

# AirLink® XR90 5G High-Performance Multi-Network Vehicle Router

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 antennas. It 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 ALMS Out-of-Band management, and with the cartridge-based design, enables long-term expandability and upgradability.



**AirLink® XR90**  
 5G High-Performance Multi-Network Vehicle Router for Transit, Rail and First Responder Fleets

## AirLink® XR90 – Router Specifications

CELLULAR	
<b>Peak D/L</b>	5G – Up to 4.14 Gbps DL 4G LTE CAT 20 – Up to 2 Gbps DL
<b>Peak U/L</b>	5G – Up to 660 Mbps UL 4G LTE CAT 20 – 210 Mbps UL
5G	
<b>Frequency Bands</b>	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	
<b>Frequency Bands</b>	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)

## 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

<b>WI-FI</b>	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

<b>Operating Temperature</b>	-30°C to +70°C / -22°F to +158°F
<b>Storage Temperature</b>	-40°C to +85°C / -40°F to +185°F
<b>Humidity</b>	95% RH @ 60C

IP64 rated ingress protection  
 MIL-STD-810G conformance to shock, vibration, thermal shock, and humidity

## POWER

<b>Input/Operating Voltage</b>	7 to 36 VDC
<b>Power modes</b>	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

## 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
--	---

<b>QoS</b>	Application/ Traffic Priority Queuing
------------	---------------------------------------

<b>WAN Monitors</b>	Connection Failure Recovery
---------------------	-----------------------------

Configurable MTU size  
 Multiple LAN Support  
 Customize transmission buffer size  
 Static Routing  
 WAN Ethernet

<b>VPN</b>	Integrated with ACM VPN Server IPsec protocol with IKEv1/IKEv2 FIPS 140-2
------------	---

<b>Encryption</b>	AES128/AES192/AES256
-------------------	----------------------

<b>Hashing</b>	SHA256/SHA384/SHA512
----------------	----------------------

<b>Key Exchange</b>	DHGroup14/15/16/17/18/19/20/21
---------------------	--------------------------------

## VPN

---

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\*

---

<b>Safety</b>	IECEE Certification Bodies Scheme (CB Scheme), UL 60950
<b>Vehicle Usage</b>	E-Mark (72/245/EEC, 2009/19/EC), ISO7637- 2, SAE J1455 (Shock & Vibration)
<b>Environmental</b>	RoHS2, REACH, WEEE, C1D2
<b>Rail Usage</b>	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.

## 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)
- XP 5G Cartridge (1104757)

For Antenna options visit: [sierrawireless.com/antennas](http://sierrawireless.com/antennas)

## EDGE COMPUTING

---

Support for Edge Compute Containerized Applications (future)

## DIMENSIONS

---

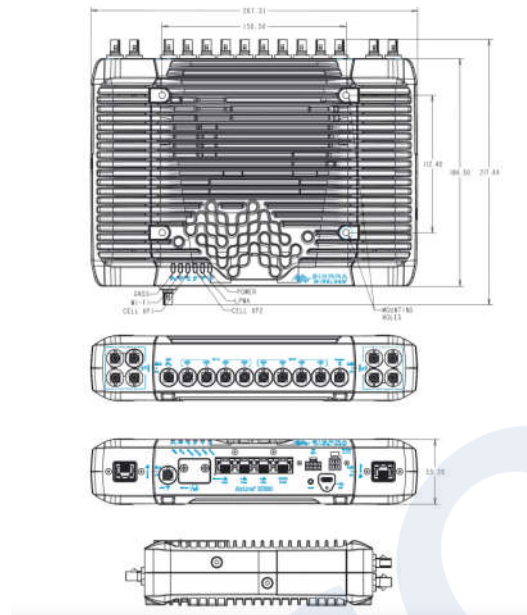
**AirLink XR90 – Main Body** 220mm x 170mm x 53mm (6.69in x 8.66in x 2.08in)  
Weight: 2.06 Kg (4.5 Lbs.)

---

**DIMENSIONS - 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.)



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