# 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 mobile 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 speed over LTE-Advanced, 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

Vehicle Routers and Gateways   **Secure, Intelligent Communications**   **Network Management**

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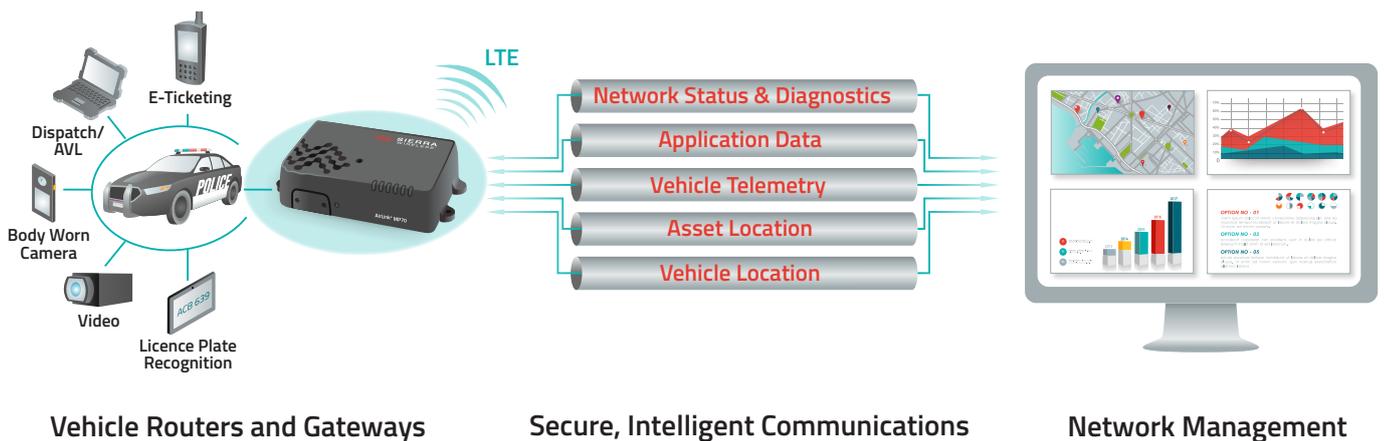
HIGH PERFORMANCE VEHICLE AREA NETWORK (VAN)

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 in-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 Ethernet. The AirLink MP70 can host up to 64 simultaneous clients, and concurrently connect multiple mission critical applications in and around the vehicle including laptops, PVRs 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 22 LTE frequency bands, enabling superior coverage on LTE networks worldwide. With automatic configuration of the radio based on the SIM, the AirLink MP70 has two product variants—one for LTE networks in North America, Europe, Middle East and Africa, and another variant to support all major LTE networks in Asia Pacific.

Outside of the US, the 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), in-field applications and assets, and mobile workforces.

Offering built-in vehicle-ready I/O, with the capacity to support AirLink Vehicle Telemetry, the MP70 enables remote monitoring of auxiliary devices such as light bars, sirens and gun racks, and can collect OBD-II vehicle telemetry data for engine diagnostics and performance data to monitor vehicle health.

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 the MP70 provides fast, reliable and precise vehicle location information, 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 and RAP protocols, making MP70 ideal for integration with 3rd party applications.

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DASHBOARD
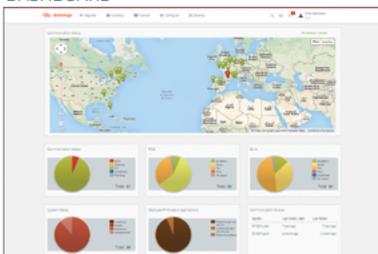
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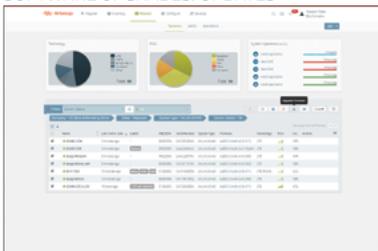
MONITOR CONNECTIVITY

SECURITY CONFIGURATION
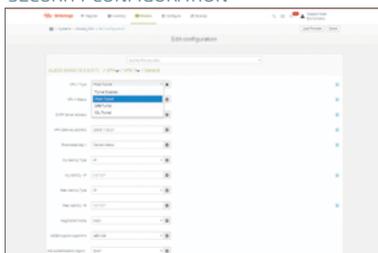
PURPOSE BUILT FOR VEHICLES

The MP70 provides superior reliability and continuous operation in harsh environments. It will survive extreme transient surges, and maintains 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 does not require external power conditioning.

Developed with industrial grade components, and has a customized die cast aluminium housing to manage the thermal output from its high performance LTE-Advanced and Wi-Fi radios. The MP70 is sealed 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.

SECURE, INTELLIGENT COMMUNICATIONS

The AirLink MP70 provides consolidated data security for all in-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, such as WPA2 Enterprise, 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.

oMM Management System (oMM) 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.

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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 22 LTE frequency bands worldwide	Connectivity to LTE networks worldwide
Two product variants: one product variant for all major North American and European network operators, and one product variant for all major Asia Pacific network operators	Reduces requirements to carry multiple product variants in inventory
Automatic radio configuration based on the SIM	Increases flexibility and simplifies inventory management
Dual-SIM functionality to enable automatic failover between SIMs (EMEA/APAC)	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, WPA2 Enterprise	Securely connects and consolidates data from multiple high bandwidth in-field applications and mobile assets in and around the vehicle
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
Serial and USB connectivity	Compatible with legacy and wired applications
Support for AirLink Vehicle Telemetry to collect OBD-II vehicle telemetry data and monitor engine diagnostics	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 with GNSS supporting 48 satellites from 4 different satellite constellations (GPS, GLONASS, Galileo, Beidou), streaming data locally over the serial port and remotely over NMEA, TAIP, RAP protocols	Superior vehicle location accuracy available to in-field personnel and dispatch staff, and via 3rd party platforms
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
Sealed 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 includes support, software updates and advance replacement	Reduces ongoing support costs and total cost of ownership

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	Specification			Specification
CELLULAR WAN	North America and EU Model (Sierra Wireless MC7455) • Carrier Approvals: Verizon, AT&T, T-Mobile USA Other major carriers pending • Supported Frequency Bands - LTE: 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), 2300(B30), TDD B41 - WCDMA: 2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 900(B8) • Industry Approvals: FCC, IC, PTCRB, R&TTE, GCF, CE • Automatic Network Operator Switching based upon SIM • Dual SIM Functionality APAC Model (Sierra Wireless MC7430) • Supported Frequency Bands - LTE: 2100(B1), 1800(B3), 850(B5), 2600(B7), 900(B8), 850(B18), 850(B19), 1500(B21), 700(B28), TDD Bands 38, 39, 40, 41 - WCDMA: 2100(B1), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19), TD-SCDMA B39 • Industry Approvals: RCM • Automatic Network Operator Switching based upon SIM • Dual SIM Functionality		**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
			SATELLITE NAVIGATION (GNSS)	Dedicated GNSS Receiver supporting GPS, GLONASS, BeiDou, Galileo
				Tracking Sensitivity: -162 dBm
				Reports: NMEA 0183 V3.0, TAIP, RAP, XORA
				Multiple Redundant Servers
				Reliable Store and Forward
				Inertial Navigation Sensors (Accelerometer and Gyro)
			NETWORK MANAGEMENT	Secure mobile network & asset management application available in the cloud or licensed platform in the enterprise data center
				Remote provisioning and airtime activation (where applicable)
				Gateway configuration and template management
HOST INTERFACES	Gigabit 4-Port Ethernet			Gateway staging over the air and local Ethernet connection
	RS-232 serial port (DB-9)			Over-the-air software and radio module firmware updates
	USB 2.0 Micro-B Connector			Device Configuration Templates
	6 SMA antenna connectors (cellular, diversity, GNSS, 3x3 Wi-Fi)			Configurable monitoring and alerting
	Active GNSS antenna support			Fleet wide firmware upgrade delivery
WI-FI (Optional)	Dual Band 2.4/5GHz Wi-Fi			Redundant data centers
	802.11 b/g/n/ac		**EVENTS ENGINE**	Custom event triggers and reports
	WPA2 Enterprise			Configurable interface, no programming
	Extended output power 21 dBm (per chan)			Event Types: Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature and Voltage
	3x3 MIMO (Reverse Polarity SMA Connectors)			Report Types: RAP, SMS, Email, SNMP Trap, TCP (Binary, XML, CSV)
	Simultaneous AP/Client Mode (2.4 GHz)			Event Actions: Drive Relay Output
	WiFi as WAN Mode			
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		**GATEWAY MANAGEMENT INTERFACES**	ALMS/oMM Local web user interface
				AT Command Line Interface (Telnet/SSH/Serial)
				SMS Commands
LAN (ETHERNET/USB)	DHCP Server			SNMP
	IP Passthrough		**ACCESS/SECURITY**	Remote authentication (LDAP, RADIUS and TACACS+)
	VLAN			
	Host Interface		**APPLICATION FRAMEWORK**	ALEOS Application Framework (AAF)
	Watchdog PPPoE			LUA Scripting Language
SERIAL	TCP/UDP PAD Mode		**POWER**	Input Voltage: 7 to 36 VDC
	Modbus (ASCII, RTU, Variable)			Low voltage disconnect to prevent battery drain
	PPP			Built-in protection against voltage transients including 5 VDC engine cranking and +200 VDC load dump
	DNP3 Interoperability			Ignition Sense with time delay shutdown
NETWORK AND ROUTING	Network Address Translation (NAT)		**ENVIRONMENTAL**	Operating Temperature: -30°C to +70°C / -22°F to +158°F
	Port Forwarding			Storage Temperature: -40°C to +85°C / -40°F to +185°F
	Host Port Routing			Humidity: 90% RH @ 60°C
	NEMO/DMNR			Military Spec MIL-STD-810G conformance to shock, vibration, thermal shock, and humidity
	VRRP			IP64 rated ingress protection
	Reliable Static Route		**INDUSTRY CERTIFICATIONS**	Safety: IECEE Certification Bodies Scheme (CB Scheme), UL 60950
	Dynamic DNS			Vehicle Usage: E-Mark (UN ECE Regulation 10.04), ISO7637-2, SAE J1455 (Shock, Vibration, Electrical)
VPN	IPsec, GRE, and OpenVPN Client			Environmental: RoHS2, REACH, WEEE
	Up to 5 concurrent tunnels			
	Split Tunnel		**SUPPORT AND WARRANTY**	3-year standard warranty Optional 2-year warranty extension
	Dead Peer Detection (DPD)			
	Multiple Subnets			Unrestricted device software upgrades
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			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. 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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