Technical Specification for SR830-E Embedded 5G Router

VERSION:**V2.2**

XIAMEN KEY-IOT TECHNOLOGY CO.，LTD

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Product Overview

StarRouter 830-E (SR830-E) series products are IoT wireless routers integrating 4G/5G networks and Virtual Private Network (VPN) technologies. With multi-DNN network slicing functionality, they meet the differentiated requirements of industry applications by providing network-level SLA (Service Level Agreement) guarantees and end-to-end (E2E) security isolation. The device supports VXLAN (Virtual Extensible LAN) to enable Layer 2 switching networking, offering an effective solution for data centers.

Product Features

- Supports 5G NR/RedCap networks
- Supports 5G module band locking and network mode locking
- Supports GPS/Beidou (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 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
- Supports Linux system for secondary development, with comprehensive development guidelines provided
- Supports SNMP and StarCloud Platform (Device Management Platform)

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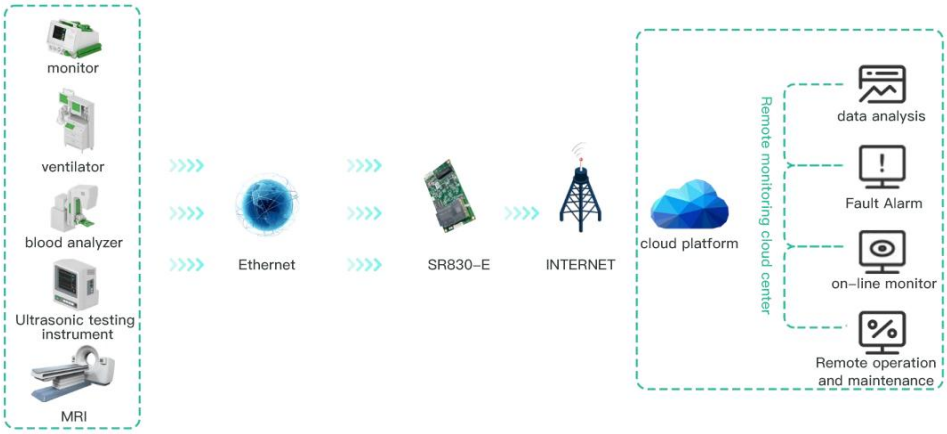
- Supports multiple VPN protocols: PPTP, L2TP, IPsec, OpenVPN, GRE, GRETAP, VXLAN, etc

Topology Diagram



Technical Parameter

Hardware Performance	
Memory	512MB
FLASH	4GB EMMC
Network Support	Industrial-grade 5G module
System Time	Time synchronization using NTP technology, with built-in RTC
Interface (20PIN PCB Connector)	
WAN Port	1 (Can be reused as LAN port)
LAN Port	1 (10M/100M/1000M adaptive MDI/MDIX port)

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Power Supply	1
Power Characteristics	
Operating Voltage	DC 12V
Current Requirements	12V1.5A 以上
Standby Power Consumption	300~500mA@12V DC
Operating Power Consumption	500~700mA@12V DC
Operating Conditions	
Operating Temperature	-35~+75℃ (-31~+167℉) （Requires additional heat dissipation measures）
Storage Temperature	-40~+85℃ (-40~+185℉)
Operating Humidity	5%~95% (Non-condensing)
Device Ventilation	Natural heat dissipation, noiseless
Physical Characteristics	
Structure	Embedded
SIM Card Interface	1 Flip Card Slot
Dimensions	Length*Width*Height: 103*60*25mm（excluding antenna and installation components）
Installation Method	PCB connector and screw column
Device Security and Reliability	
Safety and Reliability	Power reverse protection, overvoltage protection, overcurrent protection; Ethernet interface built-in 1.5KV electromagnetic isolation protection; SIM/UIM card interface built-in 15KV ESD protection
Certification	Complies with CCC, Rohs
MTBF	≥100,000 hours
Software Features	
Network Access	Supports APN, VPDN, and Network Slicing
Access Authentication	Supports CHAP/PAP authentication
Network Mode	5G Sub-6 SA/NSA/LTE/WCDMA
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/L2TP/PPTP/GRE/GRETAP/Vxlan/OPEN VPN/CA Certificate
Reliability	

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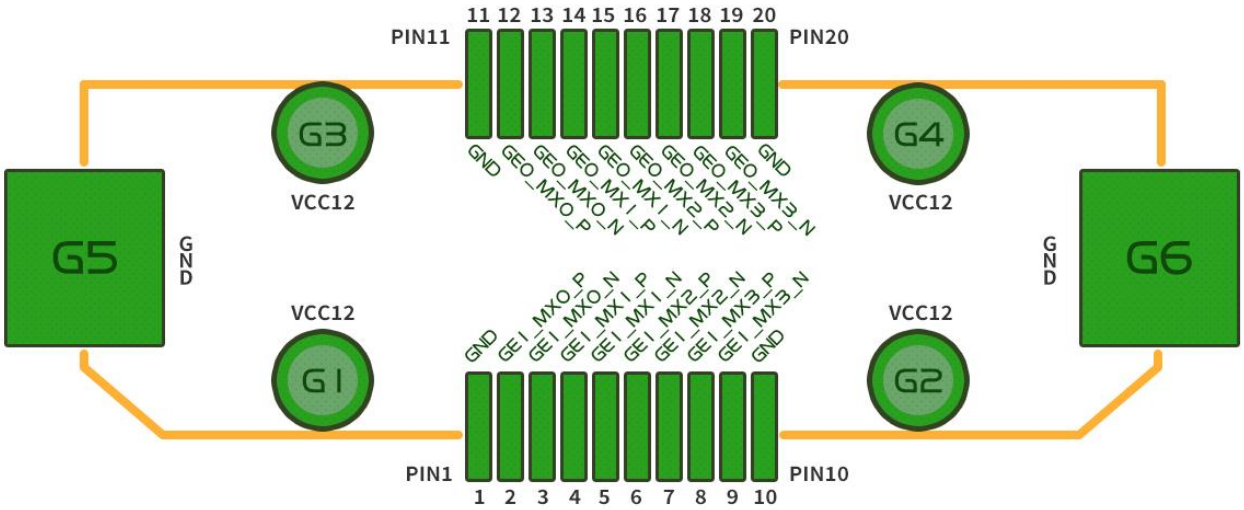
Backup Functionality	Supports failover among wired, 5G connections
Online Link Detection	Supports heartbeat detection and automatic reconnection upon disconnection
Built-in Watchdog	Device self-checking technology, device fault self-repair
Intelligent Features	
Integrated DTU Functionality	Supports TCP, 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
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

Explanation of PCB Connector Pins



Product Installation Dimension Structure Diagram