



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 future-proofing their 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 5 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 guaranteed 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
Radio	EM9291
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		INDUSTRY CERTIFICATIONS	
Regulatory	FCC, IC/ISED, PTCRB, GCF Planned: CE, RED, RCM	Safety	Planned: IEC6 Certification Bodies Scheme (CB Scheme
Carrier	AT&T, Verizon Planned: T-Mobile, Telus, Rogers, Bell, Telstra	Vehicle Usage	Planned: E-Mark (UN ECE Regulation 10.05), ISO7637-2, SAE J1455 (Shock, Vibration, Electrical)
Public Safety	FirstNet® Capable	Environmental Directives	Planned: RoHS2, REACH, WEEE, Prop 65
Other	Anterix Active (Band 106)	Hazardous Environments	Planned: Class 1 Div 2 – Ambient temperatures of -30°C to +60°C IECEx & ATEX
Part Numbers	1105304 RX400 1105305 RX400 with Wi-Fi	Rail Usage	Planned: EN50155/EN45545 (Rolling Stock)
WI-FI		POWER	
Wi-Fi Standard	Wi-Fi 6	Input Voltage	7 to 36 VDC Redundant power input via USB-C (15W)
Access Point	Dual (2.4 & 5 GHz)	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
Client (Depot/WAN)	Yes	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
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		SECURITY	
Operating Temperature	-40°C to +70°C / -40°F to +158°F	AAA	802.1x /Radius authentication with Wi-Fi and Ethernet
Storage Temperature	-40°C to +85°C / -40°F to +185°F	Firewall	Stateful firewall with port forwarding, DMZ
Humidity	95% RH @ 60°C	WLAN Encryption	WPA2/WPA3 Personal/Enterprise
Military Specification	Planned: MIL-STD-810H (Shock, Vibration, Thermal Shock, Humidity)	Firmware Update	Secure Firmware Update
IP Rating	IP64		

NETWORK AND ROUTING		AIRLINK COMPLETE (1 Year Included With Router Purchase)	
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	Support	24/7 technical support*
QoS	Application/Traffic Priority Queuing	Hardware Warranty	1-year standard hardware warranty Extended hardware warranty up to 5 years with current subscription**
WAN Monitors	Connection Failure Recovery	Device Management	AirLink Management Service (ALMS)*
LAN (ETHERNET/USB)			AIRLINK PREMIUM (Optional Upgrade) Includes All Airlink Complete Features* and Adds:
	USB to Ethernet	Software Updates	Unrestricted critical firmware updates through at least December 31st, 2030
VPN		Advanced Mobility Reporting	Coverage and fleet reporting***
Features	IPsec protocol with IKEv1/IKEv2 FIPS 140-2 Level 1 compliant	Advance Replacement	Same-day shipping for in-warranty router replacements***
Encryption	AES128/AES192/AES256	RELIABILITY	
Hashing	SHA256/SHA384/SHA512	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
Key Exchange	DHGroup14/15/16/17/18/19/20/21	ACCESSORIES	
	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)	In The Box	RX400, DC Power Cable, Quick Start Guide, AirLink Complete Leaflet
ROUTER MANAGEMENT INTERFACES		Other Accessories (sold separately)	2000579 AC Adapter, 12VDC 6001529 DIN Rail Bracket 6001410 Serial 4-wire RS-232 cable 2000522 DC Power Cable For Antenna options visit: web page
	ALMS - included with AirLink Complete AM/AMM (paid option) Local web user interface REST API (Beta) licensed via ALMS	DIMENSIONS	
EDGE COMPUTING		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)
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)

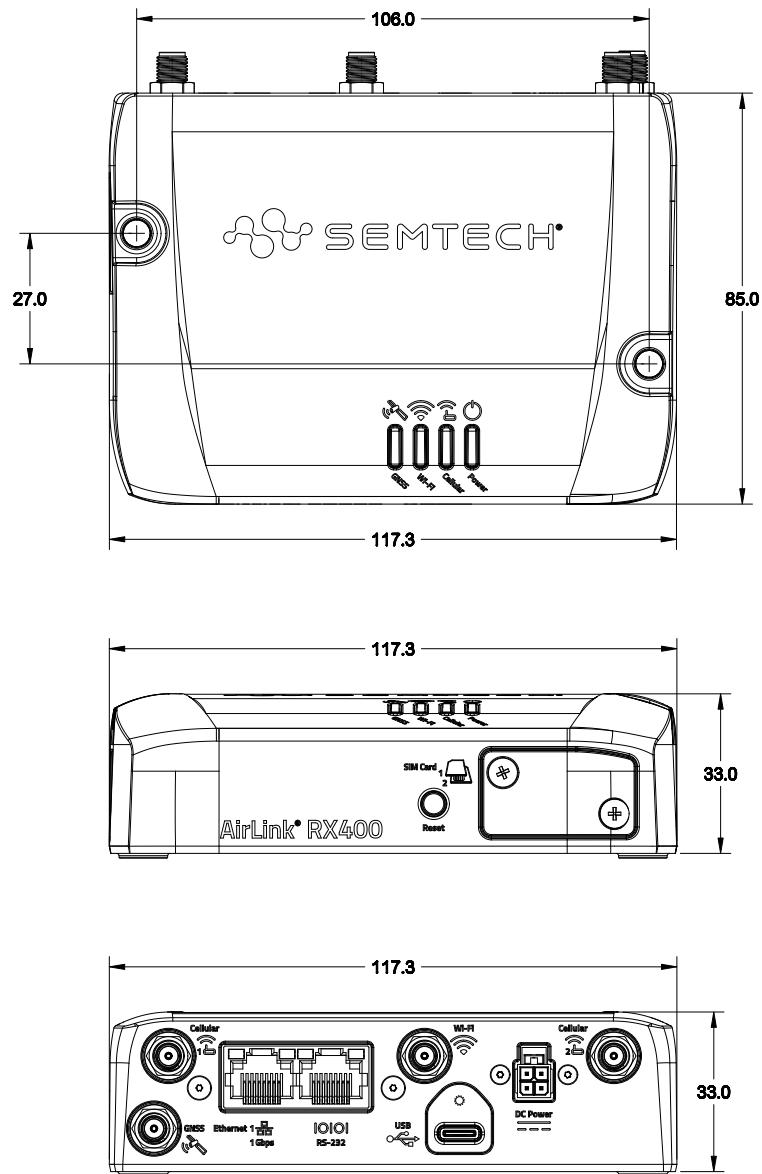
2. Depends on other enabled features

*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.

To learn more about Semtech technology, visit us at [Semtech.com](https://semtech.com) or follow us on [LinkedIn](#) or [X](#).