Technical Specification for SV900 – 5G Vehicle Gateway

VERSION:**V3.0**

XIAMEN KEY-IOT TECHNOLOGY CO., LTD

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Product Overview

StarRouter 900 (SV900) series products are IoT wireless routers integrating 4G/5G network and Virtual Private Network (VPN) technologies. Equipped with 4G/5G Wireless Wide-Area Network (WWAN) and Wi-Fi Wireless Local-Area Network (WLAN) technologies, this device provides uninterrupted access to multiple network connections. With comprehensive security features and wireless service capabilities, it delivers high-speed and stable data transmission channels for users.

Product Features

- Supports dual-mode configurations with optional dual 5G or 5G+4G/Redcap modules

- Supports SIM/eSIM cards

- Features M12 automotive-grade connectors for secure and reliable performance

- Supports 5G module band locking and network mode locking

- Supports GPS/BeiDou (optional)

- Supports WLAN (optional)

- Supports 5G LAN (optional)

- Supports bridge mode, enabling direct IP assignment from 5G dial-up to connected devices (optional)

- Supports failover between wired and dual wireless connections

- Supports dynamic routing protocols (OSPF, RIP)

- Supports policy-based routing for traffic splitting

- Supports querying and reporting of device status information

- Supports VLAN configuration, including multiple VLANs with tagged and untagged modes

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- Supports Linux system for secondary development, with comprehensive development guidelines provided

- Supports SNMP and StarCloud Platform (Device Management Platform)

- Supports multiple VPN protocols: PPTP, L2TP, IPsec, OpenVPN, GRE, GRETAP, VXLAN, etc

Topology Diagram
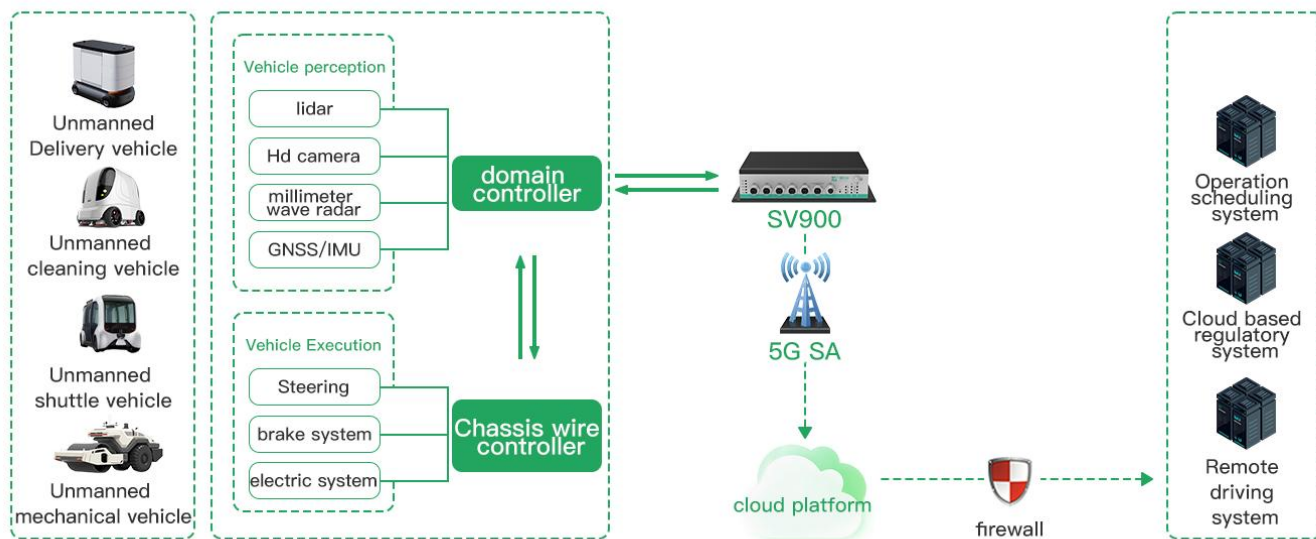
Technical Parameter

Hardware Performance	
Memory	512MB，expandable to 1GB
FLASH	EMMC 4GB，expandable to 8GB
WIFI（Optional）	Supports 2.4G/5.8G dual-band with a theoretical maximum speed of 866.7Mbps. Optional WIFI6 with a theoretical maximum speed of 1774Mbps
Network support	N1/N3/N5/N7/N8/N20/N28/N38/N40/N41/N71/N75/N76/N77/N78/N79 B1/B3/B5/B7/B8/B20/B28/B32/B71 B38/B40/B41/B42/B43

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System Time	Time synchronization using NTP technology with built-in RTC

Interfaces

WAN Port	1 (10M/100M/1000M), M12 aviation connector, LAN/WAN Configurable
LAN Port	4 (10M/100M/1000M), M12 aviation connector
SIM Card Interface	2 (drawer-style card slot, supports 1.8V/3V SIM/UIM cards), compatible with ESIM
Reset	1 (Reset button)
Antenna Interface	8 (5G/4G antennas, 50 ohm impedance, Fakra connector)
	4 (WiFi antennas, 50 ohm impedance, Fakra connector)
Power Interface	1, 4-pin aviation connector with built-in reverse polarity and overvoltage protection
Serial Port, CAN Port	1*RS232,1*RS485，1*CAN，M12 aviation connector
SM (Optional)	Supported
Indicators	14 indicators (1 PWR, 1 SYS, 1 WIFI, 1 NET, 3 signal strength, SIM1, SIM2, 5 Ethernet)

Power Characteristics

Power Supply	External power adapter (12V 2A)
Operating Voltage	Wide power input DC 9~48V (expandable to 9~60V)
Standby Power Consumption	300~350mA@12V DC
Operating Power Consumption	450-600mA@12V DC

Operating Conditions

Operating Temperature	-35~+75℃ (-31~+167℉)
Storage Temperature	-40~+85℃ (-40~+185℉)
Operating Humidity	5%~95% (non-condensing)
Device Ventilation	Natural heat dissipation ,no noise

Physical Characteristics

Casing Material	Aluminum alloy housing
Dimensions	Length*width*height:245*171*61mm (excluding antenna and mounting components)
Installation Method	Desktop placement
Weight	Net weight：1.6KG（excluding antenna and installation accessories）
	Gross weight：2.7KG（with accessories and packaging box）

Device Safety and Reliability

Safety and Reliability	Reverse polarity protection, overvoltage protection, overcurrent protection; Ethernet interface built-in 1.5KV electromagnetic isolation protection; RS232/RS485 interface built-in 15KV ESD protection; SIM/UIM card interface built-in 15KV ESD protection
Protection Level	IP40
Certification	CE Certification，Complies with CCC, Rohs
MTBF	≥100,000 hours

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Software Features	
Network Access	Supports dual-mode configurations with optional dual 5G or 5G+4G modules
Access Authentication	Supports CHAP/PAP authentication
LAN Protocol	Supports ARP,Ethernet
WAN Protocol	Supports static IP, DHCP, PPPoE, PPP
IP Applications	Supports Ping、Trace、DHCP Server、DHCP Relay、DHCP Client、DNS relay、DDNS、Telnet
IP Routing	Supports static routing, dynamic routing protocols (OSPF, RIP), and policy-based routing
NAT Functionality	Supports network address translation
Industrial Protocols	Supports MQTT, MODBUS, and other industrial protocols
Network Security	
Firewall	Full-state packet inspection (SPI), prevent denial of service (DoS) attacks, filter multicast Ping packets, access control lists, URL filtering, port mapping, virtual IP mapping, IP-MAC binding
Data Security	IPsec VPN/VxLAN/L2TP/PPTP/GRE /GRD TAP/OPEN VPN/CA Certificate
Reliability	
Backup Functionality	Supports failover among wired, dual 5G, and Wi-Fi connections
Online Link Detection	Supports heartbeat detection and automatic reconnection upon disconnection
Built-in Watchdog	Device self-checking technology, device fault self-repair
WLAN(Optional)	
Protocol Standard	IEEE 802.11b/g/n/ac/ax (Optional)
Rate	Supports up to 1774M
Safety Features	Open system, shared key, WPA/WPA2 authentication, WEP/TKIP/AES encryption
Working Modes	AP and Client （WiFi STA）
Transmission Distance	100M(The actual transmission distance depends on the environment)
Intelligent Features	
Integrated DTU Functionality	Supports TCP, UDP transparent transmission mode, TCP Server mode, supports Modbus RTU to Modbus TCP bridge, support DCUDP, DCTCP mode
Network Management	
QoS Management	Supports bandwidth limitation, IP rate limiting
Configuration Mode	Supports Telnet, WEB, SSH, and Console configurations
Upgrade Mode	Supports WEB upgrade and FOTA upgrade
Logging Functionality	Supports local system logs, remote logs, and serial port output logs
Network Management Functionality	Support KEY-IOT Device Manager "Cloud Device Management" platform, batch management
Simple Network Management	Supports SNMP v1, v2, and v3, and SNMP TRAP

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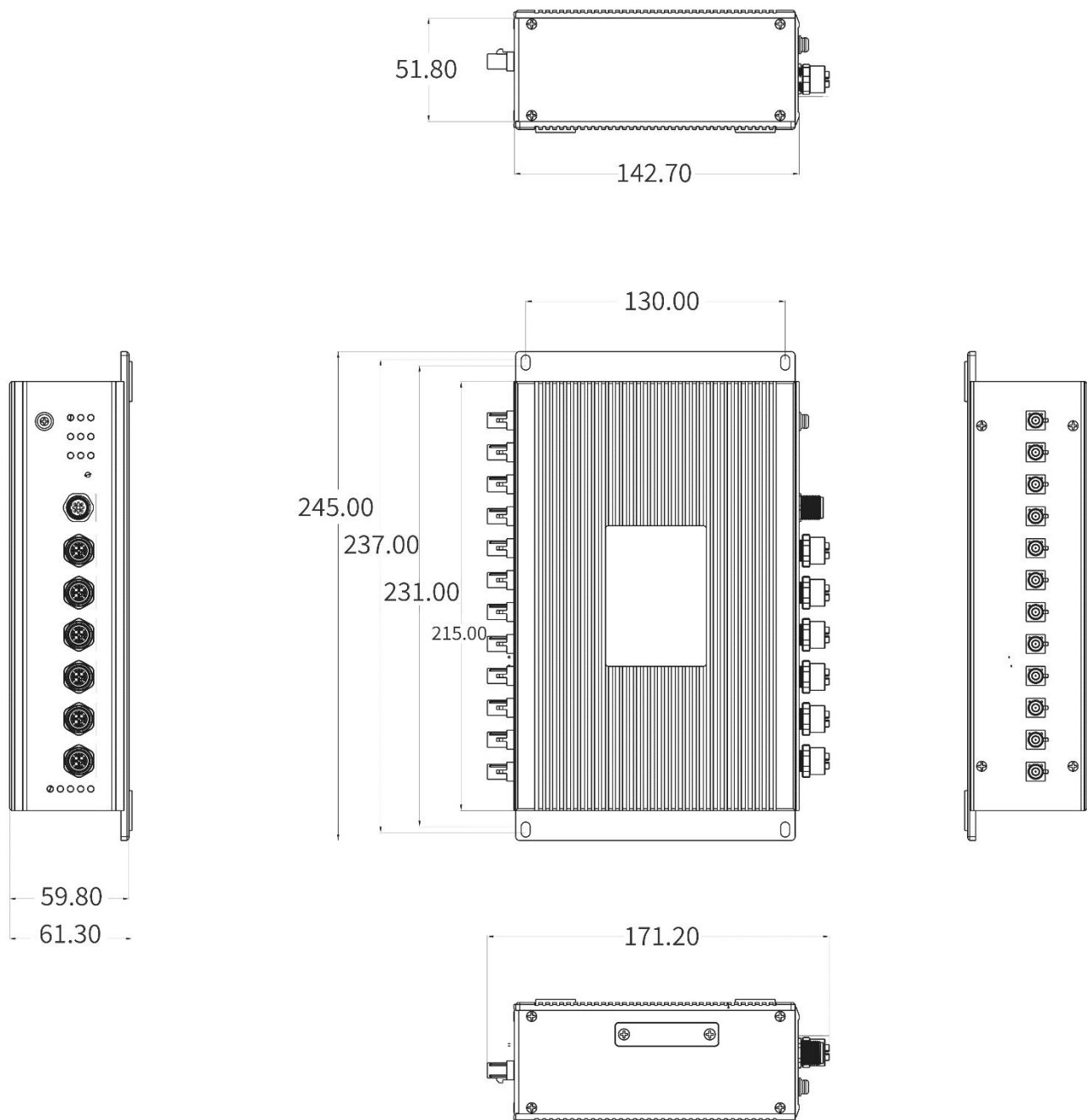|	
Protocol(Optional)	
Traffic management	Supports traffic threshold setting, supports traffic statistics and traffic alarm functionality
Maintenance tools	Ping，Route tracing
Status Query	System status, modem status, network connection status, route status

Product Interface

Product Dimension

51.80

142.70

130.00

245.00

237.00

231.00

215.00

59.80

61.30

171.20

Product Selection

Model	PID	Version Description
SV900	00	Supports 2*5G modules
SV900	02	Supports 1*5G module+1*4G module
SV900	03	Supports 1*4G modules
SV900	04	Supports 1*5G modules