Airborne™ Wireless Access Point Module
802.11b/g Wireless AP
APMG-Q551

The Airborne line of highly-integrated 802.11 wireless modules allow OEMs to Wi-Fi enable devices used in an array of machine-to-machine (M2M) applications. By providing all of the necessary RF technology, networking stacks and advanced security features in a compact, single-board package, the embedded Airborne Model APMG-Q551 module allows OEM customers to incorporate AirborneAP™ technology into their 802.11 wireless design solutions.

Flexible & Easy to Integrate
Airborne incorporates support for both serial to Wi-Fi and Ethernet to Wi-Fi communications. Utilizing Airborne’s PortFlex capability, OEMs may configure via software any combination of UART, SPI, Ethernet, GPIO and 802.11 interfaces. Each individual port can be independently configured. OEMs can choose to incorporate both transmit and receive diversity capability in their designs by utilizing the two U.FL antenna connectors on the modules.

Big Performance in Small and Ruggedized Package
The APMG-Q551 access point module delivers the industry’s most rugged, highly-integrated, embedded Wi-Fi access point solution. Airborne modules meet extended operating temperature and shock/vibration specifications of the most demanding M2M applications.

Utilizing a 32bit ARM9 processor and the high-performance Atheros AR6002 802.11 radio, the new Airborne modules deliver increased transmit power and receive sensitivity, contributing to superior range performance.

The new Airborne SpeedLink roaming feature provides enhanced connection reliability, enabling OEM devices to roam freely within a wireless network without loss of data or connection.

Airborne PowerSave firmware enables OEMs to maximize efficiency and reduce power consumption by as much as 70%. PowerSave capability is especially critical for battery-powered mobile devices.

Enterprise Class Security
Quatech’s multi-layered security approach addresses the requirements of Enterprise-class networks and corporate IT departments. These advanced security features include wireless security (802.11i/ WPA2 Enterprise); network security (EAP authentication and certificate support); built-in firewalls on the Ethernet and WLAN interfaces; secure communications (built-in SSH functionality and fully encrypted data tunnels for secure management and data transfer); and device security (multi-level encryption capability to protect sensitive device configuration data). EAP security protocols are supported on the AirborneAP™ Access Point in client mode only.

A unique Airborne security feature is the onboard delivery of certificates to the module and management of all authentication processes without requiring interaction from the host. This substantially reduces the resource requirements for OEMs whose devices operate in Enterprise-Class wireless.

Markets
Quatech has delivered high-performance device networking and connectivity solutions all over the world since 1983. Airborne embedded modules operate in a wide-range of M2M applications:
- Industrial Automation & Control
- Energy Management
- Medical devices
- Retail / Point of Sale products
- Vehicle Telematics
- Military Communications
- Material Handling & Logistics
- Test & Measurement
- Security & Access control

Downloaded from Elcodis.com - electronic components distributor
**Access Point** 802.11b/g, Infrastructure Access Point/Wireless Router/Client, supports up to 8 clients

**Technology**
IEEE 802.11b/g, WiFi compliant

**Frequency**
2.4 - 2.4835 GHz (US/Canada/Europe)
2.4 - 2.497 GHz (Japan)

**Modulation Technology**
DSSS, COX, OFDM

**Modulation Type**
DBPSK, DQPSK, COX, BPSK, QPSK, 16QAM, 64QAM

**Network Access Modes**
Access Point, Infrastructure, Ad Hoc

**Channels**
USA/Canada: 11 channels
Europe: 13 channels
France: 7 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, DNS, UDP, TFTP, PING

**Receive Sensitivity**
54Mb/s = -75dBm
24Mb/s = -82dBm
11Mb/s = -88dBm
6Mb/s = -93dBm
1Mb/s = -98dBm

**Security Protocols**
Disabled, WEP 64 & 128bit, WPA (TKIP), WPA2 (AES), 802.1x (EAP) Suppliant 802.11i, WPA & WPA2 Enterprise supplicants (EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-FAST, LEAP)

**Antenna**
Two (2) U.FL coaxial connectors, 50 ohms, supports Rx and Tx diversity

**Supply**
3.3VDC +/-5%, 850mA (MAX)

**Supply In-rush Current**
3000mA (MAX) for 20ms

**DC Characteristics**
Operating Current (Tx, 802.11g) = 240mA Typ.
Operating Current (Rx, 802.11g) = 310mA Typ.
Power Save (Doze) = TBD mA Typ.
Power Down (Sleep) = TBD mA Typ.

**Environmental**
Operating Temperature: -20 °C - +85°C
Storage: -55 °C - +150°C
Relative humidity: 5% - 95% (non-condensing)
Vibration: 20G peak-to-peak, 20Hz-2KHz swept
Shock: 150G peak-to-peak, 0.5mS duration

**Interfaces**
Dual UART (9600BAUD), RS232/232/422/485, SPI (16bit/20MHz), 10/100 Ethernet (Infrastructure Bridge Mode, NAT3 Router Mode), PortFlex

**Digital I/O**
8 GPIO

**LED Indicators**
4 indicator LED signals (RF_ACT, POST, CONNECT, RF_LINK), Signal Strength

**Connector**
36 pin High Density SMT connector from Hirose (DF12-36DS-0.5V), 4mm Height

**Agency Approvals**
North America: FCC Title 47 Part 15 Class B Sub C Intentional Radiator, IEC RSS210
Europe: CE ETSI EN300 328
RoHS & WEEE compliant