

PRIVATE NETWORKING – Sierra Wireless has partnered with Amdocs to simplify the adoption of private cellular networks. [Learn more](#) →

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 MU 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 Single/Dual 5G

Expandable 5G

Single 5G: 4 Gigabit Ethernet

Dual 5G: 5 Gigabit Ethernet

GNSS with Dead Reckoning

Dual 4x4 MU MIMO Wi-Fi 6

Single/Dual Serial

IP64 Rated

AirLinkOS with AirLink Premium

AirLink® XR90 – Router Specifications

KEY FEATURES

Cellular Radios	Single & Dual 5G LPWA for ALMS Out of Band Management
Wi-Fi	Dual 4x4 MU MIMO Wi-Fi 6
Ethernet	Single 5G: 3x Gigabit, 1x 5 Gigabit Ethernet Port Dual 5G: 4x Gigabit, 1x 5 Gigabit Ethernet Port
Serial	Single/Dual RS-232 (DB9) with optional cables
GNSS	48 Channel GNSS with Dead Reckoning
CAN	CAN bus/OBD-II (J1979)/J1939)
I/O	5 GPIO
USB	USB 3.1 USB-C
Bluetooth	Selectable Bluetooth 4.x Classic or Bluetooth LE (Future)
IP Rating	Sealed Aluminum Housing (IP64 Rated)
Services	AirLink Premium
Operating System	AirLink OS
Management System	ALMS

Region	North America	EMEA & APAC
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CELLULAR

Variant	North America	EMEA, APAC
Technology	Single/Dual 5G	Single/Dual 5G
Peak Downlink (Theoretical)	4.14 Gbps	4.14 Gbps
Peak Uplink (Theoretical)	660 Mbps	660 Mbps
LTE Category	5G	5G
Region	NAM	EMEA, APAC
Radio	EM9190	EM9190
MIMO	Single/Dual 4x4	Single/Dual 4x4
RF Connectors	FAKRA	FAKRA
SIM	Dual SIM (Mini-2FF)	Dual SIM (Mini-2FF)

FREQUENCY BANDS

5G Bands	n1, n2, n3, n5, n28, n41, n66, n71, n77, n78, n79 (NSA & SA Support) Future Variant adds support for: n7, n8, n12, n20, n25, n38, n40, n48 (NSA & SA Support)	n1, n2, n3, n5, n28, n41, n66, n71, n77, n78, n79 (NSA & SA Support) Future Variant adds support for: n7, n8, n12, n20, n25, n38, n40, n48 (NSA & SA Support)
4G LTE 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, B46, B48, B66, B71 Future Variant adds support for: B43	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, B46, B48, B66, B71 Future Variant adds support for: B43
3G HSPA+ Bands	B1, B2, B4, B5, B6, B8, B9, B19	B1, B2, B4, B5, B6, B8, B9, B19
2G GPRS Bands	–	–
LPWA	B1, B2, B3, B4, B5, B8, B9, B10, B12, B13, B17, B18, B19, B20, B25, B26, B27, B28, B66	B1, B2, B3, B4, B5, B8, B9, B10, B12, B13, B17, B18, B19, B20, B25, B26, B27, B28, B66

WIRELESS CERTIFICATION

Regulatory	FCC, IC/ISED, PTCRB	GCF, CE, RED, RCM, ESN
Carrier	AT&T, FirstNet® 4G, T-Mobile, Verizon, Rogers, Telus, Bell, CBRS, C-Band	BT
Public Safety	FirstNet® 4G	ESN
Part Numbers	1104785 Single 5G 1104786 Dual 5G 1104757 XP 5G Cartridge (Optional)	1104722 Single 5G 1104723 Dual 5G 1104757 XP 5G Cartridge (Optional)

WI-FI

VPN

Wi-Fi Standard	Wi-Fi 6 802.11ax	VPN	Integrated with ACM VPN Server IPsec protocol with IKEv1/IKEv2 FIPS 140-2 Level 1 compliant
Access Point	Dual	Encryption	AES128/AES192/AES256
Client (Depot/WAN)	Yes	Hashing	SHA256/SHA384/SHA512
Client & AP	Yes	Key Exchange	DHGroup14/15/16/17/18/19/20/21
Peak Throughput (Theoretical)	2400 Mbps		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)
MIMO	Dual 4x4		
Security	WPA2/3 Enterprise		
Clients	Up to 256		

ROUTER MANAGEMENT INTERFACES

SSID	4 per radio	ROUTER MANAGEMENT INTERFACES	ALMS Local web user interface REST API (Beta)
Output Power	23.3 dBm per chain		
Frequency	2.4/5 GHz		
RF Connectors	FAKRA (Beige)		

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 Specification MIL-STD-810G (Shock, Vibration, Thermal Shock, Humidity)

IP Rating IP64

EDGE COMPUTING

Support for Edge Compute Containerized Applications (Beta)

RAM^{1,2} 200 MB

Storage (Flash)¹ 750 MB

CPU Quad Core ARMv8 64 bit

¹ Approximation available to containers (not device total)

² Depends on other enabled features

INDUSTRY CERTIFICATIONS

Safety IECCE Certification Bodies Scheme (CB Scheme), UL 60950

Vehicle Usage E-Mark (72/245/EEC, 2009/19/EC), ISO7637- 2, SAE J1455 (Shock & Vibration, Electrical)

Environmental Directives RoHS2, REACH, WEEE, Prop 65

Hazardous Environments Class 1 Div 2 – Ambient temperatures of -30°C to +60°C

Rail Usage EN50155/EN45545 (Rolling Stock)

AIRLINK SERVICES

Services AirLink Premium

Support 24/7

Warranty 1 year standard warranty with up to 5 years extended warranty with current AirLink Premium subscription

Device Management ALMS with Advanced Mobility Reporting

Software Updates Unrestricted critical firmware updates

POWER

Input Voltage 7 to 36 VDC

Power Consumption Dual 5G Peak: 68W (5.7A @12V)
Standby 55mW: (4.5mA@12V)

Power Modes Built-in protection against voltage transients including 5 VDC engine cranking and +200 VDC load dump Ignition Sense with time delay shutdown

RELIABILITY

MTBF Single 5G: 19.0 years
Using Telcordia SR-332 Issue 3 Method 1

SECURITY

AAA 802.1x /Radius authentication with Wi-Fi

Firewall Stateful firewall with port forwarding, DMZ

WLAN Encryption WPA2/WPA3 Personal/Enterprise

Firmware Update Secure Firmware Update

NETWORK AND ROUTING

Sierra Cognitive Wireless
IPv4 and IPv6 Routing
Network Address Translation (NAT)
Port Forwarding
DHCP Server
IP Passthrough
LAN Segmentation
IPv4 Passthrough and IPv6 Prefix Extension
WAN/LAN Connection Policy Management
Policy-Based Routing
Configurable MTU size
Static Routing
WAN Ethernet

QoS Application/Traffic Priority Queuing

WAN Monitors Connection Failure Recovery

LAN (ETHERNET/USB)

USB to Ethernet

ACCESSORIES

In The Box XR90, DC Power cable, LPWA Antenna, Quick Start Guide, AirLink Premium Leaflet

Other Accessories (sold separately)

- 6001004 XR80/90/MP/LX I/O Cable
- 6001192 XR80/90/MP70 J1939 Y Cable
- 6001204 XR80/90/MP70 OBD-II Y Cable
- 6001350 XR80/90 Mounting Bracket
- 6001372 XR80/90 AC Adaptor, 24 VDC
- 6001406 XR80/90 DC Power Cable
- 6001409 XR80/90 RJ45 to Dual DB9
- 6001410 XR80/90 RJ45 to Single DB9
- 6001433 XR80/90 DIN Rail Mounting Bracket
- 6001440 XR80/90 FAKRA Replacement Kit (8 Pieces)
- 6001456 XR80/90 to MG90 Mounting Bracket
- 1104757 XR80/90 XP-5G XR-Cartridge Global & NAM

For Antenna options visit: [here](#)

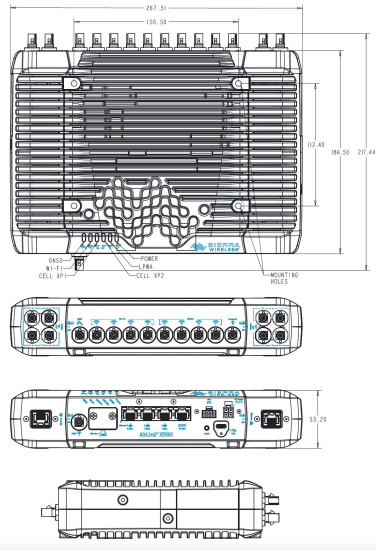
DIMENSIONS

Size

- Base: 220mm x 170mm x 53mm
- Single XP: 220mm x 220mm x 53mm
- Dual XP: 268mm x 220mm x 53mm

Weight

- Base: 2.06 Kg
- Single XP: 2.64 Kg
- Dual XP: 3.22 Kg



**For carrier specific band support please refer to the hardware user guide.*