MG90 5G

MG90 LTE-A Pro

FIRSTNET. Built with AT&T
READY

Multi-Network, Dual Radio, 5G LTE Rugged Vehicle Router for Transit, Rail and First Responder Fleets

MG90 Product Description

The best-in-class AirLink® MG90 is purpose built for transit, rail and first responders with dual-Cellular radios and dual Gigabit Wi-Fi delivering always-on connectivity with extensions to Land Mobile Radio (LMR) and satellite systems.

AIRLINK MG90 5G
5G router (fallback to LTE Cat20). Capable of up to 4.14 Gbps downlink and 660 Mbps uplink speeds. Dual 2x2 or single 4x4 radios. Dual Wi-Fi radios.

AIRLINK MG90 LTE-A PRO
Rugged Cat 12 LTE router capable of up to 600 Mbps downlink and 150 Mbps uplink speeds. FirstNet Ready. Dual or single radios. Dual Wi-Fi radios.

AIRLINK MG90 LTE-A
Rugged Cat 6 LTE router capable of 300 Mbps downlink and 50 Mbps uplink speeds. Dual or single LTE radios. Dual Wi-Fi radios.

Ideal Applications

Mobile mission critical applications in public safety and field service fleets, Fixed Wireless Access, SCADA, Edge and industrial IoT.

- Buses/Transit
- Ambulance/EMS
- Law Enforcement
- Fire
- Utility

Benefits

- 5G connectivity delivers massive amounts of real-time data needed for mission-critical applications

- Proven solution: More than 25% of the top 50 transit agency vehicles and 75% of high-performance EMS systems depend on Sierra Wireless routers.

- Increases safety, transparency and compliance while maximizing system expandability and ROI

- Delivers advanced awareness of fleet operations with built-in vehicle I/O for remote monitoring of auxiliary devices such as light bars, sirens and gun racks

AirLink MG90 – Router Specifications

CELLULAR	
Peak D/L	**MG90 5G –** Up to 4.14 Gbps, Cat 20
	MG90 LTE-A PRO – Up to 600 Mbps, Cat 12
Peak U/L	**MG90 5G –** Up to 660 Mbps
	MG90 LTE-A PRO – Up to 150 Mbps

5G	
Frequency Bands	**MG90 5G –** Sub-6: n1, n2, n3, n5, n7, n8, n12, n20, n25, n28, n38, n40, n41*, n48, n66, n71, n77, n78, n79

4G LTE	
Frequency Bands	
North America	**MG90 LTE-A PRO –** 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)
Global	**MG90 5G –** 2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 2600(B7), 900(B8), 700(B12), 700(B13), 700(B14), 700(B17), 850(B18), 850(B19), 800(B20), 1900(B25), 850(B26), 700(B28), 700(B29), 2300(B30), 1500(B32), TDD B38, TDD B39, TDD B40, TDD B41, TDD B42, TDD B46, CBRS B48, 1700(B66), 600(B71)
	MG90 LTE-A PRO – 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)

3G WCDMA/HSPA+	
Frequency Bands	
North America	**MG90 LTE-A PRO –** 2100(B1), 1900(B2), AWS(B4), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19)
Global	**MG90 5G –** 2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19)
	MG90 LTE-A PRO – 2100(B1), 1900(B2), AWS(B4), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19)

*only supported on 4x4 configuration

APPROVALS	
Regulatory	
North America	**MG90 LTE-A PRO –** FCC, IC, PTCRB, GCF
Global	**MG90 5G –** FCC, IC, PTCRB, GCF, CE, RED, RCM
	MG90 LTE-A PRO – CE, RED, RCM
Carrier	
North America	**MG90 LTE-A PRO –** AT&T FirstNet, Verizon, T-Mobile, US Cellular, Telus
Global	**MG90 5G –** AT&T, T-Mobile, Verizon

PART NUMBERS	
North America	**MG90 LTE-A PRO –** 1103981 (Single), 1103982 (Dual)
Global	**MG90 5G –** 1104708 (Single 4x4), 1104709 (Dual 2x2)
	MG90 LTE-A PRO – 1103980 (Single), 1103983 (Dual)

HOST INTERFACES	
	5 Gigabit RJ-45 Ethernet ports 2 USB 3.0 type-A ports 1 RS-232 serial port (DB-9 connector) 1 Auxiliary RJ-45 Input/Output port 4 SIM Slots (Dual SIM per radio) 5 SMA antenna connectors (2 cellular, 2 diversity, 1 GNSS) 7 RP-SMA antenna connectors (3x3 Wi-Fi WAN, 3x3 Wi-Fi AP, 1 Bluetooth)

SECURITY	
AAA	802.1x/Radius authentication with Wi-Fi and Ethernet
Firewall	Port forwarding and filtering
WLAN Encryption	WLAN Encryption: WPA2 Personal/Enterprise WLAN MAC Address filtering FIPS 140-2

AirLink MG90 – Router Specifications

SATELLITE NAVIGATION (GNSS)

Dedicated 48 channel GNSS Receiver supporting GPS, GLONASS, BeiDou, Galileo
Tracking Sensitivity: -162 dBm
Reports (Update Rate 1Hz): NMEA, TAIP
Reliable Store and Forward via serial, TCP or UDP
Inertial Navigation Sensors (Accelerometer and Gyro)

WI-FI

Dual Radio, dual concurrent 3x3 MIMO 802.11 b/g/n/ac
Dual Band 2.4/5 GHz (each radio)
Support for 128 clients
WWPA2 Enterprise
Default mode: Wi-Fi as WAN and Wi-Fi built-in vehicle AP
High output power 21 dBm (per channel)
Captive Portal

LAN (ETHERNET/USB/WI-FI/BLUETOOTH/SERIAL)

DHCP Server
VLAN
Virtual BSSIDs
PPPoE
AP Isolation

ENVIRONMENTAL

Temperature	**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 @ 60C
	IP64 rated ingress protection MIL-STD-810G conformance to shock, vibration, thermal shock, and humidity

POWER

Input/Operating Voltage	7 to 36 VDC
Power modes	ON 30W (2.5A @12V); Standby 135mW (11mA@12V) Built-in protection against voltage transients including 5 VDC engine cranking Ignition Sense with time delay shutdown

INPUT/OUTPUT

Configurable I/O GPIOs (5 pins total – 4 DB9 & 1 Power connector)
Digital input: 0-36 VDC with optional pullup (Dry contact sense input)
Digital Open Collector Output > sinking 500 mA

NETWORK AND ROUTING

	Network Address Translation (NAT) LAN Segmentation WAN/LAN Connection Policy Management
QoS	Application/ Traffic Priority Queuing Load Balancing Over Multiple WAN Links
WAN Monitors	Connection Failure Recovery
	Configurable MTU size Multiple LAN Support

VPN

	Integrated with ACM VPN Server IPsec protocol with IKEv1/IKEv2
Encryption	3DES/AES128/AES256
Hashing	MD5/SHA1/SHA256/SHA512
Key Exchange	DHGroup2/5/14/15/16/17
	Support LAN to LAN and Host to LAN Up to 10 concurrent tunnels per link MOBIKE protocol IP compression Full/Split Tunnel Dead Peer Detection (DPD)

VEHICLE TELEMETRY

OBD II/ J1939/ J1708 interface over serial (optional)
Diagnostic real time alerts/reports (via AMM)

INDUSTRY CERTIFICATIONS

Safety	IECEE Certification Bodies Scheme (CB Scheme), UL 60950
Vehicle Usage	E-Mark (72/245/EEC, 2009/19/EC), ISO7637- 2, SAE J1455 (Shock & Vibration)
Environmental	RoHS2, REACH, WEEE
Rail Usage	EN50155 (Rolling Stock)

RELIABILITY

MTBF	23.22 years (Telcordia SR-332 Issue3 Method1)

SUPPORT AND WARRANTY

3-year standard warranty; Extended warranty included (up to 5 years) with a valid AirLink Support subscription. Also provides Unrestricted firmware updates.

AirLink MG90 – Router Specifications

ACCESSORIES	
In the box	MG90, DC Power cable, Quick Start Guide • SMA wrench Mounting bracket (6001024) • AC Adapter (6001023) • I/O Cable (6001095) • 8-in-1 Dome Antenna (6001344 Black/6001345 White) • 6-in-1 Dome Antenna (6001364 Black/ 6001363 White) • 3-in-1 Wi-Fi Antenna (6001283 Black/6001284 White) *See website for more antenna options*

DIMENSIONS	
	272mm x 220mm x 60mm (10.71in x 8.66in x 2.36in) Weight: 2.4kg / 5.3 lb
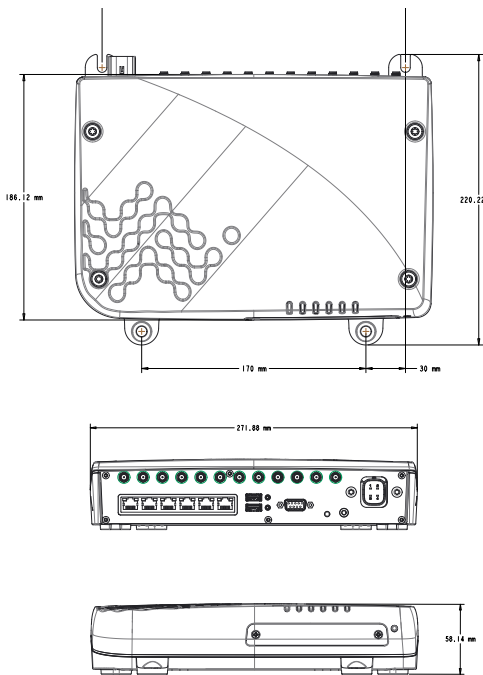
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About Sierra Wireless

Sierra Wireless (NASDAQ: SWIR) (TSX: SW) is a world leading IoT solutions provider that combines devices, network services, and software to unlock value in the connected economy. Companies globally are adopting 4G, 5G, and LPWA solutions to improve operational efficiency, create better customer experiences, improve their business models, and create new revenue streams. Sierra Wireless works with its customers to develop the right industry-specific solution for their IoT deployments, whether this is an integrated solution to help connect edge devices to the cloud, a software/API service to manage processes with billions of connected assets, or a platform to extract real-time data to improve business decisions. With more than 25 years of cellular IoT experience, Sierra Wireless is the global partner customers trust to deliver them their next IoT solution.

For more information, visit www.sierrawireless.com.

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