# RUTC42

## DUAL MODEM EDGE ROUTER




Energy & utilities

Enterprise

Industrial & automation

Retail

Smart city

### ULTIMATE RESILIENCE

Ensure uptime over LTE Cat 4 with dual modem, failover, load balancing

### EDGE-READY

Enhance processing with powerful CPU, expanded memory, and Docker support

### COST EFFICIENCY

Cut operating costs with fewer maintenance interventions

### WI-FI 6

Deliver superior performance with dual-band multi-user MIMO

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| Mobile | |
|---|---|
| Mobile module | 2x 4G LTE Cat 4 up to 150 DL/50 UL Mbps; 3G up to 21 DL/ 5.76 UL Mbps; 2G up to 236.8 DL/236.8 UL kbps |
| eSIM | Consumer type 2x eSIM, profile download and removal operations, up to 7 eSIM profiles; does not include data plans |
| 3GPP Release | Release 9 |
| SIM switch | Allows dual-modem functionality with independent SIM switching for each modem. The SIM switch automatically transitions between the physical SIM and eSIM based on conditions such as weak signal, data limits, roaming, and network issues. Both physical SIMs can operate simultaneously, with switching restricted to each modem's SIM and eSIM |
| Status | IMSI, ICCID, operator, operator state, data connection state, network type, CA indicator, bandwidth, connected band, signal strength (RSSI), SINR, RSRP, RSRQ, EC/IO, RSCP, data sent/received, LAC, TAC, cell ID, ARFCN, UARFCN, EARFCN, MCC, and MNC |
| SMS | SMS status, SMS configuration, EMAIL to SMS, SMS to EMAIL, SMS to HTTP, SMS to SMS, scheduled SMS, SMS autoreply, SMPP |
| USSD | Supports sending and reading Unstructured Supplementary Service Data messages |
| Block/Allow list | Operator block/allow list (by country or separate operators) |
| Band management | Band lock, Used band status display |
| SIM PIN code management | SIM PIN code management enables setting, changing, or disabling the SIM card's PIN |
| APN | Auto APN |
| Bridge | Direct connection (bridge) between mobile ISP and device on LAN |
| Passthrough | Router assigns its mobile WAN IP address to another device on LAN |

| Site Manager | |
|---|---|
| Supported modes | Manager |
| Functionalities | Centralized management of TAP access points and Teltonika's managed switches — including device pairing and grouping, FOTA updates, device status monitoring, automatic reboot scheduling with ping/wget health checks, wireless SSID configuration, and VLAN assignment across the site. |

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| Wireless | |
|---|---|
| Wireless mode | 802.11b/g/n/ac/ax (Wi-Fi 6) with data transmission rates up to 2402 Mbps on 5 GHz, 576 Mbps on 2.4 GHz (Dual Band, MU-MIMO) |
| WiFi security | WPA2-Enterprise - PEAP, WPA2-PSK, WPA-EAP, WPA-PSK, WPA3-SAE, WPA3-EAP, OWE; AES-CCMP, TKIP, Auto-cipher modes, client separation, EAP-TLS with PKCS#12 certificates, disable auto-reconnect, 802.11w Protected Management Frames (PMF) |
| SSID/ESSID | SSID stealth mode and access control based on MAC address |
| Wi-Fi users | Up to 500 simultaneous connections |
| Wireless Connectivity Features | Wireless mesh (802.11s), fast roaming (802.11r), Relayd, BSS transition management (802.11v), radio resource measurement (802.11k) |
| Wireless MAC filter | Allowlist, blocklist |
| Wireless QR code generator | Once scanned, a user will automatically enter your network without needing to input login information |
| TravelMate | Forward Wi-Fi hotspot landing page to a subsequent connected device |

| Ethernet | |
|---|---|
| WAN | 1 x WAN port 10/100/1000 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossover |
| LAN | 4 x LAN ports, 10/100/1000 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossover |

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| Network | |
|---|---|
| Routing | Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2, EIGRP, NHRP), Policy based routing |
| Network protocols | TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, SFTP, FTP, SMTP, SSL/TLS, ARP, VRRP, PPP, PPPoE, UPNP, SSH, DHCP, Telnet, SMPP, SNMP, MQTT, Wake On Lan (WOL), VXLAN |
| VoIP passthrough support | H.323 and SIP-alg protocol NAT helpers, allowing proper routing of VoIP packets |
| Connection monitoring | Ping Reboot, Wget Reboot, Periodic Reboot, LCP and ICMP for link inspection |
| Firewall | Port forward, traffic rules, custom rules, TTL target customisation |
| Firewall status page | View all your Firewall statistics, rules, and rule counters |
| Port management | View device ports, enable and disable each of them, turn auto-configuration on or off, change their transmission speed, and so on |
| Network topology | Visual representation of your network, showing which devices are connected to which other devices |
| DHCP | Static and dynamic IP allocation, DHCP relay, DHCP server configuration, status, static leases: MAC with wildcards |
| QoS / Smart Queue Management (SQM) | Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e |
| DDNS | Supported >77 service providers, others can be configured manually |
| DNS over HTTPS | DNS over HTTPS proxy enables secure DNS resolution by routing DNS queries over HTTPS |
| Network backup | Wi-Fi WAN, Mobile, VRRP, Wired options, each of which can be used as an automatic Failover |
| Load balancing | Balance Internet traffic over multiple WAN connections |
| Hotspot | Captive portal (hotspot), internal/external Radius server, Radius MAC authentication, SMS authorisation, SSO authentication, internal/external landing page, walled garden, user scripts, URL parameters, user groups, individual user or group limitations, user management, 9 default customisable themes and optionality to upload and download customised hotspot themes |
| Hotspot 2.0 | Hotspot 2.0 is a Wi-Fi standard that enables seamless, secure, and automatic connection to trusted wireless networks |
| SSHFS | Possibility to mount remote file system via SSH protocol |
| VRF support | Initial virtual routing and forwarding (VRF) support |
| IGMP Proxy | Possibility to relay multicast membership messages between hosts and a router, enabling multicast traffic to flow across different network segments |
| Traffic Management | Real-time monitoring, wireless signal charts, traffic usage history |
| Port Mirroring | Mirroring network traffic on Ethernet ports for monitoring and analysis |

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| Security | |
|---|---|
| 802.1x | Port-based network access control client |
| Authentication | Pre-shared key, digital certificates, X.509 certificates, TACACS+, Internal & External RADIUS users authentication, IP & login attempts block, time-based login blocking, built-in random password generator |
| Firewall | Preconfigured firewall rules can be enabled via WebUI, unlimited firewall configuration via CLI, DMZ, NAT, NAT-T, NAT64 |
| Attack prevention | DDOS prevention (SYN flood protection, SSH attack prevention, HTTP/HTTPS attack prevention), port scan prevention (SYN-FIN, SYN-RST, X-mas, NULL flags, FIN scan attacks) |
| VLAN | Port and tag-based VLAN separation |
| Mobile quota control | Mobile data limit, customizable period, start time, warning limit, phone number |
| WEB filter | Block list for blocking out unwanted websites, allow list for specifying allowed sites only |
| Access control | Flexible access control of SSH, Web interface, CLI and Telnet |
| Certificate Manager | Certificate creation tool allows to create CA, server, client, let's encrypt, SCEP certificates |

| VPN | |
|---|---|
| OpenVPN | Multiple clients and a server can run simultaneously, 27 encryption methods |
| OpenVPN Encryption | DES-CBC 64, RC2-CBC 128, DES-EDE-CBC 128, DES-EDE3-CBC 192, DESX-CBC 192, BF-CBC 128, RC2-40-CBC 40, CAST5-CBC 128, RC2-64-CBC 64, AES-128-CBC 128, AES-128-CFB 128, AES-128-CFB1 128, AES-128-CFB8 128, AES-128-OFB 128, AES-128-GCM 128, AES-192-CFB 192, AES-192-CFB1 192, AES-192-CFB8 192, AES-192-OFB 192, AES-192-CBC 192, AES-192-GCM 192, AES-256-GCM 256, AES-256-CFB 256, AES-256-CFB1 256, AES-256-CFB8 256, AES-256-OFB 256, AES-256-CBC 256 |
| IPsec | XFRM, IKEv1, IKEv2, with 14 encryption methods for IPsec (3DES, DES, AES128, AES192, AES256, AES128GCM8, AES192GCM8, AES256GCM8, AES128GCM12, AES192GCM12, AES256GCM12, AES128GCM16, AES192GCM16, AES256GCM16) |
| GRE | GRE tunnel, GRE tunnel over IPsec support |
| PPTP, L2TP | Client/Server instances can run simultaneously, L2TPv3, L2TP over IPsec support |
| Stunnel | Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the program’s code |
| DMVPN | Method of building scalable IPsec VPNs, Phase 2 and Phase 3 and Dual Hub support |
| SSTP | SSTP client instance support |
| ZeroTier | ZeroTier VPN client support |
| WireGuard | WireGuard VPN client and server support |
| Tinc | Tinc offers encryption, authentication and compression in it's tunnels. Client and server support. |
| Tailscale | Tailscale offers speed, stability, and simplicity over traditional VPNs. Encrypted point-to-point connections using the open source WireGuard protocol |

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| BacNET | |
|---|---|
| Supported modes | Router |
| Supported connection types | IP, RTU (USB) |
| Configuration options | Support for multiple BACnet/IP interfaces, Network number assignment, Preconfigured BDT entries for BBMD (BACnet Broadcast Management Device) |

| OPC UA | |
|---|---|
| Supported modes | Client, Server |
| Supported connection types | TCP |

| MQTT Gateway | |
|---|---|
| Modbus MQTT Gateway | Allows sending commands and receiving data from MODBUS Server through MQTT broker |

| MODBUS | |
|---|---|
| Supported modes | Server, Client |
| Supported connection types | TCP |
| Custom registers | MODBUS TCP custom register block requests, which read/write to a file inside the router, and can be used to extend MODBUS TCP Client functionality |
| Supported data formats | 8-bit: INT, UINT; 16-bit: INT, UINT (MSB or LSB first); 32-bit: float, INT, UINT (ABCD (big-endian), DCBA (little-endian), CDAB, BADC), HEX, ASCII |

| Data to Server | |
|---|---|
| Protocol | HTTP(S), MQTT, Azure MQTT |
| Data to server | Extract parameters from multiple sources and different protocols, and send them all to a single server; Custom LUA scripting, allowing scripts to utilize the router's Data to server feature |

| DNP3 | |
|---|---|
| Supported modes | DNP3 Station, DNP3 Outstation |
| Supported connection | TCP, USB |

| DLMS/COSEM | |
|---|---|
| DLMS Support | DLMS - standard protocol for utility meter data exchange |
| Supported modes | Client |
| Supported connection types | TCP |

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| API | |
|---|---|
| Teltonika Networks Web API (beta) support | Expand your device's possibilities by using a set of configurable API endpoints to retrieve or change data. For more information, please refer to this documentation: https://developers.teltonika-networks.com |

| Monitoring & Management | |
|---|---|
| WEB UI | HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, multiple event log servers, firmware update availability notifications, event log, system log, kernel log, Internet status |
| FOTA | Firmware update from server, automatic notification |
| SSH | SSH (v1, v2) |
| SMS | SMS status, SMS configuration |
| Call | Reboot, Status, Mobile data on/off, Output on/off, answer/hang-up with a timer, Wi-Fi on/off |
| Email | Receive email message status alerts of various services |
| TR-069 | OpenACS, EasyCwmp, ACSLite, tGem, LibreACS, GenieACS, FreeACS, LibCWMP, Friendly tech, AVSystem |
| MQTT | MQTT Broker, MQTT publisher |
| SNMP | SNMP (v1, v2, v3), SNMP Trap, Brute force protection |
| JSON-RPC | Management API over HTTP/HTTPS |
| RMS | Teltonika Remote Management System (RMS) |

| IoT Platforms | |
|---|---|
| ThingWorx | Allows monitoring of: WAN Type, WAN IP, Mobile Operator Name, Mobile Signal Strength, Mobile Network Type |
| Cumulocity - Cloud of Things | Allows monitoring of: Device Model, Revision and Serial Number, WAN Type and IP, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength. Has reboot and firmware upgrade actions |
| Azure IoT Hub | Can be configured with Data to Server to send all the available parameters to the cloud. Has Direct method support which allows to execute RutOS API calls on the IoT Hub. Also has Plug and Play integration with Device Provisioning Service that allows zero-touch device provisioning to IoT Hubs |
| AWS IoT Core | Utility to interact with the AWS cloud platform. Jobs Support: Call the device's API using AWS Jobs functionality |

| DOCKER | |
|---|---|
| Docker Support | Supports running isolated applications and services using Docker containers, enabling custom software environments and microservices deployment directly on the device |

| System Characteristics | |
|---|---|
| CPU | Mediatek, Dual Core, 1.3 GHz |
| RAM | 1GB, DDR4 |
| FLASH storage | 16MB serial NOR flash, 8GB eMMC |

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**Firmware/Configuration**

| | |
|---|---|
| WEB UI | Update FW from file, check FW on server, configuration profiles, configuration backup |
| FOTA | Update FW |
| RMS | Update FW/configuration for multiple devices at once |
| Keep settings | Update FW without losing current configuration |
| Factory settings reset | A full factory reset restores all system settings, including the IP address, PIN, and user data to the default manufacturer's configuration |

**FIRMWARE CUSTOMISATION**

| | |
|---|---|
| Operating system | RutOS (OpenWrt based Linux OS) |
| Supported languages | Busybox shell, Lua, C, C++ |
| Development tools | SDK package with build environment provided |
| GPL customization | You can create your own custom, branded firmware and web page application by changing colours, logos, and other elements in our firmware to fit your or your clients' needs |
| Package Manager | The Package Manager is a service used to install additional software on the device |

**USB**

| | |
|---|---|
| Data rate | USB 2.0 |
| Applications | Samba share, USB-to-serial |
| External devices | Possibility to connect external HDD, flash drive, additional modem, printer, USB-serial adapter |
| Storage formats | FAT, FAT32, exFAT, NTFS (read-only), ext2, ext3, ext4 |

**Input/Output**

| | |
|---|---|
| Input | 1 x Digital Input, 0 - 6 V detected as logic low, 8 - 50 V detected as logic high |
| Output | 1 x Digital Output, Open collector output, max output 50 V, 300 mA |
| Events | Email, RMS, SMS |
| I/O juggler | Allows to set certain I/O conditions to initiate event |

**Power**

| | |
|---|---|
| Connector | 4-pin industrial DC power socket |
| Input voltage range | 9 – 50 VDC, reverse polarity protection, surge protection >51 VDC 10us max |
| PoE (passive) | Possibility to power up through LAN1 port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode B, 9 - 50 VDC |
| Power consumption | Idle: < 6 W, Max: < 24 W |

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| Physical Interfaces | |
|---|---|
| Ethernet | 5 x RJ45 ports, 10/100/1000 Mbps |
| I/O's | 1 x Digital Input, 1 x Digital Output on 4-pin power connector |
| Status LEDs | 4 x WAN type, 6 x Mobile connection type, 6 x Mobile connection strength, 10 x ETH status, 1 x Power, 2 x 2.4G and 5G Wi-Fi |
| SIM | 2 x SIM slots (Mini SIM - 2FF), 1.8 V/3 V, external SIM holders |
| Power | 1 x 4-pin power connector |
| Antennas | 4 x SMA for Mobile, 3 x RP-SMA for Wi-Fi |
| USB | 1 x USB A port for external devices |
| Reset | Reboot/User default reset/Factory reset button |
| Other | 1 x Grounding screw |

| Physical Specification | |
|---|---|
| Casing material | Anodised aluminium housing and panels |
| Dimensions (W x H x D) | 130.4 x 42.6 x 103.4 mm |
| Weight | 452 g |
| Mounting options | DIN rail, wall mount, flat surface (all require additional kit) |

| Operating Environment | |
|---|---|
| Operating temperature | -40 °C to 75 °C |
| Operating humidity | 10% to 90% non-condensing |
| Ingress Protection Rating | IP30 |

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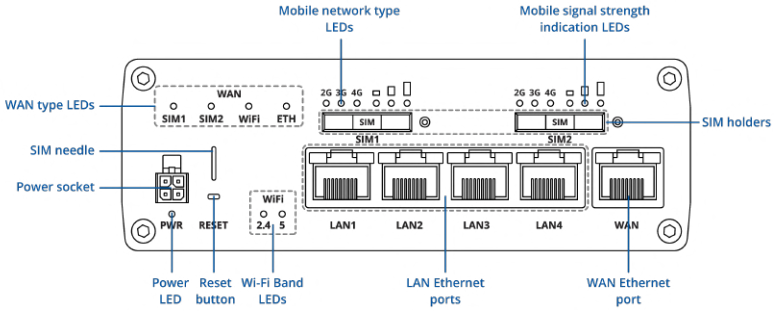
## Certification

| | |
|---|---|
| EMEA | RUTC42 CE<br>RUTC42 UKCA<br>RUTC42 RoHS<br>RUTC42 REACH |
| MISCELLANEOUS | RUTC42 CB Scheme |
| SAFETY & ENVIROINMENTAL | RUTC42 WEEE |

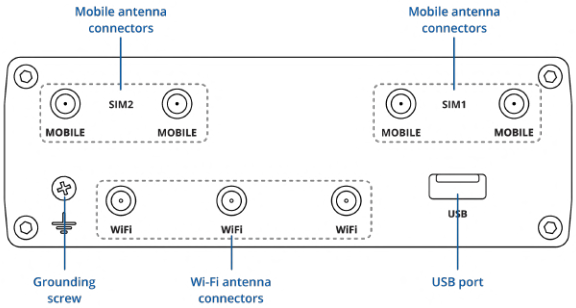
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# Hardware

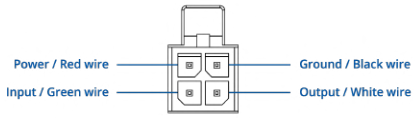
## FRONT VIEW




## BACK VIEW




## POWER SOCKET PINOUT




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## Ordering

**Standard package***




RUTC42



18W PSU



4 X MOBILE SMA ANTENNAS



3 X WI-FI DUAL-BAND SMA ANTENAS



ETHERNET CABLE 1.5 M



SIM ADAPTER KIT



QUICK START GUIDE

*Standard package contents may differ based on standard order codes.

For more information on all available packaging options – please contact us directly.

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## Classification codes

**HS Code:** 851762
**HTS:** 8517.62.00

For more information on all available packaging options – please contact us directly.

## Available versions

| Hardware version | Supported frequencies | Standard order code / Package Contains |
|---|---|---|
| RUTC42 **0*****<br>EMEA[1], Thailand, Australia, New Zealand | **4G (LTE-FDD):** B1, B3, B5, B7, B8, B20, B28<br>**4G (LTE-TDD):** B38, B40, B41<br>**3G:** B1, B8<br>**2G:** B3, B8 | RUTC42000000 / Standard package with EU PSU<br>RUTC42000200 / Standard package with UK PSU<br>RUTC42000400 / Standard package with AU PSU<br>RUTC42000300 / Mass packing code |

1 - Regional availability - excluding Russia, Belarus & Iran
For more information on all available packaging options – please contact us directly.

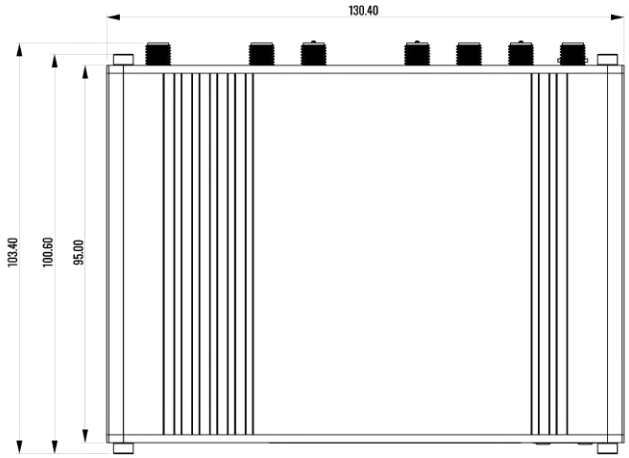
## RUTC42 spatial measurements

| Available versions | |
|---|---|
| Device housing (W x H x D) | 130.4 x 42.6 x 104 mm |
| Box (W x H x D): | 355 x 60 x 175 mm |

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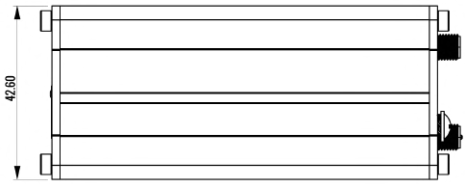
### TOP VIEW

The figure below depicts the measurements of device and its components as seen from the top:



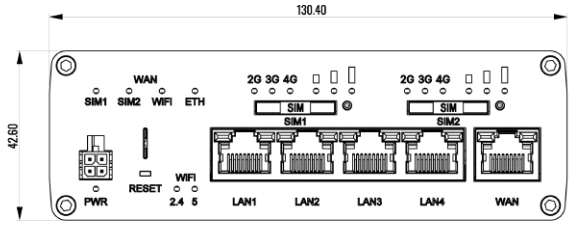

### RIGHT VIEW

The figure below depicts the measurements of device and its components as seen from the right:



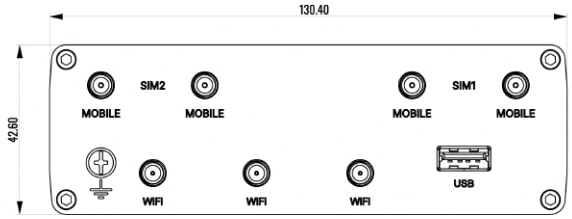

### FRONT VIEW

The figure below depicts the measurements of device and its components as seen from the front panel side:




### REAR VIEW

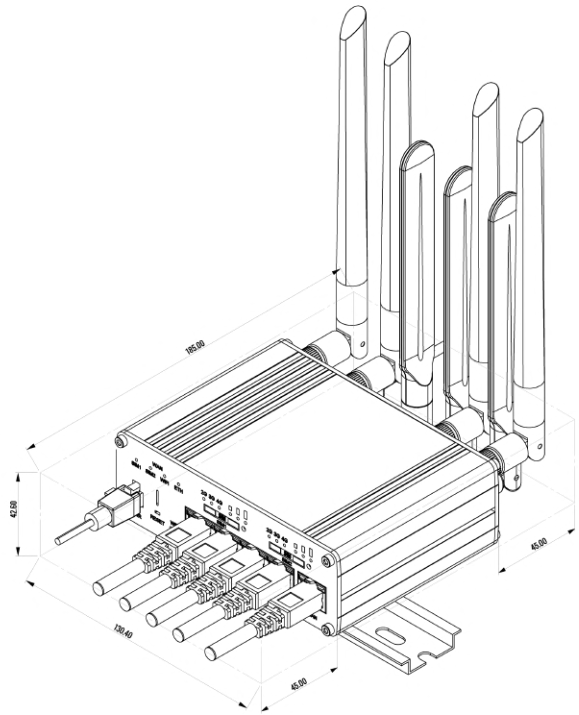
The figure below depicts the measurements of device and its components as seen from the back panel side:




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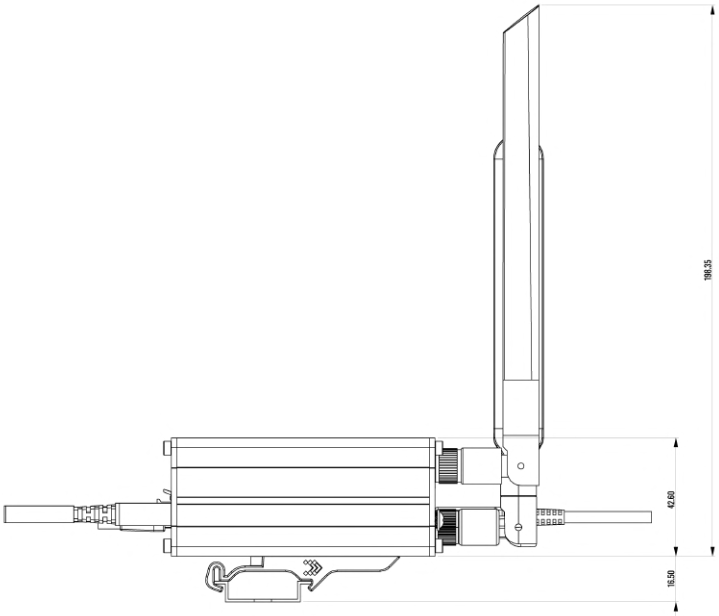
## MOUNTING SPACE REQUIREMENTS

The figure below depicts an approximation of the device's dimensions when cables and antennas are attached:



## DIN RAIL

The scheme below depicts protrusion measurements of an attached DIN Rail:




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