5G

SIERRA WIRELESS IS NOW
SEMTECH®

5G High-Performance Multi-Network Router for Public Safety, Field Service Fleets and Mission-Critical Fixed Applications

XR80 Product Description

The supercharged AirLink XR80 is optimized for fixed and mobile applications. The available dual-5G cellular radio and 5X4 MU MIMO Wi-Fi 6 delivers flexibility for customized configurations. The AirLink XR80 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 XR80 5G
Rugged 5G router capable of 4.14 Gbps download and 660 Mbps upload. Wi-Fi optional.

AIRLINK XR80 LTE CAT 20
Rugged LTE Cat 20 router capable of 2.0 Gbps download and 210 Mbps upload. Wi-Fi optional.

KEY FEATURES

- Single 5G or Single 4G Expandable to Dual 5G or Dual 4G/5G

- 5x4 MU MIMO Wi-Fi 6

- Single 5G: 3 Gigabit Ethernet
  Dual 5G: 4 Gigabit Ethernet

- Single/Dual Serial

- GNSS with Dead Reckoning

- IP64 Rated

- AirLink OS with AirLink Complete

Ideal Applications

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

- Ambulance/EMS
- Law Enforcement
- Utility Bucket Trucks
- Commercial Fleets
- Manufacturing

- Fixed Utility Applications
- Pipeline monitoring
- Remote Learning
- Retail, Digital Signage and Security

Benefits

- Designed for fixed and mobile mission and business-critical applications that require ultimate connectivity and reliability

- Real-time connectivity with unmatched uplink and downlink speeds using 5G, LTE Cat 20, Wi-Fi 6, and 5 Gbps Ethernet technology

- "Always-on" connectivity delivers consistent primary and backup connectivity for public and private networks using AirLink Cognitive Wireless

- Simplified set up and useability with new AirLink OS and upgraded AirLink Management Service (ALMS)

- AirLink Complete with ALMS Out-of-Band Management provides zero-touch set up and reduced service calls

- Ready for your Edge computing workloads (Beta)

XR80 Services and Support

AIRLINK COMPLETE

Maximize your AirLink XR80 hardware investment with AirLink Complete – a comprehensive service package designed to empower you with the tools and support necessary to secure, optimize and effortlessly scale your XR80 deployments.

AirLink Complete includes*:

- AirLink Managerment Service (ALMS) for remote device and security management
- Extended hardware warranty up to 5 years maximum
- Expert technical support
- For more information on AirLink Complete visit our *web page*

With active subscription. 1-year subscription included with the XR80 purchase

AIRLINK PREMIUM

Ideal for organizations managing mission-critical vehicle fleets, this service upgrade encompasses all the benefits of AirLink Complete*, enhanced with:

- **Advanced Mobility Reporting***: Offers comprehensive coverage and fleet reporting to monitor your network and vehicles.
- **Advance Replacement***: Provides same-day shipping for in-warranty router replacements, minimizing downtime, spare inventory and keeping your operations running smoothly.

With active subscription.

HYBRID CLOUD

This optional feature merges the benefits of cloud technology with on-premise security controls for the management of your AirLink XR and RX routers, offering ultimate security and control.

Hybrid Cloud is available to add to an active AirLink Complete or Premium subscription.

AIRLINK CONNECTION MANAGER (ACM) – MOBILE VPN

This purpose-built VPN solution securely extends your enterprise network to your AirLink router and its connected devices and applications.

Optimized for use in a mobile, multi-network environment, it seamlessly maintains VPN tunnels as users roam between multiple carrier and Wi-Fi networks to prevent downtime and loss of communications.

Available in a FIPS 140-2 compliant offering.

ANTENNAS

- Tested and certified to provide guaranteed performance with all AirLink routers
- Accelerate deployment with always-on, end-to-end connectivity
- For more information on antennas specific to the XR80 router visit our *web page*

AirLink XR80 – Router Specifications

KEY FEATURES	
Cellular Radios	5G/LTE Cat-20 LPWA for ALMS Out of Band Managemnt
Wi-Fi	5x4 MIMO Wi-Fi 6
Ethernet	2x Gigabit + 1x 5 Gigabit Ethernet Port (RJ45)
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
IP Rating	Sealed Aluminum Housing (IP64 Rated)
Services	AirLink Complete
Operating System	AirLink OS
Management System	ALMS

	LTE NAM	LTE GLOBAL	5G NAM	5G GLOBAL
CELLULAR				
Variant	NAM	EMEA & APAC	NAM	EMEA & APAC
Technology	LTE	LTE	5G	5G
Peak Downlink (Theoretical)	2 Gbps	2 Gbps	4.14 Gbps	4.14 Gbps
Peak Uplink (Theoretical)	210 Mbps	210 Mbps	660 Mbps	660 Mbps
LTE Category	Cat-20	Cat-20	5G	5G
Region	NAM	EMEA, APAC	NAM	EMEA, APAC
Radio	EM7690	EM7690	EM9190	EM9190
MIMO	4x4	4x4	4x4	4x4
RF Connectors	FAKRA	FAKRA	FAKRA	FAKRA
SIM	Dual SIM (Mini-2FF)	Dual SIM (Mini-2FF)	Dual SIM (Mini-2FF)	Dual SIM (Mini-2FF)

FREQUENCY BANDS

	5G (SA & NSA)*	4G LTE	3G (HSPA+)	LPWA
1	n1	B1	B1	B1
2	n2	B2	B2	B2
3	n3	B3		B3
4		B4	B4	B4
5	n5	B5	B5	B5
6			B6	
7	n7**	B7		
8	n8**	B8	B8	B8
9			B9	B9
10				B10
12	n12**	B12		B12
13		B13		B13
14		B14		
17		B17		B17
18		B18		B18
19		B19	B19	B19
20	n20**	B20		B20
25	n25**	B25		B25
26		B26		B26
27				B27
28	n28	B28		B28
29		B29		
30		B30		
32		B32		

FREQUENCY BANDS

	5G (SA & NSA)*	4G LTE	3G (HSPA+)	LPWA
34		B34		
38	n38**	B38		
39		B39		
40	n40**	B40		
41	n41	B41		
42		B42		
43		B43**		
46		B46***		
48	n48**	B48		
66	n66	B66		B66
71	n71	B71		
77	n77			
78	n78			
79	n79			

* XR80 5G SKUs only
** Full-band models only (part number ending by FB: 11XXXXX XXXX XXXXX FB)
*** Downlink only

	LTE NAM	LTE GLOBAL	5G NAM	5G GLOBAL
WIRELESS CERTIFICATION				
Regulatory	FCC, IC/ISED, PTCRB	GCF, CE, RED, RCM, ESN	FCC, IC/ISED, PTCRB	GCF, CE, RED, RCM, ESN
Carrier	AT&T, FirstNet® 4G, T-Mobile, Verizon, Rogers, Telus, Bell, CBRS, C-Band		AT&T, FirstNet 4G, T-Mobile, Verizon, Rogers, Telus, Bell, CBRS, C-Band	Telstra
Public Safety	FirstNet® 4G	ESN	FirstNet® 4G	ESN
Part Numbers	1104881 Base 1104879 Wi-Fi 1104757 XP 5G Cartridge (Optional)	1104880 Base 1104878 Wi-Fi 1104757 XP 5G Cartridge (Optional)	1104793 Base 1104789 Wi-Fi 1104757 XP 5G Cartridge (Optional)	1104791 Base 1104787 Wi-Fi 1104757 XP 5G Cartridge (Optional)

WI-FI (Optional)	
Wi-Fi Standard	Wi-Fi 6 802.11ax
Access Point	Dual (2.4 & 5GHz)
Client (Depot/WAN)	Yes
Client & AP	Yes
Peak Throughput (Theoretical)	2400 Mbps
MIMO	5x4
Security	WPA2/3 Enterprise
Clients	128 per radio
SSID	6
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 @ 60C
Military Specification	MIL-STD-810G (Shock, Vibration, Thermal Shock, Humidity)
IP Rating	IP64

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, 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)

POWER	
Input Voltage	7 to 36 VDC
Power Consumption	Peak: 54W (4.5A @12V) Standby: 55mW (4.5mA@12V)
Power Modes	Built-in protection against voltage transients including 5VDC engine cranking and +200 VDC load dump. Ignition Sense with time delay shutdown

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

Throughput	1150 Mbps Firewall TCP throughput
Features	Semtech 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

VPN

Throughput	350 Mbps IPSec VPN TCP throughput
Features	Integrated with ACM VPN Server IPsec protocol with IKEv1/IKEv2 FIPS 140-2 Level 1 compliant
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)

ROUTER MANAGEMENT INTERFACES

	ALMS Local web user interface REST API (Beta)

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)*
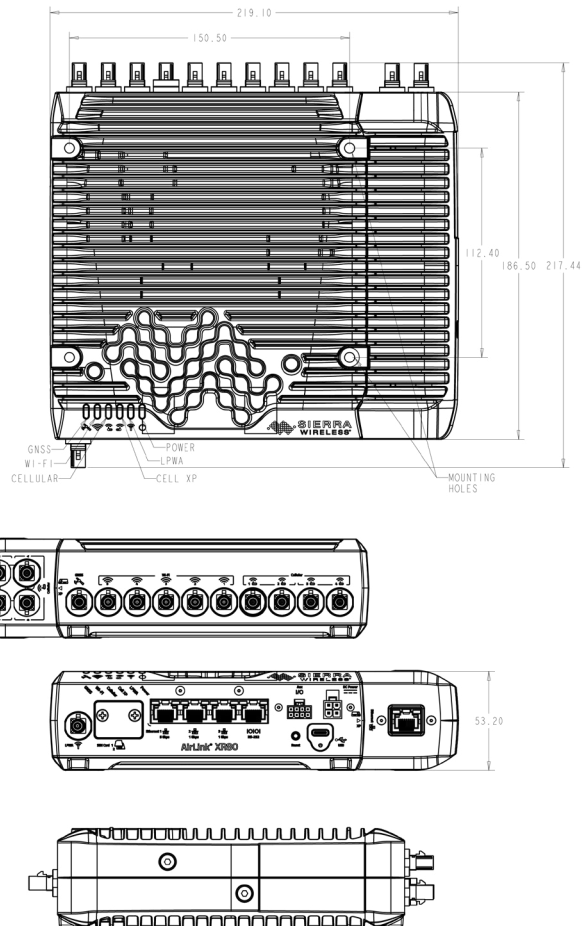2. *Depends on other enabled features*

AIRLINK COMPLETE *(1 Year Included With Router Purchase)*

Support	24/7 technical support*
Hardware Warranty	1-year standard hardware warranty Extended hardware warranty up to 5 years with current subscription**
Device Management	AirLink Management Service (ALMS)*
Software Updates	Unrestricted critical firmware updates

AIRLINK PREMIUM *(Optional Upgrade)*
Includes All Airlink Complete Features* and Adds:

Advanced Mobility Reporting	Coverage and fleet reporting***
Advance Replacement	Same-day shipping for in-warranty router replacements***

RELIABILITY

MTBF	Base: 23.8 years Wi-Fi: 21.3 years Using Telcordia SR-332 Issue 3 Method 1

ACCESSORIES

In The Box	XR80, DC Power Cable, LPWA Antenna, Quick Start Guide, AirLink Complete 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: *web page*

DIMENSIONS

AirLink XR80 – Main Body	220mm x 170mm x 53mm / 8.7 x 6.7 x 2.1 in Weight: Non Wi-Fi 1.80 kg / 3.97 lb, Wi-Fi 2.00 kg / 4.41 lb
AirLink XR80 – Main Body with Single 5G Expansion Cartridge	220mm x 220mm x 53mm / 8.7 x 8.7 x 2.1 in Weight: 2.64 kg / 5.82 lb

*With current AirLink Complete subscription
**Full warranty terms are available at www.sierrawireless.com/end-user-warranty
***With current AirLink Premium subscription

AirLink XR80 – Router Dimensions Diagram

semtech.com