



R5020 Lite robustOS

High Speed Smart 5G Router

2 Eth + 1 RS232 /RS485 + High-speed dual-band Wi-Fi



INTRODUCTION

The R5020 Lite is Robustel’s new 5G capable router supporting global 5G, 4G and 3G bands. The R5020 Lite leverages our tried and tested high performance CPU platform and **RobustOS 5** – an Operating System developed in-house by Robustel that has passed extensive 3rd party penetration testing.

R5020 Lite is compatible with 3GPP Release 16 and targeted at the following applications:

Broadband Failover – R5020 Lite can be configured to use Ethernet or Wi-Fi as primary internet and failover to 5G/4G in the event of an outage. This can help provide resilience to shops and small offices at a reasonable cost and provide sufficient bandwidth for many users. IPsec, DMVPN, GRE+ many more protocols can be used for connections into core networks.

Primary Broadband – Cellular network operators can now provide unlimited 5G tariffs at very reasonable prices. For many, a chance to cut the cables and use a wireless internet connection can be technically or commercially favorable.

SD-WAN – whilst many appliances have cellular options built-in, the R5020 Lite can offer a very low-cost way to add a 5G backup route & by virtue of being able to located externally to the appliance, is more likely to get a good 5G signal!

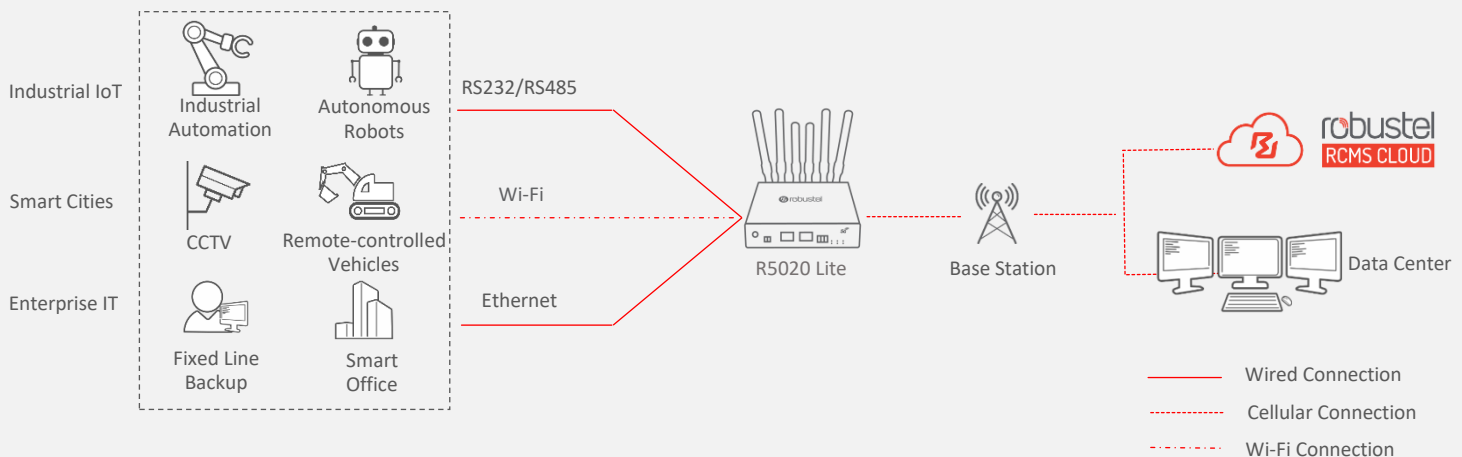
RCMS is Robustel’s free router monitoring service that is fully compatible with the R5020 Lite. It is an extremely polished piece of software hosted on MS Azure & available as a privately hosted instance. You can try Robustel’s free router management platform by signing up here: <https://rcms-cloud.robustel.net>

KEY FEATURES

- Low cost industrial 5G Router
- Global 5G/4G/3G cellular connections
- Cutting-edge 5G 3GPP Release 16 cellular interface
- Supports Ethernet, Wi-Fi and 5G/4G internet with auto-failover
- 1 x RS232/RS485 (software configurable) ports for connection to industrial/legacy devices
- Fully programmable Operating System with a well-documented SDK
- Multiple VPN options available including DMVPN, IPsec, L2TP + more...
- Free cloud management platform - RCMS
- Robust metal enclosure with small footprint – DIN-rail + wall mount options



APPLICATION EXAMPLE



SPECIFICATIONS

Cellular Interface

Number of antennas	4 (ANT0 + ANT1 + ANT2 + ANT3)
Connector	SMA-K
SIM	2 x Mini SIM (2FF)

Ethernet Interface

Number of ports	2 x 10/100/1000 Mbps, 2 LAN by default, can be configured as 1 WAN + 1 LAN
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Isolation protection	1 KV
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Wi-Fi Interface

Number of antennas	2 (Wi-Fi1 + Wi-Fi2)
Connector	RP-SMA-K
Standards	802.11a/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) 5.15 - 5.825 GHz (5 GHz ISM band)
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Security	WPA, WPA2, WEP, WPA3*
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Encryption	AES, TKIP, WEP64
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Data speed	5G: Up to 867 Mbps
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	2.4G: Up to 300 Mbps
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Serial Interface

Number of ports	1 x RS232 or 1 x RS485 (Software configurable)
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Connector	1 x 3-pin 3.5 mm female socket
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ESD protection	±8 KV air discharge, ±6 KV contact discharge
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Baud rate	300 bps ~ 115200 bps
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Signal definition	RS232: TXD, RXD, GND
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	RS485: Data+ (A), Data- (B), Ground (GND)
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Others

Reset button	1 x RST
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LED indicators	1 x RUN, 1 x Modem, 1 x USB, 1 x RSSI, 1 x Wi-Fi 2.4G, 1 x Wi-Fi 5G
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Built-in	Watchdog
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Software (Basic features of RobustOS)

Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, HTTPs, DNS, ARP, NTP, SMTP, Telnet, VLAN, SSH2, DDNS, etc.
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VPN tunnel	IPsec, OpenVPN, GRE
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Firewall	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
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Remote management	Web, CLI, SMS
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Serial port	Transparent, TCP Client/Server, UDP,
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	Modbus RTU to TCP
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Others	Data Guard, etc.
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SDK

Supported programming languages	C, C++
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Flash available for SDK	5 MB
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RAM available for SDK	128 MB
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App Center (Available Apps for RobustOS)

Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Data Guard, Captive Portal, WLAN Multi AP
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*Upon request. For more Apps please visit www.robustel.com.

Power Supply and Consumption

Connector	2-pin 3.5 mm female socket with lock
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Input voltage	12 ~ 36 VDC
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Power consumption	Idle: 370 mA@12 V
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	Data link: 1.7 A (peak) @12 V
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Physical Characteristics

Ingress protection	IP30
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Housing & Weight	Aluminum, 475 g
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Dimension	136*115*32 mm
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Installations	DIN rail mounting, desktop or wall mounting
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Operating temperature	-20 ~ +55°C (Normal temperature)
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	-25 ~ +70°C (Extended temperature)
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Storage temperature	-40 ~ +85°C
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Relative humidity	5 ~ 95%RH
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Regulatory and Type Approvals

Environmental	RoHS2.0
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ORDERING INFORMATION

Model	PN	Frequency Bands*	Country/Region	Certification (*Planned)
R5020L-A-5G-A25GL	B098004	5G: NR SA/NSA: n1/n2/n3/n5/n7/n8/n12/n13/n14/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n71/n75/n76/n77/n78/n79 4G: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 LTE TDD: B34/B38/B39/B40/B41/B42/B43/B48 LAA: B46 (only supports 2 x 2 MIMO) 3G: WCDMA: B1/B2/B4/B5/B8/B19	Global	CE*,UKCA*,RCM*

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