

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.

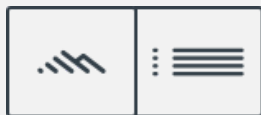
NetCloud uses GNSS/GPS and 5G/4G cellular health to provide precise analytics about location and signal strength. Data can be mapped to display both the current and historical locations of a vehicle, as well as generate detailed coverage maps that display cellular health, allowing users to gain operational 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

- 4 x SMA cellular antenna connectors[†]

Ethernet:

- 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

- 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
 - 1376 Mbps (2.4 GHz) & 5765 Mbps (5GHz)
- Mode 2
 - Radio A - 2x2 Dual band/concurrent
 - 688 Mbps (2.4 GHz) & 2882 Mbps (5 GHz)
 - Radio B - 2x2 5 GHz band
 - 2882 Mbps (5 GHz)

Bluetooth: N/A

Expansion / Console:

- 1 x USB 2.0 Type C (Output: 5 V, 1.5 mA, 7.5 W)
- 2 x 10 Expansion Connector
 - 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:

- NMEA 0183
- TAIP

Constellations:

- GPS
- Galileo
- GLONASS
- BeiDou (concurrent reception)

Accuracy:

Autonomous 1 meter

Update Rate:

1 Hz (once per second)

Sensitivity:

- Acquisition: -145 dBm
- Tracking: -165 dBm
- Reacquisition: -157 dBm

Frequencies:

- L1
- L5 (1559–1606 MHz)

Active Antenna Bias:

- Voltage Supply: 3.1-3.3 V
- Max Current: 100 mA

ENVIRONMENTAL

Temperature:

- Operating: -40 °C to 70 °C (-40 °F to 158 °F)
- Storage: -40 °C to 85 °C (-40 °F to 185 °F)

Humidity:

- Operating: 5% to 95%
- Storage: 5% to 95%

Ingress Protection:

IP64 (dust tight and splashing water)

Wind Rating:

No Wind Rating

POWER

Required:

DC input steady state voltage range: 9–36 VDC (requires in-line fuse for vehicle installations)

- 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:

- ISO 7637-2 reverse polarity and transient voltage protection
- Ignition sensing (automatic ON & time-delay OFF)

Consumption:

- 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/cUL
- CB Scheme
- EN 62368-1

Vehicle:

- E-Mark
- SAE J1455

Substance Compliance:

- 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:

- 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:

- 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:

- 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:

- 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:

- 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:

- 2412–24.72 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
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PERFORMANCE^{††}

Stateful Firewall:	2 Gbps
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Point-to-Point IPsec VPN:	800 Mbps
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SASE/Secure Connect/SD-WAN:	IPsec: 720 Mbps
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Concurrent VPN Tunnels:	20
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Typical Client Count:	100
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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

SPECIFICATION	R2400-5GF-NA (Americas)
Technology:	5G FR1 NSA/SA and 4G LTE - LTE Advanced Pro Category 20 - Dual SIM slots, 4FF form factor, dual eSIM 3GPP Release 17
3G:	N/A
Carrier Aggregation:	5G SA - Downlink: Up to 3 CA (Max 200 MHz bandwidth) - Uplink: 2 CA 5G NSA - Downlink: Up to 3 CA - Uplink: 1 CA LTE Only - Downlink: Up to 6 CA - Uplink: Up to 2 CA See Understanding Carrier Aggregation .
Peak Rates:	- Downlink: Up to 4.9 Gbps - Uplink: Up to 900 Mbps
MIMO:	- Downlink: 4x4 MIMO - Uplink: 2x2 MIMO

Modulation: 5G FR1

- Downlink: Up to 256 QAM
- Uplink: Up to 256 QAM

5G NR Bands: NSA and SA

- 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:

- 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: 5G NR

- Power Class 1.5: 29 dBm
- Power Class 2: 26 dBm
- Power Class 3: 23 dBm

LTE

- Power Class 2: 26 dBm
- Power Class 3: 23 dBm

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

GNSS/GPS: Discrete active GPS with dead reckoning

SMS: Yes

Regulatory:

- FCC (U.S.)
- IC (Canada)

**Network Operator
Standards:**

PTCRB (U.S., Canada)

**GCF Global
Operators:**[https://www.globalcertificationforum.org/membership/gcf-members-
directory.html](https://www.globalcertificationforum.org/membership/gcf-members-directory.html)[†]**PTCRB North
America
Operators:**<https://www.ptcrb.com/about/>**Network Operator
Certifications[†] :**

- AT&T
- T-Mobile
- Verizon

**Public Safety
Network
Certifications:**

- FirstNet Trusted™ (Certification in progress)
- T-Mobile T-Priority
- Verizon Frontline Verified (Certification in progress)

**Private Cellular
Network:**

Yes, includes FCC Part 96 (CBRS Band 48)

SPECIFICATION**R2400-5GF-GL (EMEA, APAC, and parts of LATAM)****Technology:****5G FR1 NSA/SA and 4G LTE**

- LTE Advanced Pro Category 20
- Dual SIM slots, 4FF form factor, dual eSIM
- 3GPP Release 17

3G:

WCDMA/UMTS/HSPA+

**Carrier
Aggregation:**

5G SA

- Downlink: Up to 3 CA (Max 200 MHz bandwidth)
- Uplink: 2 CA

5G NSA

- Downlink: Up to 3 CA
- Uplink: 1 CA

LTE Only

- Downlink: Up to 6 CA
- Uplink: Up to 2 CA

See [Understanding Carrier Aggregation](#).

Peak Rates:

- Downlink: 4.9 Gbps
- Uplink: 900 Mbps

MIMO:

- Downlink: 4x4 MIMO
- Uplink: 2x2 MIMO

Modulation:

5G FR1

- Downlink: Up to 256 QAM
- Uplink: Up to 256 QAM

5G NR Bands:

NSA and SA

- Power Class 1.5: n41 (2500), n77 (3700), n78 (3500), n79 (4900)
- Power Class 2: n41 (2500), n77 (3700), n78 (3500), n79 (4900)
- Power Class 3: n1 (2100), n3 (1800), n5 (850), n7 (2600), n8 (900), n20 (800), n28 (700), n38 (2600), n40 (2300), n41 (2500), n75 DL (1500), n77 (3700), n78 (3500), n79 (4900)

4G/LTE Bands:

- Power Class 2: B38 (2600), B41 (2500), B42 (3500), B43 (3700)
- Power Class 3: B1 (2100), B3 (1800), B5 (850), B7 (2600), B8 (900), B18 (850), B19 (850), B20 (800), B28 (700), B32 DL (1500), B38 (2600), B40 (2300), B41 (2500), B42 (3500), B43 (3700), B68 (700)

3G Bands:

1, 5, 6, 8, 19

Power:

5G NR

- Power Class 1.5: 29 dBm
- Power Class 2: 26 dBm
- Power Class 3: 23 dBm

LTE

- Power Class 2: 26 dBm
- Power Class 3: 23 dBm

GNSS/GPS:

Discrete active GPS with dead reckoning

SMS:

Yes

Regulatory:

- CE (EU)
- RCM (AU/NZ)
- UKCA (UK)

Network Operator Standards:

GCF (Worldwide)

GCF Global Operators:<https://www.globalcertificationforum.org/membership/gcf-members.html>[†]**PTCRB North America Operators:**<https://www.ptcrb.com/about/>**Network Operator Certifications:**

EE

**Public Safety
Network
Certifications:**

ESN (4G)

**Private Cellular
Network:**

N/A

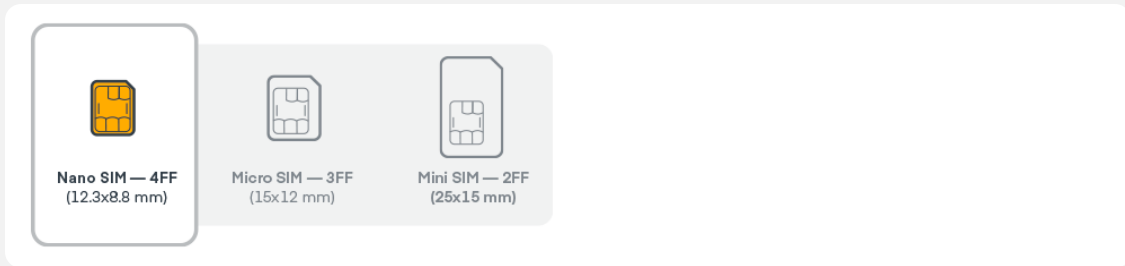
† Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications, to operate on their network. A listed carrier means Ericsson Enterprise 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.

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Physical Measurements & 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
	Cat 20 5GF modem, no AC power supply or antennas	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

Renewal Essentials
+ Advanced

MB0x-
NCADV-R

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
One of the following:	
Power Supply, 24 V, Large 2x2 Mini Molex, 1.2 meters (C13 North American line cord 1.8 meters included), -20 °C to 60 °C	170935-001
Power Supply, 24 V, Large 2x2 Mini Molex, 1.2 meters (C13 EU line cord 1.8 meters included), -20 °C to 60 °C	170935-002
Power Supply, 24 V, Large 2x2 Mini Molex, 1.2 meters (C13 UK line cord 1.8 meters included), -20 °C to 60 °C	170935-003
Power Supply, 24 V, Large 2x2 Mini Molex, 1.2 meters (C13 AU line cord 1.8 meters included), -20 °C to 60 °C	170935-004
Power Supply, 24 V, Large 2x2 Mini Molex, 1.2 meters (C13 TW line cord 1.8 meters included), -20 °C to 60 °C	170935-005
GPIO Cable, 2x10, 5 M	170938-000
Rack Mount Kit	170750-001
Mounting Bracket for up to two Ericsson Cradlepoint RC1250 captive modems	170942-000

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.

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