AirLink® XR80 5G/XR80 LTE CAT 20 High-Performance Multi-Network Router

The supercharged AirLink XR80 is optimized for fixed and mobile applications. The available dual-5G cellular radio and 5×4 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.

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AirLink® XR80 5G/XR80 LTE Cat-20

- Expandable 4G/5G
- 4 Gigabit Ethernet
- GNSS with Dead Reckoning
- AirLinkOS with AirLink Complete

- 5×4 MU MIMO Wi-Fi 6
- Single/Dual Serial
- IP64 Rated

AirLink® XR80 – Router Specifications

KEY FEATURES

Cellular Radios	5G/LTE Cat-20 LPWA for ALMS Out of Band Managemnt
Wi-Fi	5×4 MU MIMO Wi-Fi 6
Ethernet	3x Gigabit + 1x 5 Gbps Ethernet Port (RJ45)
Serial	Single/Dual RS-232 (DB9) with optional cables
GNSS	48 Channel GNSS with Dead Reckoning

KEY FEATURES

CAN	CAN bus/OBD-II (J1979)/J1939)
I/O	5 GPIO
USB	USB 3.1 USB-C
Bluetooth	–
IP Rating	Sealed Aluminum Housing (IP64 Rated)
Services	AirLink Complete
Operating System	AirLink OS
Management System	ALMS

Region	LTE NAM	LTE Global	5G NAM	5G Global
CELLULAR				
Variant	North America	EMEA & APAC	North America	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	4×4	4×4	4×4	4×4
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 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	B1, B2, B3, B4, B5	B1, B2, B3, B4, B5	B1, B2, B3, B4, B5

4G LTE Bands 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, B46, B48, B66, B71	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	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	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
3G HSPA+ Bands	B1, B2, B3, B4, B5, B6, B8, B9, B19	B1, B2, B3, B4, B5, B6, B8, B9, B19	B1, B2, B3, B4, B5, B6, B8, B9, B19	B1, B2, B3, 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	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	FCC, IC/ISED, PTCRB	GCF, CE, RED, RCM, ESN
Carrier	AT&T, FirstNet® 4G, T-Mobile, Verizon, Rogers, Telus, Bell, CBRS	–	AT&T, FirstNet® 4G, T-Mobile, Verizon, Rogers, Telus, Bell, CBRS	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	Single
Client (Depot/WAN)	Yes
Client & AP	Yes
Peak Throughput (Theoretical)	2400 Mbps
MIMO	5×4
Security	WPA2/3 Enterprise
Clients	128
SSID	4
Output Power	23.3 dBm per chain
Frequency	2.4/5 GHz

WI-FI (OPTIONAL)
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

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 IECEx & ATEX
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 5 VDC engine cranking and +200 VDC load dump Ignition Sense with time delay shutdown

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
Firmware Update	Secure Firmware Update

NETWORK AND ROUTING

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

VPN

	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)

21.11.22, 12:06   5G Cellular Router | XR80 | Sierra Wireless

EDGE COMPUTING

² Depends on other enabled features

AIRLINK SERVICES

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Services	AirLink Complete
Support	24/7 with current AirLink Complete subscription
Warranty	1 year standard warranty with up to 5 years extended warranty with current AirLink Complete subscription
Device Management	ALMS with current AirLink Complete subscription
Software Updates	Unrestricted critical firmware updates

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: *here*

DIMENSIONS

Size	Base: 220mm x 170mm x 53mm Base + XP: 220mm x 220mm x 53mm
Weight	Base: 1.80 Kg Base Wi-Fi: 2.00 Kg Base + XP: 2.64 Kg

https://www.sierrawireless.com/router-solutions/xr80/#specs   6/7
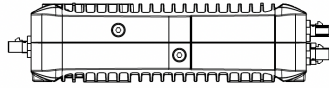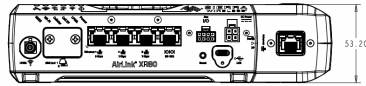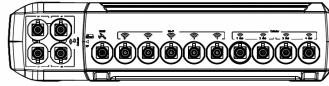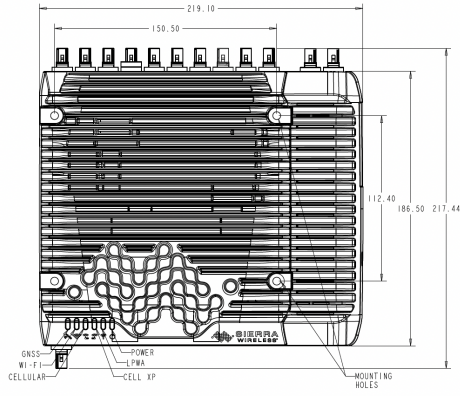
For carrier specific band support please refer to the hardware user guide.