R2110 robustOS

High Speed Smart LTE/LTE-A Router
4 Eth + 1 RS232 + 1 RS485

INTRODUCTION

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

R2110 is a powerful platform developed based on **RobustOS**, a Robustel self-developed and Linux-based operating system which is designed to be used in Robustel devices. The RobustOS includes basic networking features and protocols providing customers with excellent user experience. Meanwhile, RobustOS offers **Software Development Kit** (SDK) allows partners and customers to develop IoT applications by using C, C++. It also provides various **Apps** to meet fragmented IoT market demands.

RCMS is Robustel's free router monitoring service that is fully compatible with the R2110. It allows customer to see a location overview of their routers quickly and simply on a map. Features such as data usage, signal strength, current network and much more can then be viewed on a per router basis. Over-the-air updates are supported for Firmware, router configuration and Apps serving as essential 'insurance' if anything was not quite right during deployment.
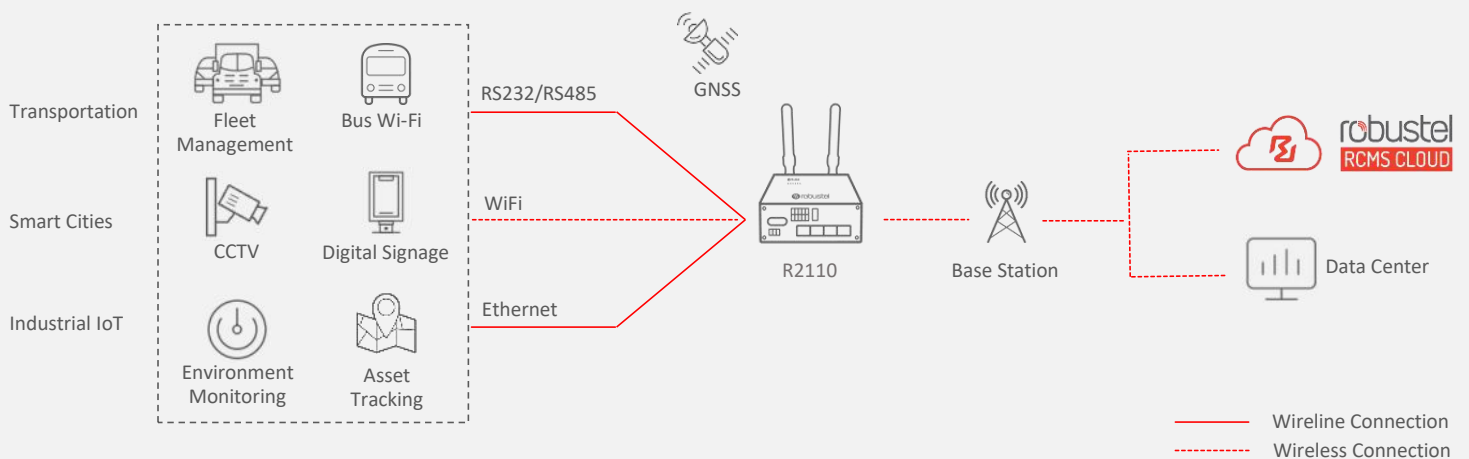
You can try Robustel's free router management platform by signing up here: https://rcms-cloud.robustel.net

KEY FEATURES

➢ Supports WWAN, WAN, WLAN link backup and ICMP detection

➢ Supports cold backup, warm backup and load balancing

➢ RobustOS + SDK + App

➢ IPSec/OpenVPN/GRE/WireGuard

➢ Management and maintenance via Web/CLI/SNMP/RCMS

➢ Robust industrial design (desktop or wall mounting or DIN rail mounting)

APPLICATION EXAMPLE

SPECIFICATIONS

Cellular Interface
Number of antennas	2 (MAIN + AUX)
Connector	SMA-K
SIM	2 Mini SIM (2FF)

Ethernet Interface
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

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

Serial Interface
Number of ports	1 x RS232 + 1 x RS485
Connector	2 x 3-pin on 2 x 5-pin 3.5 mm female socket
ESD protection	±8 KV air discharge, ±4 KV contact discharge
Baud rate	300 bps ~ 115200 bps

DI/DO
Type	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	"V+" +30 VDC (DI), +30 VDC (DO)
Absolute maximum ADC	100 mA (DO)

GNSS (Optional)
Number of antennas	1
GNSS technology	GPS/QZSS/GOLNASS/Galileo/BeiDou
Connector	SMA-K with 50 ohms impedance
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
Expansion	1 x USB2.0 Host, 5V/500mA
LED indicators	1 x RUN, 1 x Modem, 1 x USR, 1 x RSSI, 1 x NET, 1 x Wi-Fi
Watchdog	Built-in

Software (Basic features of RobustOS)
Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, HTTPs, DNS, ARP, NTP, SMTP, Telnet, SSH2, DDNS, etc.
VPN tunnel	IPSec, OpenVPN, GRE, WireGuard
Firewall	DMZ, anti-DDoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Remote management	Web, CLI, SMS
Serial port	Transparent, TCP Client/Server, UDP, Modbus RTU to TCP
Other	Smart Roaming v2

App Center (Available apps for RobustOS)
Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Dynamic Route, Captive Portal

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

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

Power Supply and Consumption
Connector	3-pin 3.5 mm female socket with lock
Input voltage	9 ~ 36 VDC; 42.5 ~ 57.0 V (PoE-PD)
Power consumption	Idle: 500 mA@12 V
	Data link: 1.3 A (peak) @12 V

Physical Characteristics
Ingress protection	IP30
Housing & Weight	Aluminum, 500 g
Dimension	125 x 100 x 48 mm
Installations	Desktop, wall mounting and DIN rail mounting
Operating temperature	Normal operation: -20 ~ + 55℃
	Extended operation: -25 ~ + 70℃
Storage temperature	-40 ~ + 85℃
Relative humidity	5 ~ 95% RH

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

ORDERING INFORMATION

Model	PN	Category	GNSS	POE-PD	Frequency Bands	Country /Region	Certifications (*In progress)
R2110-4L	B044722	Cat 4	-	√	**4G**: LTE FDD: B1/B3/B7/B8/B20/B28A **3G**: WCDMA: B1/B8 **2G**: GSM: B3/B8	EMEA	E-Mark, CE, UKCA
	B044746		-	-			
	B044730		-	√	**4G**: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/ B18/B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 **3G**: WCDMA: B1/B2/B4/B5/B6/B8/B19 **2G**: GSM: B2/B3/B5/B8	Oceania EMEA	E-Mark, CE, RCM, ICASA, UKCA
	B044744		√	√			
	B044748		√	-			
	B044751		-	-			

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