



Data Sheet:

Ericsson Cradlepoint R2400

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The Ericsson Cradlepoint R2400 is a ruggedized, secure router that provides reliable connectivity for in-vehicle deployments. Ericsson NetCloud provides remote management, connectivity, network, security, location and IoT services to connect everything in the vehicle. The R2400 harnesses the increased speed, performance and low latency of 5G Stand Alone (SA) networks to support advanced applications and critical communications. The reimagined modular design of the R2400 allows for up to five internal and external, 5G SA modems for multi-carrier deployments, which can be field-upgradable as modem technology updates for a longer router lifespan and investment protection. As the first router of the Ericsson Cradlepoint portfolio with Dual-SIM Dual Standby, the R2400 offers quick failover and provides visibility into the standby network eliminating a blind switchover. Its embedded eSIM provides deployment flexibility and allows carrier switching without changing physical SIMs. The ruggedized 5G networking platform can withstand wide temperature extremes, harsh environments, and hazardous locations while delivering enterprise-class standards of reliability, scalability, centralized management, and robust security.

5G SA as an Embedded and Distributed High-Performance Solution

The R2400 includes an embedded 5G SA modem that can automatically connect to Cat 20 LTE if the vehicle moves outside of 5G coverage. The 5G SA modem provides access to advanced 5G services such as network slicing for dedicated spectrum and airtime with carrier offerings. In addition, the R2400 router's modular design can connect up to four Ericsson Cradlepoint RC1250 captive modem managed accessories which provide additional active or passive WAN connections that can be deployed flexibly to meet space constraints or boost performance. The RC1250 is designed with a simple plug-and-play capability connecting via 2.5GbE ports for easy future upgrade options. Along with the continually improved NetCloud platform, the R2400 and RC1250 pairing ensures the ability for future expansion and the best investment protection available. In addition to multiple cellular connections the R2400 can connect to satellite receivers for reliable coverage in and out of cellular range.

Advanced Location Services Functionality

The R2400 router is enabled with Real-Time Kinematics (RTK) and dead-reckoning, which delivers centimeter-level location accuracy and precise tracking even in challenging environments. The result is reliable, continuous positioning when GNSS signals are degraded or unavailable, enabling smarter, location-aware applications with confidence. When coupled with the Ericsson NetCloud Advanced Mobile service plan, it provides threat management, web filtering, application visibility, and analytics.

NetCloud uses GNSS/GPS and 5G/4G cellular health to provide precise analytics about location and signal strength. Data can be mapped to display both the current and historical locations of a vehicle, as well as generate detailed coverage maps that display cellular health, allowing users to gain operational insights and solve problems. The R2400 with SD-WAN provides resilient in-vehicle connections by optimizing traffic across LTE, 5G, 5G stand-alone network slices, satellite, and Wi-Fi as WAN.



Product Page



Ericsson NetCloud Service



Installation Guide

Notable Features

- A 2 Gbps firewall throughput provides quick, reliable connectivity with 5G SA/Cat 20 LTE, providing fast upload for video and data
- Stay connected like never before with Dual-SIM Dual Standby that offers quick failover with visibility into the standby network, eliminating blind switchover
- Real-Time Kinematics, GNSS/GPS, and Dead Reckoning enable pinpoint fleet locations with up to centimeter-level accuracy and low latency updates for real time GPS and tracking
- With the modular design, harness the power of up to four additional 5G SA external modems for multi carrier deployments, satellite connectivity, simple field upgrades, and investment protection
- 2.5x the compute power of prior models to support on device AI inference, extensible third-party applications through containers, connectors, SDKs, and API support
- Receive more from router investments. Plug and play modem upgrades let customers keep the same router while evolving radio capabilities
- Prioritize access to public safety networks for reliable, secure connectivity
- Take advantage of 5G network slices to segment and isolate applications or devices, prioritize traffic, and have greater control over wireless network services
- Enable Zero Trust security and SD-WAN with 5G SASE
- Faster and more secure wireless connections over an industry first Wi-Fi 7 enabled ruggedized mobile router
- Stay connected even during harsh conditions including -40 °C to 70 °C (-40 °F to 158 °F) temperature ranges, MIL-STD shock and vibration, and IP64 ingress protection
- Change carriers over the air quickly and easily with built-in eSIM capability

Key Software Capabilities

NetCloud Mobile Performance Service with the R2400 mobile router provides everything needed to unlock the power of 5G SA and connect vehicles, users, and IoT to critical applications and services. The R2400 offers optional SD-WAN and Link Bonding to optimize and prioritize critical application data over cellular, wired, and satellite connections. The optimization and application priority ensures that critical applications run as expected even in challenging situations. NetCloud includes router software for security capabilities along with capabilities centralized in the cloud such as group policy definition, reports, troubleshooting, and analytics dashboards as well as cellular

coverage maps. Ericsson SASE Zero Trust security enhances the organization's security posture, securing and protecting mission-critical data traffic. NetCloud's single policy engine integrates policies for Secure Connect, SD-WAN, and Zero Trust Network Access for a truly unified visibility and management experience, providing simplicity and scalability. The service comes with a warranty for as long as there is an active subscription on the router, online training, live and online support, and continuous software updates for both the router and the modem.

Edge Compute and Edge AI

The R2400 offers 2.5x more edge compute capacity than prior Ericsson Cradlepoint mobile routers. This additional computing power enables organizations to implement real-time AI inference and on-board mission-critical applications at the edge for improved performance. The R2400 enables organizations to be more efficient and agile by deploying edge application capabilities from situational awareness to route optimization, predictive maintenance, and safety monitoring.



Hardware Specifications

The following features are delivered through the hardware.

INTERFACES	
Modem:	Embedded 5G NR FR1 low-, mid-band, and 4G LTE Category 20 modem <ul style="list-style-type: none"> 4 x SMA cellular antenna connectors[†]
Ethernet:	<ul style="list-style-type: none"> 4 x 2.5 GbE (LAN/WAN switchable) 2 x 1 GbE (LAN/WAN switchable)
PoE:	N/A
Wi-Fi:	Software-defined Wi-Fi radio <ul style="list-style-type: none"> 4 x RP-SMA Wi-Fi antenna connectors[†] Global Optimized Wi-Fi & International SDR WPA/WPA2/WPA3 Personal, WPA2/WPA3 Enterprise, Open 802.11k, 802.11v Mode 1 - 4x4 MU-MIMO <ul style="list-style-type: none"> 1376 Mbps (2.4 GHz) & 5765 Mbps (5GHz) Mode 2 <ul style="list-style-type: none"> Radio A - 2x2 Dual band/concurrent <ul style="list-style-type: none"> 688 Mbps (2.4 GHz) & 2882 Mbps (5 GHz) Radio B - 2x2 5 GHz band <ul style="list-style-type: none"> 2882 Mbps (5 GHz)

Bluetooth:	N/A
Expansion / Console:	<ul style="list-style-type: none"> • 1 x USB 2.0 Type C (Output: 5 V, 1.5 mA, 7.5 W) • 2 x 10 Expansion Connector <ul style="list-style-type: none"> • Redundant Power Input / Ignition Sense Input • CAN Bus • 4 x GPIO • 5 V Output
GNSS / GPS:	1 x SMA GNSS antenna connector [†]
GNSS / GPS	
Acquisition: (Time to First Fix)	26 seconds (cold start)
Protocols:	<ul style="list-style-type: none"> • NMEA 0183 • TAIP
Constellations:	<ul style="list-style-type: none"> • GPS • Galileo • GLONASS • BeiDou (concurrent reception)
Accuracy:	Autonomous 1 meter
Update Rate:	1 Hz (once per second)
Sensitivity:	<ul style="list-style-type: none"> • Acquisition: -145 dBm • Tracking: -165 dBm • Reacquisition: -157 dBm
Frequencies:	<ul style="list-style-type: none"> • L1 • L5 (1559–1606 MHz)
Active Antenna Bias:	<ul style="list-style-type: none"> • Voltage Supply: 3.1-3.3 V • Max Current: 100 mA
ENVIRONMENTAL	
Temperature:	<ul style="list-style-type: none"> • Operating: -40 °C to 70 °C (-40 °F to 158 °F) • Storage: -40 °C to 85 °C (-40 °F to 185 °F)
Humidity:	<ul style="list-style-type: none"> • Operating: 5% to 95% • Storage: 5% to 95%
Ingress Protection:	IP64 (dust tight and splashing water)
Wind Rating:	No Wind Rating
POWER	
Required:	<p>DC input steady state voltage range: 9–36 VDC (requires in-line fuse for vehicle installations)</p> <ul style="list-style-type: none"> • For 12 VDC nominal installations, use a 5 A fuse • For 24 VDC nominal installations, use a 3 A fuse • Connector type: 4-pin 2x2 Molex mini-fit

Features:	<ul style="list-style-type: none"> • ISO 7637-2 reverse polarity and transient voltage protection • Ignition sensing (automatic ON & time-delay OFF)
Consumption:	<ul style="list-style-type: none"> • Sleep: 15 mW • Idle: 26 W • Typical: 29 W • Heavy: 41 W
PHYSICAL	
Size:	224 x 195 x 44 mm (8.8 x 7.7 x 1.7 in)
Weight:	1.64 kg (3 lb 10 oz)
RELIABILITY	
Calculated MTBF:	727,511 hours (Telcordia SR332 at 25 °C)
CERTIFICATIONS	
Safety:	<ul style="list-style-type: none"> • UL/cUL • CB Scheme • EN 62368-1
Vehicle:	<ul style="list-style-type: none"> • E-Mark • SAE J1455
Substance Compliance:	<ul style="list-style-type: none"> • RoHS 2011/65/EC and its amendments • REACH 1907/2006 and its amendments • TSCA 40 CFR Part 751 and 40 CFR 721 • California Proposition 65 • Canadian Toxic Substance Act SOR/2012-285
Security:	FIPS 140-3 Level 1 Module in Process (R2400 FIPS models only)
Shock/Vibration/Humidity:	<ul style="list-style-type: none"> • Operational Vibration (MIL STD 810H: Part Two, Method 514.8, Procedure 1) • Functional Shock 40G (MIL STD 810H: Part Two, Method 516.8, Procedure 1) • Crash Hazard Shock 75G (MIL STD 810H: Part Two, Method 516.8, Procedure 5)
North American Fire Safety:	NFPA 130
Flame Smoke Toxicity Test:	BSS 7239
Hazardous Locations:	<ul style="list-style-type: none"> • Class I Div 2 (North America) • ATEX 2 (Europe)
EDGE COMPUTING	
CPU:	Quad-core ARMv8 64-bit
Memory:	Up to 3.8 GB See Adjusting Memory Resources for NetCloud Container Orchestrator for more information.
Flash Storage:	Up to 8 GB See Adjusting Memory Resources for NetCloud Container Orchestrator for more information.
Applications:	Docker containerized applications
CLOUD SERVICES	

Service Plans:	Ericsson NetCloud Service for Mobile Performance
Service Add-Ons:	NetCloud Exchange, Ericsson NetCloud Advanced
Support:	Ericsson NetCloud packages include support for the full subscription term.
Warranty:	All Ericsson Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they have a subscription license to an active Ericsson NetCloud Service plan.
Device Management:	NetCloud Manager for the full subscription term.
Software Updates:	NetCloud Manager for the full subscription term.
WI-FI POWER	
FCC:	<ul style="list-style-type: none"> • 2412–2462 MHz (2.4 GHz): 28.93 dBm Conducted • 5150–5250 MHz: 19.58 dBm Conducted • 5250–5350 MHz: 23.58 dBm Conducted • 5470–5725 MHz: 23.78 dBm Conducted • 5745–5825 MHz: 23.88 dBm Conducted
IC:	<ul style="list-style-type: none"> • 2412–2462 MHz (2.4 GHz): 28.93 dBm Conducted • 5150–5250 MHz: 9.61 dBm Conducted • 5250–5350 MHz: 13.29 dBm Conducted • 5470–5725 MHz: 23.58 dBm Conducted • 5745–5825 MHz: 24.10 dBm Conducted
CE:	<ul style="list-style-type: none"> • 2412–2472 MHz (2.4 GHz): 17.63 dBm Conducted • 5150–5250 MHz: 21.11 dBm Conducted • 5250–5350 MHz: 21.10 dBm Conducted • 5470–5725 MHz: 27.14 dBm Conducted • 5745–5825 MHz: 12.00 dBm Conducted
RCM:	<ul style="list-style-type: none"> • 2412–2472 MHz (2.4 GHz): 17.63 dBm Conducted • 5150–5250 MHz: 21.11 dBm Conducted • 5250–5350 MHz: 21.10 dBm Conducted • 5470–5725 MHz: 27.14 dBm Conducted • 5745–5850 MHz: 12.00 dBm Conducted
Global Safe Mode:	2.4 GHz: 14 dBm Conducted
PERFORMANCE ^{††}	
Stateful Firewall:	2 Gbps
Point-to-Point IPsec VPN:	800 Mbps
LEDs	
Refer to the R2400 Ruggedized Router Installation Guide .	

[†]All antenna interfaces require cabled out external antennas and are not compatible with direct-attached antennas.

^{††}Performance testing was conducted based on requirements as defined in RFC2544 using fixed-frame 1518-byte packets. Throughput results reflect unidirectional UDP traffic with less than 1% packet loss as tested with wired connections. Results do not reflect performance of the cellular wireless operator networks.

Enterprise-Class Modem Specifications

**R2400-5GF-NA****R2400-5GF-GL**

SPECIFICATION	R2400-5GF-NA (Americas)
Technology:	<p>5G FR1 NSA/SA and 4G LTE</p> <ul style="list-style-type: none"> • LTE Advanced Pro Category 20 • Dual SIM slots, 4FF form factor, dual eSIM • 3GPP Release 17
3G:	N/A
Carrier Aggregation:	<p>5G SA</p> <ul style="list-style-type: none"> • Downlink: Up to 3 CA (Max 200 MHz bandwidth) • Uplink: Up to 2 CA <p>5G NSA</p> <ul style="list-style-type: none"> • Downlink: Up to 2 CA (5G NR) + Up to 5 CA (LTE) • Uplink: 1 CA (5G NR) + 1 CA (LTE) <p>LTE</p> <ul style="list-style-type: none"> • Downlink: Up to 6 CA • Uplink: Up to 2 CA <p>See Understanding Carrier Aggregation.</p>
Peak Rates:	<ul style="list-style-type: none"> • Downlink: Up to 4.9 Gbps • Uplink: Up to 900 Mbps
MIMO:	<ul style="list-style-type: none"> • Downlink: 4x4 MIMO • Uplink: 2x2 MIMO
Modulation:	<p>5G FR1</p> <ul style="list-style-type: none"> • Downlink: Up to 256 QAM • Uplink: Up to 256 QAM
5G NR Bands:	<ul style="list-style-type: none"> • Power Class 1.5: n41 (2500), n77 (3700), n78 (3500) • Power Class 2: n2 (1900), n25 (1900), n41 (2500), n66 (1700/2100), n71 (600), n77 (3700), n78 (3500) • Power Class 3: n2 (1900), n5 (850), n7 (2600), n12 (700), n13 (700), n14 (700), n25 (1900), n26 (850), n29 DL (700), n30 (2300), n38 (2600), n41 (2500), n48 (3500), n66 (1700/2100), n70 (2000), n71 (600), n77 (3700), n78 (3500)
4G/LTE Bands:	<ul style="list-style-type: none"> • Power Class 2: B38 (2600), B41 (2500), B42 (3500), B43 (3700) • Power Class 3: B2 (1900), B4 (1700), B5 (850), B7 (2600), B12 (700), B13 (700), B14 (700), B17 (700), B25 (1900), B26 (850), B29 DL (700), B30 (2300), B38 (2600), B41 (2500), B42 (3500), B43 (3700), B48 (3500), B66 (1700), B71 (600)

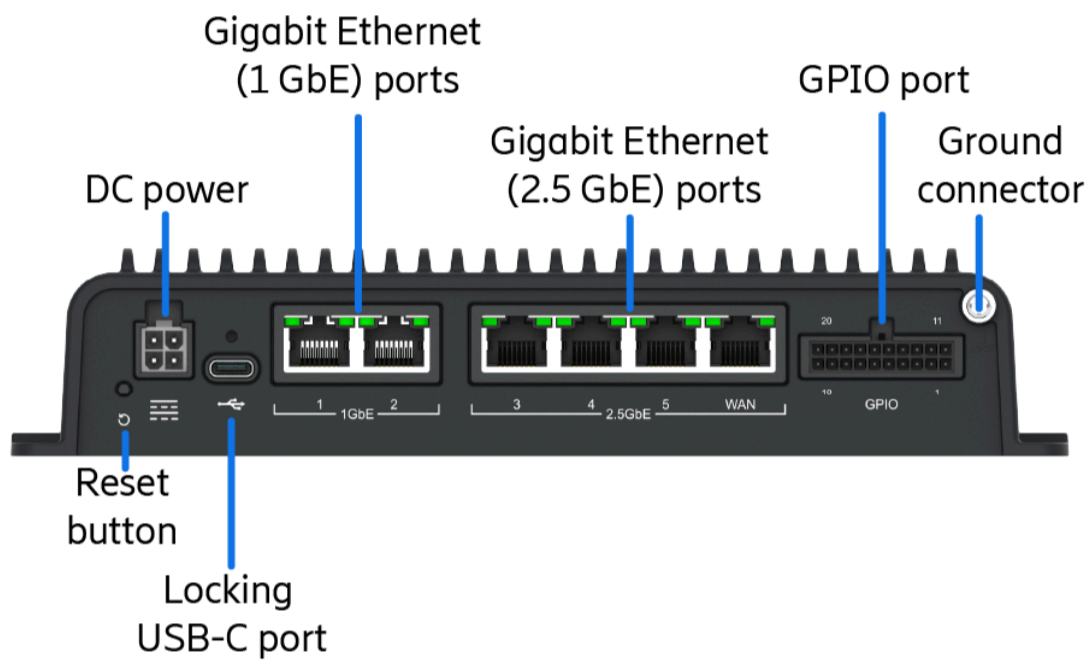
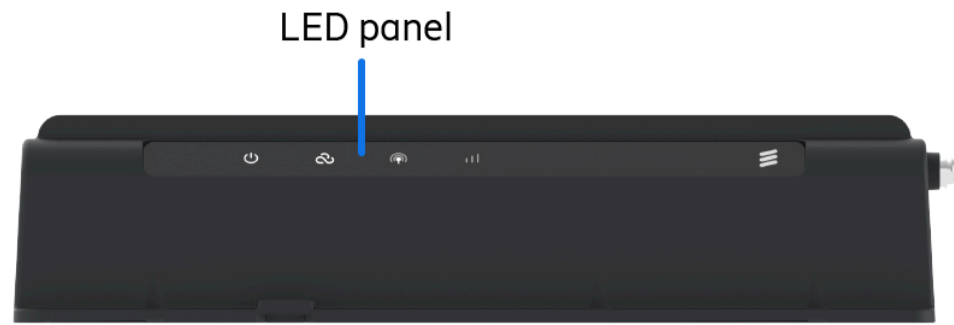
Power:	<p>5G NR</p> <ul style="list-style-type: none"> • Power Class 1.5: 29 dBm • Power Class 2: 26 dBm • Power Class 3: 23 dBm <p>LTE</p> <ul style="list-style-type: none"> • Power Class 2: 26 dBm • Power Class 3: 23 dBm <p>Transmit power may be lower on select bands due to regulatory restrictions. Tolerances according to 3GPP TS 38.521-1 and 3GPP TS 36.521-1</p>
GNSS/GPS:	Discrete active GPS with dead reckoning
SMS:	Yes
Regulatory:	<ul style="list-style-type: none"> • FCC (U.S.) • IC (Canada)
Network Operator Standards:	PTCRB (U.S., Canada)
GCF Global Operators:	https://www.globalcertificationforum.org/membership/gcf-members.html [†]
PTCRB North America Operators:	https://www.ptcrb.com/about/
Network Operator Certifications [†] :	<ul style="list-style-type: none"> • AT&T • T-Mobile • Verizon
Public Safety Network Certifications:	<ul style="list-style-type: none"> • T-Mobile T-Priority
Private Cellular Network:	Yes, includes FCC Part 96 (CBRS Band 48)

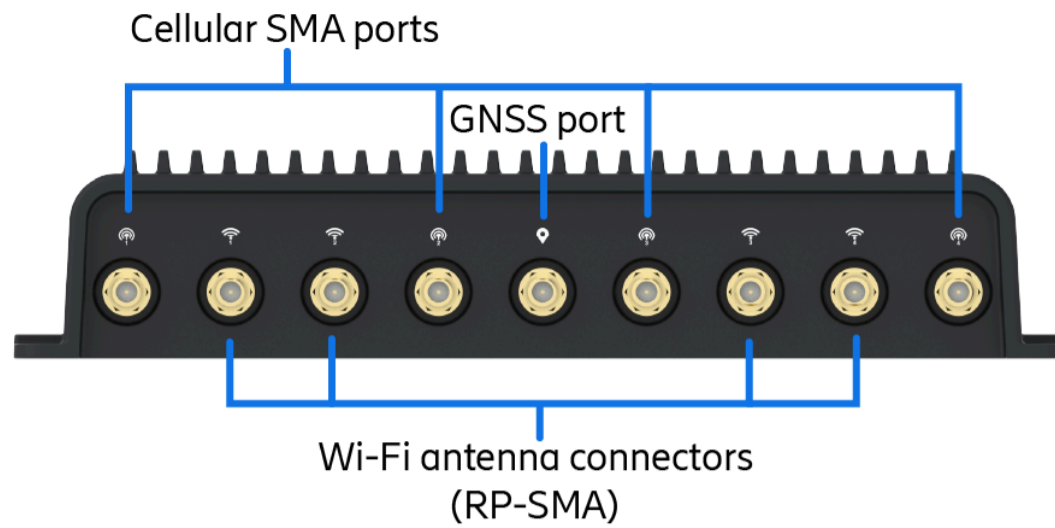
[†]Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications, to operate on their network. A listed carrier means Ericsson Enterprise Wireless Solutions completed additional testing and acquired technical approval for that given carrier. Any carrier not listed may not require additional testing or approval beyond telecom industry certifications to operate on their network.

Physical Measurements & Features

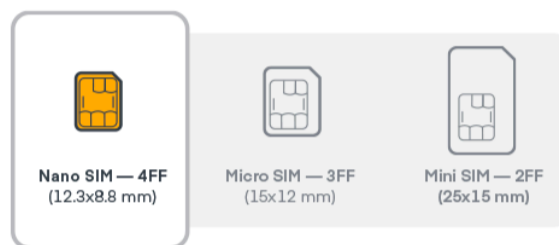


Features





SIM Card Info



Ordering Guide

Ericsson NetCloud Mobile Performance Essentials packages and plans contain all the features and capabilities required for a broad range of mobile or in-vehicle applications. Essentials packages include 24x7 support (phone support: 24-hour weekdays with emergency response on weekends, web: 24x7, chat: 24x5) and a limited lifetime warranty.

For additional capabilities, an **Ericsson NetCloud Mobile Performance Advanced Plan** can be added to the Ericsson NetCloud Mobile Performance Essentials package at any time.

See additional details of what is included in the Essential and Advanced Ericsson NetCloud software: cradlepoint.com/netcloud-service

Ericsson NetCloud Mobile Performance Packages for the R2400

REGION	MODEM	MOBILE PACKAGE PLAN	PART NUMBER
North America: U.S. & Canada	Cat 20 5GF modem, no AC power supply or antennas	Essentials	MB0x-R2400-5GF-NA-A
		Essentials + Advanced	MBAx-R2400-5GF-NA-A
United States: Federal Government	Cat 20 5GF modem, no AC power supply or antennas	TAA Compliant NC — Essentials	TAA-MB0x-R2400-5GF-NA-A
		TAA Compliant NC — Essentials + Advanced	TAA-MBAx-R2400-5GF-NA-A
		FIPS TAA Compliant NC — Essentials + Advanced	TAA-MBAx-R2400-5GF-NA-FA
Rest of World: Australia, European Union, New Zealand, and United Kingdom	Cat 20 sixth 5GF modem, no AC power supply or antennas	Essentials	MB0x-R2400-5GF-GL-A
		Essentials + Advanced	MBAx-R2400-5GF-GL-A

All Regions:	5G	Advanced	MB0x-NCADV
		Renewal Essentials	MB0x-NCESS-R
		Renewal Advanced	MB0x-NCADV-R
		Renewal Essentials + Advanced	MBAx-NCEA-R

x = 1, 3, or 5 years

Accessories

INCLUDED	PART NUMBER
GPIO & Power Cable, Mini-fit, 2x2, 3 M, 2x18 AWG, 2x22 AWG	170933-000
Small Accessories Kit	N/A
OPTIONAL	
5G Captive Modem Accessory, Ruggedized Mobile, Americas	170900-023
5G Captive Modem Accessory, Ruggedized Mobile, Global	170900-024
GPIO Cable, 2x10, 2 M	170934-000
GPIO Cable, 2x10, 5 M	170938-000
Rack Mount Kit	170750-001

Support & Warranty

The Ericsson Cradlepoint R2400 5G router is only sold as a component of NetCloud Mobile Performance Essentials or Essentials + Advanced packages.

- Ericsson NetCloud packages include support for the full subscription term.
- All Ericsson Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they have a subscription license to an active Ericsson NetCloud Service plan.

More Information

Find the most up-to-date information at cradlepoint.com/r2400