

Low-Power 5G RedCap and Wi-Fi 6 Connectivity in an Ultra-Rugged and Compact Router for Remote Assets Operating in Harsh Environments

KEY FEATURES

- 2x2 5G RedCap + LTE Cat-4
- 1x1 Wi-Fi 6 (optional)
- Dual-Band GNSS
- Single Ethernet (1 Gbps)
- Single/Dual RS-232
- IP64 and MIL-STD-810H Rated
- Powered by AirLink® OS and AirLink® Complete

RX400 Product Description

Purpose-built for critical infrastructure, the rugged RX400 combines right-sized 5G RedCap connectivity with industry-leading power efficiency to bring 5G to extreme environments— even where only solar power is available. With 5G RedCap and LTE support, built-in serial, edge computing and private networking support, utilities, oil & gas organizations and smart cities can modernize aging infrastructure today while enabling future-ready communications.

A Fully Integrated Solution

The AirLink RX400 is fully integrated with AirLink Complete – a comprehensive service package that includes remote device and security management, expert technical support and extended hardware warranty. For enhanced capabilities, upgrade to AirLink Premium to add Advanced Mobility Reporting and Advance Replacement. Organizations preferring on-premise management can also opt for the AirLink Manager (AM) or AirLink Mobility Manager (AMM) platforms (paid option).

Ideal Applications

Future-ready, reliable connectivity in mission-critical applications:

- Critical Infrastructure
- Utilities
- Oil & Gas
- SCADA & Metering

Benefits

- Reliably connect and gain intelligence from remote fixed assets operating in harsh environments
- Designed and thoroughly tested to thrive in harsh conditions: shock and vibration resilience (MIL-STD-810H grade), extreme temperature and humidity operating range, intrinsic safety and power resilience
- Ultra-low power consumption (<1W), ideal for solar/battery powered installations
- Compact solution with 2 antenna elements, bringing 5G RedCap connectivity in equipment where traditional 5G eMBB may be impractical
- Edge intelligence with industry-standard container support
- Future-ready-connectivity with 5G RedCap and Wi-Fi 6 technologies
- Remote router management and comprehensive services through AirLink Complete

RX400 Services and Support



AIRLINK COMPLETE

Maximize your AirLink RX400 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 RX400 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 RX400 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.*



FLEXIBLE MANAGEMENT OPTIONS

AirLink Management Service (ALMS) cloud management platform is included in your active AirLink Complete or AirLink Premium subscriptions. AirLink Manager (AM) and AirLink Mobility Manager (AMM) provide on-premise router management options for environments where cloud solutions are not an option. AM (on-premise platform) is ideal for organizations monitoring fixed assets, while AMM (available as on-premise or hosted platform) features advanced vehicle tracking capabilities for mobile deployments.

[Learn More](#)

**AM/AMM is not included in AirLink Complete or AirLink Premium subscriptions and requires separate paid licenses.*



ANTENNAS

- Tested and certified to provide optimized performance with all AirLink routers
- Accelerate deployment with always-on, end-to-end connectivity
- For more information on antennas specific to the RX400 router visit our [web page](#)



AirLink RX400 – Router Specifications

KEY FEATURES	
Cellular Radios	5G RedCap (Reduced Capability)
Wi-Fi	Single 1x1 MIMO Wi-Fi 6 (Optional)
Ethernet	Single Ethernet (1 Gbps)
Serial	Single/Dual RS-232
GNSS	Dual-band GNSS
CAN	–
I/O	1 GPIO
USB	USB Type-C® with Power Delivery
Bluetooth	–
IP Rating	Sealed Aluminum Housing (IP64 Rated)
Services	AirLink Complete (1 year included)
Operating System	AirLink OS
Management System	AirLink Management Service (ALMS) - Included with AirLink Complete subscription AirLink Manager (AM) / AirLink Mobility Manager (AMM) - Paid Option

GLOBAL	
CELLULAR	
Variant	Global
Technology	5G RedCap
Peak Downlink (Theoretical)	226 Mbps
Peak Uplink (Theoretical)	120 Mbps
Category	5G RedCap
Region	Global
MIMO	2x2
RF Connectors	SMA
SIM	Dual SIM (Nano-4FF)



FREQUENCY BANDS																
	1	2	3	4	5	7	8	12	13	14	17	18	19	20	25	26
5G	n1	n2	n3	–	n5	n7	n8	n12	n13	n14	–	n18	–	n20	n25	n26
4G	B1	B2	B3	B4	B5	B7	B8	B12	B13	B14	B17	B18	B19	B20	B25	B26

FREQUENCY BANDS																
	28	34	38	39	40	41	42	43	48	66	70	71	77	78	79	106
5G	n28	–	n38	–	n40	n41	–	–	n48	n66	n70	n71	n77	n78	n79	–
4G	B28	B34	B38	B39	B40	B41	B42	B43	B48	B66	B70	B71	–	–	–	B106

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

WIRELESS CERTIFICATION

Regulatory	FCC, IC/ISED, PTCRB, GCF Planned: CE, RED, RCM
Carrier	AT&T, Verizon Planned: T-Mobile, Telus, Rogers, Bell, Telstra
Public Safety	FirstNet® Capable
Other	Anterix Active (Band 106)
Part Numbers	1105304 RX400 1105305 RX400 with Wi-Fi

WI-FI

Wi-Fi Standard	Wi-Fi 6
Access Point	Dual (2.4 & 5 GHz)
Client (Depot/WAN)	Yes
Client & AP	Yes
Peak Throughput (Theoretical)	600 Mbps
MIMO	Single 1x1
Security	WPA2/3 Personal WPA2/3 Transitional WPA2 Enterprise (Client only)
Clients	16 per radio
SSID	1
Output Power	16 dBm (for 2.4 GHz) & 14 dBm (for 5 GHz) per chain conducted transmit power
Frequency	2.4/5 GHz
RF Connectors	SMA (Reverse Polarity)

ENVIRONMENTAL

Operating Temperature	-40°C to +70°C / -40°F to +158°F
Storage Temperature	-40°C to +85°C / -40°F to +185°F
Humidity	95% RH @ 60°C
Military Specification	Planned: MIL-STD-810H (Shock, Vibration, Thermal Shock, Humidity)
IP Rating	IP64

INDUSTRY CERTIFICATIONS

Safety	Planned: IECCE Certification Bodies Scheme (CB Scheme)
Vehicle Usage	Planned: E-Mark (UN ECE Regulation 10.05), ISO7637-2, SAE J1455 (Shock, Vibration, Electrical)
Environmental Directives	Planned: RoHS2, REACH, WEEE, Prop 65
Hazardous Environments	Planned: Class 1 Div 2 – Ambient temperatures of -30 °C to +60 °C IECEx & ATEX
Rail Usage	Planned: EN50155/EN45545 (Rolling Stock)

POWER

Input Voltage	7 to 36 VDC Redundant power input via USB-C (15W)
Power Consumption	Idle Power: 756 mW (63 mA @ 12VDC) - serial enabled Standby Mode Power: 24 mW +- 10% (2 mA @ 12 VDC) Triggered on low voltage, I/O or periodic timer
Power Modes	Low voltage disconnect to prevent battery drain. Built-in protection against voltage transients including 5 VDC engine cranking and +200 VDC load dump. Ignition Sense with time delay shutdown. Configurable features and ports to optimize power consumption

SECURITY

AAA	802.1x /Radius authentication with Wi-Fi and Ethernet
Firewall	Stateful firewall with port forwarding, DMZ
WLAN Encryption	WPA2/WPA3 Personal/Enterprise
Firmware Update	Secure Firmware Update



NETWORK AND ROUTING

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
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QoS	Application/Traffic Priority Queuing
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WAN Monitors	Connection Failure Recovery
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LAN (ETHERNET/USB)

USB to Ethernet

VPN

Features	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 – included with AirLink Complete
AM/AMM (paid option)
Local web user interface
REST API (Beta) licensed via ALMS

EDGE COMPUTING

Support for Edge Compute Docker Containerized Applications (early adopters) licensed via ALMS

RAM^{1,2}	600 MB
Storage (Flash)¹	500 MB
CPU	Dual Core ARM Cortex A55 (Dual Core ARMv8.2-A 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 through at least December 31st, 2030

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	1105304 RX400 Without Wi-Fi : 96.94 years 1105305 RX400 Wi-Fi: 93.30 years ■ Ground Benign, 25°C ■ MTBF calculations performed per Telcordia "Reliability Prediction Procedure for Electronic Equipment" document number SR-332, Method I, Issue 3
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ACCESSORIES

In The Box	RX400, DC Power Cable, Quick Start Guide, AirLink Complete Leaflet
Other Accessories (sold separately)	2000579: AC Adapter, 12VDC 6001529: DIN Rail Bracket 2000522 : DC Power Cable 6001410: RJ45 to single DB9 female adapter cable 6001409: RJ45 to dual DB9 female adapter cable For Antenna options visit: web page .

DIMENSIONS

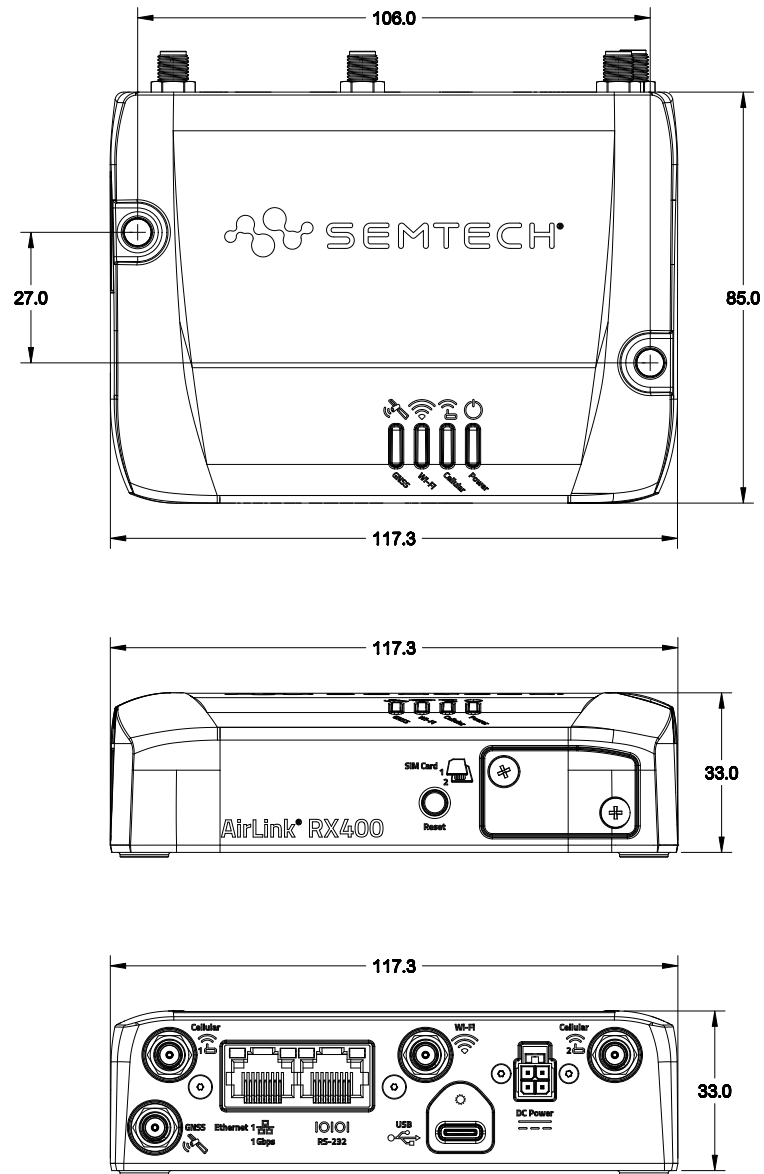
AirLink RX400	Size: 117.3 x 33 x 85 mm (117.3x33x94 mm including SMA connectors) 4.62 x 1.30 x 3.35" (4.62x1.30x3.7" including SMA connectors) Same bolt pattern as RV Weight: 350.5 g / 0.77 lb (RX400 Wi-Fi)
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*With current AirLink Complete subscription

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

***With current AirLink Premium subscription

AirLink RX400 – Router Dimensions Diagram



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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