VALTORIS VT-LTE500



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1. Characteristic

MODEM	
Modem module	4G (LTE)-Cat 4, LTE-FDD band maximum downlink speed up to 150Mbps, maximum uplink speed up to 50Mbps, LTE-FDD band maximum downlink speed up to 130Mbps, maximum uplink speed up to 30Mbps.
Status	Signal strength (RSSI), SINR, RSRP, RSRQ, BAND, IMSI, ICCID
APN	Supports automatic APN and manual APN
PDP	Multiple network access and services can be performed using different PDPs
WIFI	
Wireless mode	2.4GHz, IEEE 802.11b/g/n, support AP and Station mode dual mode switching
WiFi encryption	WPA2-PSK, WPA-PSK, AES, TKIP
SSID	Support hiding SSID
WiFi user	Up to 50 connections at the same time
Ethernet	
WAN	1 WAN port, 10/100/1000 Mbps, compliant with IEEE 802.3 and IEEE 802.3u standards, supports automatic MDI/MDIX

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LAN	1 LAN port, 10/100/1000 Mbps, compliant with IEEE 802.3 and IEEE 802.3u standards, support automatic MDI/MDIX

2. Network

Network Configuration	
Router	Static routing
Networking protocol	TCP, UDP, IPv4, ICMP, NTP, DNS, HTTP, FTP, SSL v3, TLS 1.3, ARP, PPP, PPPOE, SSH (v1, v2), DHCP, Telnet client, MQTT
Connect monitoring	Periodic tasks, ICMP is used for link check
DHCP	Static and dynamic IP allocation
QoS	Prioritize transmissions by source destination or port
Link backup	Modem, WiFi and WAN options, each of which can be used as a backup, using automatic failover

3. Security (Safe)

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Security Features	
Firewall	You can enable preconfigured firewall rules; port forwarding: DMZ; DNAT; SNAT; MASQ through the Web interface
Attack protection	DDoS protection, IP spoofing, port scan protection, SYN flow protection, multicast restriction, IDENT blocking
Domain filtering	Blacklists are used to block unwanted websites, and whitelists are only used to specify allowed websites

4. VPN & Protocols

VPN	
OpenVPN	Only client (no server capability), 40 encryption modes
OpenVPN encryption	AES-128-CBC, AES-128-CFB, AES-128-CFB1, AES-128-CFB8, AES-128-OFB, AES-192-CBC, AES-192-CFB, AES-192-CFB1, AES-192-CFB8, AES-192-OFB, AES-256-CBC, AES-256-CFB, AES-256-CFB1, AES-256-CFB8, AES-256-OFB, BF-CBC, BF-CFB, BF-OFB, CAST5-CBC, CAST5-CFB, CAST5-OFB, DES-CBC, DES-CFB, DES-CFBI, DES-CFB8, DES-EDE-CBC, DES-EDE-CFB, DES-EDE-OFB, DES-EDE3-CBC, DES-EDE3-CFB, DES-EDE3-CFB1, DES-EDE3-CFB8, DES-EDE3-OFB, DES-OFB, DESX-CBC, RC2-40-CBC, RC2-64-CBC, RC2-CBC, RC2-CFB, RC2-OFB
IPsec	IKEv1 and IKEv2 support up to 10 VPN IPsec tunnels (instances) with 5 encryption modes (DES, 3DES, AES128, AES192, AES256)

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GRE	GRE tunnel
L2TP	Client/server mode can be switched
VXLAN	Provides a seamless two-layer network connection
m2mCloud (SD-LAN)	Support TCP and UDP protocols (routing mode/bridge mode) for secure remote access through P2P tunnel or server relay architecture
MODBUS TCP/RTU master station	
FC	01, 02, 03, 04, 05, 06
Supported data formats	16 bit: INT, UINT, HEX; 32 bit: Float, Float Inverse, Long, Long Inverse; 64 bit: Double, Double Inverse
MODBUS/MQTT	MODBUS TCP/RTU status/control; MQTT publish, MQTT subscribe, MQTT respond

5. Management & IoT Platform

WEB / Interface	
WEB interface	HTTP, status, configuration, firmware updates, troubleshooting, system logs, kernel logs
SSH	SSH (v1, v2)
Call	Restart, status, WiFi on/off, 4G data on/off

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MQTT	MQTT publishes, MQTT subscriptions
SNMP	SNMP (v1, v2, v3), SNMP trap
JSON-RPC	Through the HTTP management API
MODBUS	MODBUS TCP/RTU status/control
IoT Platform	
Cloud	Allow monitoring: device data, modem data, network information, etc.

6. Hardware & System Performance

Hardware	
CPU	MT7621AT
RAM	512 MB, DDR3
FLASH	16 MB, SPI NOR Flash
Firmware Upgrade	Updates are made without losing the current configuration, supporting HTTP and CFE
System Performance	
Operating system	OpenWrt operating system based on Linux OS

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Hardware	
Internal version	Linux Router 5.4.215
Supporting languages	Busybox shell, C, C++

7. Power & Physical Interface

Power Supply	
Power interface	12V industrial DC power socket
Input voltage range	9-36 VDC, with anti-reverse and overvoltage protection
Physical Interface	
Ethernet	2 x RJ45 interface, 10/100/1000 Mbps, compliant with IEEE 802.3, IEEE 802.3u standards, support automatic MDI/MDIX
Serial Interface	2xRS485
LED pilot lamp status indicator	1 x Power LED, 1 x 4G network status indicator, 1 x 4G signal strength indicator, 1 x WIFI status indicator, 1 x LAN status indicator, 1 x WAN
SIM	1 x SIM card slot (mini SIM-2FF), 1.8V/3V, external SIM card slot
DC	12V industrial DC power socket, standard supply is 12V DC

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Supply Electricity	
Antenna	2 × SMA Female (4G Main/Div), 1 × RP-SMA Female (Wi-Fi)
Reset pushbutton	Restart / Restore factory Settings button
Power dissipation	3W

8. Physical Specifications & Environment

Physical Specifications	
Shell material	Metal housing, support for DIN rail installation
Size (W x H x D)	84.81 x 65.09 x 32.70mm
Weight	130 g
Install	35mm DIN-Rail Mounting
Operating Environment	
Temperature	-30°C - 75°C
Humidity	<95% no condensation
Anti-electromagnetic Interference	
Standard	Draft EN 301 489-1 V2.2.0, Draft EN 301 489-17 V3.2.0, Draft EN

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Physical Specifications	
	301 489-52 V1.1.0 FCC 47 CFR Part 15B (2017), ANSI C63.4 (2014)
ESD	EN61000-4-2:2009
RS	EN 61000-4-3:2006+A1:2008+A2:2010
EFT	EN 61000-4-4:2012
Surge Immunity (Power Line)	EN 61000-4-5:2006
Surge Immunity (Ethernet Port)	EN 61000-4-5: 2014, clause 7.1 of ITU-T K21
CS	EN 61000-4-6:2009
DIP	EN 6100-4-11:2004

9. Product Types Choosing

Product	Area	Frequency Range
VT-LTE500 (CN)	China, India	4G (LTE-TDD): B1, B3, B5, B8 4G (LTE-TDD): B34, B38, B39, B40, B41 WCDMA: B1, B5, B8

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Product	Area	Frequency Range
		GSM/EDGE: B3, B8
VT-LTE500 (EU)	Europe	4G (LTE-FDD): B1, B3, B5, B7, B8, B20, B28 4G (LTE-TDD): B38, B40, B41 WCDMA: B1, B5, B8 GSM/EDGE: B3, B8
VT-LTE500 (AU)	Latin America, Australia, New Zealand	4G (LTE-FDD): B1, B2, B3, B4, B5, B7, B8, B28, B66 4G (LTE-TDD): B40 WCDMA: B1, B2, B4, B5, B8 GSM/EDGE: B2, B3, B5, B8
VT-LTE500 (EL)	Europe, Asia-Pacific	4G (LTE-FDD): B1, B3, B5, B7, B8, B20, B28 4G (LTE-TDD): B38, B40, B41 WCDMA: B1, B5, B8
VT-LTE500 (CAT1 CN)	China, India	4G (LTE-FDD): B1, B3, B5, B8 4G (LTE-TDD): B34, B38, B39, B40, B41
VT-LTE500 (CAT1 EU)	Europe	4G (LTE-FDD): B1, B3, B5, B7, B8, B20, B28

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Product	Area	Frequency Range
VT-LTE500 (5G)	China, India	5GSA: n1, n3, n5, n8, n28, n41, n78, n79 4G (LTE-FDD): B1, B3, B5, B8 4G (LTE-TDD): B34, B38, B39, B40, B41 LTE 1.8G: B59, B62 WCDMA: B1, B5, B8

Prices and delivery cycles may vary by region (operator). For more information, please contact us.

10. Hardware Installation & Entry

1. Press the SIM card button with the SIM card pin.
2. Pull out the SIM card holder.
3. Insert the SIM card into the SIM card holder.
4. Slide the SIM card holder back into the router.
5. Connect 4G and WiFi antennas.
6. Connect the power adapter to the outlet on the front of the device. Then insert the other end of the power adapter into the power outlet.
7. Connect wirelessly to the device using the SSID and password provided on the device information label, or use the LAN port of the connected Ethernet cable.

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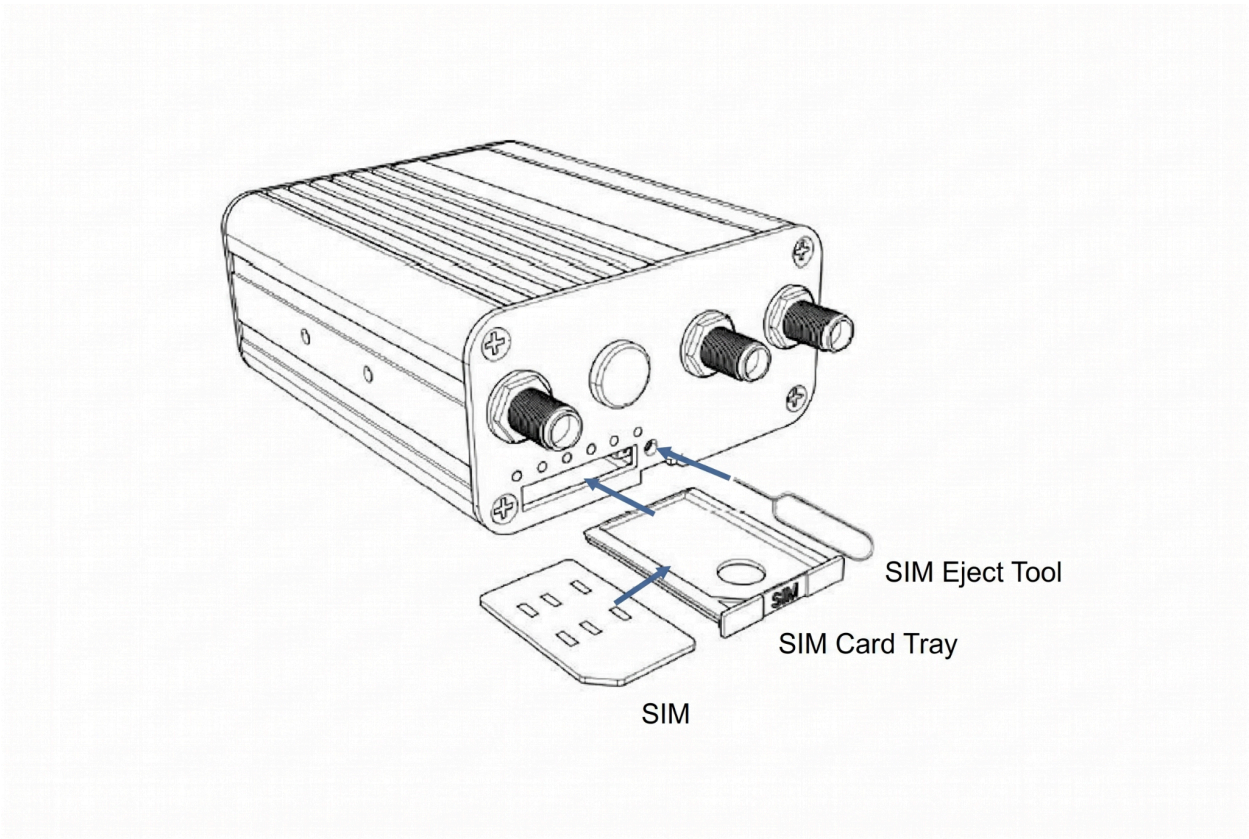
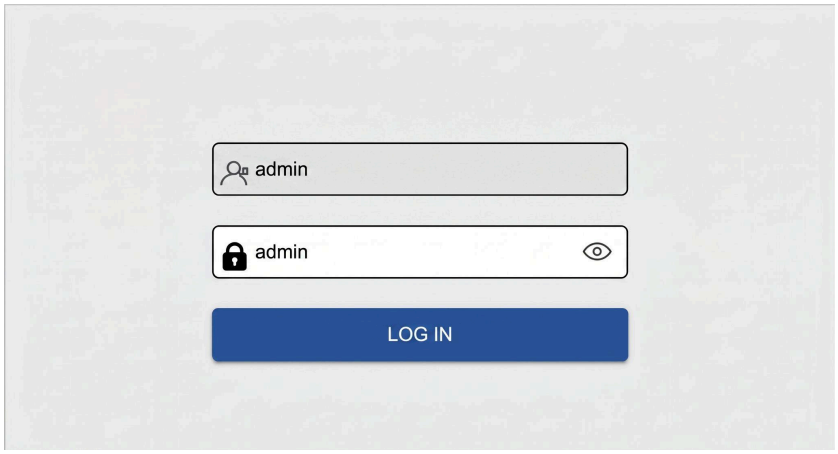


Entry Configuration

1. To access the router's Web interface (WebUI), enter the default IP（http: //192.168.8.1）address into the URL field of your Internet browser.
2. When prompted to authenticate, use the provided login information.
3. After logging in, go to the overview page and pay attention to the signal strength indicator. To maximize cellular performance, try adjusting the antenna or changing the device's position to get the best signal conditions.

A.



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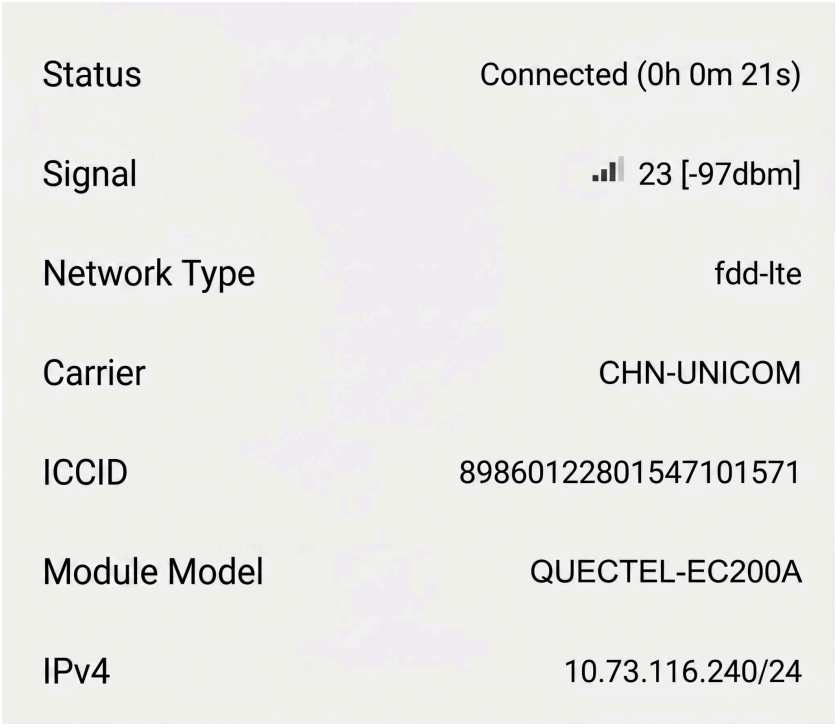
B.



RF Power & Antenna Specs

- **Maximum RF power:** 25dBm@LTE, 13.5dBm@WiFi
- **4G antenna:** 698-960/1710-2690 MHz, 50Ω, VSWR <3, gain ≤ 3 dBi omnidirectional, SMA connector
- **WIFI antenna:** 2400-2500 MHz, 50Ω, VSWR < 2, gain *≤ 5 dBi, omnidirectional, RP-SMA connector

Note: When using cables, you can connect a higher gain antenna to compensate for cable attenuation. The user is responsible for complying with the law.

11. What's in the box?

- Router VT-LTE500
- 2 x 4G antenna (rotating SMA male)
- 1 x WIFI antenna (rotating SMA male connector)
- 1 x standard 12V DC power adapter
- 1 x 1 meter network cable
- 1 x 5Pin terminal
- 1 x 35mm DIN-Rail Mounting Clip
- Packing box

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 Router VT-LTE500	 4G antenna	 WIFI antenna
 Standard 12V DC power adapter	 Network cable	 5Pin terminal

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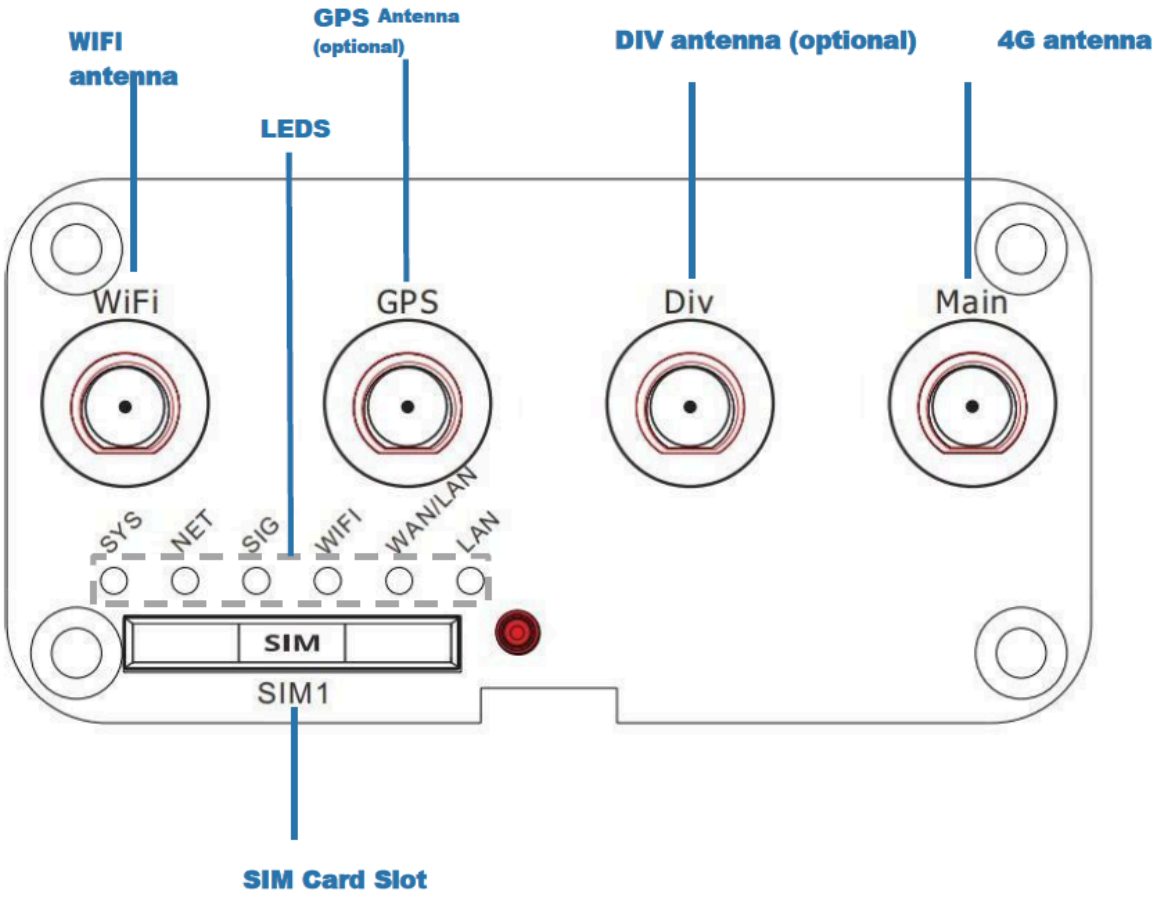
 Rear clamp		

**All standard order codes except PSU have the same standard package content.*

12. Hardware View

Top view



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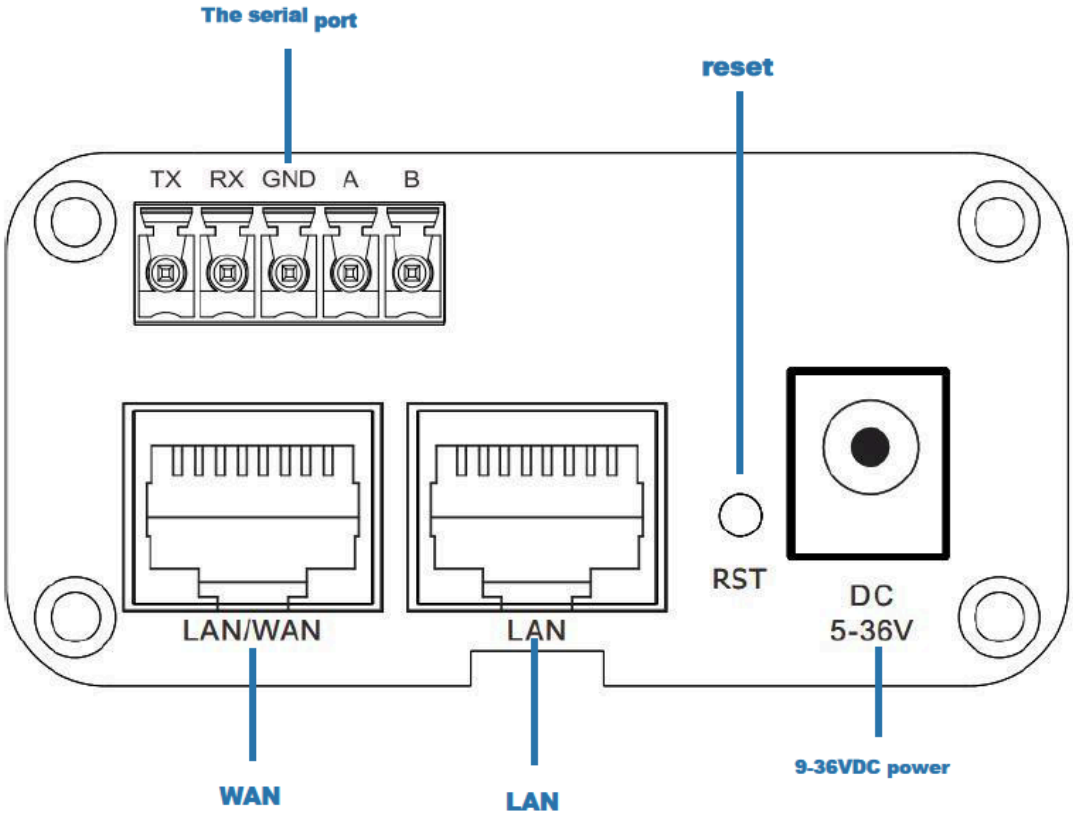
bottom view



Size

- **Enclosure Size (W x H x D):** 84.81 x 65.09 x 32.70 mm
- **Packing Box Size (W x H x D):** 262.00 x 125.00 x 85.00 mm

Shell measurements do not include antenna connectors and screws.

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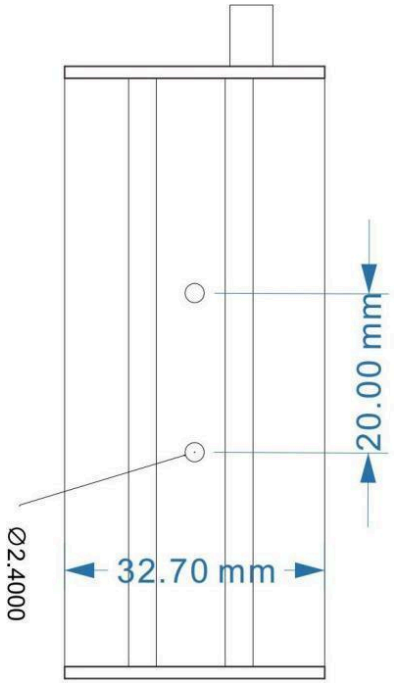
Front

The measurements of the VT-LTE500 and its components as seen from the front view:



Side view

Measurements of the VT-LTE500 and its components as seen from the side view:

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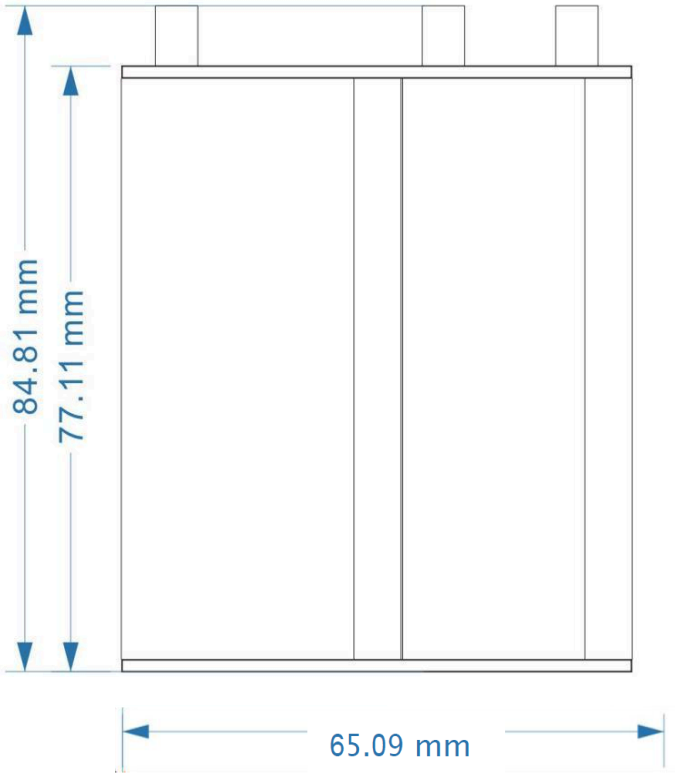

Installation Space Requirement

The following figure shows an approximation of the device size when connecting the cable and antenna:

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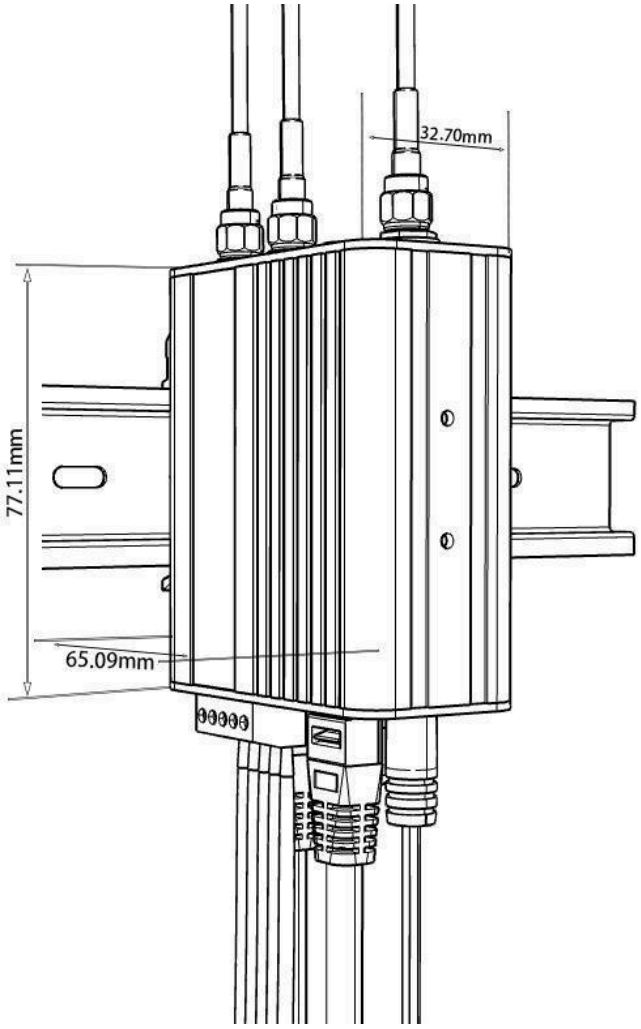

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