

# Sierra Wireless AirLink® GX450



## Rugged, reliable 4G mobile communications

The AirLink® GX450 is a rugged, secure mobile gateway designed to deliver mission-critical communications for in-vehicle applications. With LTE coverage on major global networks, the GX450 extends broadband connectivity to a wide range of devices and applications. It extends the enterprise network and management to the fleet, ensuring reliable, secure broadband data access for mobile users in the field.



## The GX450 Solution

AirLink® GX450 – Rugged, mobile 4G gateway



### AIRLINK GX450 FEATURES

- State of the art LTE coverage spanning 11 LTE frequency bands
- Provides in-vehicle network connectivity via Ethernet, Serial, WiFi and USB
- Supports automatic switching to Wi-Fi networks at station/depot
- Rugged vehicle design exceeds MIL-STD-810G specifications for shock and vibration
- Integrated events engine to track vehicle status and workforce safety
- Reliable GPS report store and forward to multiple redundant servers
- Up to 5 VPN tunnels to support secure communications over cellular networks
- Remote configuration, software update, and monitoring with AirLink Management Service (ALMS)
- Integrated by industry leading solution partners in the Solution Exchange
- Industry leading warranty, including free software maintenance and accelerated hardware replacement



### AIRLINK GX450 BENEFITS

- Supports present and future high-speed LTE networks
- Proven reliability, over 1 million AirLink devices deployed
- Secure communications from vehicle to enterprise
- Advanced situational monitoring for the mobile workforce
- Powerful remote management solution



AirLink®

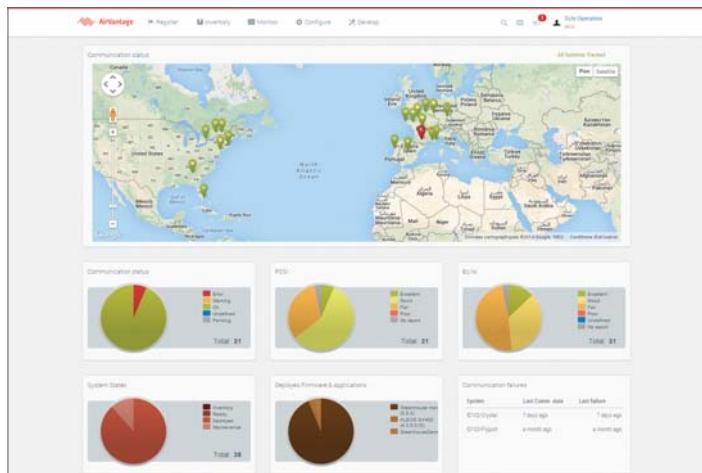
# Sierra Wireless AirLink® GX450

## MANAGEABILITY: MANAGE, MONITOR AND ADMINISTER YOUR FLEET REMOTELY

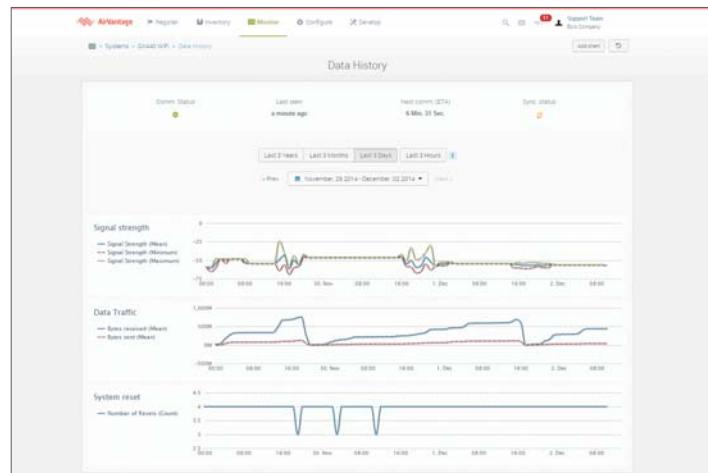
Managing a fleet of mobile gateways is a demanding task. You need to maintain multiple device configurations, update device software, and remotely diagnose reported issues. Fortunately, AirLink Management Service (powered by AirVantage®) is the industry's leading<sup>1</sup> device management solution. This highly advanced application supports over-the-air device registration, configuration and software updates. Dashboards display up-to-date views of the entire fleet, and custom reports can be set-up to monitor critical events and prevent downtime.

ABI Research has ranked ALMS as "Best in Class" among competing device management services.

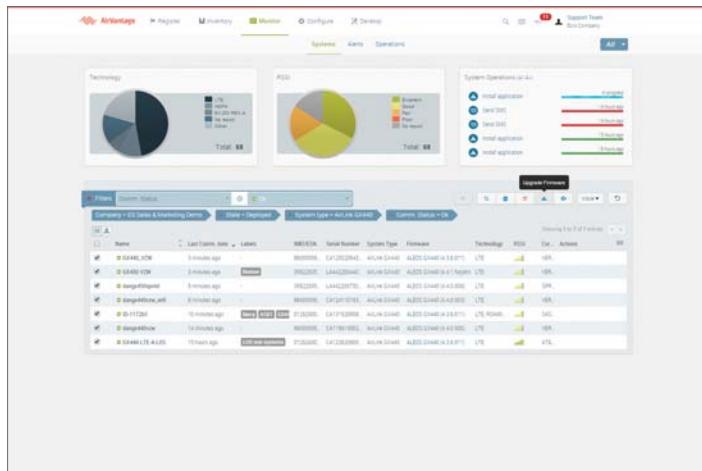
### DASHBOARD



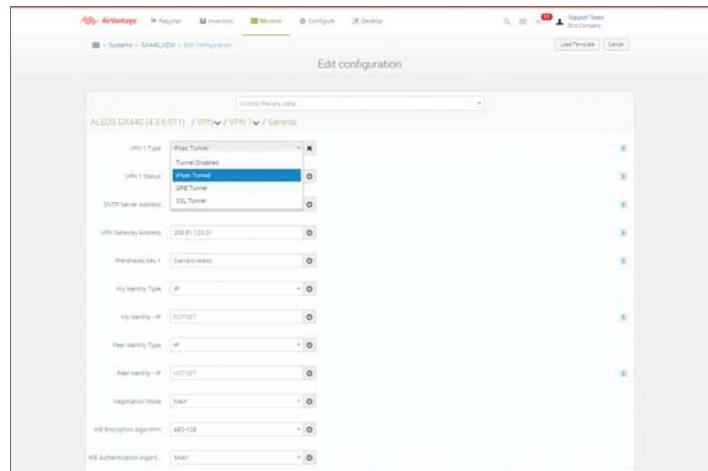
### MONITOR CONNECTIVITY



### SOFTWARE UPGRADES/UPDATES



### SECURITY CONFIGURATION



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## AirLink® GX450

### VEHICLE AREA NETWORKING: CONSOLIDATE CONNECTIONS

The GX450 is available in four configurations to provide vehicle-area connectivity tailored for each application environment. The base model provides connectivity for wired Ethernet, Serial and USB devices in the vehicle; an Ethernet option provides additional Ethernet ports. With the Wi-Fi option, the GX450 also includes an 802.11 b/g/n mobile access point for wireless devices and a Wi-Fi client for depot/station communications. An I/O option provides 4 digital input/outputs and 4 analog inputs to monitor external system events and sensor inputs. Consolidating all devices according to your requirements at the vehicle reduces the number of modems, antennas and subscriptions otherwise needed.

| MODEL           | HARDWARE INTERFACES  |
|-----------------|--|
| GX450 base      | 1 Ethernet, 1 RS-232 serial, 1 digital I/O, 1 USB, 2 cellular & 1 GPS antenna connectors |
| Wi-Fi option    | Adds 802.11 b/g/n Wi-Fi hotspot with simultaneous client mode for cellular offloading    |
| I/O option      | Adds 4 digital I/O, 4 analog input, and a second RS-232 Serial port                      |
| Ethernet option | Adds 2 more Ethernet ports for a total of 3  |

### RUGGED DESIGN FOR DEMANDING VEHICLE APPLICATIONS

The GX450 is designed from the ground up to withstand the harsh environmental conditions of vehicle use. The die cast aluminum housing is sealed to meet IP64 levels of resistance to dust and water ingress. The product is tested to meet and exceed the MIL-STD-810G specification for shock, vibration, temperature and humidity. Immunity to harsh electrical transients is covered to meet international vehicle use standards.

### SECURE MOBILE COMMUNICATIONS

The GX450 is loaded with features to secure your critical data. With up to 5 concurrent VPN sessions, you can ensure secure communications to multiple back-end systems. Remote authentication management allows you to use enterprise grade systems to manage access to devices in the field. Finally, port filtering and trusted IP protect the devices connected to your GX450 from unwanted access.

### REPORT AND ALERT: DON'T JUST COMMUNICATE

As a fleet manager, you need more than just communications. You need to monitor the safety of your mobile workforce and the state of your vehicles. For example, you need to know if a worker has set off a man-down alert or if a police car has engaged the lights and siren. For this, you need the AirLink integrated events engine. This powerful tool allows you to develop custom event triggers and create tailored reports that communicate what's happening in the vehicle to third party server platforms - all without any programming. Best of all, through the Sierra Wireless Solution Exchange, you have access to a catalogue of world class solution partners that have already integrated this functionality into their AVL and mobile workforce solutions.

# AirLink® GX450

## Technical Specifications

| FEATURE             | SPECIFICATION  | FEATURE  | SPECIFICATION   |
|---------------------|--|--|---|
| Cellular WAN        | <p><b>North American Model (Sierra Wireless MC7354)</b></p> <ul style="list-style-type: none"> <li>- Carrier Approvals: Verizon, AT&amp;T, Sprint, T-Mobile USA, Rogers, Bell, Telus</li> <li>- Supported Frequency Bands <ul style="list-style-type: none"> <li>• LTE: 1900(B2), AWS(B4), 850(B5), 700(B13), 700(B17), 1900(B25)</li> <li>• WCDMA: 2100(B1), 1900(B2), AWS(B4), 850(B5), 900(B8)</li> <li>• EV-DO/CDMA: 800(BC0), 1900(BC1), 1700(BC10)</li> <li>• GSM/GPRS/EDGE: Quad-band</li> </ul> </li> <li>- Industry Approvals: FCC, IC, PTCRB</li> </ul> <p><b>International Model (Sierra Wireless MC7304)</b></p> <ul style="list-style-type: none"> <li>- Supported Frequency Bands <ul style="list-style-type: none"> <li>• LTE: 2100(B1), 1800(B3), 2600(B7), 900(B8), 800(B20)</li> <li>• WCDMA: 2100(B1), 1900(B2), 850(B5), 900(B8)</li> <li>• GSM/GPRS/EDGE: Quad-band</li> </ul> </li> <li>- Industry Approvals: CE, RCM, GCF, R&amp;TTE</li> </ul> | <p><b>Security</b></p> <ul style="list-style-type: none"> <li>Remote Authentication (LDAP, RADIUS and TACACS+)</li> <li>DMZ</li> <li>Inbound and Outbound Port filtering</li> <li>Inbound and Outbound Trusted IP</li> <li>MAC Address Filtering</li> <li>PCI DSS V3.0 compatible</li> </ul>   | <p><b>Satellite Navigation (GNSS)</b></p> <ul style="list-style-type: none"> <li>12 Channel GPS and GLONASS Receiver</li> <li>Acquisition Time: 1s Hot Start</li> <li>Accuracy: &lt;2m (50%), &lt;5m (90%)</li> <li>Tracking Sensitivity: -145dBm</li> <li>GNSS Watchdog</li> <li>Reports: NMEA 0183 V3.0, TAIP, RAP, XORA</li> <li>Multiple Redundant Servers</li> <li>Reliable Store and Forward</li> </ul> |
| Host Interfaces     | <ul style="list-style-type: none"> <li>- 10/100 Base-T RJ45 Ethernet port (Ethernet option includes 3 ports)</li> <li>- RS-232 Serial Port on DB-9 Connector (I/O option includes additional Serial Port)</li> <li>- USB 2.0 Micro-B Connector</li> <li>- 3 SMA antenna connectors (Primary, Secondary/Diversity, GPS)</li> <li>- Active GPS antenna support</li> </ul>  | <p><b>Events Engine</b></p> <ul style="list-style-type: none"> <li>Custom event triggers and reports</li> <li>Configurable interface, no programming</li> <li>Event Types: Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature</li> <li>Report Types: RAP, SMS, Email, SNMP Trap, TCP (Binary, XML, CSV)</li> <li>Event Actions: Drive Relay Output</li> </ul>           | <p><b>AirLink Management Service</b></p> <ul style="list-style-type: none"> <li>Secure cloud-based device management application</li> <li>Remote provisioning and airtime activation</li> <li>Device configuration and template management</li> <li>Configurable monitoring and alerting</li> <li>Fleet wide firmware upgrade delivery</li> <li>Auto configuration</li> </ul>                                 |
| Input/Output        | <p>Configurable I/O pin on power connector</p> <ul style="list-style-type: none"> <li>• Digital Input ON Voltage: 3.3 to 30 VDC</li> <li>• Digital Input OFF Voltage: 0 to 1.2 VDC</li> <li>• Digital Output &gt; 200mA @ 30VDC</li> </ul> <p>I/O Model Only</p> <ul style="list-style-type: none"> <li>• 5 configurable digital I/O</li> <li>• 4 configurable analog input (input voltage 0 to 30 VDC)</li> </ul>   | <p><b>Management Interfaces</b></p> <ul style="list-style-type: none"> <li>Web Based User Interface</li> <li>Device Configuration Templates</li> <li>Over-the-air software and radio module firmware updates</li> <li>AT Command Line Interface (Telnet/SSH/Serial)</li> <li>SMS Commands</li> <li>SNMP</li> </ul>   | <p><b>Application Framework</b></p> <ul style="list-style-type: none"> <li>ALEOS Application Framework (AAF)</li> <li>LUA Scripting Language</li> <li>Eclipse-based IDE</li> <li>Integrated with AirVantage</li> </ul>  |
| LAN (Ethernet/USB)  | <p>DNS, DNS Proxy</p> <p>DHCP Server</p> <p>IP Passthrough</p>   | <p><b>Power</b></p> <ul style="list-style-type: none"> <li>Analog Ignition Sense and Power Management</li> <li>Input Voltage: 9 to 36 VDC</li> <li>Low Power mode triggered on low voltage, timer delay (ignition sense), or periodic timer</li> </ul>   | <p><b>Environmental</b></p> <ul style="list-style-type: none"> <li>Operating Temperature: -30°C to +70°C / -22°F to +158°F</li> <li>Storage Temperature: -40°C to +85°C / -40°F to +185°F</li> <li>Humidity: 90% RH @ 60°C</li> <li>Military Spec MIL-STD-810G conformance to shock, vibration, thermal shock, and humidity</li> <li>IP64 rated ingress protection</li> </ul>                                 |
| Serial              | <p>TCP/UDP PAD Mode</p> <p>Modbus (ASCII, RTU, Variable)</p> <p>PPP</p> <p>Reverse Telnet</p> <p>Garmin FMI</p>  | <p><b>Industry Certifications</b></p> <ul style="list-style-type: none"> <li>Safety: IEC60950-1, IEC60950-22, IEC62368-1, IEC62368-2, UL60950-1, UL60950-22, UL62368-1, UL62368-2, FCC ID: 2AB9A, IC: 20950-A, CE: 004, RoHS, REACH, WEEE</li> <li>Vehicle Usage: E-Mark (2009/19/EC), ISO7637-2</li> <li>Hazardous Environments: Class 1 Div 2</li> <li>Environmental: RoHS, REACH, WEEE</li> </ul> | <p><b>Support and Warranty</b></p> <ul style="list-style-type: none"> <li>3 year standard warranty</li> <li>Optional additional 2 year warranty extension</li> <li>Unrestricted device software upgrades</li> <li>1-day Accelerated Hardware Replacement available through participating resellers</li> </ul>   |
| WiFi                | <p>On WiFi Model Only</p> <ul style="list-style-type: none"> <li>• IEEE 802.11 b/g/n</li> <li>• Adjustable output power (Max:15dBm)</li> <li>• Access point for up to 8 clients</li> <li>• Simultaneous access point/client mode</li> <li>• WEP, WPA-PSK, WPA2-PSK Security</li> </ul>   |  |   |
| Network and Routing | <p>Network Address Translation (NAT)</p> <p>Port Forwarding</p> <p>Host Port Routing</p> <p>NEMO/DMNR</p> <p>VRRP</p> <p>Reliable Static Route</p> <p>Dynamic DNS</p>  |  |   |
| VPN                 | <p>IPsec, GRE, and SSL VPN Client</p> <p>Up to 5 concurrent tunnels</p> <p>Split Tunnel</p> <p>Dead Peer Detection (DPD)</p> <p>Multiple Subnets</p> <p>VPN Failover</p>   |  |   |

### About Sierra Wireless

Sierra Wireless is building the Internet of Things with intelligent wireless solutions that enable 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. Sierra Wireless has more than 900 employees globally and operates R&D centers in North America, Europe and Asia.

For further company and product information, please visit [www.sierrawireless.com](http://www.sierrawireless.com).