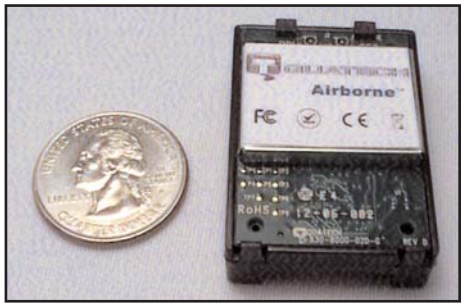
Airborne™ Embedded Wireless Device Server Module
Serial to 802.11b/g Wireless LAN

WLNG-AN-DP100 Enterprise Series
WLNG-SE-DP100 Enterprise Series



High performance device networking solutions

Airborne™ is a line of highly integrated 802.11 radios and modules. The wireless device server module includes a radio, (which may be purchased separately) a base-band processor, an application processor and software for a "drop-in" web-enabled WiFi solution. Since there's no need to develop the software, or to develop the RF and communications expertise in-house, OEMs can realize reduced product development costs and a quick time-to-market. Airborne modules provide instant LAN and Internet connectivity, and connect through standard serial interfaces (other Airborne modules offer an Ethernet interface) to a wide variety of applications.

Highly interoperable with advanced security

The extremely small footprint design makes Airborne easy to embed in both existing and new designs. Supporting advanced security modes, including WEP, WPA and LEAP, the module is interoperable with industry standard 802.11 Access Points and stations. Provides access to existing infrastructure that enables use of access to corporate WLANs, WANs and even the internet. The built-in TCP/IP stack and application software provide embedded devices with this level of connectivity, without requiring any software development - only simple configuration using one of the available, easy to use, management interfaces. The Airborne units allow you to customize their settings to meet your application demands.

Applications

The Airborne modules have been designed and tested to provide wireless LAN (WLAN) and Internet connectivity across the harshest of machine to machine environments including:

- transportation
- medical
- warehouse and logistics
- point-of-sale (POS)
- industrial automation
- military
- scientific research

Equipment with an embedded Airborne™ module can be monitored and controlled by a handheld device, by a PC in a central location or over the Internet.

The Evaluation & Design Kit provides software and utilities that allow a developer to quickly and easily operate and evaluate the Wireless Device Server module.

KEY FEATURES

- Extended operating temperature range (-30°C to +85°C) and environmental specifications, including shock and vibration tolerance
- Advanced security: WEP (64 & 128 bit), WPA and 802.1x (LEAP) authentication
- Highly integrated 802.11b/g wireless module with radio, base-band & application processor
- Quick time to market & reduced development costs
- Software-configurable 802.11b/g interface
- Configurable serial, digital & analog I/O ports
- Integrated RTOS, TCP/IP Stack and CLI
- FCC Part 15 Class B Sub C Modular Approval
- Reduces need for RF and communications expertise
- 5 year warranty

Model Selection Guide

Model No.	*Interface*				*WiFi*	*Security*		
	UART	RS-232	RS-422/485	Digital & Analog I/O	802.11b/g	WEP (64 & 128 bit)	WPA	LEAP
WLNG-AN-DP101	●	●		●	●	●	●	●
WLNG-SE-DP101	●	●	●		●	●	●	●
To evaluate all available features and receive evaluation tools, order below.								
WLNG-EK-DP001	*Evaluation & Design Kit*							
WLNG-EK-DP003	*Evaluation & Design Kit*							

All Quatech 802.11b/g products are RoHS-compliant.

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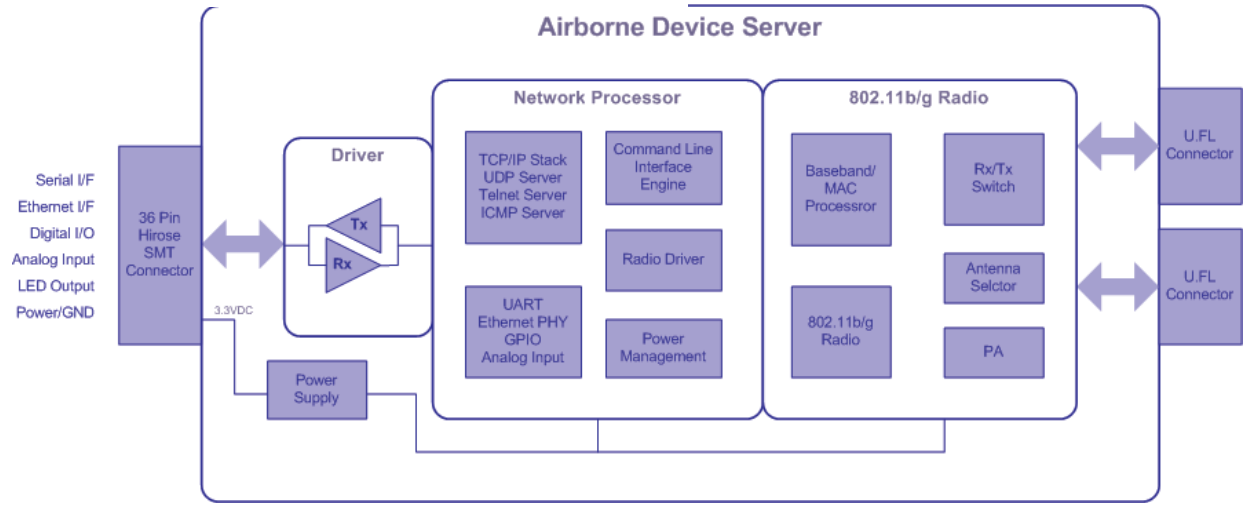
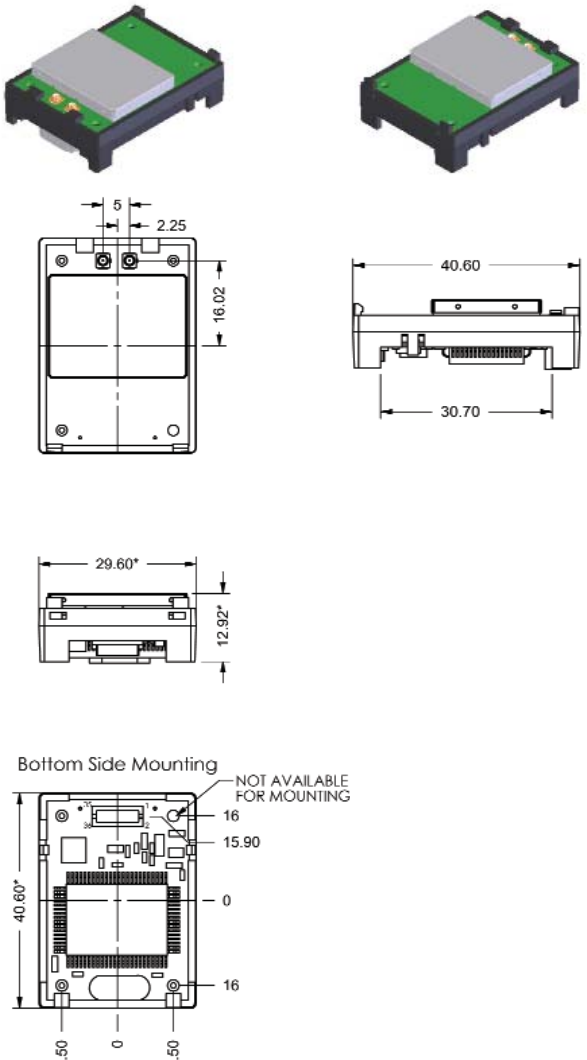
Block Diagram



Mechanical Outline



Specifications

Technology	IEEE 802.11b/g, WiFi compliant (802.11i, 802.11e, 802.11d capable)
Frequency	2.400 ~ 2.4835 GHz (US/Can/Europe) 2.400 ~ 2.497 GHz (Japan)
Modulation Technology	DSSS, CCK, OFDM
Modulation Type	DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM
Network Access Modes	Ad-hoc, infrastructure
Channels	USA/Canada: 11 channels (1 - 11) Europe: 13 channels (1 - 13) Japan: 14 channels (1 - 13 for g rates) (1 - 14 for b rates) France: 4 channels (10 - 13)
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
RF Power	+19.3 dBm (typical) Approx. 85 mW peak for B rates +15 dBm (typical) Approx. 32 mW average for B rates +21.5 dBm (typical) Approx. 143 mW peak for G rates +12 dBm (typical) Approx. 16 mW average for G rates
Sensitivity	-71dBm for 54Mbps -77dBm for 36Mbps -83dBm for 18 Mbps -85dBm for 11Mbps -87dBm for 1Mbps
Protocols Data Transfer	TCP/IP, ARP, ICMP, DHCP, DNS, UDAP Discovery TCP/IP, TFTP, UDP
Security	WEP 64 and 128bit (RC4), WPA (TKIP), 802.1x (LEAP)
Antenna	Two U.FL coaxial connectors, 50 ohms, supports receive diversity
Supply	3.3 Vdc +/-5%
Current Consumption	575mA - transmit mode (typical) 375mA - receive mode (typical) To be spec'd - power save mode (IEEE) To be spec'd - (full power down)
Power Up Inrush Current	3000 mA (MAX) 20ms
Serial Interface Data Throughput	UART: Up to 460K BAUD rate
Digital I/O	Up to 8 digital I/O ports and status
Analog Inputs	Up to 8 channels, 10-bit resolution, single ended, 0-2.5V
Operating Temperature	Temperature: -30°C - +85°C Relative humidity: 5% - 95% (non-condensing) Vibration: 20G peak-to-peak, 20 Hz-2KHz Shock: 1500G, peak-to-peak, 0.5mS
Connector	36 Pin (Hirose DF12-36DS-0.5 V) 4-mm height
Agency Approvals	FCC Part 15 Class B Sub C Intentional Radiator CE ETSI EN300 328, EN301 489, ETSI 60950-1 IC RSS210 RoHS and WEEE complaint

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