

# R2110e

## High Speed Smart LTE Router

4 x Ethernet + 1 x RS-232 + 1 x RS-485



## INTRODUCTION

The Robustel R2110e is a high speed smart LTE router purpose-built for organizations that require flexible global connectivity while maintaining high performance and reliability at the edge. Built on the proven R2110 platform, the R2110e replaces the secondary physical SIM slot with an embedded MFF2 eSIM that is GSMA SGP.22-compliant, enabling a hybrid SIM architecture (1 x SIM + 1 x eSIM) that simplifies international deployment, subscription management, and long-term device lifecycle operations.

Unlike traditional dual-SIM routers, the R2110e introduces a set of advanced eSIM capabilities designed to accelerate global IoT rollout and reduce operational friction:

—**Global Frequency Band Support:** ensuring consistent performance across major regions and simplifying cross-border for OEMs and system integrators.

—**Robust and Secure eSIM Profile Management:** supports remote enable/disable and profile switching, allowing operators and enterprises to optimise connectivity and reduce reliance on physical SIM logistics.

—**Auto Failsafe Recovery:** When profile download or activation fails, the device automatically rolls back to the previous working profile, ensuring continuous connectivity and preventing remote provisioning failures.

—**Enhanced lifecycle management:** eSIM profile rotation reduces dependence on long-term roaming agreements and mitigates SIM-card-swap maintenance tasks.

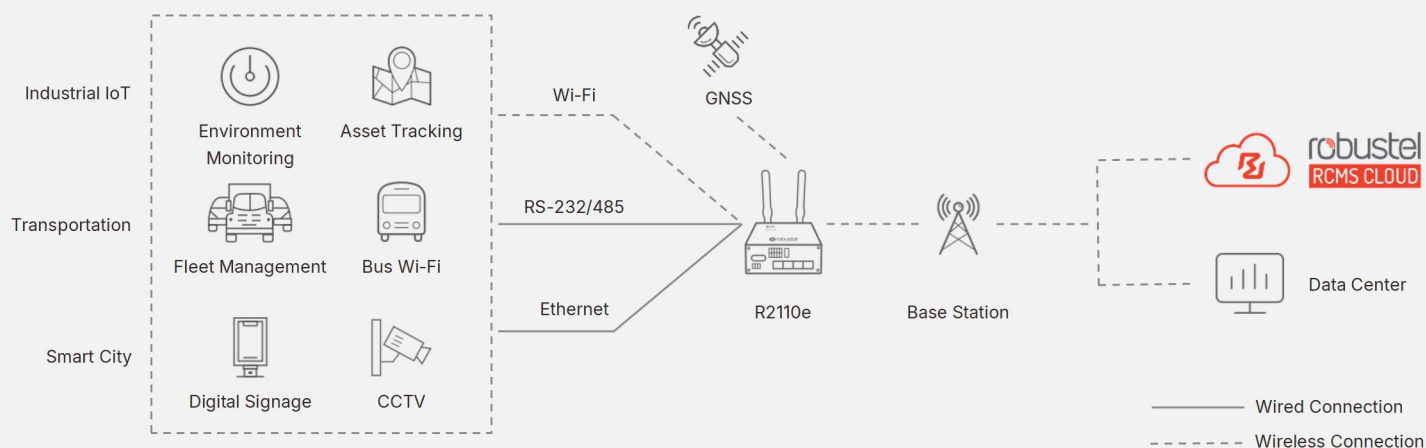
The **Robustel Cloud Manager Service (RCMS)** is a unified cloud-based platform designed for real-time monitoring and centralized management of industrial IoT devices. Fully compatible with Robustel routers and gateways, RCMS delivers an interactive geospatial dashboard that enables users to visualize device locations and track critical metrics such as data usage, signal strength, and network status. To ensure seamless operations, the platform facilitates over-the-air (OTA) updates for firmware, configurations, and applications, minimizing downtime while optimizing system performance. For more information or to get started with RCMS, visit: <https://rcms-cloud.robustel.net>

## KEY FEATURES

- GSMA SGP.22 compliant for global IoT provisioning
- MFF2 eSIM supported for zero-touch deployment
- Network redundancy with SIM + eSIM dual backup
- Supports WWAN, WAN, and WLAN link backup, as well as ICMP detection
- Supports cold backup, warm backup and load balancing capabilities
- Powered by RobustOS, featuring an SDK and a variety of applications
- Supports IPSec, OpenVPN, GRE, and WireGuard
- Management and maintenance via Web/CLI/SNMP/RCMS
- Robust industrial design with options for desktop, wall, or DIN rail mounting



## APPLICATION EXAMPLE



# SPECIFICATIONS

## Hardware

### Hardware System

|       |                         |
|-------|-------------------------|
| CPU   | Dual-core MIPS, 880 MHz |
| RAM   | 512 MB                  |
| Flash | 32 MB                   |

### Cellular Interface

|                    |                                                                                                               |
|--------------------|---------------------------------------------------------------------------------------------------------------|
| Number of antennas | 2 (MAIN + AUX)                                                                                                |
| Connector          | SMA-K                                                                                                         |
| SIM                | 1 x Mini SIM (2FF)                                                                                            |
| eSIM               | 1 x eSIM (MFF2); GSMA SGP.22 compliant; supports profile download/removal and typically up to 8 eSIM profiles |

### Ethernet Port

|                             |                                                                                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Number of ports             | 4 x 10/100/1000 Mbps, 4 x LAN by default, can be configured as 1 x WAN + 3 x LAN supporting 802.3at PD feature on ETH0 (optional) |
| Magnet isolation protection | 1 kV                                                                                                                              |

### Serial Port

|                 |                                             |
|-----------------|---------------------------------------------|
| Number of ports | 1 x RS-232 + 1 x RS-485                     |
| Connector       | 2 x 3-pin on 2 x 5-pin 3.5 mm female socket |
| Baud rate       | 300-115200 bps                              |

### Digital Input / Digital Output

|                      |                                             |
|----------------------|---------------------------------------------|
| Number of ports      | 1 x DI + 1 x DO, wet contact                |
| Connector            | 2 x 2-pin on 2 x 5-pin 3.5 mm female socket |
| Isolation            | 3.75 kVDC                                   |
| Absolute max voltage | +30 VDC (DI), +30 VDC (DO)                  |
| Absolute max current | 100 mA (DO)                                 |

### Wi-Fi Interface

|                    |                                                                       |
|--------------------|-----------------------------------------------------------------------|
| Number of antennas | 2                                                                     |
| Connector          | RP-SMA-K                                                              |
| Standards          | 802.11 a/b/g/n/ac; 2 x 2 MIMO; supports AP and client modes           |
| Frequency bands    | 2.412-2.472 GHz (2.4 GHz ISM band)<br>5.15-5.825 GHz (5 GHz ISM band) |
| Security           | WPA, WPA2, WEP, WPA3                                                  |
| Encryption         | AES, TKIP, WEP64                                                      |

### GNSS Interface (optional)

|                              |                                 |
|------------------------------|---------------------------------|
| Number of antennas           | 1                               |
| Connector                    | SMA-K with 50 ohms impedance    |
| Technology                   | GPS/QZSS/GLONASS/Galileo/BeiDou |
| Tracking sensitivity         | GNSS: greater than -148 dBm     |
| Horizontal position accuracy | GNSS: 2.5 m                     |

### Others

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Reset button   | 1 x RST                                                      |
| USB port       | 1 x USB 2.0 (host), Type A, 5 V, 500 mA                      |
| LED indicators | 1 x RUN, 1 x MODEM, 1 x NET, 1 x USR, 1 x RSSI, and 1 x WIFI |
| microSD        | 1 x microSD                                                  |
| Watchdog       | Built-in                                                     |

### Power Supply and Consumption

|                   |                                                                                              |
|-------------------|----------------------------------------------------------------------------------------------|
| Connector         | 3-pin 3.5 mm terminal block with lock                                                        |
| Input voltage     | 12/24 VDC, 9-36 VDC<br>42.5-57.0 V (PoE-PD)<br>Reverse polarity protection, surge protection |
| Power consumption | Idle: 6 W@12 V<br>Max: 16 W@12 V                                                             |
| Rec. power supply | 12 VDC/1.5 A power adapter                                                                   |

### Physical Characteristics

|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| Ingress protection    | IP30                                                                   |
| Housing & Weight      | Metal, 500 g                                                           |
| Dimensions            | 48 x 100 x 125 mm                                                      |
| Installation          | Desktop, wall mounting & 35 mm DIN rail mounting                       |
| Operating temperature | -20 to +55 °C (normal operation)<br>-25 to +70 °C (extended operation) |
| Storage temperature   | -40 to +85 °C                                                          |
| Relative humidity     | 5-95% RH (non-condensing)                                              |

### Regulatory and Type Approvals

|               |                                                                                                                                                                                                                                                                                  |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental | RoHS2.0, WEEE                                                                                                                                                                                                                                                                    |
| EMI           | EN 55032 Conducted Emission Class A<br>EN 55032 Radiated Emission Class B                                                                                                                                                                                                        |
| EMS           | EN 61000-4-2 (ESD) Contact Level 2, Air Level 3<br>EN 61000-4-3 (RS) Level 2<br>EN 61000-4-4 (EFT) Level 2<br>EN 61000-4-5 (Surge) Level 3, AC Mains Power Port Level 3, Signal Ports<br>EN 61000-4-6 (CS) Level 2<br>EN 61000-4-8 (PFM) Level 2<br>EN 61000-4-11 (Dips) Class 2 |

## Software

### Operating System (Basic Features of RobustOS)

|                       |                                                                                                         |
|-----------------------|---------------------------------------------------------------------------------------------------------|
| Network protocols     | PPP, PPPoE, ARP, VLAN, ICMP, NAT, TCP, UDP, DHCP, DNS, DDNS, NTP, HTTP, HTTPS, Telnet, SSH2, SMTP, etc. |
| VPN tunnels           | IPsec, OpenVPN, GRE, WireGuard                                                                          |
| Firewalls             | DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control                     |
| Remote management     | Web, CLI, SMS, RCMS                                                                                     |
| Serial port protocols | Transparent, TCP Client/Server, UDP, Modbus RTU to TCP                                                  |
| Others                | Smart Roaming V3, eSIM Management, etc.                                                                 |

### SDK

|                             |                                                                                |
|-----------------------------|--------------------------------------------------------------------------------|
| Operating system            | RobustOS (Based on Debian 11 Bullseye)                                         |
| Programming languages       | C, C++, Python, Java, Node.js, etc.<br>(for users to develop own applications) |
| Debian repository available |                                                                                |
| Available Flash for SDK     | 5 MB                                                                           |
| Available RAM for SDK       | 256 MB                                                                         |

### App Center (Available Apps for RobustOS)

|       |                                                                                                                        |
|-------|------------------------------------------------------------------------------------------------------------------------|
| Apps* | L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Dynamic Routing, Captive Portal, Modbus Master, TR069*, Edge2Cloud |
|-------|------------------------------------------------------------------------------------------------------------------------|

\*Request on demand. For more Apps please visit [www.robustel.com](http://www.robustel.com).

### Cloud Platform

|                                       |                                          |
|---------------------------------------|------------------------------------------|
| Robustel Cloud Manager Service (RCMS) | RobustLink, RobustVPN, Operation Console |
|---------------------------------------|------------------------------------------|

# ORDERING INFORMATION

| Model     | Order Code | GNSS | Frequency Bands                                                                                     | Region | Certifications | Package Contents                                                                                                                |
|-----------|------------|------|-----------------------------------------------------------------------------------------------------|--------|----------------|---------------------------------------------------------------------------------------------------------------------------------|
| R2110e-4L | A004400714 | ✓    | LTE CAT4<br><br>4G:<br>LTE FDD: B1/2/3/4/5/7/8/12/<br>13/18/19/20/25/26/28<br>LTE TDD: B38/39/40/41 | Global | CE, UKCA       | 1 x Gateway (B Code: B004400757)<br>1 x DIN Rail Mounting Kit                                                                   |
|           | A004400715 | ✓    | 3G:<br>WCDMA: B1/2/4/5/6/8/19<br><br>2G:<br>GSM: B2/3/5/8                                           | Global | CE, UKCA       | 1 x Gateway (B Code: B004400757)<br>2 x Cellular Antenna<br>2 x Wi-Fi Antenna<br>1 x Power Adapter<br>1 x DIN Rail Mounting Kit |

**NOTE:**  
1. For more information about regional and carrier-specific variants, please contact us.  
2. \* Denotes certification in progress.