Airborne Enterprise Class Wireless Ethernet Solutions
Ethernet to 802.11b/g Wireless LAN

ABDG-BR-DP501 Ethernet Bridge and ABDG-ET-DP501 Ethernet Adapter

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 Ethernet bridge family allows an Ethernet enabled 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 an Ethernet port. The Ethernet interface supports auto rate detection up to 100Mb/s. The ABDG-ET-DP501 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 Ethernet Bridge 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 Ethernet Bridge 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
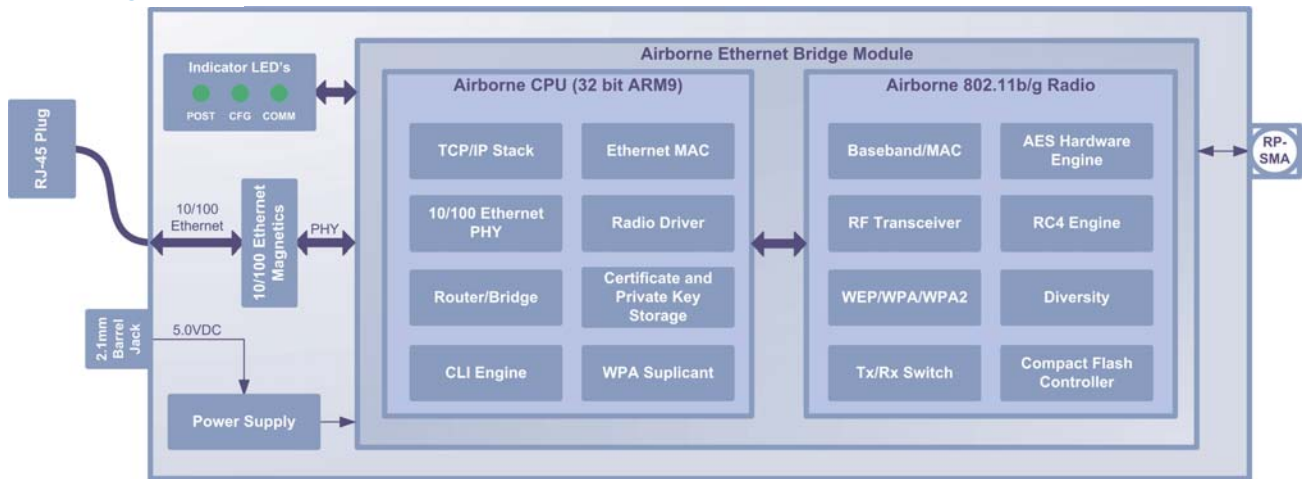- Test & measurement
- Security & access control

KEY FEATURES

- Extended operating temperatures (-20° to +85°C) and environmental specifications
- Plug-n-Play Ethernet to 802.11 Connectivity
- Enterprise Class wireless security (WPA2-Enterprise, WPA2-PSK, WPA-PSK, WEP, EAP) with Certificates
- Plug-and-Play LAN and Internet Connectivity
- Compact Package Outline
- Integrated External Antenna
- Integrated Ethernet Cable and RJ-45 (Male) Connector
- Software-configurable 802.11b/g Interface
- Advanced utilities for discovery, configuration and management of Airborne Ethernet device
- Worldwide Certificate Support- FCC Part 15 Class B Sub C Modular Approval, IOC, CE, ETSI, ROHS, WEEE
- 5 year warranty

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

The advanced technologies implemented in the Quatech Enterprise 802.11 Ethernet Bridge 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.

Model Selection Guide

Model No.	Interface		WiFi	NAT	Security				
	10 Base-T	10/100 Ethernet	802.11b/g		WEP 64 & 128 bit)	WPA	WPA2	LEAP	EAP
ABDG-BR-DP501		■	■	2.5	■	■	■	■	■
ABDG-ET-DP501		■	■	3	■	■	■	■	■
ABDG-ET-DP101	■		■	2.5	■		■		■

Block Diagram

Package Contents

Model No.	Package Includes:
ABDG-BR-DP501 ABDG-ET-DP501 ABDG-ET-DP101	Airborne Enterprise Ethernet Bridge Airborne Enterprise Ethernet Adapter Omni-directional Wand Antenna Power Supply Mounting Bracket Installation/Documentation CD

Mechanical Outline

Specifications

Wireless Technology	IEEE 802.11b/g, WiFi compliant
Wired Interface	10/100 Ethernet (auto sense), RJ-45 Plug
Frequency	2.4 ~ 2.4835 GHz (US/Canada/Europe) 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 Europe: 13 channels France: 4 channels Japan: 14 channels (13 channels for 802.11g)
Wireless Data Rate	802.11b = 11, 5.5, 2, 1 Mbps 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, DHS, HTTP, UDAP Discovery, TFTP, UDP, PING
Receive Sensitivity	54Mb/s = -69dBm 6 Mb/s = -86dBm 1Mb/s = -86dBm
Wireless Security	Disabled, WEP 64 & 128bit, WPA (TKIP), WPA (AES), WPA2 (AES), 802.1x (EAP), Supports WPA & WPA2 Enterprise, EAP-TLS/MSCHAPV2, EAP-TTLS/MSCHAPv2, EAP-TTLS(MD5), EAP-PEAPv0/MSCHAPv2, LEAP - Zero host security footprint - Supports Certificate, delivery and management
Network Addressing Translation (NAT)	ABDG-BR-DP501, Client Bridge ABDG-ET-DP501, NAT 3 Router
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. Operating Current (Rx, 802.11g) = 530mA Typ. Power Save (Snooze) = 10mA Typ. Power Down (Sleep) = 1mA Typ.
Environmental	Operating Temperature: -20°C to +85°C, Storage: -55°C to +150°C Relative humidity: 5% - 95% (non-condensing) Vibration: 20G peak-to-peak, 20Hz-2KHz swept Shock: 1500G peak-to-peak, 0.5mS duration
Enclosure	Nylon (Gray)
LED Indicators	3 Indicator LED (POST, LINK, COMM)
Regulatory 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