Technical Specification for SV910 – 5G Vehicle Gateway

Product Features

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

- Supports three 1000/100 BASE-T1 ports, three 100 BASE-T1 ports, and two 1000/100 BASE-TX ports

- Supports SIM/eSIM cards

- Supports two DO channels (relay outputs) and two DI channels (one dry-contact input and one wet-contact input)

- Supports input-voltage monitoring with reporting and alarm functions

- Supports V2X

- Suppots PTP

Technical Parameter

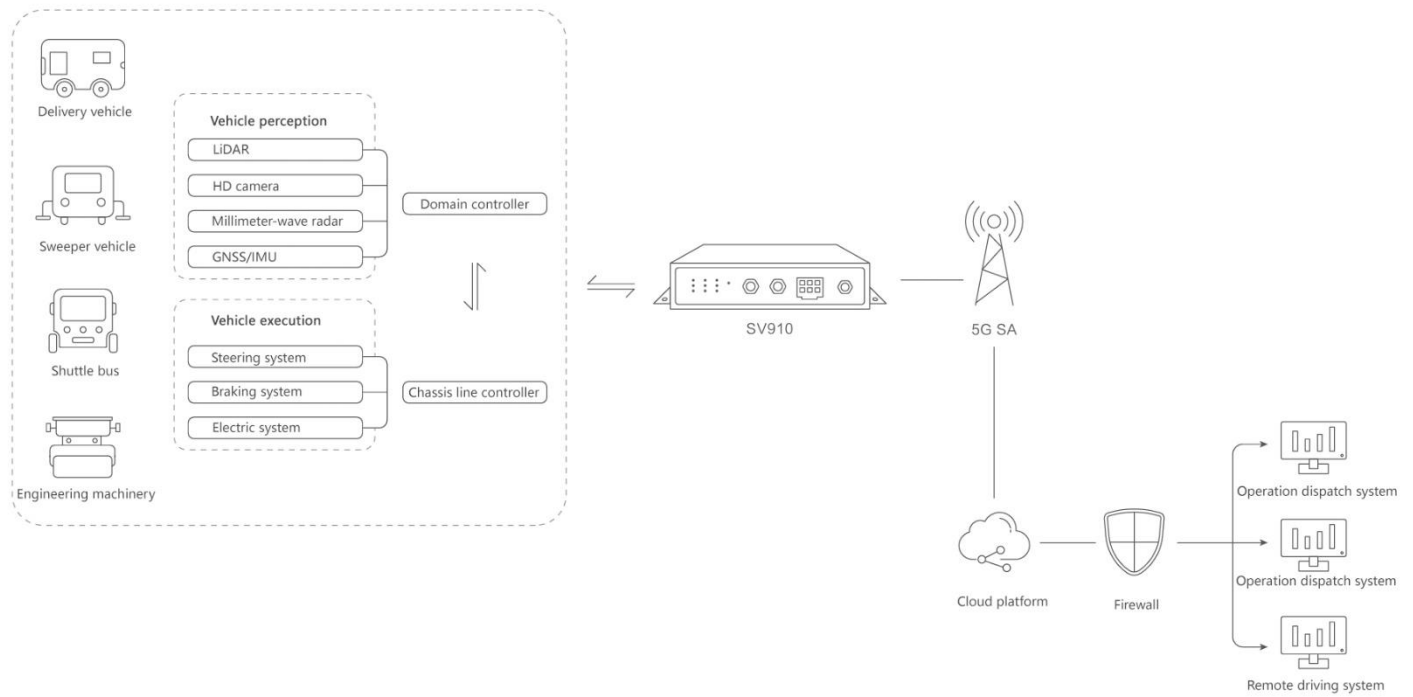| Hardware Performance	
CPU	Quad-core A55, up to 2 GHz clock speed.
Memory	2GB，expandable to 4GB
FLASH	EMMC 8GB，expandable to 16GB
WIFI（Optional）	Supports 2.4G/5.8G dual-band with a theoretical maximum speed of 866.7Mbps. Optional WIFI6 with a theoretical maximum speed of 1774Mbps
Network Support	5G：N1/N3/N5/N7/N8/N20/N28/N38/N40/N41/N71/N75/N76/N77/N78/N79 4G：FDD-LTE：B1/B3/B5/B7/B8/B20/B28/B32/B71 　　　TDD-LTE：B38/B40/B41/B42/B43/ 3G：WCDMA：B1/B2/B4/B5/B8 Note: Frequency bands not listed can be supported by replacing the module
System Time	Time synchronization using NTP technology with built-in RTC

Interfaces	
Automotive Ethernet Interfaces	3 个 1000/100BASE-T1 and 3 个 100BASE-T1
Standard Ethernet Interfaces	2 × 1000/100 BASE-TX Ethernet interfaces with M12 aviation connectors
SIM Card Interface	2 × nano-SIM slots
ESIM（Optional）	2 × eSIM cards
Wi-Fi（Optional）	IEEE 802.11b/g/n/ac/ax IEEE 80211ax(wifi6)，Up to 1774Mbps IEEE 80211ac(wifi5)，Up to 866Mbps
GPS/Beidou（Optional）	Supports GPS/Beidou
Antenna Interface	2 × 4-in-1 mini FAKRA 5G/4G antenna interfaces 1 × 4-in-1 mini FAKRA Wi-Fi antenna interface 2 × V2X antenna interfaces 1 × LTE Cat.1 antenna interface
Power Interface	1 × 4-pin aviation connector, supporting dual redundant power inputs: DC 9–48 V
Serial Port	1*RS232,1*RS485
CAN Interface	2 × CAN interfaces, expandable to 3 × CAN interfaces
Relay	2 × relay outputs, maximum input voltage: 30 VDC / 250 VAC, maximum current: 5 A
DI	2 × opto-isolated DI channels (DI0 for dry contact testing, DI1 for wet contact testing) Logic 0: Wet contact 0–2 VDC or dry contact closed Logic 1: Wet contact 9–30 VDC or dry contact open
Indicators	9 Indicators (1 PWR、1 SYS、1 WIFI、1 NET、3 signal strength、SIM1、SIM2)

Power Characteristics	
Power Supply	External power adapter (12V 2A)
Operating Voltage	Wide power input DC 9~48V

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
Installation Method	Desktop placement

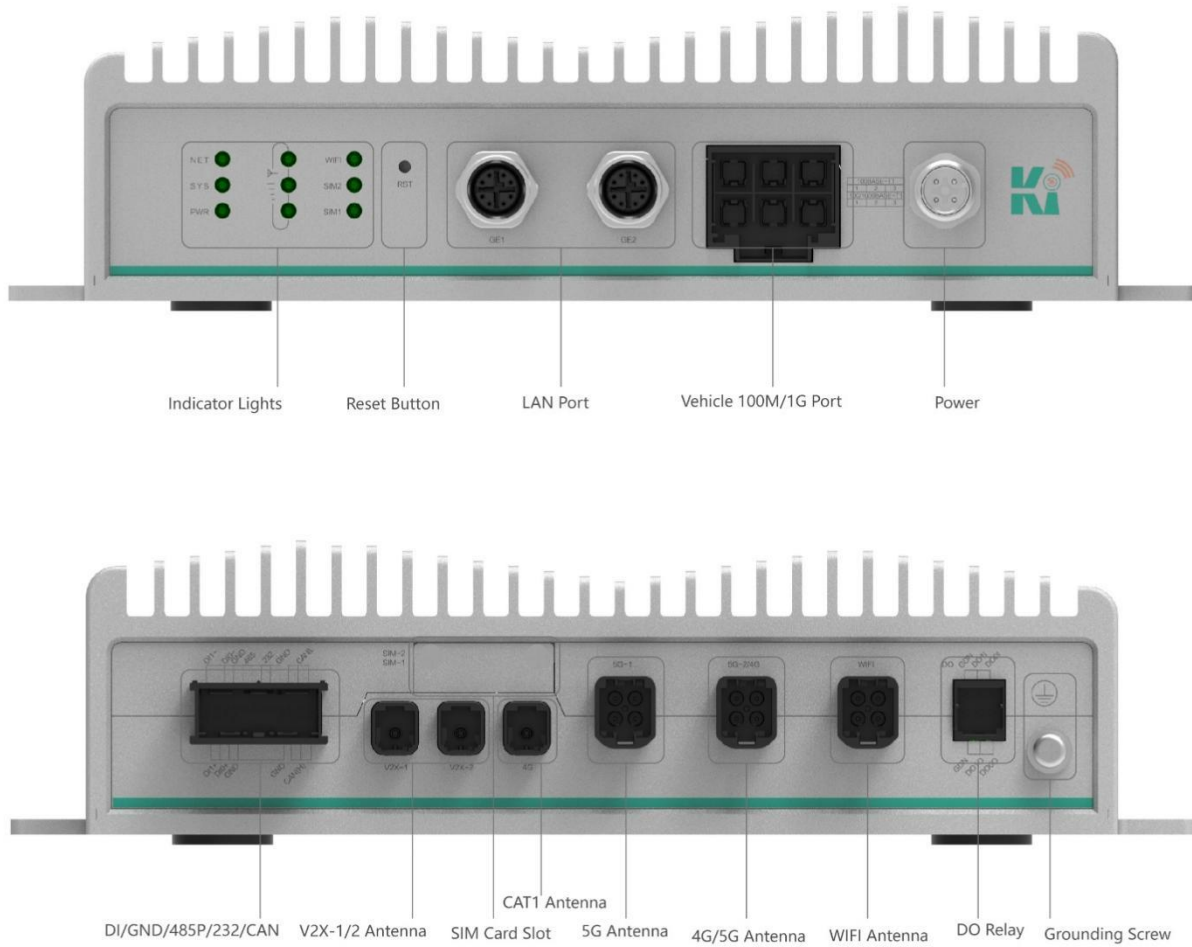| Device Safety and Reliability	
Hardware WatchDog	Built-in hardware watchdog with automatic device fault self-recovery
Safety and Reliability	Reverse polarity protection, overvoltage protection, overcurrent protection; Ethernet interface built-in 1.5KV electromagnetic isolation

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	protection; RS232/RS485 interface built-in 15KV ESD protection; SIM/UIM card interface built-in 15KV ESD protection
Protection Level	IP40
Certification	Complies with CCC、Rohs、CE
MTBF	≥100,000 hours

Network Features

Cellular Network	Supports dual-module configuration, with options for dual 5G or 5G + 4G/RedCap modules.
5G LAN（Optional）	Supports 5G LAN
Bridge mode	Supports bridge mode, allowing the IP address obtained via cellular network dialing to be directly assigned to the downstream device.
WAN Protocol	Static IP、DHCP、PPPOE
IP Applications	Supports Ping、Trace、DHCP Server、DHCP Relay、DHCP Client、DNS relay、DDNS、Telnet
Wi-Fi	Supports both AP (Access Point) mode and Client (STA) mode
VLAN	Supports VLAN, including both Tagged and Untagged modes for VLAN ID assignment
Multi-link management	Supports link detection, link backup, and flexible backup combinations of dual 5G, WAN, and Wi-Fi.
Static routing	Supports adding static routes
Dynamic routing	Supports dynamic routing protocols OSPF and RIP
Policy routing	Supports policy routing to enable traffic splitting

Wi-Fi（Optional）

Protocol standards	IEEE 802.11b/g/n/ac/ax (Optional)
Speed	IEEE 80211ax(wifi6)，Up to 1774Mbps IEEE 80211ac(wifi5)，Up to 866Mbps
Security features	Open system, shared key, WPA/WPA2 authentication, WEP/TKIP/AES encryption
Operating modes	AP and Client operating modes
Transmission distance	100M(Actual transmission distance depends on the environment)

Firewall & network security

Firewall	Stateful Packet Inspection (SPI), protection against Denial of Service (DoS) attacks, multicast Ping packet filtering, Access Control Lists (ACL), content URL filtering, port mapping, virtual IP mapping, and IP-MAC binding
VPN	Supports IPsec/OPENVPN/L2TP/PPTP/VXLAN/GRE /GRD TAP
NAT	Supports DMZ，Supports Port Foward
Address filtering	Supports IP, domain name, and MAC filtering; allows configuration of blacklists and whitelists

Application

DTU	Supports TCP、UDP、MQTT、HTTP、HJ212-2017、NTRIP、MODBUS TCP、MODBUS RTU、MODBUS TCP TO MODBUS RTU Protocol

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Data acquisition	Supports data acquisition from MODBUS and Siemens S7 series PLCs, converting the data to JSON format
Status information reporting & retrieval	Supports querying or actively reporting device status information via TCP or MQTT, including dial-up status, operating status, and link utilization status
Traffic statistics	Supports total device traffic and per-IP traffic statistics, with bandwidth throttling based on traffic limits
Scheduled tasks	Supports scheduled reboots and user-defined scheduled tasks
Cloud device management platform	Supports remote configuration, remote firmware upgrades, and remote monitoring
Location services	Supports cell tower-based positioning, optional GPS/BeiDou, and reporting of cell tower or GPS information
SNMP	Supports SNMP v1/v2/v3
System settings	
Logging function	Supports local system logs, remote logging, and serial port log output; includes power-off log retention
Configuration methods	Supports configuration via web, Telnet, SSH, and console; also supports configuration import and export
System upgrade	Supports local upgrades via web and FOTA upgrades through the cloud platform
System time settings	Built-in RTC clock, supports NTP network time synchronization, manual time setting, and GPS time synchronization
Maintenance tools	Supports PING and traceroute
Status query	System status, 5G dial-up status, network connection status, routing status, etc

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Product Topology

Delivery vehicle

Sweeper vehicle

Shuttle bus

Engineering machinery

Vehicle perception
- LiDAR
- HD camera
- Millimeter-wave radar
- GNSS/IMU

Domain controller

Vehicle execution
- Steering system
- Braking system
- Electric system

Chassis line controller

SV910

5G SA

Cloud platform

Firewall

Operation dispatch system

Operation dispatch system

Remote driving system

Product Interface

Indicator Lights   Reset Button   LAN Port   Vehicle 100M/1G Port   Power

DI/GND/485P/232/CAN   V2X-1/2 Antenna   SIM Card Slot   CAT1 Antenna   5G Antenna   4G/5G Antenna   WIFI Antenna   DO Relay   Grounding Screw

Product Size

58.00

204.00

142.70

233.80