



AirLink® RV50 Industrial LTE Gateway

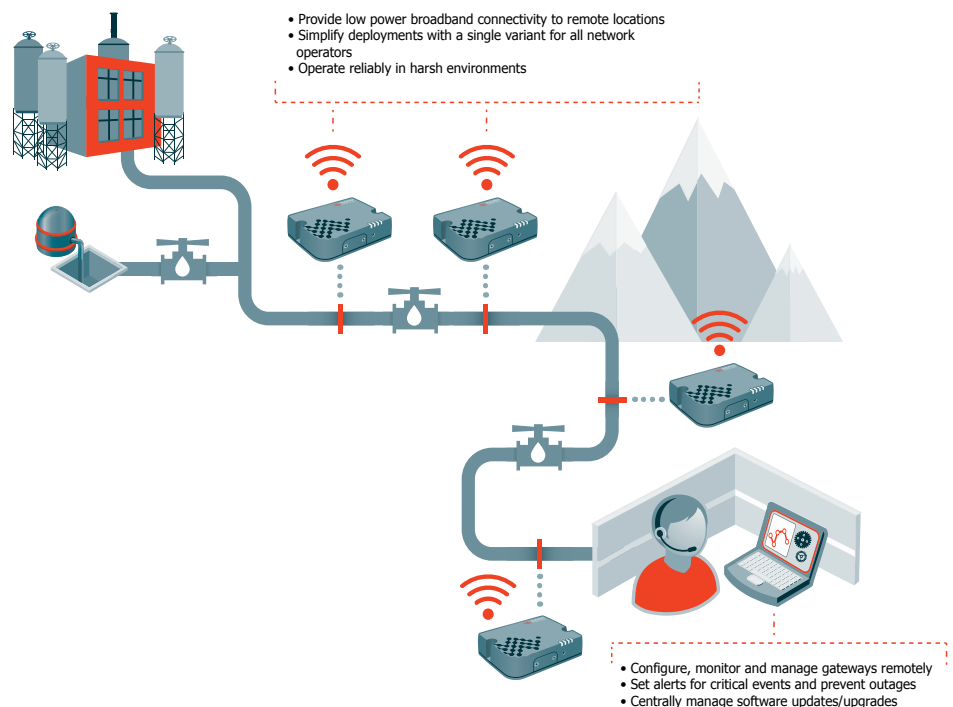
FEATURES

- LTE performance at 2G power consumption (less than 1W in idle mode)
- State-of-the-art LTE coverage spanning 21 LTE frequency bands worldwide
- Two product variants cover the globe
- Fully automatic network operator switching: just insert the SIM
- Provides network connectivity via Ethernet, Serial and USB
- Remote configuration, software update, and monitoring with cloud-based AirLink Management Service (ALMS) or on-premises with AirLink Mobility Manager (AMM)
- Dual-SIM functionality to enable automatic failover between SIMs (CANADA/EMEA/APAC)
- Meets industrial-grade certifications including Class 1 Div 2, MIL-STD-810G, IP64 ingress protection
- Supports up to 5 VPN tunnels for secure cellular communications
- Events Engine for alert reporting to third party server platforms
- Application Framework (AAF) offers real-time onboard data processing; RV50X's dual-core processor provides added performance for advanced edge computing applications.
- GPS for tracking equipment

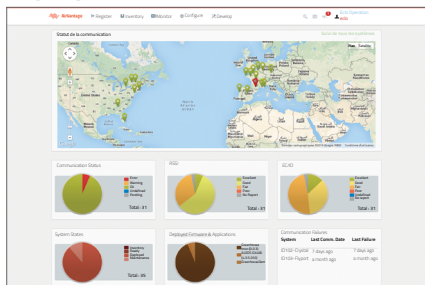
Industrial Grade, LTE-Advanced Performance, Low Power

The AirLink RV50 is the industry's lowest power and most rugged LTE gateway. Simple to install and easy to manage, this industrial-grade gateway is designed to connect critical assets and infrastructure. Ideal for energy, utilities and smart-city applications, the RV50 provides real-time remote connectivity for SCADA, distribution management systems and metering.

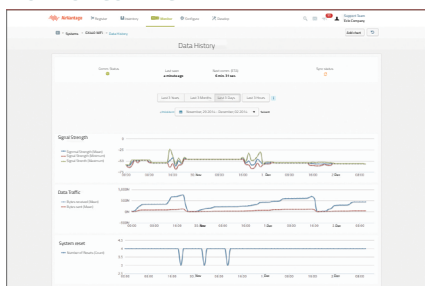
With the lowest power consumption available on the market, the RV50 dramatically reduces infrastructure costs when running on battery or solar power. The RV50X variant supports an extensive range of LTE bands worldwide, and its LTE-Advanced capabilities deliver up to 300 Mbps downlink speeds. For deployments in areas with limited LTE coverage, the RV50 provides fallback to 2G and 3G networks. Furthermore, the RV50 provides programmability to enable edge computing applications, using the ALEOS Application Framework (AAF).



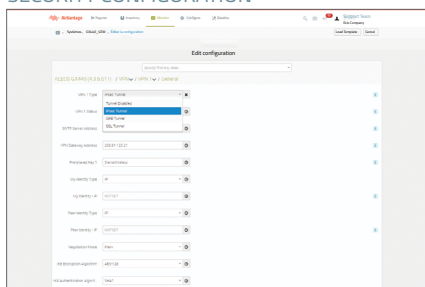
DASHBOARD



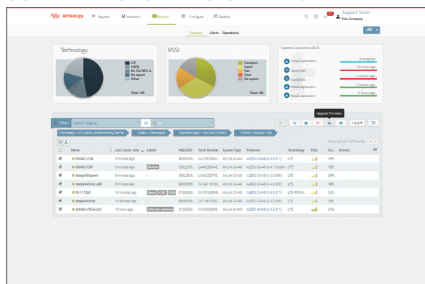
MONITOR CONNECTIVITY



SECURITY CONFIGURATION



SOFTWARE UPGRADES/UPDATES



RUGGED DESIGN FOR DEMANDING ENVIRONMENTS

The RV50 is designed to withstand harsh industrial conditions, and is capable of surviving 5 V brownouts and spikes from -600 VDC to 200 VDC.

Certified as Class I Div 2, it is ideal for hazardous environments. The die cast aluminum housing is sealed to meet IP64 for resistance to dust and water ingress.

The RV50 is tested to meet and exceed the MIL-STD-810G specification for shock, vibration, temperature and humidity. The built-in power supply protection make it suitable for harsh electrical environments such as compressors, generators, and excavators.

ULTRA-LOW POWER CONSUMPTION

The RV50 offers best-in-class power consumption combined with LTE performance, and is optimized for battery and solar applications. It is the industry's only LTE gateway with 2G power consumption, operating at 900 mW in idle mode. For 2G and 3G deployments migrating to LTE, the RV50 will work with existing power infrastructure, eliminating the need to invest in replacement solar panels or batteries. Standby Mode provides additional protection for batteries by dropping power consumption to 53 mW, and can be triggered by timers, low voltage detection or I/O.

SIMPLIFIED DEPLOYMENT

The RV50 automatically configures the radio based on the SIM, which provides versatility and simplicity when changing operator networks.

Ideal for global deployments, the RV50X provides worldwide LTE coverage with just two product variants; one for North America and EMEA, and one for Asia-Pacific.

BEST-IN-CLASS REMOTE MANAGEMENT

Network Management solutions for the RV50 allow over-the-air registration, configuration and software updates, and can be deployed either as a cloud-based service, or as a licensed software platform in the enterprise data center. Both options provide a centralized and remote view of an entire fleet and enable simplified management, control and monitoring of connected RV50s and critical infrastructure.

AirLink Management Service (ALMS) is a secure, centralized cloud-based service that remotely monitors and manages signal strength, network technology and location. ALMS provides dashboards with up-to-date views of an entire deployment, and custom alerts to monitor and report critical events, to increase efficiency and prevent downtime.

AirLink Mobility Manager (AMM) is a licensed, unified software platform which can

be deployed in the enterprise data center, and provides a consolidated network view of an entire fleet, using a virtual dashboard to monitor, report, manage, and troubleshoot all mobile resources as required.

BENEFITS

- Provides LTE broadband connectivity to remote locations and in harsh environments
- Ultra-low power consumption, ideal for solar or battery powered installations
- Maximizes longevity of deployed equipment and protects investments with LTE
- Improves ROI by supporting multiple network operators without additional hardware costs
- Powerful remote management solutions
- Built-in, class-leading voltage transient protection provides superior reliability and continuous operation
- Proven reliability and over 2 million AirLink routers and gateways deployed
- Industry leading warranty includes support, software updates and advance replacement

INSTANT INTEGRATION

The RV50 is designed to install directly into existing infrastructure. Offering both serial and Ethernet connectivity, it can be used to connect devices like PLCs and RTUs, and transmit a wide variety of protocols like Modbus/DNP3 with ease. RV50 can also be integrated directly into existing management systems via SNMP.

INTELLIGENCE AT THE EDGE

The RV50 provides an application framework which allows customers to apply intelligence at the edge of the network. The RV50X offers a dual core processor which enhances the performance of edge applications.

SECURE INDUSTRIAL COMMUNICATIONS

The RV50 supports secure communications to multiple back-end systems by providing up to five concurrent VPN sessions. Remote authentication management allows enterprise-grade systems to manage access to devices in the field. Port filtering and trusted IP protect the devices connected to RV50s from unwanted access. Secure signing and authentication of software images offers end-to-end protection of the software upgrade process, protecting the RV50 against unwanted malware.

| | RV50 | | RV50X | |
|----------------------------------|---|---|---|---|
| | North America | International | North America & EMEA | Asia Pacific |
| LTE CATEGORY | Cat 3 | | Cat 6 | |
| Peak D/L | (Up to 100 Mbps DL) | | (Up to 300 Mbps DL) | |
| Peak U/L | (Up to 50 Mbps UL) | | (Up to 50 Mbps UL) | |
| 4G LTE | 1900(B2), AWS(B4), 850(B5), 700(B13), 700(B17), 1900(B25) | 2100(B1), 1800(B3), 2600(B7), 900(B8), 800(B20) | 2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 2600(B7), 900(B8), 700(B12), 700(B13), 800(B20), 1900(B25), 850(B26), 700(B29), TDD B41 | 2100(B1), 1800(B3), 850(B5), 2600(B7), 900(B8), 850(B18), 850(B19), 1500(B21), 700(B28), TDD 38, TDD 39, TDD 40, TDD 41 |
| 3G HSPA/HSPA+ | 2100(B1), 1900(B2), AWS(B4), 850(B5), 900(B8) | 2100(B1), 1900(B2), 850(B5), 900(B8) | 2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 900(B8) | 2100(B1), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19), |
| 3G TD-SCDMA | | | | B39 |
| 2G CDMA 1XRTT/EV-DO REV 1 | 2100(B1), 1900(B2), AWS(B4), 850(B5), 900(B8) | | | |
| 2G EDGE/GSM/GPRS | Quad-band | Quad-band | | |
| APPROVALS | | | | |
| Regulatory | FCC, IC, PTCRB | CE, RCM, GCF, R&TTE | FCC, IC, PTCRB, R&TTE, GCF, CE | RCM, JRF/JPA |
| Carrier | Verizon, AT&T, Sprint, T-Mobile USA, US Cellular, Rogers, Bell, Telus | | Verizon, AT&T, T-Mobile USA Other Major carriers pending | Telstra |

*For carrier specific band support please refer to the hardware user guide.

| | Specification |
|-----------------------|--|
| HOST INTERFACES | 10/100/1000 Ethernet (RJ45) RS-232 serial port (DB-9) USB 2.0 Micro-B Connector 3 SMA antenna connectors (primary, diversity, GPS) Active GPS antenna support |
| INPUT/OUTPUT | Configurable I/O pin on power connector <ul style="list-style-type: none"> Digital Input ON Voltage: 2.7 to 36 VDC Configurable Pull-up for dry contact input Digital Open Collector Output > sinking 500 mA Analog Input: 0.5-36 VDC |
| LAN (ETHERNET/USB) | DNS, DNS Proxy DHCP Server IP Passthrough VLAN Host Interface Watchdog PPPoE |
| SERIAL | TCP/UDP PAD Mode Modbus (ASCII, RTU, Variable) PPP DNP3 Interoperability |
| NETWORK AND ROUTING | Network Address Translation (NAT) Port Forwarding Host Port Routing NEMO/DMNR VRRP Reliable Static Route Dynamic DNS |
| VPN | IPsec, GRE, and OpenVPN Client Up to 5 concurrent tunnels Split Tunnel Dead Peer Detection (DPD) Multiple Subnets |
| EVENTS ENGINE | Custom event triggers and reports Configurable interface, no programming Event Types: Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature and Voltage Report Types: RAP, SMS, Email, SNMP Trap, TCP (Binary, XML, CSV) Event Actions: Drive Relay Output |
| DIMENSIONS | 119 mm x 34 mm x 85 mm (94 mm including connectors) 4.69 in x 1.34 in x 3.35 in (3.70 in including connectors) |
| SECURITY | Remote Authentication (LDAP, RADIUS, TACACS+) DMZ Inbound and Outbound Port filtering Inbound and Outbound Trusted IP MAC Address Filtering PCI compatible |
| APPLICATION FRAMEWORK | ALEOS Application Framework (AAF) LUA Scripting Language Eclipse-based IDE Integrated with AirVantage® Dual-Core Processing (RV50X) |

| | Specification |
|-----------------------------------|---|
| SATELLITE NAVIGATION (GNSS) | 12 Channel GPS and GLONASS Receiver Acquisition Time: 1 s Hot Start Accuracy: <2 m (50%), <5 m (90%) Tracking Sensitivity: -145 dBm Reports: NMEA 0183 V3.0, TAIP, RAP, XORA Multiple Redundant Servers Reliable Store and Forward |
| NETWORK MANAGEMENT | Secure network management applications available in the cloud or licensed platform in the enterprise data center Fleet wide firmware upgrade delivery Router configuration and template management Router staging over the air and local Ethernet connection Over-the-air software and radio module firmware updates Device Configuration Templates Configurable monitoring and alerting Remote provisioning and airtime activation (where applicable) |
| GATEWAY MANAGEMENT INTERFACES | ALMS Local web user interface AT Command Line Interface (Telnet/SSH/Serial) SMS Commands SNMP |
| MANAGEMENT SYSTEM ACCESS/SECURITY | Remote authentication (LDAP, RADIUS and TACACS+) |
| POWER | Input Voltage: 7 to 36 VDC LTE Idle Power: 900mW (75 mA @ 12VDC) Standby Mode Power: 53 mW (4.4 mA @ 12 VDC) triggered on low voltage, I/O or periodic timer Low voltage disconnect to prevent battery drain Built-in protection against voltage transients including 5 VDC engine cranking and +200 VDC load dump Ignition Sense with time delay shutdown Configurable features and ports to optimize power consumption |
| ENVIRONMENTAL | Operating Temperature: -40°C to +70°C / -40°F to +158°F Storage Temperature: -40°C to +85°C / -40°F to +185°F Humidity: 90% RH @ 60°C Military Spec MIL-STD-810G conformance to shock, vibration, thermal shock, and humidity IP64 rated ingress protection |
| INDUSTRY CERTIFICATIONS | Safety: IECCE Certification Bodies Scheme (CB Scheme), UL 60950 Vehicle Usage: E-Mark (UN ECE Regulation 10.04), ISO7637-2, SAE J1455 (Shock & Vibration) Hazardous Environments: Class 1 Div 2 Environmental: RoHS, REACH, WEEE |
| SUPPORT AND WARRANTY | 3-year standard warranty Optional 2-year warranty extension Unrestricted device software upgrades 1-day Accelerated Hardware Replacement available through participating resellers |

About Sierra Wireless

Sierra Wireless is building the Internet of Things with intelligent wireless solutions that empower organizations to innovate in the connected world. We offer the industry's most comprehensive portfolio of 2G, 3G, and 4G embedded modules and gateways, seamlessly integrated with our secure cloud and connectivity services. OEMs and enterprises worldwide trust our innovative solutions to get their connected products and services to market faster.

For more information, visit www.sierrawireless.com.