



R5020Le

High Speed Smart 5G Router

2 x ETH + 1 x RS-232/485 + 2 x Dual-band Wi-Fi



INTRODUCTION

The **Robustel R5020Le** is an industrial-grade 5G router purpose-built for organisations that require flexible global connectivity while maintaining high performance and reliability at the edge. Built on the proven R5020-Lite platform, the R5020Le replaces the secondary physical SIM slot with an embedded MFF2 eSIM with 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.

Robustel Cloud Manager Service (RCMS) is a cloud-based platform for real-time monitoring and centralized management of Robustel routers and gateways. With Zero-Touch eSIM Provisioning, RCMS allows enterprises to remotely assign and activate eSIM profiles at scale - overcoming the industry limitation where SGP.22 cannot support mass deployment on its own. This capability eliminates manual SIM handling, reduces on-site labour, and accelerates global rollouts.

Unlike traditional dual-SIM routers, the R5020Le 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.

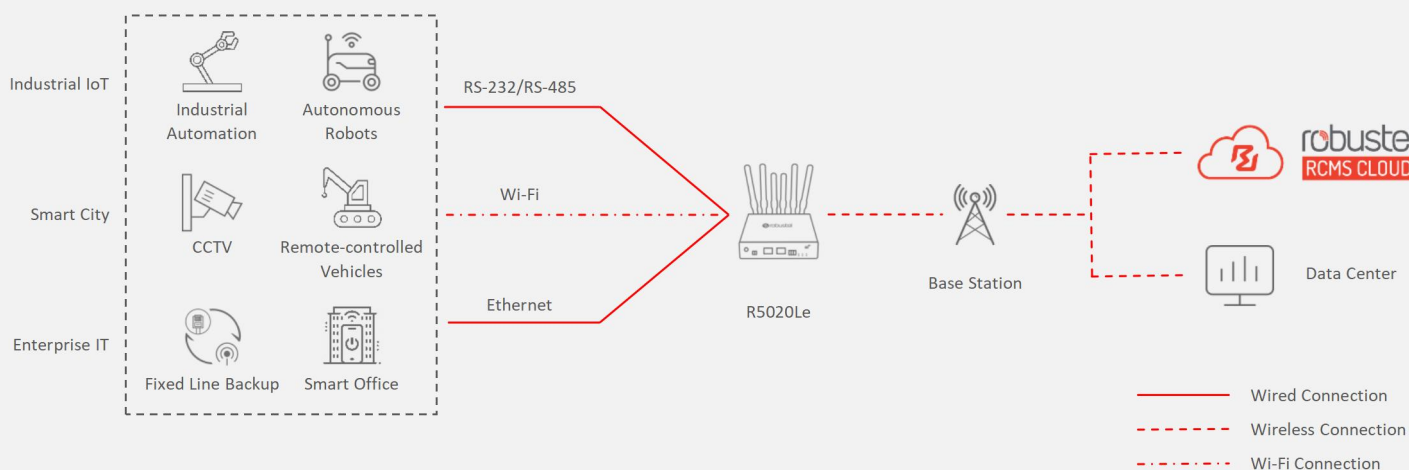
- **Enhanced lifecycle management:** eSIM profile rotation reduces dependence on long-term roaming agreements and mitigates SIM-card-swap maintenance tasks.

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 Ethernet, Wi-Fi and 5G/4G internet with auto-failover
- 1 x RS-232/RS-485 ports (software configurable) for connecting industrial and legacy devices
- Fully programmable operating system with a well-documented SDK
- Multiple VPN options available including DMVPN, IPsec, L2TP, and more
- Free cloud management platform (RCMS)
- Robust metal enclosure with a compact design for DIN-rail and wall mounting



APPLICATION EXAMPLE



SPECIFICATIONS

Hardware System

CPU	Dual-core MIPS, 880 MHz
RAM	256 MB
Flash	32 MB

Cellular Interface

Number of antennas	4 (ANT0 + ANT1 + ANT2 + ANT3)
Connector	SMA-K
SIM	1 x Mini SIM (2FF) + 1 x eSIM (MFF2) SGP.22 eSIM, profile download and removal operations

Ethernet Port

Number of ports	2 x 10/100/1000 Mbps 2 LAN by default, can be configured as 1 WAN + 1 LAN
Magnet isolation protection	1 KV

Wi-Fi Interface

Number of antennas	2 (Wi-Fi1 + Wi-Fi2)
Connector	RP-SMA-K
Standards	802.11 a/b/g/n/ac, 2 x 2 MIMO Supporting AP and Client modes
Frequency bands	2.4GHz, 5GHz
Security	WEP, WPA, WPA2, WPA3
Encryption	AES, TKIP

Serial Port

Number of ports	1 x RS-232 or 1 x RS-485 (software configurable)
Connector	1 x 3-pin 3.5 mm female socket
ESD protection	±8 KV air discharge, ±6 KV contact discharge
Baud rate	300 bps ~ 115200 bps
Signal definition	RS-232: TXD, RXD, GND RS-485: Data+ (A), Data- (B), Ground (GND)

GNSS Interface (Optional)

Number of antennas	1 (ANT3, Multiplexing cellular antenna)
Connector	SMA-K
GNSS technology	GPS/QZSS/Galileo/GLONASS/BDS
Horizontal position accuracy	< 2m

Others

Reset button	1 x RST
LED indicators	1 x RUN, 1 x MDM, 1 x RSSI, 1 x USB, 1 x 2.4G Wi-Fi, 1 x 5G Wi-Fi
Watchdog	External

Software (Basic features of RobustOS)

Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, DNS, NTP, SMTP, Telnet, VLAN, 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 to TCP
Routing	Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2)
Others	Smart Roaming V3

SDK

Supported programming languages	C, C++
Flash available for SDK	5 MB
RAM available for SDK	128 MB

App Center (Available Apps for RobustOS)

Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Captive Portal, WLAN Multi AP, Edge2Cloud, etc.
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*Request on demand. For more Apps please visit www.robustel.com.

Cloud Platform

Robustel Cloud Manager Service (RCMS)	RobustLink, RobustVPN, Operation Console
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Power Supply and Consumption

Connector	2-pin 3.5 mm terminal block with lock
Input voltage	12/24 V DC, 12 ~ 36 V DC Reverse polarity protection, surge protection
Power consumption	Idle: 3 W@12 V Max: 11 W@12 V
Recommended power supply	12 V DC/1.5 A power adapter

Physical Characteristics

Ingress protection	IP30
Housing & Weight	Aluminum, 475 g
Dimensions	32 x 115 x 136 mm
Installations	Desktop, wall mounting and 35 mm DIN rail mounting
Operating temperature	-20 ~ +55 °C (normal temperature) -25 ~ +70 °C (extended temperature)
Storage temperature	-40 ~ +85 °C
Relative humidity	5 ~ 95% RH (non-condensing)

Regulatory and Type Approvals

Environmental	RoHS2.0
Testing	IEC 60068-2-6 (Sinusoidal Vibration) IEC 60068-2-27 (Mechanical Shock) IEC 60068-2-64 (Random Vibration)
EMI	EN 55032 Conducted Emission Class B EN 55032 Radiated Emission Class B
EMS	EN 61000-3-2 (Harmonic Current) EN 61000-3-3 (Voltage Flicker) EN 61000-4-2 (ESD) Contact Level 3, Air Level 3 EN 61000-4-3 (RS) Level 3 EN 61000-4-4 (EFT) Power Ports Level 2, Signal Ports Level 3 EN 61000-4-5 (Surge) Level 3 (AC Port) EN 61000-4-6 (CS) Level 3 EN 61000-4-11 (Dips) Class 2

ORDERING INFORMATION

Model	Order Code	Power Connector	GNSS	Frequency Bands ¹	Country /Region	Certification	Package Contains
R5020Le-A-5G-A25GL ²	A009800016	2-pin 3.5 mm Terminal Block with Lock	Optional	5G: NR SA/NSA: n1/2/3/5/7/8/12/13/ 14/18/20/25/26/28/29/30/38/40/41/ 48/66/70/71/75/76/77/78/79	Global	CE, UKCA, RCM, Telec, JATE	1 x R5020Le Router (B Code: B009800011) 1 x Wall Mounting Kit
	A009800017			4G: LTE FDD: B1/2/3/4/5/7/8/12/13/ 14/17/18/19/20/25/26/28/29/30/32/ 66/71 LTE TDD: B34/38/39/40/41/42/43/48 LAA: B46 (only supports 2 x 2 MIMO) 3G: WCDMA: B1/2/4/5/8/19			1 x R5020Le Router (B Code: B009800011) 1 x Wall Mounting Kit 4 x Cellular Antenna 2 x Wi-Fi Antenna 1 x Power Adapter

Note:

1. For more information about frequency bands in different countries, please contact your Robustel sales representative.
2. The models R5020Le-A-5G-A25GL currently do not support Telstra certification and are not recommended for use on the Telstra network.