



AirLink® MP70 High Performance Vehicle Router

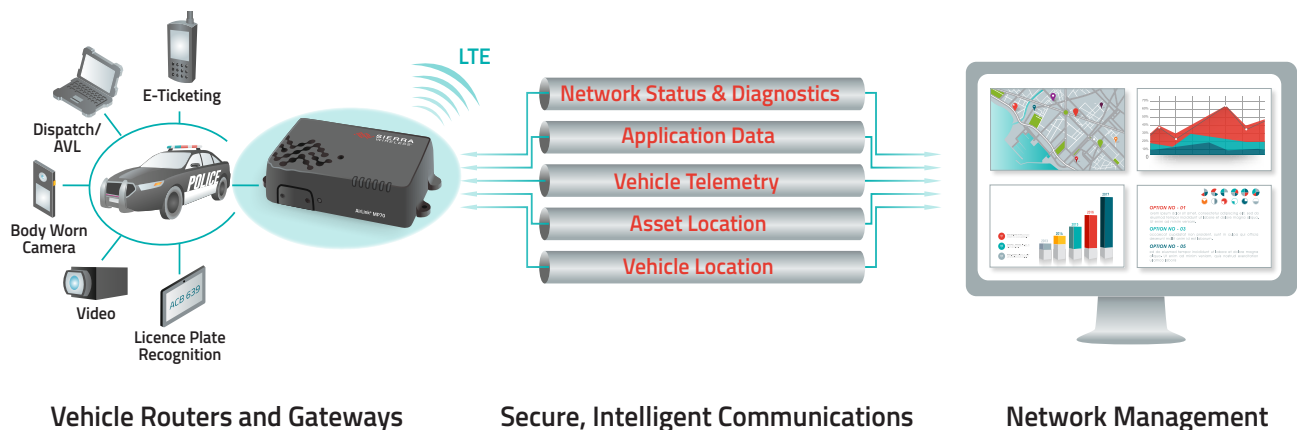
Vehicle Grade, LTE-Advanced, Gigabit Wi-Fi

The AirLink® MP70 is a high performance, LTE-Advanced vehicle router developed specifically for mission critical applications in public safety, transit and field services.

Offering high power, long range Gigabit Wi-Fi and Gigabit Ethernet, and up to 300 Mbps downlink speeds over LTE-Advanced with automatic fallback to 3G networks, the AirLink MP70 unites the fleet with the enterprise network and enables multiple field applications to work simultaneously, further and faster from the vehicle than ever before.

The MP70 supports advanced remote visibility and instant insight into the vehicle area network (VAN), field applications and assets, and the mobile workforce. Purpose built for the vehicle, the MP70 delivers superior reliability and uninterrupted operation in harsh mobile environments.

Secure, managed LTE networking for mission critical applications



HIGH PERFORMANCE VEHICLE AREA NETWORK (VAN)

With dual-band Gigabit Wi-Fi and Gigabit Ethernet, the AirLink MP70 enables a complete portfolio of broadband mission critical applications to work simultaneously, further and faster from the vehicle than ever before.

Built for first responders and field personnel, the MP70 offers up to 300 Mbps downlink speeds over LTE-Advanced and up to 1.3 Gbps over 802.11ac Wi-Fi (with 3x3 MIMO) and Gigabit 4-port Ethernet. The AirLink MP70 can host up to 128 simultaneous Wi-Fi clients and has multiple SSIDs to support public and private network connections, in addition to managed Wi-Fi services for content filtering. It concurrently connects many mission critical applications in and around the vehicle, including laptops, DVRs and tablets, in addition to providing live video streaming, and rapid and secure access to remote databases, such as record management systems.

The AirLink MP70 supports 21 LTE frequency bands, enabling superior coverage on LTE networks worldwide. With automatic configuration of the radio based on the SIM, the AirLink MP70 has three product variants; one for North America & EMEA, one for Asia Pacific and one for the US offering EV-DO fallback (MP70E).

Outside of the US, AirLink MP70 offers dual-SIM functionality to enable automatic failover between SIMs, providing superior connectivity and cost optimization when roaming.

CONNECTED VEHICLE AWARENESS

The AirLink MP70 increases efficiency, streamlines operations and reduces costs by supporting advanced remote visibility and instant insight into the vehicle area network (VAN), field applications and assets, and the workforce.

Offering vehicle ready I/O, the MP70 also supports direct vehicle bus communications for both OBD-II (J1979) or J1939 vehicles. This direct connection enables collection of data without the need for separate scanner hardware.

The MP70 offers an integrated mobile events engine to monitor hundreds of router, network, and connected vehicle parameters in real time, and create custom alerts, event triggers and reports. Reports and alerts are synchronized with third party server platforms or AirLink network management software to enable centralized and remote management of critical events.

Utilizing next generation GNSS location technology that supports 48 satellites from 4 different satellite constellations (GPS, GLONASS, Galileo, Beidou), the MP70 provides fast, reliable and precise vehicle location, even in the most challenging environments. The MP70 contains an Inertial Navigation System¹ that allows it to track without satellites, using dead reckoning algorithms integrated with the GNSS. The Inertial Navigation System continues to provide positioning information when the GNSS is unable to acquire satellites. This enables tracking through urban canyons, tunnels and underground parking.

Location information can be streamed from the GNSS locally over the serial port to connected in-vehicle driver navigation and dispatch systems, and remotely over NMEA, TAIP, RAP and XORA protocols for integration with 3rd party applications.

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Dead Reckoning / Inertial Navigation will be supported in the release of ALEOS 4.9.0.

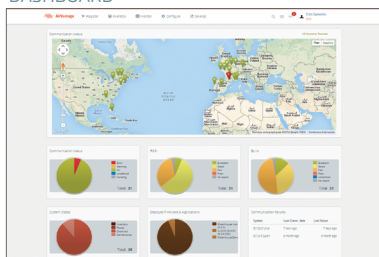
PURPOSE BUILT FOR VEHICLES

The MP70 provides superior reliability and continuous operation in harsh environments. It will survive extreme transient surges, and maintain continuous power during 5V brownouts and spikes from -600 VDC to 200 VDC.

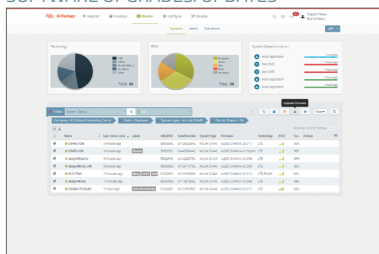
The AirLink MP70 safeguards vehicle operation by using built-in battery charge protection to monitor ignition state and battery voltage and, with a class leading power supply which meets and exceeds the requirements for E-Mark, ISO 7637-2 and SAEJ1455, the MP70 requires no additional power conditioning.

Developed with industrial grade components, the AirLink MP70 has a customized die cast aluminum housing to manage the thermal output from its high performance LTE-Advanced and Wi-Fi radios. The MP70 is designed to meet IP64 for resistance to dust and water ingress, and is tested to meet and exceed the MIL-STD-810G specifications for shock, vibration, temperature and humidity.

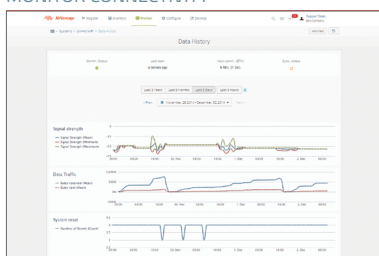
DASHBOARD



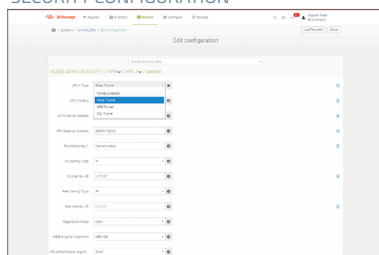
SOFTWARE UPGRADES/UPDATES



MONITOR CONNECTIVITY



SECURITY CONFIGURATION



SECURE, INTELLIGENT COMMUNICATIONS

The AirLink MP70 provides consolidated data security for all field applications and mobile assets in the vehicle area network (VAN).

Offering up to 5 concurrent VPN sessions, the AirLink MP70 enables secure communications to multiple back-end systems, and provides remote authentication management to allow the implementation of enterprise-grade systems to control access to devices in the field. Secure signing and authentication of software images offers end-to-end protection of the software upgrade process, protecting the MP70 against unwanted malware.

NETWORK MANAGEMENT

Network Management solutions for the MP70 allow over-the-air registration, configuration and software updates for all AirLink gateways and routers, and can be deployed either as a hosted 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 vehicle fleet and enable simplified management, control and monitoring of connected MP70s, field applications and mobile assets.

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.

FEATURE	BENEFIT
LTE-Advanced (Carrier Aggregation) Wide Area Network (WAN) supporting up to 300 Mbps downlink speed	High speed, concurrent connectivity for multiple wired and wireless devices and applications in and around the vehicle
State-of-the-art LTE coverage spanning 21 LTE frequency bands worldwide, with automatic 3G fallback (HSPA/EV-DO)	Connectivity to LTE networks worldwide
Automatic radio configuration based on the SIM	Increases flexibility and simplifies inventory management
Dual-SIM functionality to enable automatic failover between SIMs outside of the US	Superior network connectivity and cost optimization when roaming
4-port Gigabit Ethernet and next generation 802.11ac Gigabit Wi-Fi (3 x 3 MIMO) to support up to 1.3 Gbps, up to 128 clients, multiple SSIDs, Passenger Wi-Fi Captive Portal and WPA2 Enterprise	Securely connects and consolidates data from multiple high bandwidth field applications and mobile assets in and around the vehicle
	Provides simultaneous connectivity to both private and public networks, in addition to passenger content filtering
High power Wi-Fi provides long range Vehicle Area Network (VAN) and simultaneous AP/Client Mode	Enables all devices to connect to router in and around the vehicle, and data to be transmitted over depot Wi-Fi networks
High power Gigabit Ethernet WAN Interface	Single solution for hybrid networks containing wireless and wired deployments
Direct interface to Vehicle Diagnostic Port supporting both Light-Duty (OBD-II) and Heavy-Duty (J1939) vehicles.	Access to critical vehicle health data
Built-in vehicle ready I/O for remote monitoring of auxiliary devices, such as light bars, sirens and gun racks	Advanced awareness of fleet operations
Precision Geo-location via GNSS and Inertial Navigation System, allow local data streaming over the serial port and remotely over NMEA, TAIP, RAP, XORA protocols	Superior vehicle location accuracy, even when out of satellite coverage, available to field personnel and dispatch staff, and via 3rd party platforms
Built-in 9-Axis Accelerometer for driver behavior, motion sensing	Monitor driver behavior to reduce accident risk and lower operating costs
Integrated Mobile Events Engine for real time monitoring and alert reporting of multiple devices, networks, and connected vehicle parameters	Remote, real time visibility and insight into the vehicle, connected equipment and mobile workforce
Designed to meet IP64 for resistance to dust and water ingress, and exceeds the MIL-STD-810G specification for shock, vibration, temperature and humidity, and an aluminum chassis for heat dissipation	Superior reliability and uninterrupted operation in harsh vehicle environments
Class-leading power supply with built-in surge protection that exceeds E-Mark, ISO 7637-2 and SAEJ1455 requirements, surviving 5V brownouts and spikes from -600 VDC to 200 VDC	Designed to perform with unpredictable and “noisy” power sources, no external power conditioning is required
Remote monitoring, management and control with Sierra Wireless’s Network Management Solutions—deployable in the cloud or in the enterprise data center	Simplified and centralized network and mobile asset management to increase efficiency, prevent downtime and reduce costs
Over twenty years’ experience in cellular networking, and over 1.5 million AirLink gateways deployed	Proven track record of providing reliable communications for mission critical applications
Industry leading warranty, support, software updates and advance replacement	Reduces ongoing support costs and total cost of ownership

AIRLINK MP70 HIGH PERFORMANCE VEHICLE ROUTER

MP70E		MP70	
United States		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), 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
Frequency Bands*			
3G WCDMA/HSPA+/ EVDO	2100(B1), 1900(B2), AWS(B4), 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)
Frequency Bands*			TD-SCDMA: B39
	EVDO: BC0, BC1, BC10		
2G CDMA/GSM/GPRS			
Frequency Bands*	EDGE/GSM/GPRS: Quad-band CDMA: BC0, BC1, BC10		
APPROVALS			
Regularly	FCC, PTCRB	FCC, IC, PTCRB, R&TTE, GCF, CE	RCM, JRF/JPA
Carrier	Verizon, AT&T, Sprint	Verizon, AT&T, T-Mobile USA, Sprint, Rogers, (Pending: Telus, Bell)	Telstra

	Specification		Specification
HOST INTERFACES	4 Gigabit RJ-45 Ethernet ports RS-232 serial port (DB-9) USB 2.0 Micro-B Connector 3 SMA antenna connectors (cellular, diversity, GNSS) 3 RP SMA antenna connectors (3x3 MIMO Wi-Fi) Active GNSS antenna support	SECURITY	Remote Authentication (LDAP, RADIUS, TACACS+) DMZ Inbound and Outbound Port filtering Inbound and Outbound Trusted IP MAC Address Filtering PCI compatible Secure Firmware Update
Wi-Fi (Optional)	Dual Band 2.4/5GHz Wi-Fi 802.11 b/g/n/ac with support for 128 clients WPA2 Enterprise High output power 21 dBm (per chan) Simultaneous AP/Client Mode Multiple SSIDs Captive Portal Wi-Fi as WAN Mode	SATELLITE NAVIGATION (GNSS)	Dedicated 48-Channel GNSS receiver supporting GPS, GLONASS, BeiDou, Galileo. Tracking Sensitivity: -162 dBm Accuracy: < 1.5m (50%), < 3.15m (95%) Acquisition Time: 1s Hot Start Accelerometer and Gyroscope for Inertial Navigation (Dead Reckoning) Reports: NMEA 0183 V3.0, TAIP, RAP, XORA Multiple Redundant Servers Reliable Store and Forward
INPUT/OUTPUT	Configurable I/O (5 pins total) 5 Digital Inputs: ON Voltage: 2.7 to 36 VDC 1 Digital Open Collector Output > sinking 500 mA 3 Analog Inputs: 0.5-36 VDC - Configurable Pull-ups for dry contact input - OBD-II/J1939 Interface	NETWORK MANAGEMENT	Secure mobile network & asset management application 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)
LAN (ETHERNET/USB)	DHCP Server IP Passthrough VLAN Host Interface Watchdog PPPoE	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
SERIAL	TCP/UDP PAD Mode Modbus (ASCII, RTU, Variable) PPP DNP3 Interoperability		
NETWORK AND ROUTING	Network Address Translation (NAT) Port Forwarding NEMO/DMNR VRRP Reliable Static Route Ethernet WAN Verizon PNTM IPv6 Gateway Policy Routing Dynamic DNS		
VEHICLE TELEMETRY	OBD-II / J1939 Interface (requires accessory cable) Diagnostic Real-Time Alerts / Reports (via AMM) Accelerometer for detecting hard braking, acceleration, cornering.		

AIRLINK MP70

HIGH PERFORMANCE

VEHICLE ROUTER

	Specification
VPN	IPsec, GRE, and OpenVPN Client Up to 5 concurrent tunnels Split Tunnel Dead Peer Detection (DPD)
ROUTER MANAGEMENT INTERFACES	Local web user interface AT Command Line Interface (Telnet/SSH/Serial) SNMP SMS Commands
APPLICATION FRAMEWORK	ALEOS Application Framework (AAF) LUA Scripting Language
POWER	Input Voltage: 7 to 36 VDC 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
DIMENSIONS	190mm x 45mm x 105mm (112mm including connectors) 7.5in x 1.75 in x 4.1 in (4.4 in including connectors) Weight: 0.76kg / 1.68 lb

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

	Specification
ENVIRONMENTAL	Operating Temperature: -30°C to +70°C / -22°F to +158°F Storage Temperature: -40°C to +85°C / -40°F to +185°F Humidity: 95% 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, Electrical) Environmental: RoHS2, 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
PART NUMBERS	NA & EMEA: 1102709 Non Wi-Fi / 1102743 Wi-Fi US: 1103438 Non Wi-Fi/ 1103439 Wi-Fi APAC: 1102713 Non Wi-Fi / 1102745 Wi-Fi In the box: DC Power Cable and Quick Start Guide

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. Sierra Wireless has more than 950 employees globally and operates R&D centers in North America, Europe, and Asia.

For more information, visit www.sierrawireless.com.

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