



R1520e Global

robustOS
eSIM

Industrial Dual SIM Cellular VPN Router

4 x Ethernet + 1 x RS-232 + 1 x RS-485



INTRODUCTION

The Robustel R1520e Global is an industrial dual-SIM cellular VPN router purpose-built for organizations that require flexible global connectivity while maintaining high performance and reliability at the edge. Built on the proven R1520 platform, the R1520e replaces the secondary physical SIM slot with an embedded MFF2 eSIM that is 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 management.

Unlike traditional dual-SIM routers, the R1520e Global introduces advanced eSIM capabilities designed to accelerate global IoT deployments and reduce operational complexity:

—**Global Frequency Band Support:** Ensures consistent performance across major regions and simplifies cross-border deployment for OEMs and system integrators.

—**Robust and Secure eSIM Profile Management:** Supports remote profile enable/disable and profile switching, allowing operators and enterprises to optimize connectivity while reducing reliance on physical SIM logistics.

—**Auto Failsafe Recovery:** If profile download or activation fails, the device automatically rolls back to the last known working profile, ensuring service continuity and reducing the risk of remote provisioning failure.

—**Enhanced lifecycle management:** eSIM profile rotation reduces dependence on long-term roaming agreements and minimizes maintenance associated with physical SIM replacement.

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. For more information or to get started with RCMS, visit: <https://rcms-cloud.robustel.net>

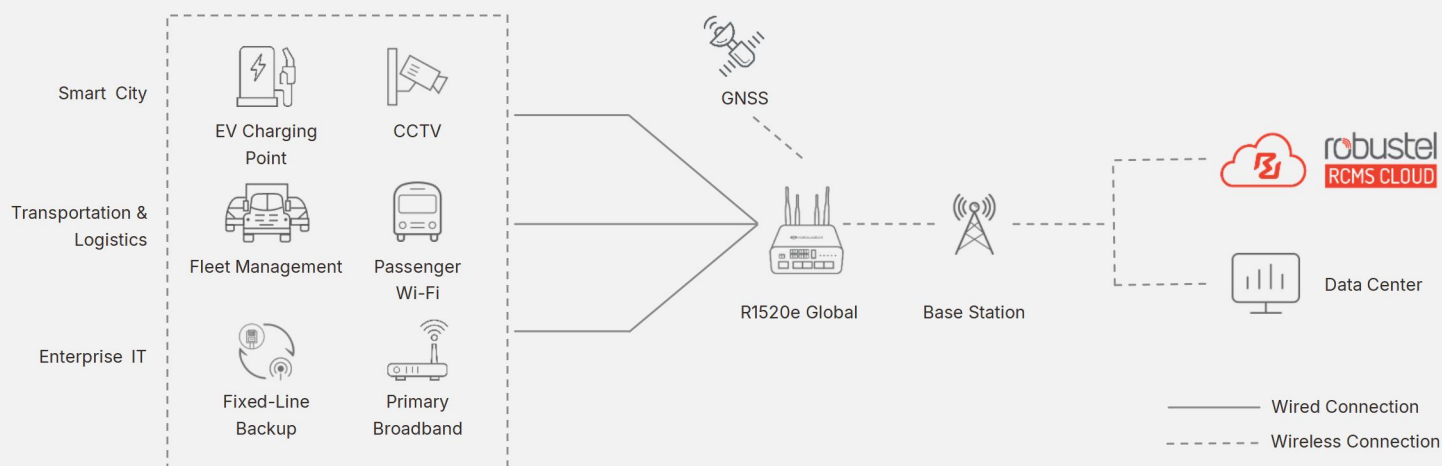
KEY FEATURES

- GSMA SGP.22-compliant for global IoT provisioning
- MFF2 eSIM support for zero-touch deployment
- SIM + eSIM redundancy for resilient connectivity
- Comprehensive global certifications covering major markets
- Free cloud management platform for simplified global monitoring
- Smart Roaming capability for enhanced SIM management
- Supports dual SIM, Wi-Fi, and Ethernet WAN options
- RobustVPN – a hosted service that provides a fixed IP address for the router
- Supports WireGuard, IPsec, OpenVPN, and DMVPN



robustel
RCMS CLOUD

APPLICATION EXAMPLE



SPECIFICATIONS

Hardware

Hardware System

CPU	MIPS, 650 MHz
RAM	128 MB
Flash	16 MB

Cellular Interface

Number of antennas	2 (MAIN + AUX)
Connector	SMA-K
SIM	1 x Mini SIM (2FF)
eSIM	1 x eSIM (MFF2); GSMA SGP.22 compliant; supports profile download/removal and typically up to 8 eSIM profiles

Ethernet Port

Number of ports	5 x 10/100 Mbps, 5 x LAN by default, can be configured as 1 x WAN + 4 x LAN
WAN port	Support 802.3af & 802.3at PD feature on ETH0 (optional)
Magnet isolation protection	1.5 kV

Serial Port

Number of ports	1 x RS-232 + 1 x RS-485
Connector	2 x 4-pin 3.5 mm female socket
Signal definition	RS-232: RXD, TXD, SGND, RTS, CTS RS-485: Data+ (A), Data- (B), Ground (GND)

Digital Input / Digital Output

Number of ports	1 x DI + 1 x DO, wet contact
Connector	2 x 3-pin 3.5 mm female socket
Isolation	3 K VDC
Level	3–30 VDC = HIGH, 0–1 VDC = LOW
Absolute max voltage	30 VDC (DI/DO)
Absolute max current	10 mA (DI/DO)

Wi-Fi Interface

Number of antennas	2
Connector	RP-SMA-K
Standards	802.11 b/g/n; supports AP and client modes
Frequency bands	2.412–2.472 GHz (2.4 GHz ISM band)
Security	WPA, WPA2, WEP, WPA3
Encryption	64/128 AES, TKIP

Analog Input Port

Number of ports	1 x AI (can be configured as voltage or current type)
Connector	2 x 3-pin 3.5 mm female socket
Voltage input range	0–24 VDC
Current input range	4–20 mA (current input requires an external resistor and is measured via voltage)
Signal definition	AI, AGND

Others

GNSS interface	1 x GNSS
USB port	1 x 480 Mbps High-speed USB 2.0 port (Type A, 5 V, 500 mA)
Reset button	1 x RST
LED indicators	1 x RUN, 1 x MDM, 1 x USR, 1 x WLAN, and 1 x RSSI
Built-in	Watchdog, RTC

Power Supply and Consumption

Connector	2-pin 3.5 mm terminal block
Input voltage	12/24 VDC, 9–36 VDC Reverse polarity protection, surge protection
PoE-PD input voltage	40–57 VDC Supports power input through ETH0
Power consumption	Idle: 3 W@12 V Max: 11 W@12 V
Rec. power supply	12 VDC/1.5 A power adapter

Physical Characteristics

Ingress protection	IP30
Housing & Weight	Plastic, 250 g
Dimensions	46 x 90 x 105 mm
Installation	Desktop, wall mounting & 35 mm DIN rail mounting
Operating temperature	–25 to +70 °C
Storage temperature	–40 to +85 °C
Relative humidity	5–95% RH (non-condensing)

Regulatory and Type Approvals

Environmental	RoHS2.0, WEEE
EMI	EN 55032 Conducted Emission Class B 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, AC Mains Power Port Level 3, Signal Ports EN 61000-4-6 (CS) Level 2 EN 61000-4-11 (Dips) Class 2

Software

Operating System (Basic Features of RobustOS)

Network protocols	PPP, PPPoE, ARP, VLAN, ICMP, NAT, TCP, UDP, DHCP, DNS, DDNS, NTP, HTTP, HTTPS, Telnet, SSH2, SMTP, 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, RCMS
Serial port protocols	Transparent, TCP Client/Server, UDP, Modbus RTU to TCP
Others	Smart Roaming V3, eSIM Management, etc.

SDK

Programming languages	C, C++
Available Flash for SDK	4 MB
Available RAM for SDK	64 MB

App Center (Available Apps for RobustOS)

Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Dynamic Routing, Captive Portal, Modbus Master, TR069*, Edge2Cloud
-------	--

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

Cloud Platform

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

ORDERING INFORMATION

Model	Order Code	PoE-PD	Frequency Bands	Region	Certifications	Package Contents
R1520e-4L Global	A005600730	-	4G: LTE FDD: B1/2/3/4/5/7/8/12/13/18/19/20/ 25/26/28 LTE TDD: B38/39/40/41	Global	CE, UKCA*, E-Mark, RCM, FCC, IC, PTCRB, AT&T, Verizon, ICASA, TDRA, NTC, IMDA, NBTC, SIRIM, MTC, EAC, ANATEL, Rogers, CRC, SUBTEL, ENACOM, URSEC, KCC, NOM, POSTEL, ARCOTEL	1 x Router (B Code: B005600720) 1 x DIN Rail Mounting Kit
	A005600731	-	3G: WCDMA: B1/2/4/5/6/8/19 2G: GSM: B2/3/5/8	Global		1 x Router (B Code: B005600720) 2 x Cellular Antenna 2 x Wi-Fi Antenna 1 x Power Adapter 1 x DIN Rail Mounting Kit

NOTE:
1. For more information about regional and carrier-specific variants, please contact us.
2. * Denotes certification in progress.