

GET CONNECTED, STAY CONNECTED: AIRLINK ROUTER SOLUTIONS

STEVE HIRSCH

CHANNEL BUSINESS MANAGER
SEMTECH

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DIRECTOR, TECHNICAL SALES **SEMTECH**



TECHNOLOGY SUMMIT 2024 Introductions, Semtech Corporate Overview *STEVE*

Current Roadmap

ARMEN

AGENDA



Semtech Team

CHANNEL TEAM



STEVE HIRSCH Channel Business Manager



ARMEN TSOUROUKDISSIAN
Senior Engineer,
Field Systems

Product & Services For a Smarter and More Connected World

IoT SYSTEMS & CONNECTIVITY

CELLULAR AND BROADBAND MODULES

Secure IoT modules and solutions for 4G, 5G, and LPWA cellular connectivity

CELLULAR ROUTERS

5G and LTE router solutions for mission and business-critical organizations that want to reliably connect and gain intelligence from their fixed or mobile assets

SERVICES & CONNECTIVITY

IoT Cloud & IoT Connectivity services, powered by global & regional SIM cards



SIGNAL INTEGRITY

DATA CENTER I WIRELESS NETWORKS I PON

Optical networking components
Clock & data recovery semiconductors
HD broadcast video transport

ANALOG, MIXED-SIGNAL AND WIRELESS SEMICONDUCTORS

LoRa® TECHNOLOG

Long range, low power, scalable connectivity ICs

PROTECTION & POWER

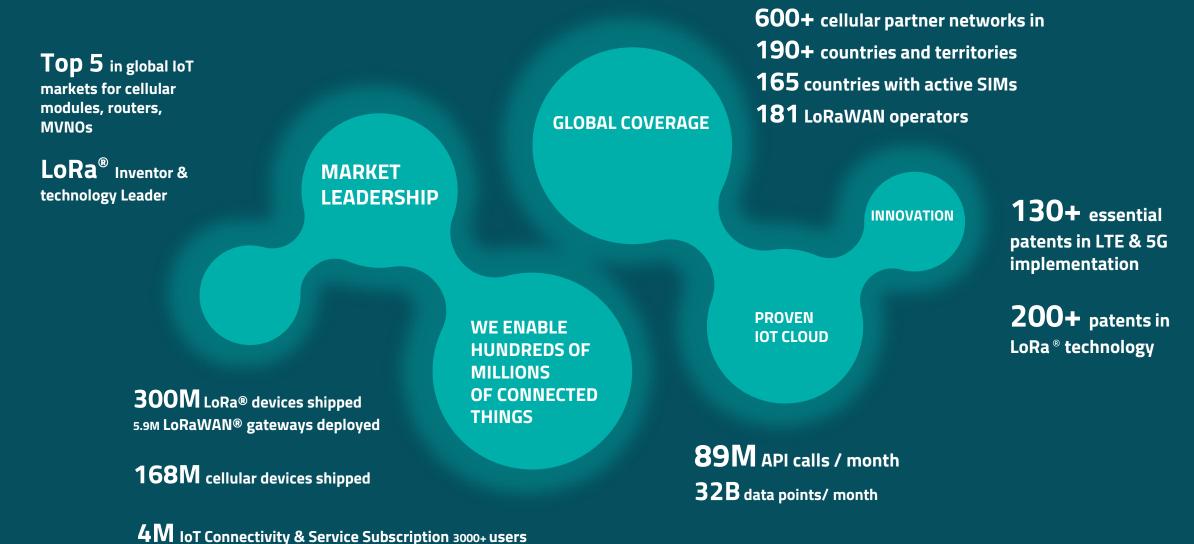
Greener, smarter power management & protection ICs aimed at reducing system cost and providing design flexibility.

SENSING

Smart proximity sensors for all human interface applications, intelligently sensing human presence to enable smart responses, making smart devices smarter.

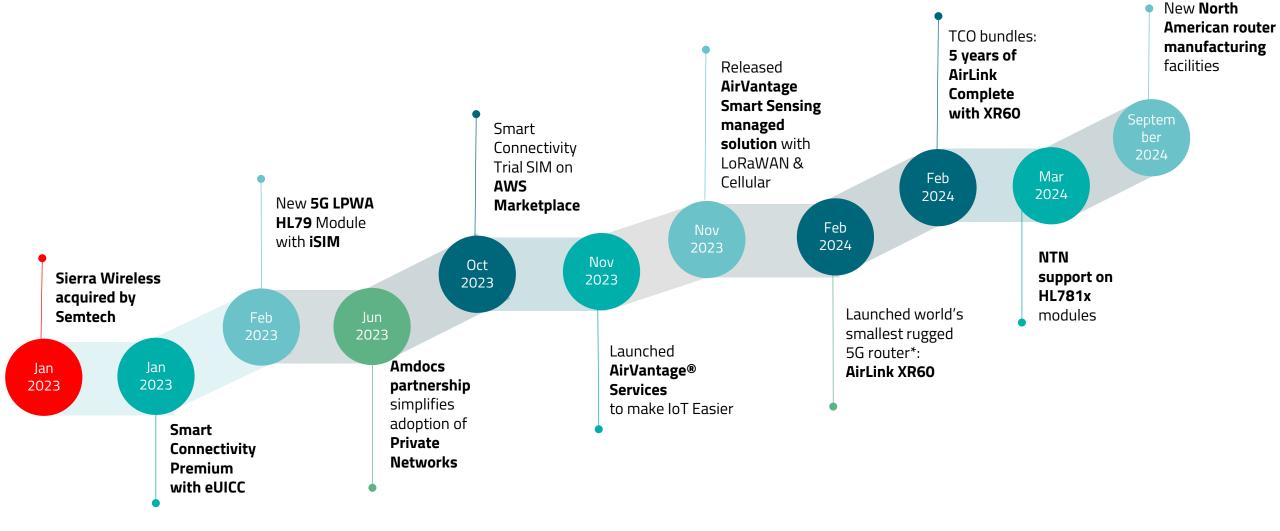


Semtech's Wireless Business





Semtech's Continued Wireless Investment





Proven Expertise and Innovation

With over 30 years of wireless expertise and a foundation built on innovation, Semtech is the go-to expert for mission-critical connectivity, trusted by leading industrial and public safety organizations worldwide.

The statements in this document are based on an internal study conducted by Semtech in March 2024 and are believed to be accurate as of this date.

All of the Top 20 U.S. Utilities

use AirLink® router solutions for smart grid deployments or vehicle fleets

50% of U.S. population

is protected by state police agencies using AirLink® router solutions.

All of the Top 10

U.S. Oil & Gas producers

use Airl ink® router solutions to keep their infrastructure running smoothly

7 out of 10 of the Top 10 U.S. police departments

rely on AirLink® router solutions in cruisers and incident response vehicles

More than 50%

of the Top 50 U.S. transit agencies

Leverage AirLink® router solutions to improve passenger services and operations.

*Based on top Utility and Oil & Gas companies by market cap as of March 2024, Largest U.S. State and Local Law Enforcement Agencies by number of full-time officers, 2018, Largest U.S. transit agencies by unlinked passenger trips, 2022



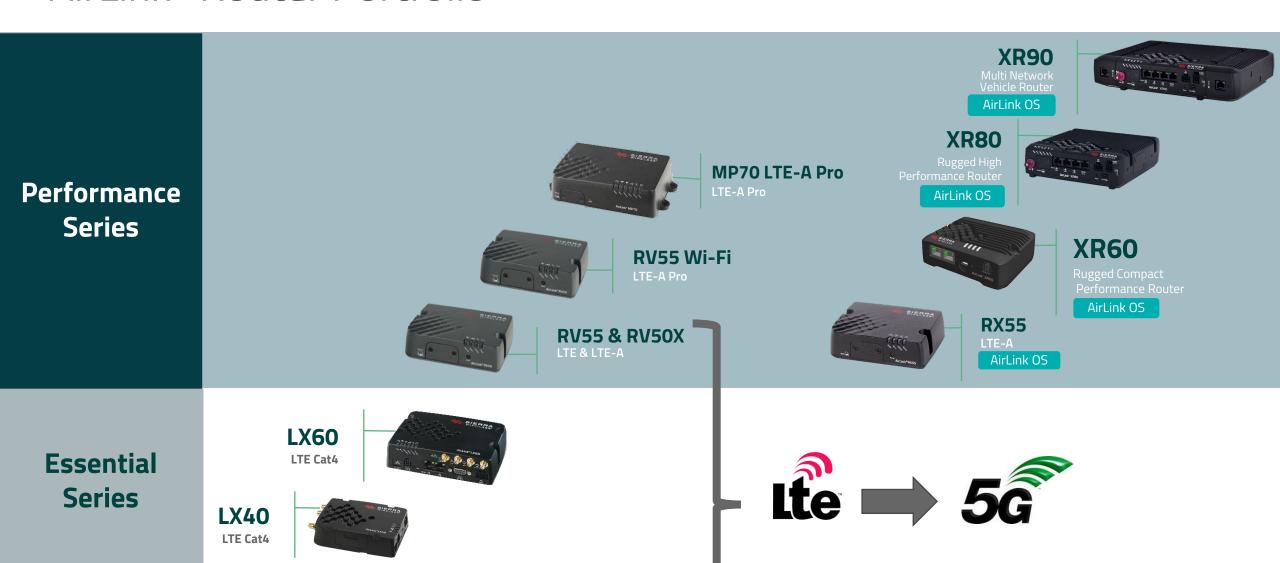


PRODUCT PORTFOLIO

AIRLINK SOLUTIONS



AirLink® Router Portfolio





The go-to Solution for Mission-Critical Connectivity





Deploy with Confidence



Proven Expertise and Innovation

From compact, low-power solutions to ultimate 5G and Wi-Fi 6 performance our wide portfolio of Pro and Essential routers keep your critical operations connected, virtually anywhere.

Rely on a trusted partner and comprehensive services to keep your networks operating securely and at peak performance, supporting long-term deployment success.

With over 30 years of wireless expertise and a foundation built on innovation, Semtech is the go-to expert for mission-critical connectivity, trusted by leading industrial and public safety organizations worldwide.





All of the Top 20 U.S. Oil and Gas Producers

use AirLink® router solutions for smart grid deployments or vehicle fleets.



Highly Rugged C1D2 Routers



Industrial-**Grade Security**



Lowest Power Consumption**



Public and Private 5G/LTE



Low Total Cost of Ownership (TCO)



^{24/7/365} **Support**

^{*}Based on top U.S. Oil & Gas companies by market cap as of March 2024

^{**} RX55, World's most power efficient rugged LTE-A router, based on internal study November 2023



7 out of 10 of the Top 10 U.S. Police Departments

rely on AirLink® router solutions in cruisers and incident response vehicles*.



Highly Rugged Routers

Advanced Mobility

Reporting



Public-Safety
Grade Security



Intelligent Hot Failover



Land Mobile Radio Integration



Low Total Cost of Ownership (TCO)



^{*}Based on largest U.S. State and Local Law Enforcement Agencies by number of full-time officers, 2018



50% of U.S. population

is protected by state police agencies using AirLink® router solutions.



Highly Rugged Routers



Intelligent Hot Failover



Land Mobile Radio Integration



Advanced Mobility Reporting



Public-Safety Grade Security



Low Total Cost of Ownership (TCO)



^{*}Based on largest U.S. State and Local Law Enforcement Agencies by number of full-time officers, 2018



>50% of the Top 50 U.S. transit agencies

leverage AirLink® routers to improve passenger services and operations.



Highly Rugged Routers

Advanced Mobility

Reporting



24/7/365 Support



Intelligent Hot Failover



Ultimate Wi-Fi 6 Capabilities

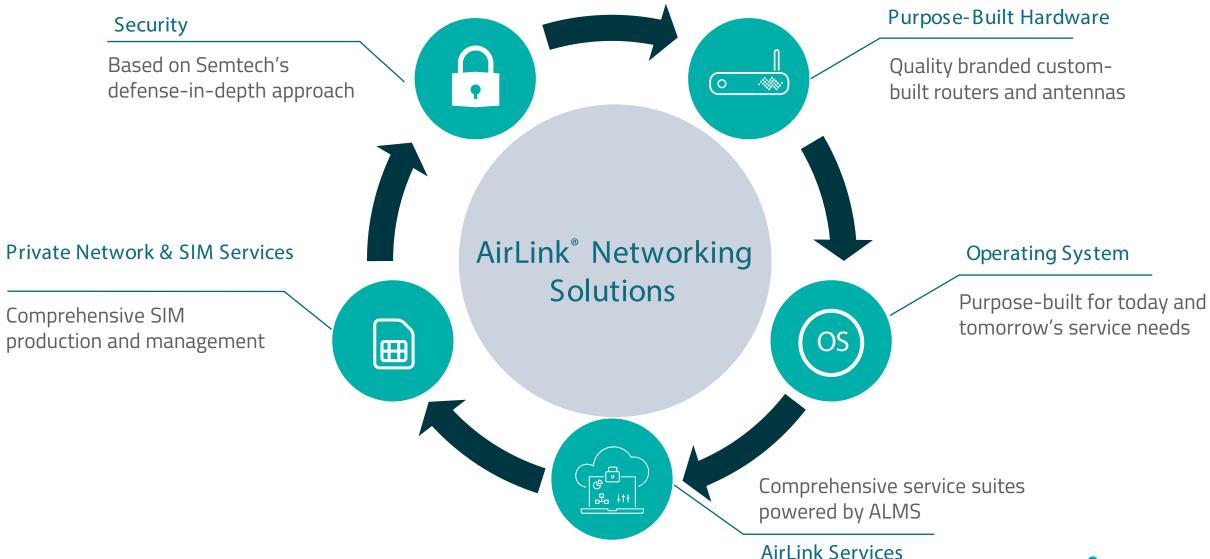


Low Total Cost of Ownership (TCO)



^{*}Based on largest U.S. transit agencies by unlinked passenger trips, 2022

Complete Solution for Router and SIM Management





16 FUTURE TECHNOLOGY & SEMTECH | SEPTEMBER 2024 | Semtech Corporation

Purpose-Built Hardware

From compact, low power solutions, to ultimate 5G performance and ruggedness, our portfolio of Pro and Essential routers keep your critical operations connected

AirLink® Pro Routers for Your Mission-Critical Operations



PERFORMANCE

COMPACT





Die-Cast Aluminum Housing



Shock and Vibration Protection



Extreme Operating Temperatures



Dust and Water Protection



Hazardous Environments



Voltage Protection

AirLink Pro Routers – A Solution for the Diverse Mission-Critical Needs

ULTIMATE



AirLink **XR80**

Highest 5G and Wi-Fi 6 Performance

- Ultimate 5G and Wi-Fi Performance
- Dual-radio option for ultimate redundancy and coverage

PERFORMANCE



AirLink **XR60**

World's Smallest Rugged 5G Router*

- High-Performance single-radio routers
- Multi-Client Solutions to connect multiple devices and applications

COMPACT



AirLink RV50X **RV55**

World's Most Power Efficient Rugged LTE-A Router*

- Ultra-compact design
- Ultra-low power consumption, ideal for solar or battery-powered applications

*Based on internal study of comparable IP64 routers January 2024



ESSENTIAL

PRO ROUTERS

Ultra-Rugged for your mission critical operations

Compact, semi-rugged routers





COMPACT

Compact, energy-efficient routers

PERFORMANCE

Perfect blend of size and high performance

ULTIMATE

Ultimate performance, ultimate coverage







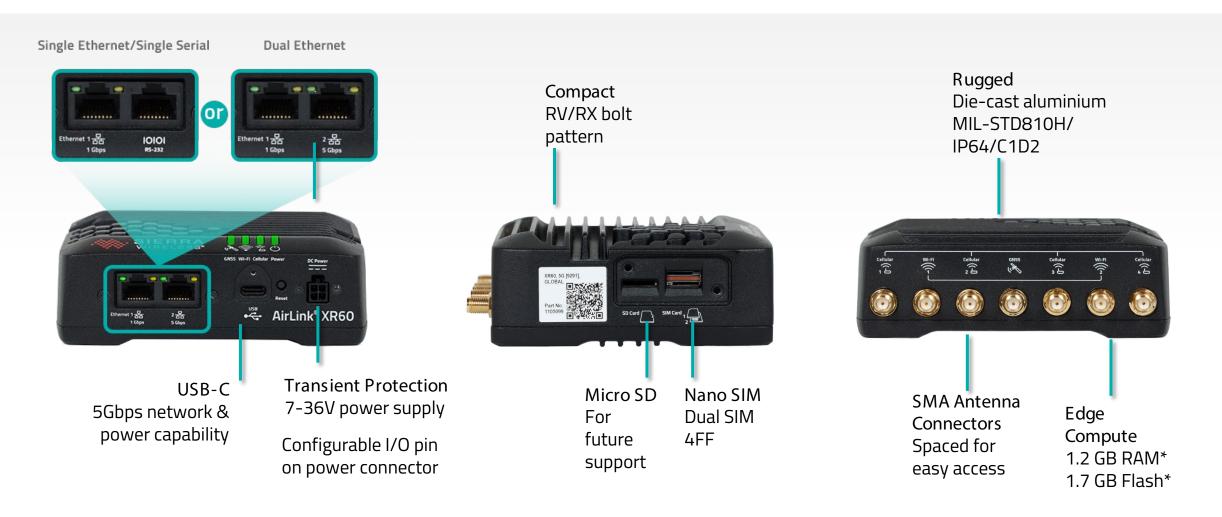








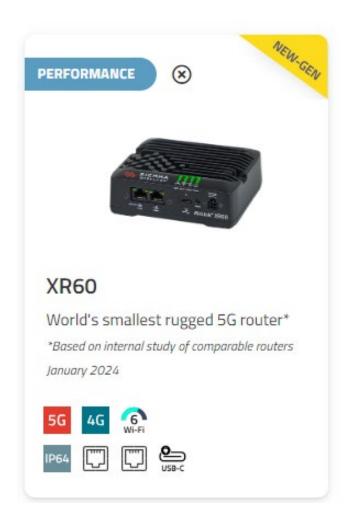
Ruggedized Hardware - XR60 Product Highlights



^{*}Approximation available to containers (not device total). Depends on other enabled features



AirLink® XR60



Key Features

- AirLink Pro ultra-rugged design
- Ultra-Compact Design
- High-performance 5G and Wi-Fi 6
- Edge Computing (container support) Beta
- Single 5G up to 2.8 Gbps DL / 300 Mbps UL
- 2×2 MIMO Wi-Fi 6 (optional) up to 32 clients
- Ethernet: 1x 1Gbps + 1x 5Gbps optional
- Dual RS-232/485 (Serial/Ethernet variant)
- 1 GPIO
- Dual-band 48 Channel GNSS
- USB 3.2 Gen 1 Type-C® with power delivery and 5 Gbps LAN networking
- IP64 / C1D2 / MIL-STD-810H

Ideal for











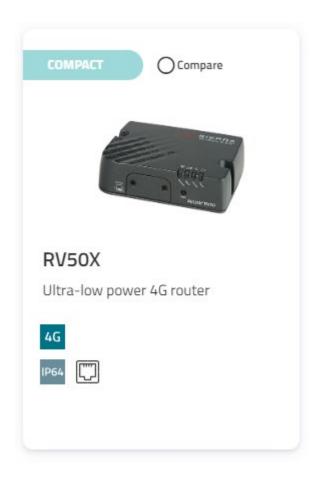
Variants

- Dual Ethernet (1 Gbps + 5 Gbps)
- Dual Fthernet with Wi-Fi
- Single Serial, Single Ethernet (1 Gbps)
- Single Serial, Single Ethernet with Wi-Fi
- TAA SKUs available

- AirLink Complete (Included)
- AirLink Premium upgrade (optional)
- Hybrid Cloud (optional)
- VPN AirLink Connection Manager (optional)



AirLink® RV50X



Key Features

- AirLink Pro ultra-rugged design
- Low idle power consumption (0.9W)
- Compact design
- Anterix Support
- Dual Serial option
- Single 4G LTE Cat-6 up to 300 Mbps DL / 50 Mbps UL
- Single Ethernet (1 Gbps)
- Single RS-232 serial port (DB9)
- 30 channel GNSS
- 1 GPIO
- IP64 / C1D2 / MIL-STD-810G

Ideal for







Variants

LTE (Cat-6)

- AirLink Complete (Included)
- AirLink Premium upgrade (optional)
- VPN AirLink Connection Manager (optional)



AirLink® RV55



Key Features

- AirLink Pro ultra-rugged design
- Ultra-low idle power consumption (0.7W)
- Compact design
- Dual Serial option
- Single 4G LTE Cat-12 or Cat-4 up to 600 Mbps DL / 150 Mbps UL
- Dual 1x1 SISO Wi-Fi 5 (optional) up to 20 clients
- Single Ethernet (1 Gbps)
- Single RS-232 serial port (DB9) Dual Serial option (with an accessory)
- 30 channel GNSS
- 1 GPIO
- IP64 / C1D2 / MII -STD-810G

Ideal for











Variants

- LTE-A Pro (Cat-12)
- LTE-A Pro (Cat-12), Wi-Fi
- LTE (Cat-4)
- TAA SKUs available

- AirLink Complete (Included)
- AirLink Premium upgrade (optional)
- VPN AirLink Connection Manager (optional)



Key Features Comparison: RV50X, RV55, and XR60

	RV50X	RV55 Cat 12	XR60	
Cellular Radio	LTE-A	LTE-A Cat 12	5G	
Wi-Fi	No	Optional	Optional	
Ethernet Ports	1	1	2 (Dual Ethernet variant)	
Serial Ports	1	1	1 (Ethernet/Serial variant)	
GNSS	Yes	Yes	Yes	
IP Rating	IP64	IP64	IP64/ C1D2	
Operating System	ALEOS	ALEOS	AirLink OS	
Management Systems	ALMS, AirLink Manager	ALMS, AirLink Manager	ALMS, AirLink Manager (H1, 2025)	
Peak Downlink	300 Mbps	600 Mbps	2 Gbps	
Peak Uplink	50 Mbps	150 Mbps	200 Mbps	
Category	Cat-6	Cat-12	Cat-20	
Antenna Type	SMA	SMA	SMA	
MIMO Support	Yes (2x2)	Yes (2x2)	Yes (4x4)	
Connector Requirements	SMA for cellular and GPS antennas	SMA for cellular and GPS antennas	SMA for cellular and GPS antennas	
Carrier Certifications	Major global carriers	Major global carriers	Major global carriers	
Operating Temperature	-30°C to +70°C	-30°C to +70°C	-40°C to +70°C	
Storage Temperature	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	
Humidity Tolerance	95% RH non-condensing	95% RH non-condensing	95% RH non-condensing	
Military Spec Ratings	MIL-STD-810G	MIL-STD-810G	MIL-STD-810H	
RAM	256 MB	512 MB	1.2 GB	
Storage	128 MB	512 MB	1.7 GB	



Antennas



- Tested and certified to provide optimal performance with all AirLink routers
- Designed to connect a wide range of mobile and fixed applications in public safety, utilities, industrial and distributed enterprises

Learn more at our **Router Antennas** web page





DEVICE MANAGEMENT PLATFORM OVERVIEW

Semtech Management Platforms Comparison

Feature Comparison	AirLink Management Service (ALMS)	AirLink Manager (AM/AMM)		
Compatible AirLink Routers	 New-Generation Routers: XR90, XR80, XR60, RX55 ALEOS Routers: MP70, RV55, RV50, RV50X, LX60, LX40 	 MG90 (required) ALEOS Routers: MP70, RV55, RV50, RV50X, LX60, LX40 (optional) New-Generation Routers*: XR90, XR80, XR60, RX55 (H1 2025) 		
Services	AirLink Complete, AirLink Premium (1 st Year Cost Included)	AirLink Support (Additional Cost)		
Asset Type	Fixed and Mobile	Fixed and Mobile		
Data Location	 Cloud On-premise authentication option with Hybrid Cloud feature 	On-PremiseCloud (AMM via AirLink Support subscription)		
Mobility Reporting	Optional with Advanced Mobility Reporting	Included with AirLink Mobility Manager		



Management System – General Feature Overview

Management System Features	ALMS	AirLink Manager (AM)
Dashboards	•	•
Firmware Updates (OTA)	•	•
Configuration Management	•	•
Troubleshooting	•	•
Reporting	•	•
Alerting	•	•
User Management	•	•
Security	•	•





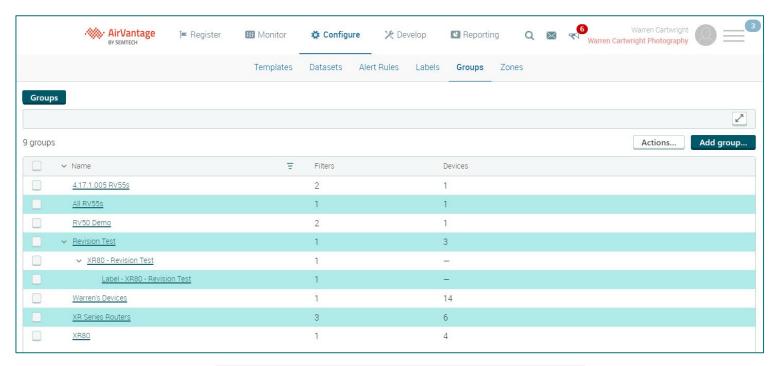
Management Platforms – Implementation Options

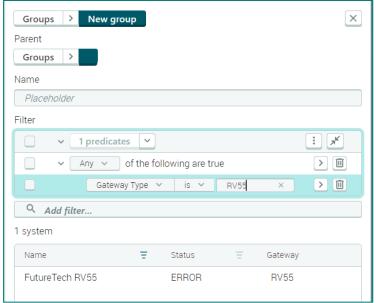
Solution Elements	Single Pane of Glass	On-prem Router Management
Routers	All currently supported on ALMS	ALEOS-based currently supported on AM AirLink OS-based supported H1 2025 on AM
SIM Management	ALMS	ALMS
Router Management	ALMS	AirLink Manager
AirLink Services	AirLink Complete	AirLink Support (\$)



ALMS - Groups

- Project in progress with delivery planned before EOY
- Initial UI work has begun
- There is significant back-end work in progress to support more complex filtering and multiple query options
- Targeting next demo in early September





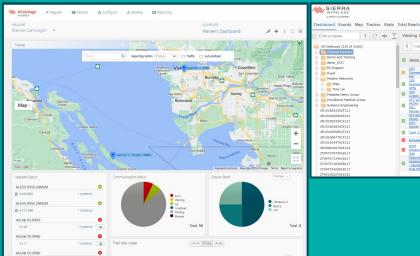


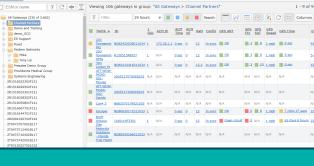


DEMO!

ALMS

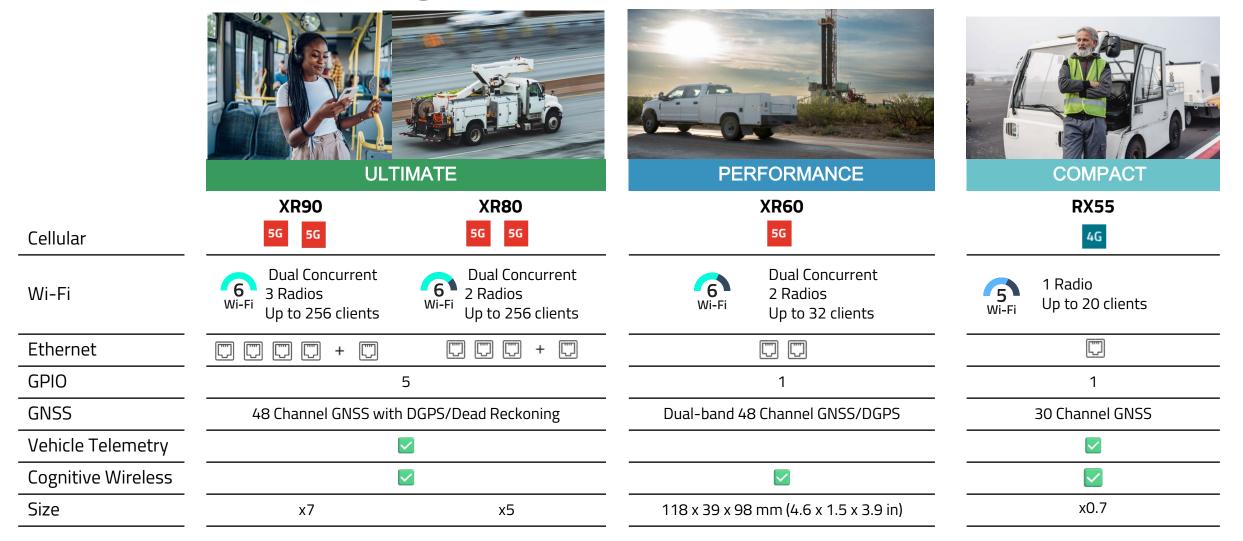
AM/AMM





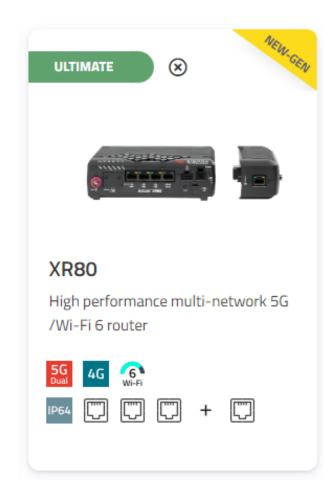


Vehicle Networking Recommended Solutions





AirLink® XR80



Key Features

- AirLink Pro ultra-rugged design
- High-performance Wi-Fi 6 with single antenna
- ALMS out-of-band management
- Edge Computing (container support) Beta
- Expandable single cartridge-based design
- Single or Dual 5G up to 4.14 Gbps DL / 660 Mbps UL
- Single 5×4 MU MIMO Wi-Fi 6 up to 256 clients
- Single 5G: 3x Ethernet (2×1 Gbps + 1×5 Gbps)
- Dual 5G: 4x Ethernet (3×1 Gbps + 1×5 Gbps)
- Console Serial RJ45 supports Single/Dual RS-232 (DB9) with optional cables
- 48 Channel GNSS with Dead Reckoning
- CAN bus/OBD-II (J1979/J1939)
- 5 GPIO
- IP64 / C1D2 / MIL-STD-810G

Ideal for









Variants

- Single 5G (no Wi-Fi)
- Single 5G with 5x4 MIMO Wi-Fi 6
- Optional expansion 5G cartridge for dual 5G

- AirLink Complete (1 year included)
- AirLink Premium upgrade (optional)
- Hybrid Cloud (optional)
- VPN AirLink Connection Manager (optional)

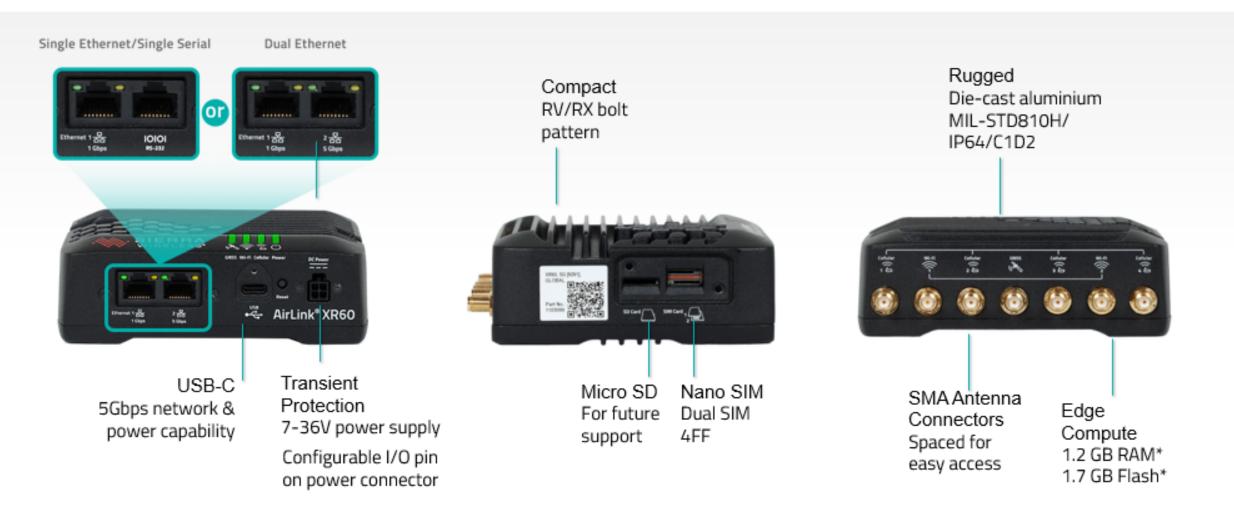


AirLink® XR80 5G





Ruggedized Hardware - XR60 Product Highlights



*Approximation available to containers (not device total). Depends on other enabled features



Key Features Comparison: RV50X, RV55, and XR60

Feature RV50X RV55 Cat 12 XR60 Cellular Radio ITF-A LTF-A Cat 12 5G Wi-Fi No Optional Optional **Ethernet Ports** 1 2 **Serial Ports** 1 GNSS Yes Yes Yes **IP Rating** IP64 IP64 IP64/C1D2 **Operating System ALEOS ALEOS** AirLink OS ALMS, AirLink Manager ALMS, AirLink Manager (H1, 2025) ALMS, AirLink Manager **Management Systems** 600 Mbps **Peak Downlink** 300 Mbps 2 Gbps **Peak Uplink** 50 Mbps 150 Mbps 200 Mbps Cat 6 Cat 12 Cat 20 Category SMA SMA SMA Antenna Type MIMO Support Yes (2x2) Yes (2x2) Yes (4x4) SMA for cellular and GPS antennas SMA for cellular and GPS antennas SMA for cellular and GPS antennas **Connector Requirements Carrier Certifications** Major global carriers Major global carriers Major global carriers **Operating Temperature** -40°C to +70°C -30°C to +70°C -30°C to +70°C **Storage Temperature** -40°C to +85°C -40°C to +85°C -40°C to +85°C **Humidity Tolerance** 95% RH non-condensing 95% RH non-condensing 95% RH non-condensing

MIL-STD-810G

512 MB

512 MB

MIL-STD-810H

1.2 GB

1.7 GB



MIL-STD-810G

256 MB

128 MB

Military Spec Ratings

RAM

Storage

Semtech Management Platforms Comparison

Feature Comparison	AirLink Management Service (ALMS)	AirLink Manager (AM/AMM)		
Compatible AirLink Routers	 New-Generation Routers*: XR90, XR80, XR60, RX55 ALEOS Routers*: MP70, RV55, RV50, RV50X, LX60, LX40 	 MG90 (required) ALEOS Routers: MP70, RV55, RV50, RV50X, LX60, LX40 (optional) New-Generation Routers*: XR90, XR80, XR60, RX55 (H1 2025) 		
Services	AirLink Complete, AirLink Premium (1 st Year Cost Included)	AirLink Support (Additional Cost)		
Asset Type	Fixed and Mobile	Fixed and Mobile		
Data Location	 Cloud On-premise authentication option with Hybrid Cloud feature 	 On-Premise Cloud (AMM via AirLink Support subscription) 		
Mobility Reporting	Optional with Advanced Mobility Reporting	Included with AirLink Mobility Manager		





PRIVATE
NETWORKS
AND ANTERIX



Anterix Router Support

CY2024 CY2025 CY2026 CY2027

XR80/90



AirLink XR80/90 Gen2 (5G Refresh)

Early 2025 (TBC) 5G Device supporting Anterix 4G B106

XR60



AirLink XR60 with Anterix Support

Early 2025 (TBC) 5G Device supporting Anterix 4G B106

R Series



AirLink RV50X

Currently Available 4G Band 8 No future upgrades





AIRLINK SERVICES



AirLink Services Overview

Semtech delivers comprehensive subscription-based packages to secure, optimize and effortlessly scale your deployments. All newly purchased AirLink routers* include one year of service.

CLOUD-BASED SERVICE OPTIONS







AirLink Premium

Best for mobility use cases. Includes Advanced Mobility Reporting and Advance Hardware Replacement.

AirLink Complete

Best for general purpose usage. Includes remote management, technical support and hardware warranty.

AirLink Basic

For older routers that just need security patches. It does not include remote management and hardware warranty is limited to one year only. Available at renewal only.



AirLink Services Comparison

Included with router purchase (1 year, registration required)



	AirLink Premium	AirLink Complete	AirLink Basic	AirLink Support
DEVICES SUPPORTED (Bold indicates standard offering for that router)	XR90 (First Year Included) XR80, XR60 , MP70, RX55, RV55, RV50X, LX60, LX40 (Option)	XR80, XR60, MP70, RX55, RV55, RV50X, LX60, LX40 (First year Included)	MP70, RV55, RV50X, LX60, LX40 (Option at Renewal Only)	MG90 Required, MP70, RV55, RV50X, LX60, LX40 (Option)
Management Platform	ALMS (Cloud)	ALMS (Cloud)	ALMS (Cloud)	AM/AMM (On-Premises or Hosted)
Firmware and Security Updates	•		•	•
Extended Hardware Warranty up to 5 years	•	•	_	•
24/7 Technical Support	•	•	_	•
Out of Band Management (OOBM)	Yes (XR90 and XR80 only)	Yes (XR80 only)	_	_
Advanced Mobility Reporting	•	_	_	Equivalent Features
Advance Hardware Replacement	•	_	_	•
Tracker Widget	•	_	_	•
Hybrid Cloud – <i>Optional Add On (\$)</i> *	0	0	_	-
Edge Computing – Optional Add On (\$) *	0	0	_	_
Smart Connectivity — Optional Add On (\$)	0	0	_	0
Single Sign On (SSO) - Optional Add On	0	0	_	-
ALMS VPN - Optional Add On	0	0	_	_



AirLink Services Comparison by Router Optional Included with router purchase (1 year, registration required)

	AirLink Premium	AirLink Complete	AirLink Basic	AirLink Support	Hybrid Cloud *	Edge Computing *	Smart Connectivity *	Single Sign- On*	ALMS VPN*
XR90	•	_	_	_	0	0	0	0	0
XR80	0	•	_	_	0	0	0	0	0
XR60	0	•	_	_	0	0	0	0	0
MP70	0	•	0	0	_	_	0	0	0
RX55	0	•	-	_	0	0	0	0	0
RV50X/ RV55	0	•	0	0	_	_	0	0	0
LX60/ LX40	0	•	0	0	_	_	0	0	0
MG90	_	_	_	Purchase Required	_	_	0	_	_

^{*} Optional Add On - Requires Active Subscription



Service Offering Details



AirLink Management Service - ALMS

AirLink Management Service is the control hub of your network. It allows you to remotely configure, manage, secure and troubleshoot your routers.

Learn More



Firmware and Security Updates

Our service subscriptions include unrestricted access to firmware updates — new features, functionality and security patches.



Extended Hardware Warranty

Enjoy peace of mind and protect the lifespan of your router deployments with our hardware warranty coverage.

Learn More



Technical Support

Our dedicated team of wireless experts stands ready to assist you around the clock to ensure your routers function at their optimal capacity.

Learn More Request Support



Out-of-Band Management

This industry-unique "link of last resort" provides you with an always-on link to ALMS to remotely diagnose, recover or update your XR80 and XR90 routers.



Advanced Mobility Reporting

Advanced Mobility Reporting provides historical reporting capabilities as well as lightweight vehicle fleet reporting and management capabilities to monitor your mobile deployments.

Learn More



Service Offering Details Continued



Advance Replacement

In the event of a device malfunction, we stand ready to dispatch a replacement on the very day the issue is reported, thus ensuring minimal interruption to your operations.



Smart Connectivity

Purpose built IoT Connectivity solutions with one point of accountability to ensure your business-critical assets are "always on".

Learn More



Hybrid Cloud

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

Learn More



Single Sign-On (SSO)

Enables ALMS users to log in with their enterprise credentials for seamless access.

Learn More



Edge Computing

This optional add-on allows you to run and manage lightweight Docker containers on eligible AirLink routers (Beta Program).

Learn More



ALMS VPN

Establishes a VPN between ALMS and the infrastructure which supports your AirLink routers.

Learn More



THANK YOU

