FIRSTNET READY

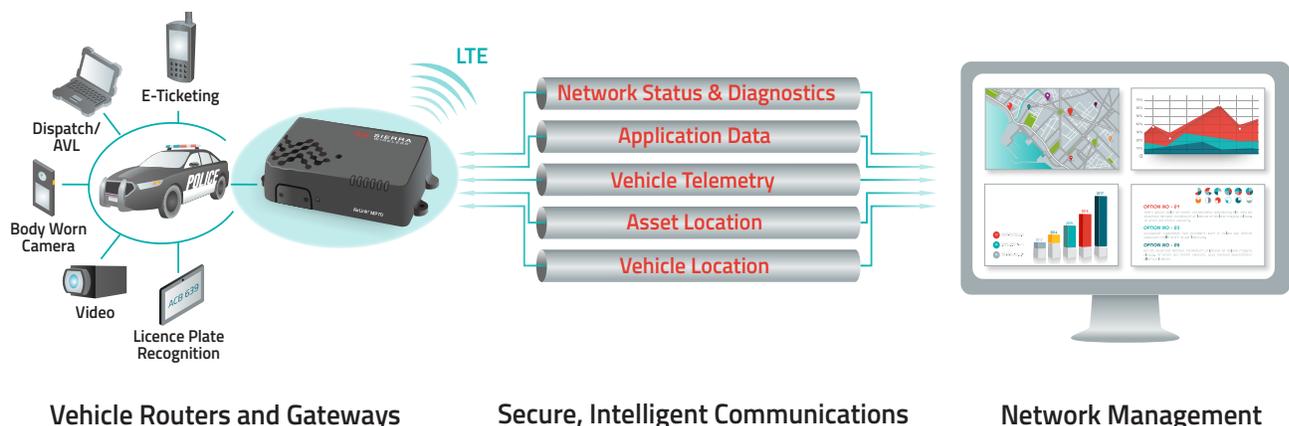## AirLink® MP70 High Performance Vehicle Router

Vehicle Grade, LTE-Advanced Pro, Gigabit Wi-Fi

The AirLink® MP70 is a high performance, LTE-Advanced Pro 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 fast cellular downlink and uplink over LTE-Advanced Pro, 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. LTE-Advanced Pro supports fast 600 Mbps downlink and 150 Mbps uplink speeds making the MP70 ideal for bandwidth intensive applications like HD real-time video streaming, and passenger Wi-fi. The MP70 is also FirstNet Ready™ with support for 700MHz Band 14, and support for priority and pre-emption for first responders.

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**

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 600 Mbps downlink and 150 Mbps uplink speeds over LTE-Advanced Pro 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 26 LTE frequency bands, enabling superior coverage on LTE networks worldwide including dedicated regional Public Safety bands including Band 14. The MP70 has four product variants: An LTE-Advanced Pro variant for North America with support for Band14, a Global LTE-Advanced Pro variant with support for Band20 and Band28; an LTE-Advanced variant for North America and EMEA and one for APAC.

AirLink MP70 supports automatic configuration of the radio based on the SIM (Network Operator) and 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 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 and J1939 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 (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 System 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.
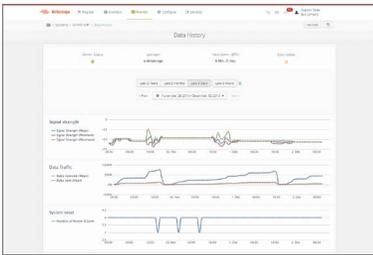
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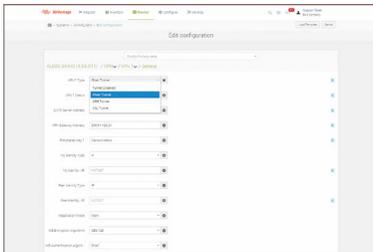WIRELESS®

DASHBOARD

SOFTWARE UPGRADES/UPDATES
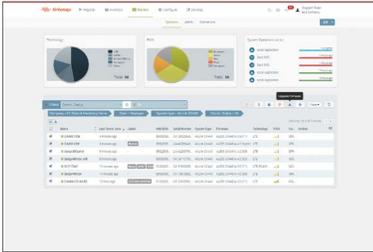
MONITOR CONNECTIVITY

SECURITY CONFIGURATION

PURPOSE BUILT FOR VEHICLES

The MP70 provides superior reliability and continuous operation in harsh environments. It will survive extreme transient surges, and 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.

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.

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FEATURE	BENEFIT
LTE-Advanced Pro (Carrier Aggregation) Wide Area Network (WAN) supporting 600 Mbps downlink and 150 Mbps uplink speeds	High speed, concurrent connectivity for multiple wired and wireless devices and applications in and around the vehicle
State-of-the-art LTE coverage spanning 26 LTE frequency bands worldwide, with automatic 3G fallback (HSPA)	Connectivity to LTE networks worldwide
Automatic radio configuration based on the SIM	Increases flexibility and simplifies inventory management
Support for Public Safety LTE bands including Band 14 (United States), Band 20 and 28 (Europe)	Secure, dedicated connectivity for first responders and other public safety fleets
Dual-SIM functionality to enable automatic failover between SIMs	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
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 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
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

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	North America & EMEA	Asia Pacific	North America	Global
	LTE-A		LTE-A Pro	
LTE CATEGORY	Cat 6		Cat 12	
Peak D/L (Mbps)	300		600	
Peak U/L (Mbps)	50		150	
4G LTE Frequency Bands	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	2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 2600(B7), 900(B8), 1800(B9), 700(B12), 700(B13), 700(B14), 850(B18), 850(B19), 800(B20), 850(B26), 700(B29), 2300(B30), 1500(B32), TDD B41, TDD B42*, TDD B43*, TDD B46*, CBRS B48*, 1700(B66) *Future Variant	2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 2600(B7), 900(B8), 1800(B9), 700(B12), 700(B13), 850(B18), 850(B19), 800(B20), 850(B26), 700(B28), 700(B29), 2300(B30), 1500(B32), TDD B41, TDD B42*, TDD B43*, TDD B46*, CBRS B48*, , 1700(B66) * Future Variant
Public Safety Bands	N/A	N/A	Band 14 (United States) FIRSTNET READY	Band 26, 28
3G WCDMA/HSPA+ Frequency Bands	2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 900(B8)	2100(B1), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19) TD-SCDMA: B39	2100(B1), 1900(B2), AWS(B4), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19)	2100(B1), 1900(B2), AWS(B4), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19)
APPROVALS				
Regulatory	FCC, IC, PTCRB, R&TTE, GCF, CE	RCM, JRF/JPA	FCC, IC, PTCRB, GCF	CE, RED, RCM
Carrier	Verizon, AT&T, Sprint, Rogers, Telus, Bell, SouthernLinc	Telstra	Verizon, AT&T	
PART NUMBERS	1102709 1102743 (Wi-Fi)	1102713 1102745 (Wi-Fi)	1104071 1104073 (Wi-Fi)	1104072 1104074 (Wi-Fi)

	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)
	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
	FIPS 140-2
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
	WiFi as WAN Mode (Multiple SSIDs, Captive Portal)
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
LAN (ETHERNET/USB)	DHCP Server
	IP Passthrough
	VLAN
	Host Interface Watchdog
	PPPoE

	Specification
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
	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)
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
ROUTER MANAGEMENT INTERFACES	Local web user interface
	AT Command Line Interface (Telnet/SSH/Serial)
	SNMP
	SMS Commands

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	Specification	
SERIAL	TCP/UDP PAD Mode	
	Modbus (ASCII, RTU, Variable)	
	PPP	
	DNP3 Interoperability	
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	
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	
NETWORK AND ROUTING	Network Address Translation (NAT)	Ethernet WAN
	Port Forwarding	Verizon PNTM
	NEMO/DMNR	IPv6 Gateway
	VRRP	Policy Routing
	Reliable Static Route	Dynamic DNS
VPN	IPsec, GRE, and OpenVPN Client	
	Up to 5 concurrent tunnels	
	Split Tunnel	
	Dead Peer Detection (DPD)	
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
APPLICATION FRAMEWORK	ALEOS Application Framework (AAF)
	LUA Scripting Language
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
	Rail Usage: EN50155 (Rolling Stock)
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
ACCESSORIES	In the box: DC Power Cable and Quick Start Guide
	AC Adapter (2000579)
	I/O Cable (6001004)
	OBD-II Y Cable (6001204)
	J1939 Y Cable (6001192)
	6-in-1 Shark Fin (6001197)
	6-in-1 Dome Antenna (6001121)
	See website for more antenna options.

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 secure cloud and connectivity 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 1,300 employees globally and operates R&D centers in North America, Europe and Asia.

For more information, visit www.sierrawireless.com.

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