

## Airborne Enterprise Wireless Device Server Serial to 802.11b/g Wireless LAN

ABDG-SE-DPxxx Enterprise Series



Airborne™ is a line of highly integrated 802.11 radios and device servers, designed to address the demands of complex machine-to-machine (M2M) applications. Utilizing the latest 802.11 microprocessor and network technologies, the Airborne family of products provide a broad encompassing solution for wireless applications requiring performance, reliability and advanced security.

The Airborne Device Server bridge family allows a serial device to connect to a high performance wireless 802.11 network. The integrated Network Address Translation (NAT) functionality provides plug and play connectivity and simple integration to any system with a serial port. The serial interface supports auto rate detection up to 100Mb/s. The Serial Device Servers includes a full featured 802.11b/g radio and a high performance ARM9 MCU running embedded Linux

### Enterprise Class Security

WPA2-Enterprise is the leading wireless security standard for enterprise networks and is fully supported by the Airborne Enterprise products. The integrated supplicant supports a wide range of EAP processes including:

- EAP-TLS/MSCHAPv2
- EAP-TLS/MD5
- EAP-TTLS/MSCHAPv2
- PEAPv0/MSCHAPv2
- LEAP

Airborne supports the most flexible certificate delivery and management available in the wireless device market, along with WEP, WPA, WPA2, 802.11i and Pre-shared Key (PSK), no other wireless solution provides a more comprehensive security solution.

### Reliability

Designed by Quatech specifically to meet the demands of the industrial, automotive and medical markets, the Airborne Device Server has the widest operating temperature range and highest level of reliability available, all backed by a five year limited warranty. Quatech also provides FCC Modular certification, minimizing requirements for further regulatory testing by original equipment manufacturers.

### Applications

Previous generations of Airborne Wireless Device Server have been integrated and deployed into a wide range of applications across various industries including:

- Medical equipment
- Vehicle telematics & diagnostics
- Material handling & logistics
- Industrial Automation
- Test & measurement
- Security & access control

Quatech's Airborne Enterprise Wireless Device Server extends the reputation of the family further by drawing on experience of Quatech application engineers across hundreds of wireless M2M deployments.

### Model Selection Guide

| Model No.     | Interface |            |                           | WiFi | Security              |     |      |      |     |
|---------------|-----------|------------|---------------------------|------|-----------------------|-----|------|------|-----|
|               | RS-232    | RS-422/485 | POC<br>(power over cable) |      | WEP<br>(64 & 128 bit) | WPA | WPA2 | LEAP | EAP |
| ABDG-SE-DP101 |           | ■          |                           | ■    | ■                     | ■   |      | ■    |     |
| ABDG-SE-DP104 | ■         |            |                           | ■    | ■                     | ■   |      | ■    |     |
| ABDG-SE-DP107 | ■         |            | ■                         | ■    | ■                     | ■   |      | ■    |     |
| ABDG-SE-DP501 |           | ■          |                           | ■    | ■                     | ■   | ■    | ■    | ■   |
| ABDG-SE-DP504 | ■         |            |                           | ■    | ■                     | ■   | ■    | ■    | ■   |
| ABDG-SE-DP507 | ■         |            | ■                         | ■    | ■                     | ■   | ■    | ■    | ■   |

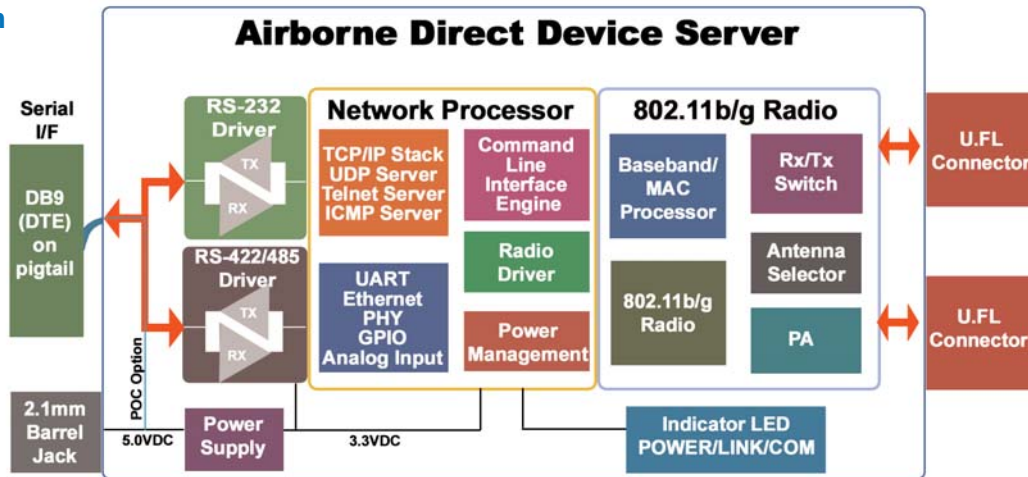


### KEY FEATURES

- Extended operating temperature range (-20°C to +85°C) and environmental specifications
- Plug-n-Play Serial to 802.11 Connectivity
- Enterprise Class wireless security (WPA-2 Enterprise, WPA2-PSK, WPA-PSK, WEP, EAP) with Certificates
- Compact Package Outline
- Integrated External Antenna
- Software-configurable 802.11b interface
- Advanced utilities for discovery, configuration, and management of Airborne Serial device
- Worldwide Certification Support- FCC Part 15 Class B Sub C Modular Approval, IIOC, CE, ETSI, ROHS, WEEE
- Five year warranty

The advanced technologies implemented in the Quatech Enterprise 802.11 Device Server provide an industry-leading solution with breakthrough performance and security for M2M applications and drop in replacements for existing 802.11b and 802.11b/g networking modules.

## Block Diagram



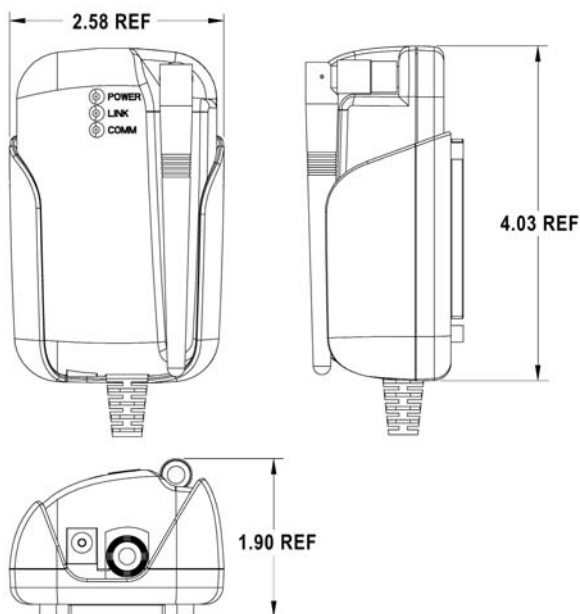
## Package Contents

| Model No.                                                                                | Package Includes:                                                                                               |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| ABDG-SE-DP101<br>ABDG-SE-DP104<br>ABDG-SE-DP107<br>(DP107 does not include power supply) | Airborne Enterprise Wireless Device Server<br>Omni-directional Wand Antenna<br>Power Supply<br>Mounting Bracket |
| ABDG-SE-DP501<br>ABDG-SE-DP504<br>ABDG-SE-DP507<br>(DP507 does not include power supply) | Airborne Enterprise Wireless Device Server<br>Omni-directional Wand Antenna<br>Power Supply<br>Mounting Bracket |

## Specifications

|                        |                                                                                                                                                                                                                                                                                                    |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technology             | IEEE 802.11b/g, WiFi compliant                                                                                                                                                                                                                                                                     |
| Wired Interface        | RS-232, RS-422 or RS-485 (2 wire)                                                                                                                                                                                                                                                                  |
| Frequency              | 2.4 ~ 2.4835 GHz (US/Canada/Europe)<br>2.4 ~ 2.497 GHz (Japan)                                                                                                                                                                                                                                     |
| Modulation Technology  | DSSS, CCK, OFDM                                                                                                                                                                                                                                                                                    |
| Modulation Type        | DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM                                                                                                                                                                                                                                                        |
| Network Access Modes   | Infrastructure, Ad Hoc                                                                                                                                                                                                                                                                             |
| Channels               | USA/Canada: 11 channels<br>Europe: 13 channels<br>France: 4 channels<br>Japan: 14 channels (13 channels for 802.11g)                                                                                                                                                                               |
| Wireless Data Rate     | 802.11b = 11, 5.5, 2, 1 Mbps<br>802.11g = 54, 48, 36, 24, 18, 12, 9, 6 Mbps                                                                                                                                                                                                                        |
| MAC                    | CSMA/CA with ACK, RTS, CTS                                                                                                                                                                                                                                                                         |
| Network Protocols      | TCP/IP, ARP, ICMP, DHCP, DNS, UDP, TFTP, UDP, PING                                                                                                                                                                                                                                                 |
| Receive Sensitivity    | 54Mb/s = -69dBm<br>6 Mb/s = -86dBm<br>1Mb/s = -86dBm                                                                                                                                                                                                                                               |
| Security Protocols     | Disabled, WEP 64 & 128bit, WPA (TKIP), WPA (AES), WPA2 (AES), 802.1x (EAP) Supplicant<br>Supports WPA & WPA2 Enterprise supplicants EAP-TLS/MSCHAPV2, EAP-TTLS/MSCHAPv2, EAP-TTLS(MD5), EAP-PEAPv0/MSCHAPv2, LEAP<br>Zero host security footprint<br>Supports Certificate, delivery and management |
| Antenna                | Integrated RP-SMA Omni-directional 3dBi Antenna                                                                                                                                                                                                                                                    |
| Supply                 | 5.0VDC +/-5%, 500mA                                                                                                                                                                                                                                                                                |
| Supply In-rush Current | 3000mA (MAX) for 20ms                                                                                                                                                                                                                                                                              |
| Power Consumption      | 2.5W @5VDC                                                                                                                                                                                                                                                                                         |
| Power Connector        | 2.1mm Barrel Jack                                                                                                                                                                                                                                                                                  |
| DC Characteristics     | Operating Current (Tx, 802.11g) = 500mA Typ.<br>Operating Current (Rx, 802.11g) = 530mA Typ.<br>Power Save (Snore) = 10mA Typ.<br>Power Down (Sleep) = 1mA Typ.                                                                                                                                    |
| Environmental          | Operating Temperature: -20°C ~ +85°C, Storage: -55°C ~ +150°C<br>Relative humidity: 5% - 95% (non-condensing)<br>Vibration: 20G peak-to-peak, 20Hz-2KHz swept<br>Shock: 1500G peak-to-peak, 0.5ms duration                                                                                         |
| Enclosure              | Nylon (Gray)                                                                                                                                                                                                                                                                                       |
| LED Indicators         | 3 Indicator LED (POST, LINK, COMM)                                                                                                                                                                                                                                                                 |
| Agency Approvals       | Worldwide Certificate Support: FCC Part 15 Class B Sub C Modular Approval, IOC, CE, ETSI EN300 328, ETSI 60950-1, ROHS and WEEE Compliant                                                                                                                                                          |

## Mechanical Outline



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## B&B Electronics:

[ABDB-SE-DP101-G](#) [ABDB-SE-DP107-G](#) [ABDG-SE-DP103](#) [ABDG-SE-DP107](#) [ABDG-SE-DP106](#) [ABDG-SE-DP104](#)  
[ABDG-SE-DP101](#) [ABDG-SE-DP501](#) [ABDG-SE-DP507](#) [ABDG-SE-DP503](#) [ABDG-SE-DP506](#) [ABEG-SE-DP102](#)