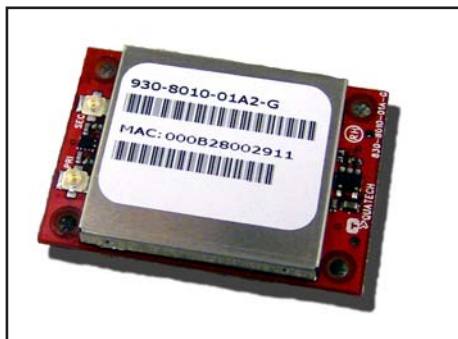


Airborne™ Performance Embedded Radio Modules 802.11a/b/g

WLRA-RA-DP500 Series - CompactFlash



Airborne's™ highly integrated 802.11 wireless modules and radios provide instant LAN and Internet connectivity through standard interfaces to a wide variety of applications. They are designed and developed for the performance, security and manageability that today's businesses require.

802.11a/b/g Dual Band Radio

The latest and most advanced line of Airborne 802.11 radios, the Airborne Performance 802.11a/b/g radio family extends support for the small form factor and CompactFlash interface found in earlier generations. Supporting direct plug in replacement for any compatible hardware, the latest 802.11 features require only integration of the latest device driver with the host OS. In addition to supporting the 802.11b/g ISM bands, the Airborne Performance family of products is the first to introduce support for 802.11a (5GHz), creating the most advanced dual band embedded radio available.

Support for the most current media streaming, roaming, power management and security standards, the Airborne Performance Radio Modules can provide the most flexible system implementation options available in the market. It's flexible architecture allows you to tailor the hardware and software configuration to meet your system and application demands.

The radio family supports the latest 802.11i security standards and allows WEP, WPA and WPA2 to be implemented on the radio. Support for a broad range of EAP supplicant is included, allowing enterprise level security support and even Cisco CCX compliance.

Advanced Applications

The Airborne Performance Radio family is a unique group of high quality, performance 802.11 radios, utilizing the latest 802.11 technology, targeted at the most stringent embedded applications. The family of devices supports the development of both station and access point applications from a unified platform. The options available allow development of applications that include:

- ◆ embedded access point
- ◆ handhelds
- ◆ wireless routers
- ◆ advanced stations
- ◆ wireless repeaters
- ◆ AP to station switching hosts

These applications have been developed for a wide range of vertical markets:

- ◆ M2M (Machine-to-Machine)
- ◆ medical
- ◆ transportation
- ◆ telematics
- ◆ logistics
- ◆ industrial control
- ◆ energy management

The design and development of this advanced 802.11 radio family focused on the demands of these applications and markets, in the end, making the leading 802.11a/b/g embedded solutions available. The Airborne Performance Embedded radio family is the choice for advanced embedded host connectivity.

KEY FEATURES

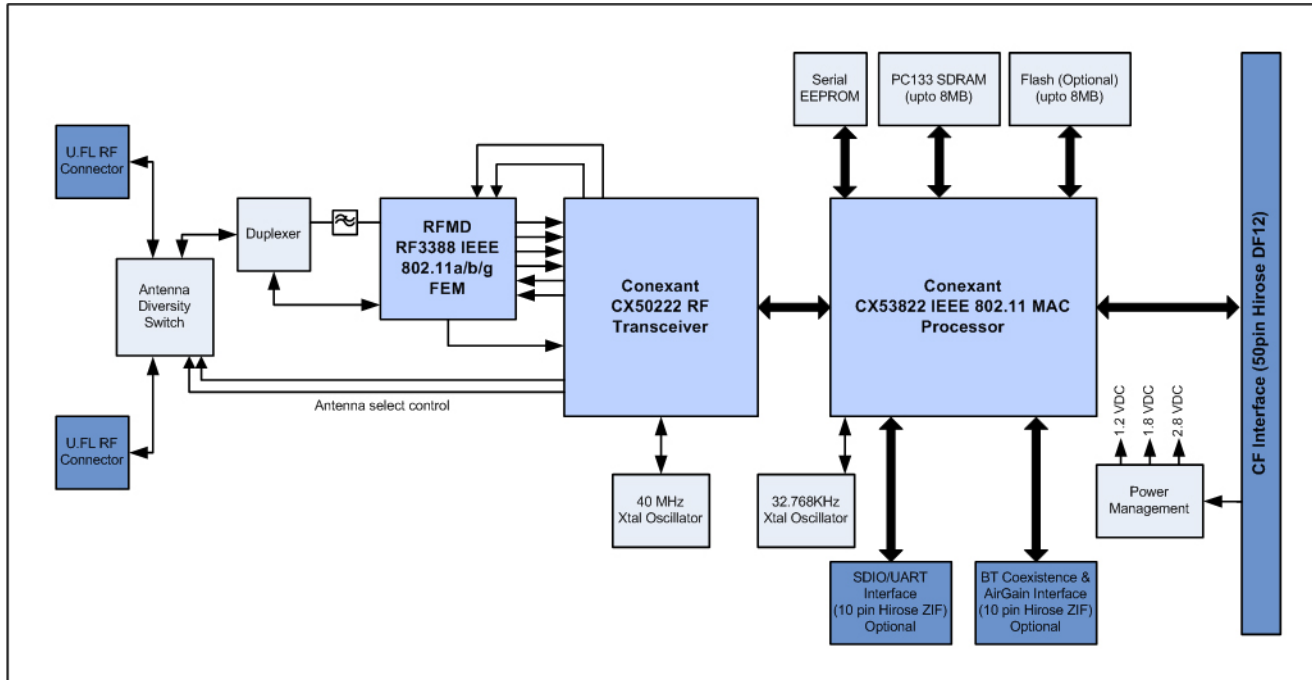
- 802.11a/b/g Dual Band (2.4GHz & 5GHz) WiFi Embedded Radio
- -40°C to +85°C operating temperature range and rugged environmental specifications
- Advanced security support for 802.11i through AES/CCMP, TKIP, WEP, WPA and WPA2
- Support for 802.11e/h/i/j/k IEEE standards
- Fully integrated hardware solution
- Small radio footprint (38mm x 27mm x 9.3mm)
- U.FL antenna connectors
- FCC Part 15 Class B Sub C Modular Approval
- Platform supports PC 16, SDIO (1 & 4 bit) and SPI interfaces
- Bluetooth Coexistence support (four wire)
- AirGain Smart-Antenna interface
- Antenna diversity
- RoHS compliant

Model Selection Guide

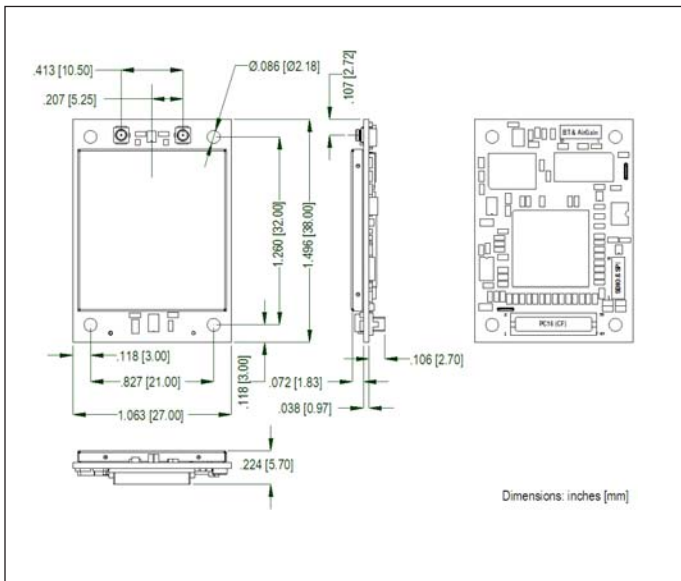


Model No.	WiFi		Interface				Security	
	802.11b/g	802.11a	PC16 (CF)	SDIO	SPI	BT Coex		Airgain
WLRA-RA-DP501	◆	◆	◆			◆1	◆1	WEP WPA WPA2 TKIP AES
WLRA-RA-DP511	◆	◆	◆			◆1	◆1	
To evaluate all available features and receive evaluation tools, order below.								
WLEA-RA-DP501	802.11a/b/g Performance Radio Eval Kit (including WLRA-RA-DP511)							
Notes: 1. Interface accessible through a secondary connector. 2. Interface available through main header.								

Block Diagram



Mechanical Outline



Specifications

Technology	IEEE 802.11a/b/g, WiFi Compliant	
Frequency	802.11a 5.15-5.35 GHz (US/Canada/Europe/Japan) 5.47-5.725 GHz (Europe) 5.725-5.825 GHz (US/Canada/China)	802.11b/g 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	802.11a US/Canada - 12 channels Europe - 19 channels China - 5 channels Japan - 4 channels	802.11b/g US/Canada - 11 channels (1-11) Europe - 13 (1-13) France - 4 channels (10-13) Japan - 14 channels (13 channels for 'g' rates)
Wireless Data Rates	802.11a - 54,48,36,24,18,12,9,6 Mbs	802.11b - 11,5.5,2,1 Mbs 802.11g - 54,48,36,24,18,12,9,6 Mbs
MAC	CSMA/CA with ACK, RTS, CTS	
Transmit Power	802.11a - 14dBm (25mW)	802.11b - 15dBm (32mW) 802.11g - 14.5dBm (28mW)
Security Protocols	Disabled, WEP 64 and 128 bit, WPA (TKIP), WPA (AES), WPA2 (AES), 802.1x (EAP) Supplicant	
Antenna	Two U.FL coaxial connectors, 50 ohms, supports receive diversity	
Supply	3.3Vdc +/-5%	
DC Characteristics	802.11a TX current = 500mA typical RX mode = 360mA typical	802.11b/g mode TX current = 500mA typical RX mode = 340mA typical
Operating & Storage Temperature	Operating: -40°C to +85° C Storage: -55°C to +150° C	
Connector	50 Pin High Density SMT connector from Hirose (DF12-50DS-0.5V), 4mm Height	
Interface	PC16 (CompactFlash), SDIO (1 & 4 bit), SPI (1 & 4 bit), Bluetooth Coexistence, Airgain Smart-antenna	
Agency Approvals	FCC Part 15 Class B Sub C Intentional Radiator, IOC XXXX	