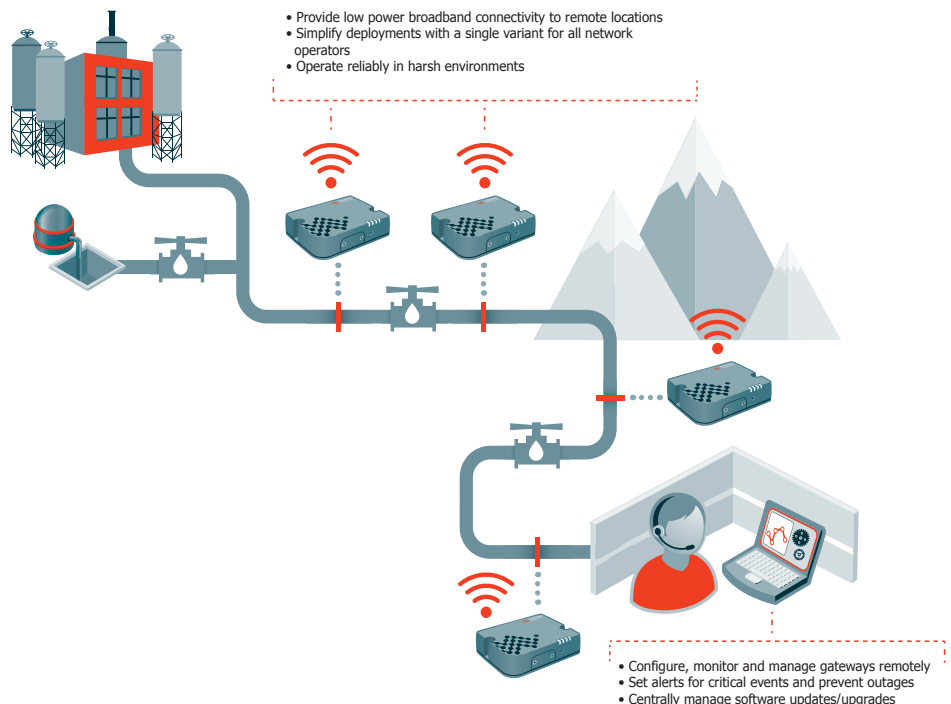## AirLink® RV50 Industrial LTE Gateway

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.
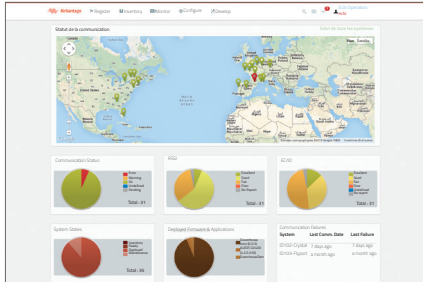
- GPS for tracking equipment

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.
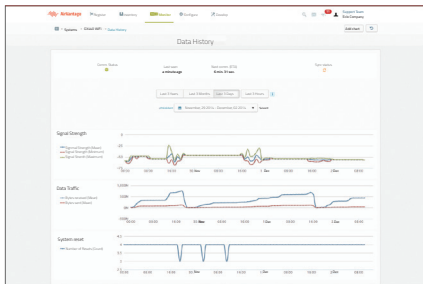
With the lowest power consumption available on the market, the RV50 dramatically reduces infrastructure costs when running on battery or solar power. The RV50X variant supports an extensive range of LTE bands worldwide, and its LTE-Advanced capabilities deliver up to 300 Mbps downlink speeds. For deployments 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).

- Provide low power broadband connectivity to remote locations
- Simplify deployments with a single variant for all network operators
- Operate reliably in harsh environments

- Configure, monitor and manage gateways remotely
- Set alerts for critical events and prevent outages
- Centrally manage software updates/upgrades

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

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WIRELESS

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.

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.

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

	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 Frequency Bands*	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+ Frequency Bands*	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 Frequency Bands*				B39
2G CDMA 1XRTT/EV-DO REV 1 Frequency Bands*	2100(B1), 1900(B2), AWS(B4), 850(B5), 900(B8)			
2G EDGE/GSM/GPRS Frequency Bands*	Quad-band	Quad-band		
APPROVALS				
Regulary	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.

SIERRA WIRELESS®

	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 • 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: IECEE 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	Includes 1st Year AirLink Complete: • AirLink Management Service (ALMS) • Direct 24/7 Technical Support • 3-year standard warranty; optional 2-year warranty extension 1-day Accelerated Hardware Replacement available through participating resellers

About Sierra Wireless

Sierra Wireless (NASDAQ: SWIR) (TSX: SW) is an IoT pioneer, empowering businesses and industries to transform and thrive in the connected economy. Customers Start with Sierra because we offer a device-to-cloud solution, comprised of embedded and networking solutions seamlessly integrated with our IoT services. OEMs and enterprises worldwide rely on our expertise in delivering fully integrated solutions to reduce complexity, turn data into intelligence and get their connected products and services to market faster. Sierra Wireless has more than 1,400 employees globally and operates R&D centers in North America, Europe and Asia.

For more information, visit www.sierrawireless.com.

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