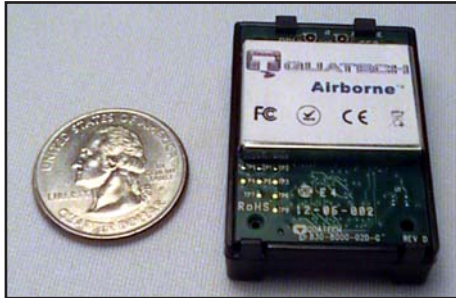


Airborne™ Embedded Wireless Device Server Serial to 802.11b Wireless LAN (Module)

WLNb-AN-DP100 series
WLNb-AN-DP500 Enterprise series
WLNb-SE-DP100 series



Interoperable with advanced security

Airborne™ is a line of highly integrated 802.11 modules. The wireless module includes a radio, 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, OEM’s 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 to a wide variety of applications.

Applications

The extremely small footprint design makes Airborne™ easy to embed into new or existing designs. The module is interoperable with industry standard 802.11 access points and advanced security standards such as WEP, WPA and EAP, that provide a low cost infrastructure for connection to a LAN and to the Internet. The built-in TCP/IP stack and application software provide embedded devices with instant LAN and Internet connectivity without special

programming of the module - only simple configuration is required using DPAC’s HTML interface. An integrated web server makes it easy to remotely monitor and control any device using a standard browser. Additionally, the OEM can create custom web pages that deliver content from their application.

The Airborne™ modules have been designed to provide wireless LAN and Internet connectivity in these industries:

- transportation
- medical
- warehouse logistics
- POS
- industrial
- military
- scientific

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.

Model Selection Guide

Model No.	Interface					WiFi	Security		
	UART	RS-232	RS-422/485	SPI	Digital & Analog I/O	802.11b	WEP (64 & 128 bit)	WPA	LEAP*
WLNb-AN-DP101	●	●			●	●	●	●	
WLNb-AN-DP102				●	●	●	●	●	
WLNb-AN-DP501	●	●			●	●	●	●	●
WLNb-AN-DP502				●	●	●	●	●	●
WLNb-SE-DP101	●	●	●			●	●	●	
WLNb-SE-DP501	●	●	●			●	●	●	●

KEY FEATURES

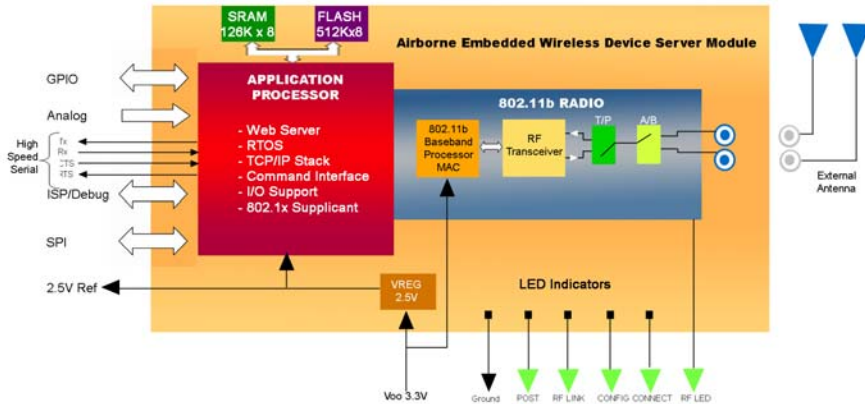
- Extended operating temperature range (-40°C to +85°C) and environmental specifications, including shock and vibration tolerance
- Advanced security: WEP (64 & 128 bit), WPA and 802.1x (LEAP) authentication
- Low power modes
- Built-in web server enables drop-in LAN and Internet connectivity
- Highly integrated 802.11b wireless module with radio, base-band & application processor
- Quick time to market & reduced development costs
- 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
- RoHS compliant
- 5 year warranty



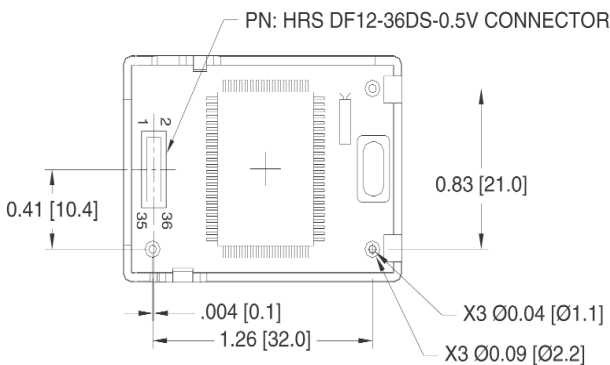
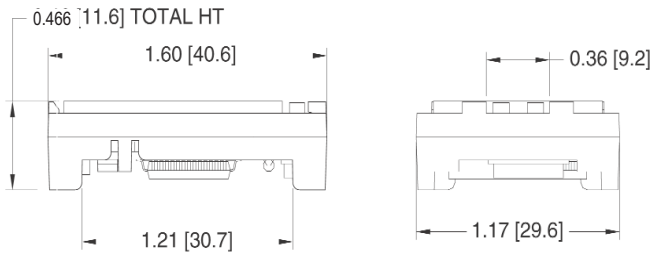
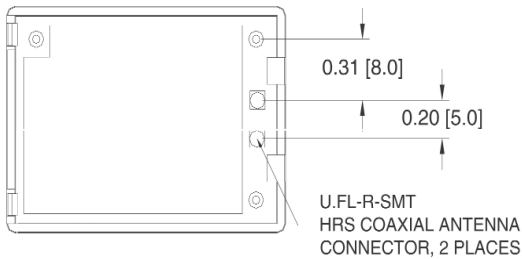
For RoHS-compliant 802.11b products, add “-G” at end of model number.

* Web server not present with LEAP

Block Diagram



Mechanical Outline



Specifications

Technology	IEEE 802.11b DSSS, WiFi compliant
Frequency	2.4 ~ 2.4835 GHz (US/Can/Japan/Europe) 2.471 ~ 2.497 GHz (Japan)
Modulation	DQPSK, DBPSK and CCK
Channels	11 channels - USA/Canada 13 channels - Europe 14 channels - Japan 4 channels - France
Data Rate	11, 5.5, 2, 1 Mbps
MAC	CSMA/CA with ACK, RTS, CTS
Protocols	TCP/IP, ARP, ICMP, DHCP, DNS, HTTP UDAP Discovery
Data Transfer	TCP/IP, HTTP, UDP
RF Power	+15 dBm (typical) Approx. 32 mW
Sensitivity	-82dBm for 11Mbps -86dBm for 5.5Mbps -88dBm for 2 Mbps -90dBm for 1Mbps
Security	WEP (64 & 128 bit), WPA (PSK & TKIP), WPA with LEAP
Antenna	Supports diversity antennas, using U.F.L coaxial connectors 50 ohms (on WLNb-AN-DPxxx models)
Supply	3.3 VDC
Current	420mA - transit mode (typical) 350mA - receive mode (typical) 75mA - sleep mode (typical) 15mA - 5% duty cycle*
Operating Temperature	-40°C - +85°C
GPIO	Up to 8 digital I/O ports and Status
Serial	UART up to 921.6 Kbps I ² C Master to 400KHz SPI up to 1Mb/s (Master clock up to 20MHz) Supports RS-232/422/485 (on WLNb-SE-DP101)
Analog	Up to 8 channels, 10 bit resolution
Connector	36 Pin (P/N: HRS DF 12-36DS-0.5V)
Agency Approvals	FCC Part 15 Class B Sub C Intentional Radiator Modular Approval Industry of Canada RoHS and WEEE Compliant

* Low power mode requires external circuitry.