R2110

High Speed Smart LTE/LTE-A Router
4 x ETH + 1 x RS-232 + 1 x RS-485

INTRODUCTION

The Robustel High Speed Smart LTE/LTE-A Router R2110 is a rugged cellular router delivering state-of-the-art mobile connectivity for internet of things (IoT) applications.

The R2110 is built on **RobustOS**, Robustel's proprietary Linux-based operating system specifically designed for Robustel devices. RobustOS includes essential networking features and protocols, ensuring an excellent user experience. Additionally, RobustOS provides a Software Development Kit (SDK) that enables partners and customers to develop IoT applications using C and C++. It also offers a variety of applications to address the diverse demands of the fragmented IoT market.

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. Experience robust, cloud-native device management by registering at: https://rcms-cloud.robustel.net
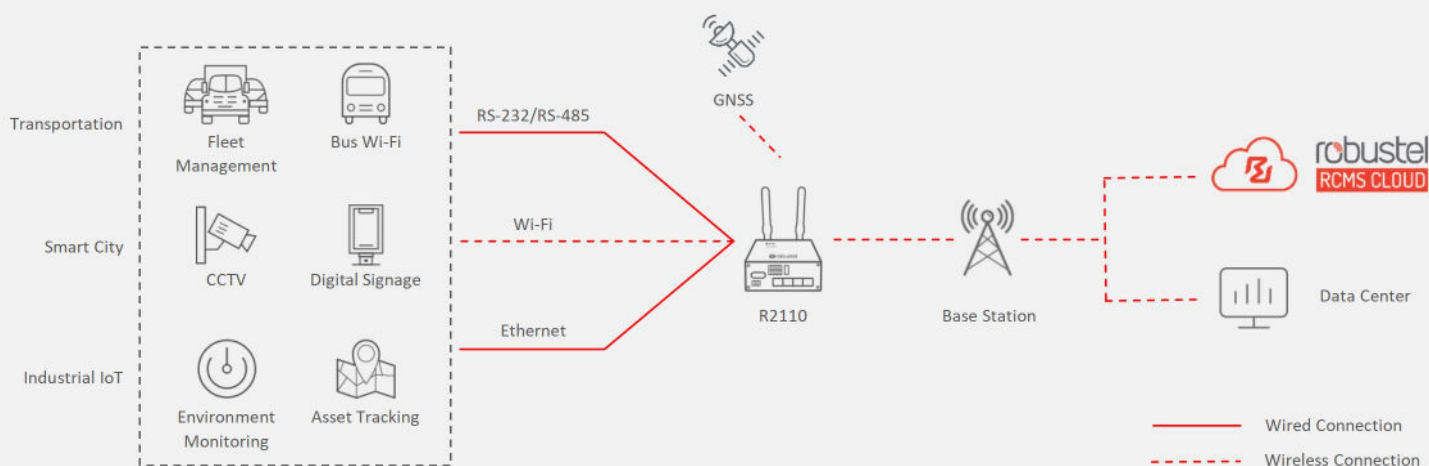
KEY FEATURES

➢ 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 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	2 x Mini SIM (2FF)

Ethernet Port

Number of ports	4 x 10/100/1000 Mbps
	4 LAN by default, can be configured as 1 WAN + 3 LAN
	Support 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
ESD protection	±8 KV air, ±4 KV contact
Baud rate	300 bps ~ 115200 bps

Digital Input/Output Port

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 KV DC
Absolute maximum VDC	+30 V DC (DI), +30 V DC (DO)
Absolute maximum ADC	100 mA (DO)

Wi-Fi Interface

Number of antennas	2
Connector	RP-SMA-K
Standards	802.11a/b/g/n/ac, 2 x 2 MIMO
	Supporting AP and Client modes
Frequency bands	2.412 - 2.472 GHz (2.4 GHz ISM band)
	5.18 - 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
GNSS technology	GPS/QZSS/GOLNASS/Galileo/BeiDou
Tracking sensitivity	GNSS: greater than -148 dBm
Horizontal position accuracy	GNSS: 2.5 m

Others

Reset button	1 x RST
SD	1 x Micro SD
USB port	1 x USB 2.0 (host), 5 V, 500 mA
LED indicators	1 x RUN, 1 x MODEM, 1 x NET, 1 x USR, 1 x RSSI, 1 x Wi-Fi
Watchdog	Built-in

Software (Basic features of RobustOS)

Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, DNS, NTP, SMTP, Telnet, HTTPs, ARP, SSH2, DDNS, 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
Serial port protocols	Transparent, TCP Client/Server, UDP, Modbus RTU Gateway
Routing	Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2)
Others	Smart Roaming V2

SDK

Supported programming languages	C, C++
Flash available for SDK	5 MB
RAM available for SDK	256 MB

App Center (Available Apps for RobustOS)

Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Dynamic Route, Captive Portal, Edge2Cloud, etc.

*Request on demand. For more Apps please visit www.robustel.com.

Cloud Platform

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

Power Supply and Consumption

Connector	3-pin 3.5 mm female socket with lock
Input voltage	12/24 V DC, 9 ~ 36 V DC
	42.5 ~ 57.0 V (PoE-PD)
	Reverse polarity protection, surge protection
Power consumption	Idle: 6 W@12 V
	Max: 16 W@12 V
Recommended power supply	12V DC/1.5 A power adapter

Physical Characteristics

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

Regulatory and Type Approvals

Environmental	RoHS2.0, WEEE
EMI	EN 55032 Conducted Emission Class A
	EN 55032 Radiated Emission Class B
EMS	EN 61000-4-2 (ESD) Contact Level 2, Air Level 3
	EN 61000-4-3 (RS) Level 2
	EN 61000-4-4 (EFT) Level 2
	EN 61000-4-5 (Surge) Level 3
	EN 61000-4-6 (CS) Level 2
	EN 61000-4-8 (PFM) Level 2
	EN 61000-4-11 (Dips) Class 2

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ORDERING INFORMATION

Model	Order Code	BLE	GNSS	PoE-PD	ACC	Frequency Bands*	Country /Region	Certification	Package Contains
R2110-4L	A004400703	-	-	-	-	LTE CAT4 4G: LTE FDD: B1/3/7/8/20/28A 3G: WCDMA: B1/8 2G: GSM: B3/8	EMEA+SEA	E-Mark, CE, UKCA	1 x R2110 Router (B Code: B044746)
	A004400704	-	-	√	-				1 x R2110 Router (B Code: B044722)
	A004400705	-	-	-	-	LTE CAT4 4G: LTE FDD: B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28 LTE TDD: B38/39/40/41 3G: WCDMA: B1/2/4/5/6/8/19 2G: GSM: B2/3/5/8	Global	E-Mark, CE, UKCA	1 x R2110 Router (B Code: B044751)
	A004400706	-	-	√	-				1 x R2110 Router (B Code: B044730)
	A004400707	-	√	-	-			E-Mark, CE, ICASA, UKCA	1 x R2110 Router (B Code: B044748)
	A004400708	-	√	√	-				1 x R2110 Router (B Code: B044744)
	A004400709	√	√	-	√				1 x R2110 Router (B Code: B044734)
	A004400711	-	√	-	√				1 x R2110 Router (B Code: B044754)
	A004400710	-	-	-	-	LTE CAT6 4G: LTE FDD: B1/3/5/7/8/20/28/32 LTE TDD: B38/40/41 3G: WCDMA: B1/3/5/8	EMEA+SEA	-	1 x R2110 Router (B Code: B044755)

For more information about frequency bands in different countries, please contact your Robustel sales representative.