



R5020Le

High Speed Smart 5G Router

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

eSIM robustOS



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.

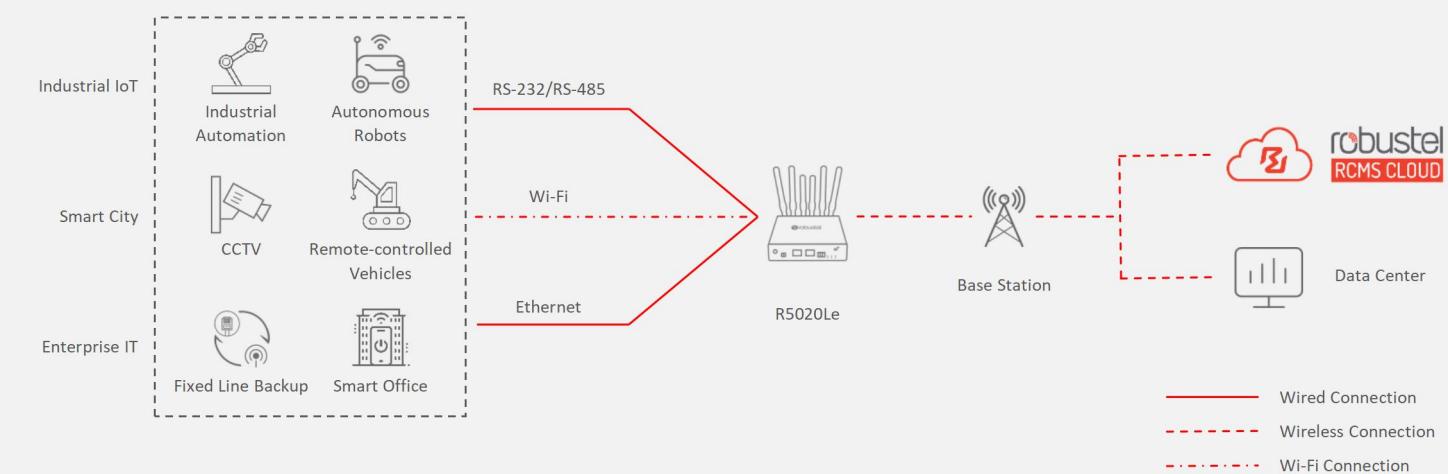
KEY FEATURES

- 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



robustel
RCMS CLOUD

APPLICATION EXAMPLE



SPECIFICATIONS

Hardware System		Software (Basic features of RobustOS)	
CPU	Dual-core MIPS, 880 MHz	Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, DNS, NTP, SMTP, Telnet, VLAN, HTTPS, ARP, SSH2, DDNS, etc.
RAM	256 MB	VPN tunnels	IPsec, OpenVPN, GRE, WireGuard
Flash	32 MB	Firewalls	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Cellular Interface			Remote management
Number of antennas	4 (ANT0 + ANT1 + ANT2 + ANT3)	Serial port protocols	Transparent, TCP Client/Server, UDP, Modbus RTU to TCP
Connector	SMA-K	Routing	Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2)
SIM	1 x Mini SIM (2FF) + 1 x eSIM (MFF2)	Others	Smart Roaming V3
	SGP.22 eSIM, profile download and removal operations	SDK	
Ethernet Port			Supported programming languages
Number of ports	2 x 10/100/1000 Mbps	Flash available for SDK	C, C++
	2 LAN by default, can be configured as 1 WAN + 1 LAN	RAM available for SDK	5 MB
Magnet isolation protection	1 KV	App Center (Available Apps for RobustOS)	
Wi-Fi Interface			Apps* L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Captive Portal, WLAN Multi AP, Edge2Cloud, etc.
Number of antennas	2 (Wi-Fi1 + Wi-Fi2)	*Request on demand. For more Apps please visit www.robustel.com .	
Connector	RP-SMA-K	Cloud Platform	
Standards	802.11 a/b/g/n/ac, 2 x 2 MIMO	Robustel Cloud Manager Service (RCMS)	RobustLink, RobustVPN, Operation Console
	Supporting AP and Client modes	Power Supply and Consumption	
Frequency bands	2.4GHz, 5GHz	Connector	2-pin 3.5 mm terminal block with lock
Security	WEP, WPA, WPA2, WPA3	Input voltage	12/24 V DC, 12 ~ 36 V DC
Encryption	AES, TKIP	Power consumption	Reverse polarity protection, surge protection Idle: 3 W@12 V Max: 11 W@12 V
Serial Port			Recommended power supply
Number of ports	1 x RS-232 or 1 x RS-485 (software configurable)	12 V DC/1.5 A power adapter	
Connector	1 x 3-pin 3.5 mm female socket	Physical Characteristics	
ESD protection	±8 KV air discharge, ±6 KV contact discharge	Ingress protection	IP30
Baud rate	300 bps ~ 115200 bps	Housing & Weight	Aluminum, 475 g
Signal definition	RS-232: TXD, RXD, GND	Dimensions	32 x 115 x 136 mm
	RS-485: Data+ (A), Data- (B), Ground (GND)	Installations	Desktop, wall mounting and 35 mm DIN rail mounting
GNSS Interface (Optional)			Operating temperature
Number of antennas	1 (ANT3, Multiplexing cellular antenna)	-20 ~ +55 °C (normal temperature)	
Connector	SMA-K	Storage temperature	-25 ~ +70 °C (extended temperature)
GNSS technology	GPS/QZSS/Galileo/GLONASS/BDS	Relative humidity	-40 ~ +85 °C
Horizontal position accuracy	< 2m	Regulatory and Type Approvals	
Others			Environmental
Reset button	1 x RST	RoHS2.0	
LED indicators	1 x RUN, 1 x MDM, 1 x RSSI, 1 x USR, 1 x 2.4G Wi-Fi, 1 x 5G Wi-Fi	Testing	IEC 60068-2-6 (Sinusoidal Vibration) IEC 60068-2-27 (Mechanical Shock) IEC 60068-2-64 (Random Vibration)
Watchdog	External	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.