in a wide array of machine to machine (M2M) applications. The compact form factor, integrated options and ease of use make it ideal for commercial enterprise environments.

#### Dual Band Wi-Fi

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

#### Enterprise Class Security

Security protocols are important to mission-critical wireless M2M applications. The AirborneM2M multi-layered security approach addresses the requirements of Enterprise-class networks and corporate IT departments. These advanced security features include wireless security (802.11i/WPA2 Enterprise); network security (EAP authentication and certificate support); communication security (SSH functionality and fully encrypted data tunnels); and device security (multi-level encryption capability to protect configuration data).

A 5 VDC external power source is required (see datasheet ordering table for more details, inclusions, ordering options).

### ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION	ETHERNET CONNECTOR	POWERING
BB-ABDN-ER-DP551	Ethernet Bridge/Router	RJ45	AC Power Supply included with NATAM cable
BB-ABDN-ER-DP551U	Ethernet Bridge/Router	RJ45	Dual USB port power cable included. (USB powered – 2 open USB ports required)
BB-ABDN-SE-DP551	Serial Server	DB9 male	AC Power Supply included with NATAM cable

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

### ACCESSORIES - sold separately

**BB-CP-SDS-EURO** – Power cord (Europe)

**BB-CP-SDS-UK** – Power cord (United Kingdom)

**BB-ACH2-DBAT-DP002** – 2 dBI - 2.4/5 GHz replacement antenna, rubber duck, RP-SMA

### AirborneM2M™ Enterprise Models Operate In A Wide Range of Commercial Applications:

- Medical Devices
- Retail / Point-of-Sale
- Material Handling & Logistics
- Test & Measurement
- Security & Access Control

All product specifications are subject to change without notice.  
BB-ABDN-er-se-DP551x\_ENTPR\_EthBrRtr-SerSvr\_4720ds

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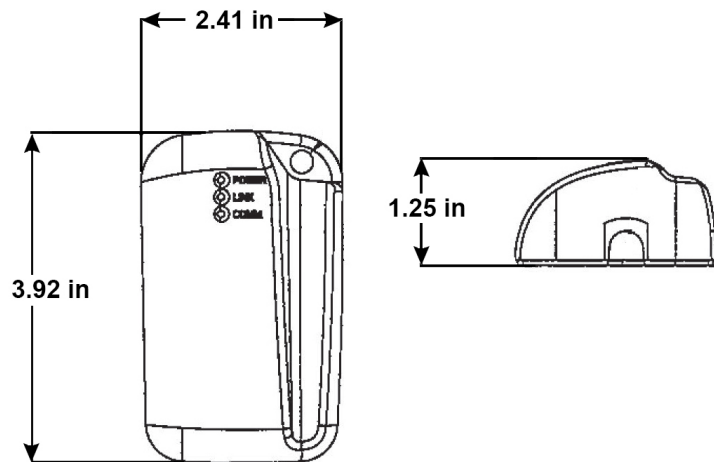
BB-ABDN-SE-DP551

### SPECIFICATIONS

TECHNOLOGY	
Technology	IEEE 802.11a/b/g/n, Wi-Fi compliant
Wired Interface	10/100 Ethernet Port – Bridge, Router (NAT3) Modes
Frequency	2.4 ~ 2.4835 GHz (US/Canada/Europe) 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	Infrastructure (Client), Ad Hoc
Channels	US/Canada: 11 Channels 802.11b/g 13 Channels 802.11a
	Europe: 13 Channels 802.11b/g 19 Channels 802.11a
	France: 4 Channels 802.11b/g
Wireless Data Rate	802.11b = 11, 5.5, 2, 1 Mbps 802.11a/g = 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n = 65, 58.5, 42, 39, 26, 19.5, 13, 6.5 Mbps
MAC	CSMA/CA with ACK, RTS, CTS
Network Protocols	TCP/IP, ARP, ICMP, DHCP, DNS, UDAP, TFTP, UDP, PING
Receive Sensitivity – 802.11b/g	54Mb/s = -72 dBm
	36Mb/s = -78 dBm
	18Mb/s = -84 dBm
	6Mb/s = -89 dBm
	11Mb/s = -86 dBm
Receive Sensitivity – 802.11a	54Mb/s = -74 dBm
	36Mb/s = -80 dBm
	18Mb/s = -86 dBm
	6Mb/s = -90 dBm
Dimensions	6.12 x 9.96 x 3.18 cm (2.41 x 3.92 x 1.25 in)

### MECHANICAL DIAGRAM

Units = inches



FEATURES	
Transmit Power	802.11b = 15 dBm (31.6mW) 802.11g = 12.6 dBm (18.12mW) 802.11a = 17 dBm (50.1mW)
Security Protocols	Disabled, WEP 64 & 128-bit, WPA (TKIP), WPA (AES), WPA2 (AES), 802.1x (EAP) Supplicant 802.11i, WPA & WPA2 Enterprise supplicants (EAP-TLS, EAP-TTLS(MSCHAPv2), EAPTTLS (MDS5), EAP-PEAPv0 (MSCHAPv2, LEAP), EAP-FAST, LEAP) Supports Certificates and Private Key Upload and Storage (multiple)
Antenna	Integrated RP-SMA Omni-directional 2dBi 2.4/5 GHz Antenna
Powering	5.0 VDC +/-5% power supply USB (2 open USB ports required; dual USB port power cable included) Note: external power source required - see ordering table.
Current	Normal operation: 1000 mA (maximum) Supply In-rush: 3000 mA (maximum) for 20ms
DC Characteristics	Operating Current (TX, 802.11g) = 370mA (typical) Operating Current (RX, 802.11g) = 200mA (typical) Operating Current (TX, 802.11a) = 550mA (typical)
Environmental	Operating Temperature: -20 to +85 °C Storage Temperature: -20 to +85 °C Relative Humidity: 5 to 95% (non-condensing)
Interfaces	10/100 Ethernet
Enclosure	Nylon (gray), cradle base
LED Indicators	3 LED Indicators (Power, LINK, COMM)
MEANTIME BETWEEN FAILURES (MTBF)	
MTBF	BB-ABDN-ER-DP551 = 422655 hours BB-ABDN-ER-DP551U = 422655 hours BB-ABDN-SE-DP551 = 444758 hours
MTBF Calc Method	MIL 217F (Parts Count Reliability Prediction)
REGULATORY	
North America	FCC Title 47 Part 15 Class B Sub C Intentional Radiator
CE - Directives	2014/35/EU - Low Voltage Directive 2014/53/EU - Radio Equipment Directive (RED) Hereby, Advantech B+B SmartWorx declares that the radio equipment type Wi-Fi Ethernet Bridge/Router and Serial Server are 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-bb.com">www.advantech-bb.com</a> 2011/65/EU - amended by (EU) 2015/863 Reduction of Hazardous Substances Directive (RoHS) 2012/19/EU - Waste Electrical & Electronic Equipment Directive (WEEE)
	<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 (ITE) - 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)