Industrial Grade, LTE-Advanced Performance, Low Power

The AirLink RV50X 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 RV50X provides real-time remote connectivity for SCADA, distribution management systems and metering.

With the lowest power consumption available on the market, the RV50X dramatically reduces infrastructure costs when running on battery or solar power. The RV50X 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 RV50X provides fallback to 3G networks. Furthermore, the RV50X provides programmability to enable edge computing applications, using the ALEOS Application Framework (AAF).

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

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RUGGED DESIGN FOR DEMANDING ENVIRONMENTS
The RV50X 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 RV50X 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 RV50X 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 3G deployments migrating to LTE, the RV50X 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 RV50X 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 RV50X 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 RV50Xs 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
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 RV50X 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. RV50X can also be integrated directly into existing management systems via SNMP.

INTELLIGENCE AT THE EDGE
The RV50X 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 RV50X 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 RV50Xs from unwanted access. Secure signing and authentication of software images offers end-to-end protection of the software upgrade process, protecting the RV50X against unwanted malware.

### RV50X

<table>
<thead>
<tr>
<th>Frequency Bands*</th>
<th>North America &amp; EMEA</th>
<th>Asia Pacific</th>
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</thead>
<tbody>
<tr>
<td>4G LTE</td>
<td>2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 2600(B7), 900(B8), 850(B18), 850(B19), 1500(B21), 700(B28), TDD B38, TDD B39, TDD B40, TDD B41</td>
<td>2100(B1), 1800(B3), AWS(B5), 2600(B7), 900(B8), 850(B18), 850(B19), 1500(B21), 700(B28), TDD B38, TDD B39, TDD B40, TDD B41</td>
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<tr>
<td>3G HSPA/HSPA+</td>
<td>2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 900(B8)</td>
<td>2100(B1), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19),</td>
</tr>
<tr>
<td>3G TD-SCDMA</td>
<td>B39</td>
<td></td>
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</tbody>
</table>

APPROVALS
- FCC, IC, PTCRB, R&TTE, GCF, CE
- RCM, JRF/IPA, Anatel
- Telstra

PART NUMBERS
- 1103052
- 1103045
- 1103973 (China)

*For carrier specific band support please refer to the hardware user guide.
**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 Passsthrough
- VLAN
- Host Interface Watchdog
- PPPoE
- MAC Address Filtering
- Inbound and Outbound Trusted IP
- DMZ
- VRRP
- NEMO/DMNR
- Host Port Routing
- Port Forwarding
- Reliable Static Route
- Dynamic DNS
- Policy Routing
- VPC
- IPv6 Gateway
- 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

**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)

**WARRANTY**
- 3-year standard warranty; optional 2-year warranty
- Direct 24/7 Technical Support
- AirLink Management Service (ALMS)
- 1-day Accelerated Hardware Replacement available through participating resellers

**SPECIFICATIONS**
- **Engineered for Industry**
  - Reliable Store and Forward
  - Multiple Redundant Servers
  - Reports: NMEA 0183 V3.0, TAIP, RAP, XORA
  - Tracking Sensitivity: -145 dBm
  - Accuracy: <2 m (50%), <5 m (90%)

**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

**ACCESSORIES**
- In the Box: DC Power Cable and Quick Start Guide
- Other Accessories (sold separately):
  - 2000579 AC Adapter, 12VDC
  - 6000659 DIN Rail Bracket

**About Sierra Wireless**
Sierra Wireless (NASDAQ: SWIR) (TSX: SW) is the leading IoT solutions provider that combines devices, network and software to unlock value in the connected economy. Companies globally are adopting IoT to improve operational efficiency, create better customer experiences, improve their business models and create new revenue streams. Whether it’s a solution to help a business securely connect edge devices to the cloud, or a software/API solution to help manage processes associated with billions of connected assets, or a platform to extract real-time data to make the best business decisions, Sierra Wireless will work with you to create the right industry-specific solution for your next IoT endeavor. Sierra Wireless has more than 1,300 employees globally and operates R&D centers in North America, Europe and Asia. For more information, visit www.sierrawireless.com.