5G

5G High-Performance Multi-Network Vehicle Router for Transit, Rail and First Responder Fleets.

XR90 Product Description

The supercharged AirLink XR90 is purpose-built for public safety and transit with available dual-5G cellular radios and dual independent 4x4 MIMO Wi-Fi 6 subsystems. The XR90 is the highest performing, most flexible router in the Sierra portfolio. It supports complete device-to-cloud security, reduces your total cost of ownership with AirLink® Management Service (ALMS) Out-of-Band management, and with the cartridged-based design, enables long-term expandability and upgradability.

A Fully Integrated Solution

The AirLink XR90 is a fully-supported, out-of-the-box solution complete with AirLink Premium for integrated device management, Advanced Mobility Reporting, 24/7 technical support and advanced device replacement. AirLink Connection Manager delivers complete VPN security while our AirLink Professional Services team maximizes your system performance and customer satisfaction.

Ideal Applications

Mobile mission critical applications in public safety, transit and field services. Delivers secure always-on Vehicle Area Networks (VANS) for:

- Buses/Transit
- Ambulance/EMS
- Law Enforcement
- Fire
- Utilities
- Private Networking

Benefits

- Designed for rugged mobile applications with Mil Standard aluminum die cast housing and adaptive power management

- Real-time connectivity with unmatched uplink and downlink speeds using Data Path Accelerated 5G, Wi-Fi 6 and 5 Gbps Ethernet technology

- "Always-on" connectivity using available dual cellular and dual Wi-Fi radios, and automatic failover using AirLink Cognitive Wireless

- Simplified set up and usability with AirLink OS and upgraded ALMS

- AirLink Premium with ALMS Out-of-Band Management provides zero-touch set up and reduced service calls advanced device replacement

AirLink XR90 – Router Specifications

CELLULAR	
Peak D/L	5G - Up to 4.14 Gbps DL, 4G LTE CAT 20 - Up to 2 Gbps DL
Peak U/L	5G - Up to 660 Mbps UL, 4G LTE CAT 20 - 210 Mbps UL
5G	
Frequency Bands	Sub-6 Non-standalone (NSA): n1, n2, n3, n5, n28, n41, n66, n71, n77, n78, n79 (Future Variant) Sub-6 Standalone (NSA & SA): n1, n2, n3, n5, n7, n8, n12, n20, n25, n28, n38, n40, n41, n48, n66, n71, n77, n78, n79
4G LTE	
Frequency Bands	B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B43 (future), B46, CBRS B48, B66, B71
3G WCDMA/HSPA+	
Frequency Bands	B1, B2, B3, B4, B5, B6, B8, B9, B19
LPWA	
Frequency Bands	B1, B2, B3, B4, B5, B8, B9, B10, B12, B13, B17, B18, B19, B20, B25, B26, B27, B28, B66
APPROVALS	
Regulatory*	FCC, IC/ISED, PTCRB, GCF, CE, RED, RCM, ESN
Carrier*	AT&T, FirstNet 5G, FirstNet 4G, T-Mobile, Verizon, BT, CBRS
PART NUMBERS	
North America	XR90 Single 5G (1104785) XR90 Dual 5G (1104786) XP 5G Cartridge (Optional) (1104757)
Global	XR90 Single 5G (1104722) XR90 Dual 5G (1104723) XP 5G Cartridge (Optional) (1104757)

*All approvals are either granted or in progress. Call for the latest approval status.*

HOST INTERFACES	
Main body	Single 5G: 4x RJ-45 Ethernet ports (1x5 Gbps, 3x1 Gbps) Dual 5G: 5x RJ-45 Ethernet ports (1x5 Gbps, 4x1 Gbps) LPWA ALMS Out-of-Band Management USB 3.2 Type-C port Dual RS-232 serial port on RJ-45 connector Aux Port (GPIO/CAN) Dual SIM Slots Bluetooth (future) Single 5G: 15x FAKRA antenna connectors (4x4 Cellular, Dual 4x4 Wi-Fi, GNSS, Bluetooth, LPWA)

SECURITY	
AAA	802.1x /Radius authentication with Wi-Fi and Ethernet
Firewall	Stateful firewall with port forwarding, DMZ
WLAN Encryption	WPA2/WPA3 Personal/Enterprise FIPS 140-2

WI-FI	
	Dual independent 4x4 MIMO Wi-Fi 6 AP/STA up to 2.4 Gbps Support for 128 clients WPA2/3 Enterprise Each independently configurable as Wi-Fi WAN or Wi-Fi Access Point High output power 23 dBm (per chain) Captive Portal (future)

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	Dual 5G Peak 68W (5.7A @12V); Standby 55mW (4.5mA@12V) Built-in protection against voltage transients including 5 VDC engine cranking Ignition Sense with time delay shutdown

AirLink XR90 – Router Specifications

NETWORK AND ROUTING	
	Sierra Cognitive Wireless IPv4 and IPv6 Routing Network Address Translation (NAT) LAN Segmentation IPv4 Passthrough and IPv6 Prefix Extension WAN/LAN Connection Policy Management Policy-Based Routing
QoS	Application/ Traffic Priority Queuing
WAN Monitors	Connection Failure Recovery
	Configurable MTU size Multiple LAN Support Customize transmission buffer size Static Routing WAN Ethernet

VPN	
	Integrated with ACM VPN Server IPsec protocol with IKEv1/IKEv2 FIPS 140-2
Encryption	AES128/AES192/AES256
Hashing	SHA256/SHA384/SHA512
Key Exchange	DHGroup14/15/16/17/18/19/20/21
	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)

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, C1D2
Rail Usage	EN50155/EN45545 (Rolling Stock)

RELIABILITY	
MTBF	Dual 5G: 27.5 years (Telcordia SR-332 Issue3 Method1)

SUPPORT AND WARRANTY	
	1 year standard warranty with up to 5 years extended warranty with current AirLink Premium subscription. Unrestricted critical firmware updates.

All approvals are either granted or in progress. Call for the latest approval status.

ACCESSORIES	
In the box	XR90, DC Power cable, LPWA Antenna. Quick Start Guide, AirLink Premium leaflet **Options:** • Mounting bracket (6001350) • MG90 to XR Adapter bracket (6001456) • AC Adapter (6001372) • I/O Cable (6001004) • RJ45 to Single DB9 Serial cable (6001410) • RJ45 to Dual DB9 Serial cable (6001409) • Antennas (See sierrawireless.com) • XP 5G Cartridge (1104757)

EDGE COMPUTING	
	Support for Edge Compute Containerized Applications (future)

DIMENSIONS	
AirLink XR90 – Main Body	220mm x 170mm x 53mm (6.69in x 8.66in x 2.08in) Weight: 2.06 Kg (4.5 Lbs.)
AirLink XR90 – Main body with Single Expansion Cartridge	220mm x 220mm x 53mm (8.66in x 8.66in x 2.08in) Weight: 2.64 Kg (5.8 Lbs.)
AirLink XR90 – Main body with Dual Expansion Cartridge	268mm x 220mm x 53mm (10.55in x 8.66in x 2.08in) Weight: 3.22 Kg (7.1 Lbs.)
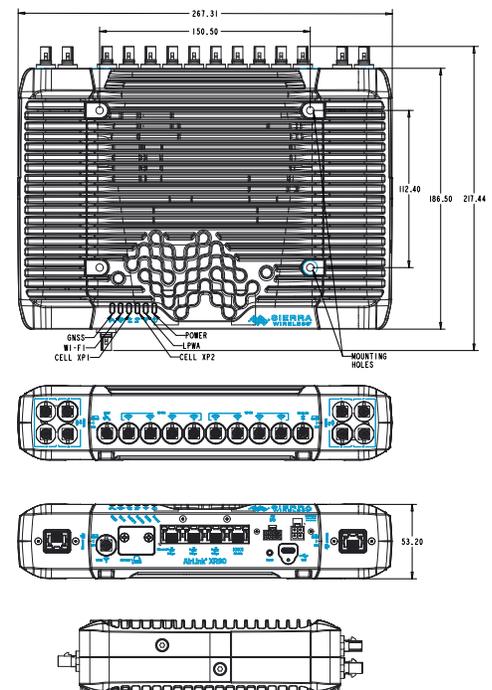
XR90 Services and Support

AIRLINK PREMIUM

AirLink Premium ensures your AirLink XR90 hardware operates at peak efficiency and is always accessible. With device management and robust mobility reporting combined with our best-in-class management service and technical support, this offering includes:

- AirLink Management Service (ALMS) network management
- Advanced Mobility Reporting (AMR)
- 24/7/365 Tier 1 technical support from wireless experts via phone or online access
- Extended hardware warranty – up to 5 years
- For more information on AirLink Premium visit our *web page*

PROFESSIONAL SERVICES

Our *Professional Services* experts are well-versed in the latest enterprise networking and security standards. Harvesting experience and lessons-learned over thousands of customer deployments, our best practices are expertly tailored to help you architect and deploy your cutting-edge AirLink solutions.

AIRLINK CONNECTION MANAGER

- VPN appliance built from the ground up for AirLink routers & gateways
- Simplify deployment and management of your VPN solution, extending the enterprise to the network edge for fixed and mobile endpoints
- Carrier agnostic – ACM doesn't require fixed and/or public IP
- Compatible with FIPS 140-2, and always-on VPN capability

AIRLINK ANTENNAS

- Tested and certified to provide guaranteed performance with all AirLink routers and gateways
- Accelerate deployment with always-on, end-to-end connectivity
- For more information on antennas specific to the XR90 router visit our *web page*

sierrawireless.com