



XR80 Product Description

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

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 Management 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 Management
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	4.5 Gbps	4.5 Gbps
Peak Uplink (Theoretical)	210 Mbps	210 Mbps	900 Mbps	900 Mbps
LTE Category	Cat-20	Cat-20	5G	5G
Region	NAM	EMEA, APAC	NAM	EMEA, APAC
Radio	EM7690	EM7690	EM9293	EM9293
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 (SKUs ending in FB)

*** Downlink only

LTE NAM		LTE GLOBAL	5G NAM	5G GLOBAL			
WIRELESS CERTIFICATION (Planned)							
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 1105221 XP 5G Cartridge (Optional)	1104880 Base 1104878 Wi-Fi 1105221 XP 5G Cartridge (Optional)	1105223 Base 1105213 Wi-Fi 1105221 XP 5G Cartridge (Optional)	1105214 Base Wi-Fi 1105221 XP 5G Cartridge (Optional)			
WI-FI (Optional)		INDUSTRY CERTIFICATIONS (Planned)					
Wi-Fi Standard	Wi-Fi 6 802.11ax	Safety					
Access Point	Dual (2.4 & 5GHz)	IECEE Certification Bodies Scheme (CB Scheme), UL 60950					
Client (Depot/WAN)	Yes	Vehicle Usage					
Client & AP	Yes	E-Mark (72/245/EEC, 2009/19/EC), ISO7637- 2, SAE J1455 (Shock & Vibration, Electrical)					
Peak Throughput (Theoretical)	2400 Mbps	Environmental Directives					
MIMO	5x4	RoHS2, REACH, WEEE, Prop 65					
Security	WPA2/3 Enterprise	Hazardous Environments					
Clients	128 per radio	Class 1 Div 2 – Ambient temperatures of -30°C to +60°C					
SSID	6	Rail Usage					
Output Power	23.3 dBm per chain	EN50155/EN45545 (Rolling Stock)					
Frequency	2.4/5 GHz	POWER					
RF Connectors	FAKRA (Beige)	Input Voltage					
ENVIRONMENTAL							
Operating Temperature	-30°C to +70°C / -22°F to +158°F	7 to 36 VDC					
Storage Temperature	-40°C to +85°C / -40°F to +185°F	Power Consumption					
Humidity	95% RH @ 60C	Peak: 54W (4.5A @12V) Standby: 55mW (4.5mA@12V)					
Military Specification	MIL-STD-810G (Shock, Vibration, Thermal Shock, Humidity)	Power Modes					
IP Rating	IP64	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		AIRLINK COMPLETE (1 Year Included With Router Purchase)	
Throughput	1150 Mbps Firewall TCP throughput	Support	24/7 technical support*
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	Hardware Warranty	1-year standard hardware warranty Extended hardware warranty up to 5 years with current subscription**
QoS	Application/Traffic Priority Queuing	Device Management	AirLink Management Service (ALMS)*
WAN Monitors	Connection Failure Recovery	Software Updates	Unrestricted critical firmware updates through at least December 31st, 2029
LAN (ETHERNET/USB)		AIRLINK PREMIUM (Optional Upgrade) Includes All Airlink Complete Features* and Adds:	
	USB to Ethernet	Advanced Mobility Reporting	Coverage and fleet reporting***
VPN		Advance Replacement	Same-day shipping for in-warranty router replacements***
Throughput	350 Mbps IPsec VPN TCP throughput	RELIABILITY	
Features	Integrated with ACM VPN Server IPsec protocol with IKEv1/IKEv2 FIPS 140-2 Level 1 compliant	MTBF	Base: 23.8 years Wi-Fi: 21.3 years Using Telcordia SR-332 Issue 3 Method 1
Encryption	AES128/AES192/AES256	ACCESSORIES	
Hashing	SHA256/SHA384/SHA512	In The Box	XR80, DC Power Cable, LPWA Antenna, Quick Start Guide, AirLink Complete Leaflet
Key Exchange	DHGroup14/15/16/17/18/19/20/21	Other Accessories (sold separately)	6001004 XR80/90/MP/LXI/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
ROUTER MANAGEMENT INTERFACES			
	ALMS Local web user interface REST API (Beta)	DIMENSIONS	
EDGE COMPUTING		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
	Support for Edge Compute Containerized Applications (Beta)	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
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

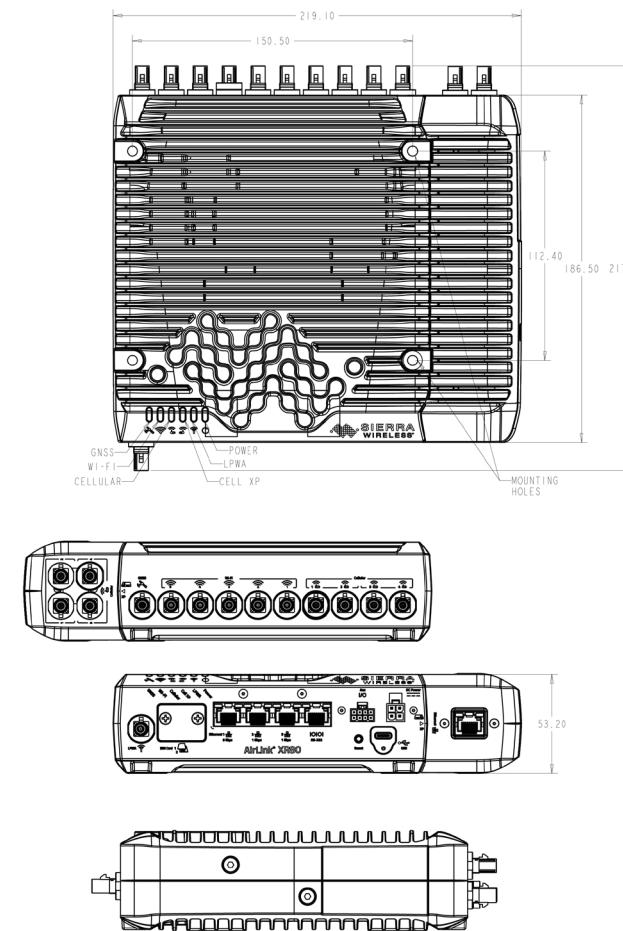
*With current AirLink Complete subscription

**Full warranty terms are available at www.sierrawireless.com/end-user-warranty

***With current AirLink Premium subscription

AirLink XR80 – Router Dimensions Diagram

AirLink XR80 with optional 5G expansion cartridge



About Semtech

Semtech Corporation (Nasdaq: SMTC) is a high-performance semiconductor, IoT systems and cloud connectivity service provider dedicated to delivering high-quality technology solutions that enable a smarter, more connected and sustainable planet. Our global teams are committed to empowering solution architects and application developers to develop breakthrough products for the infrastructure, industrial and consumer markets.

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