

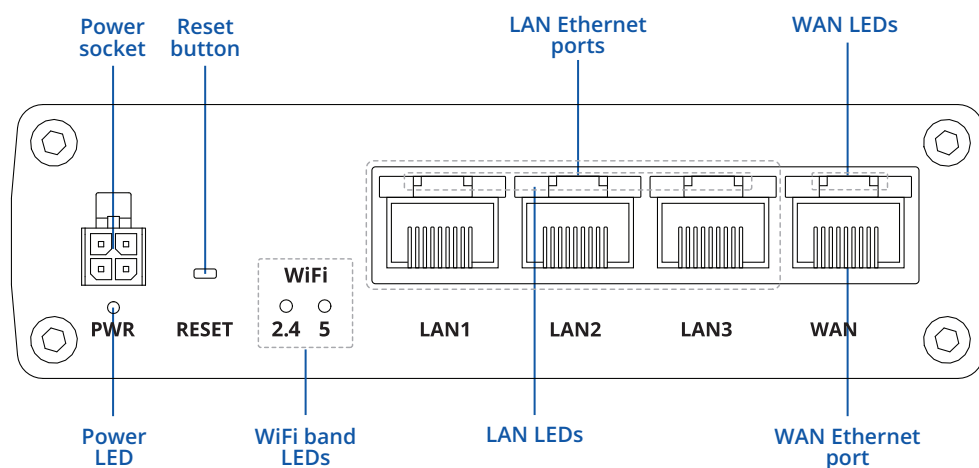


RUTX10

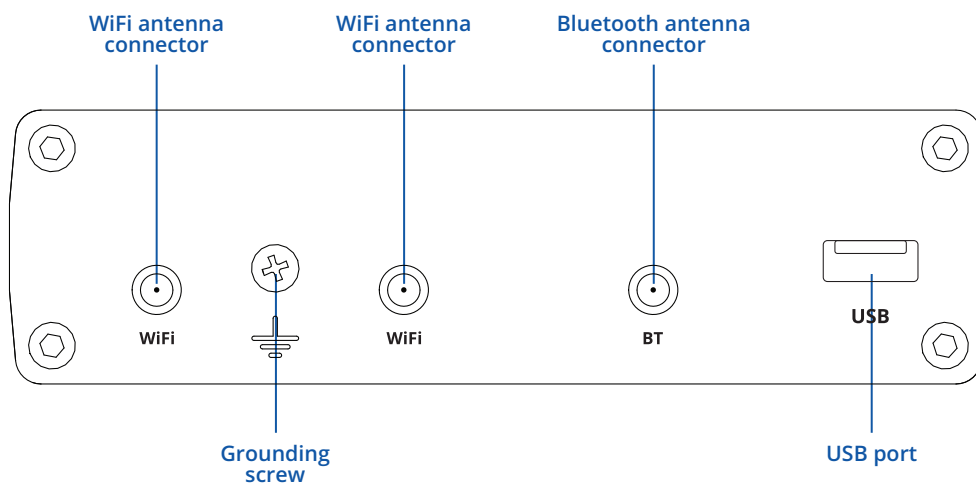


HARDWARE

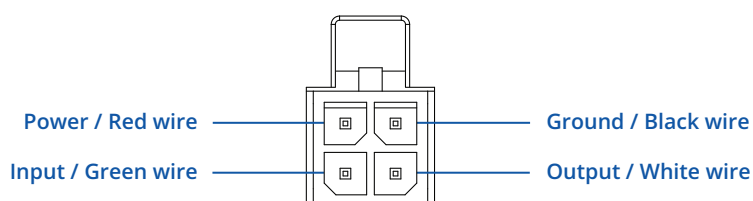
FRONT VIEW



BACK VIEW



POWER SOCKET PINOUT



FEATURES

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	3 x LAN ports, 10/100/1000 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossover

WIRELESS

Wireless mode	802.11b/g/n/ac Wave 2 (WiFi 5) with data transmission rates up to 867 Mbps (Dual Band, MU-MIMO), 802.11r fast transition, Access Point (AP), Station (STA)
Wi-Fi security	WPA2-Enterprise - PEAP, WPA2-PSK, WEP, WPA-EAP, WPA-PSK; AES-CCMP, TKIP, Auto Cipher modes, client separation
SSID/ESSID	ESSID stealth mode
Wi-Fi users	up to 150 simultaneous connections
Wireless Connectivity Features	Wireless mesh (802.11s), fast roaming (802.11r), Relayd
Wireless MAC filter	Whitelist, blacklist
Wireless QR code generator	Once scanned, a user will automatically enter your network without needing to input login information

NETWORK

Hotspot	Captive portal (Hotspot), internal/external Radius server, SMS authorization, internal/external landing page, walled garden, user scripts, URL parameters, user groups, individual user or group limitations, user management, 9 default customizable themes and option to upload and download customised hotspot themes
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)
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
Firewall status page	View all your Firewall statistics, rules, and rule counters
Ports 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
Hotspot	Captive portal (Hotspot), internal/external Radius server, SMS authorization, internal/external landing page, walled garden, user scripts, URL parameters, user groups, individual user or group limitations, user management, 9 default customizable themes and option to upload and download customised hotspot themes
DHCP	Static and dynamic IP allocation, DHCP Relay
QoS / Smart Queue Management (SQM)	Traffic priority queuing by source/destination, service, protocol or port, WMM, 802.11e
DDNS	Supported >25 service providers, others can be configured manually
Network backup	Wi-Fi WAN, VRRP, Wired options, each of which can be used as an automatic Failover
Load balancing	Balance Internet traffic over multiple WAN connections
SSHFS	Possibility to mount remote file system via SSH protocol

BLUETOOTH

Bluetooth 4.0	Bluetooth low energy (LE) for short range communication
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SECURITY

Authentication	Pre-shared key, digital certificates, X.509 certificates, TACACS+, Radius, IP & Login attempts block
Firewall	Pre-configured firewall rules can be enabled via WebUI, unlimited firewall configuration via CLI; DMZ; NAT; NAT-T
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
WEB filter	Blacklist for blocking out unwanted websites, Whitelist for specifying allowed sites only
Access control	Flexible access control of TCP, UDP, ICMP packets, MAC address filter

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	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
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

MODBUS TCP SLAVE

ID range	Respond to one ID in range [1;255] or any
Allow Remote Access	Allow access through WAN
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 Slave functionality

MODBUS TCP MASTER

Supported functions	01, 02, 03, 04, 05, 06, 15, 16
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, BADCB)

DATA TO SERVER

Protocol	HTTP(S), MQTT, Azure MQTT, Kinesis
Data to server	Extract parameters from multiple sources and different protocols, and send them all to a single server

MQTT GATEWAY

MQTT Gateway	Allows sending commands and receiving data from MODBUS Master through MQTT broker
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DNP3

Supported modes	TCP Master, DNP3 Outstation
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DLMS

DLMS Support	DLMS - standard protocol for utility meter data exchange
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MONITORING & MANAGEMENT

WEB UI	HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel log
FOTA	Firmware update from server, automatic notification
SSH	SSH (v1, v2)
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
JSON-RPC	Management API over HTTP/HTTPS
MODBUS	MODBUS TCP status/control
RMS	Teltonika Remote Management System (RMS)

IOT PLATFORMS

Cloud of Things	Allows monitoring of: Device data, Mobile data, Network info, Availability
ThingWorx	Allows monitoring of: WAN Type, WAN IP
Cumulocity	Allows monitoring of: Device Model, Revision and Serial Number, WAN Type and IP
Azure IoT Hub	Can send device IP, Number of bytes send/received, Temperature, PIN count to Azure IoT Hub server

SYSTEM CHARACTERISTICS

CPU	Quad-core ARM Cortex A7, 717 MHz
RAM	256 MB, DDR3
FLASH storage	256 MB, SPI Flash

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

FIRMWARE CUSTOMISATION

Operating system	RutOS (OpenWrt based Linux OS)
Supported languages	Busybox shell, Lua, C, C++, and Python, Java in Package manager
Development tools	SDK package with build environment provided
GPL customization	You can now create your own custom firmware and web page application, with some examples to make the creation process easier; and brand our firmware by changing colours, logos, and so on to fit your or your clients' needs

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 - 30 V detected as logic high
Output	1 x Digital Output, Open collector output, max output 30 V, 300 mA
Events	Email, RMS
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, voltage surge/transient protection
PoE (passive)	Possibility to power up through LAN1 port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode B, 9 - 30 VDC
Power consumption	9 W Max

PHYSICAL INTERFACES

Ethernet	4 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	8 x LAN status LEDs, 1 x Power LED, 2 x 2.4G and 5G Wi-Fi LEDs
Power	1 x 4-pin power connector
Antennas	2 x RP-SMA for Wi-Fi, 1 x RP-SMA for Bluetooth
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	Aluminum housing
Dimensions (W x H x D)	115 x 32.2 x 95.2 mm
Weight	355 g
Mounting options	DIN rail, flat surface placement

OPERATING ENVIRONMENT

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

REGULATORY & TYPE APPROVALS

Regulatory	CE/RED, UKCA, CB, EAC, UCRF, RoHS, REACH, CITC, ICASA, ANRT, RCM, NBTC, GITEKI, NTC, FCC, IC, NOM
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WHAT'S IN THE BOX?

STANDARD PACKAGE CONTAINS*

- Router RUTX10
- 18 W PSU
- 2x Wi-Fi antennas (swivel, RP-SMA male)
- 1x Bluetooth antenna (magnetic mount, RP-SMA male, 1.5 m cable)
- Ethernet cable (1.5 m)
- QSG (Quick Start Guide)
- Packaging box



ROUTER RUTX10



18 W PSU



2 X WIFI ANTENNAS (SWIVEL,
RP-SMA MALE)



1 X BLUETOOTH ANTENNA (MAGNETIC
MOUNT, RP-SMA MALE, 1.5 M CABLE)



ETHERNET CABLE (1.5 M)



QSG

* For all standard order codes standard package contents are the same, except for PSU.

STANDARD ORDER CODES

PRODUCT CODE	HS CODE	HTS CODE	PACKAGE CONTAINS
RUTX10 000000	851762	8517.62.00	Standard package with EU PSU
RUTX10 000200	851762	8517.62.00	Standard package with US PSU
RUTX10 000300	851762	8517.62.00	Standard package with UK PSU
RUTX10 000400	851762	8517.62.00	Standard package with AU PSU

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

RUTX10 SPATIAL MEASUREMENTS & WEIGHT

MAIN MEASUREMENTS

W x H x D dimensions for RUTX10:

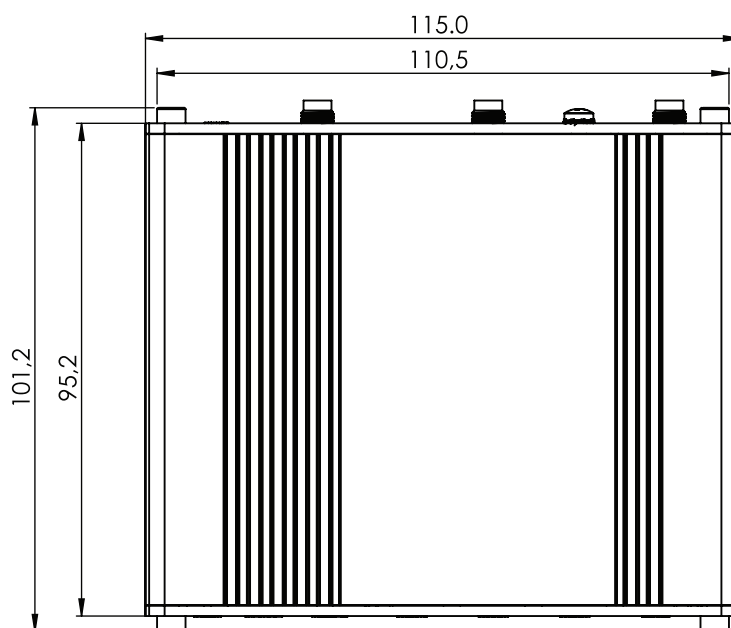
Device housing*: 115 x 32.2 x 95.2 mm

Box: 173 x 71 x 148 mm

*Housing measurements are presented without antenna connectors and screws; for measurements of other device elements look to the sections below.

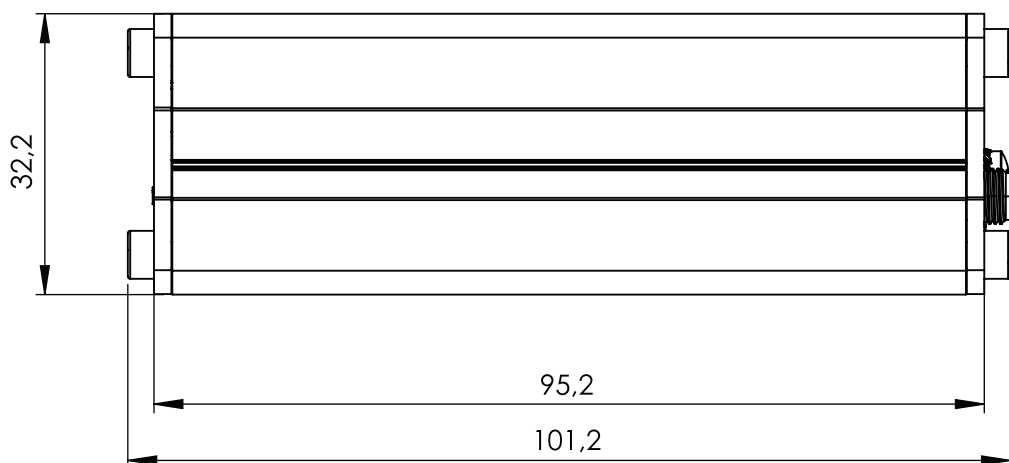
TOP VIEW

The figure below depicts the measurements of RUTX10 and its components as seen from the top:



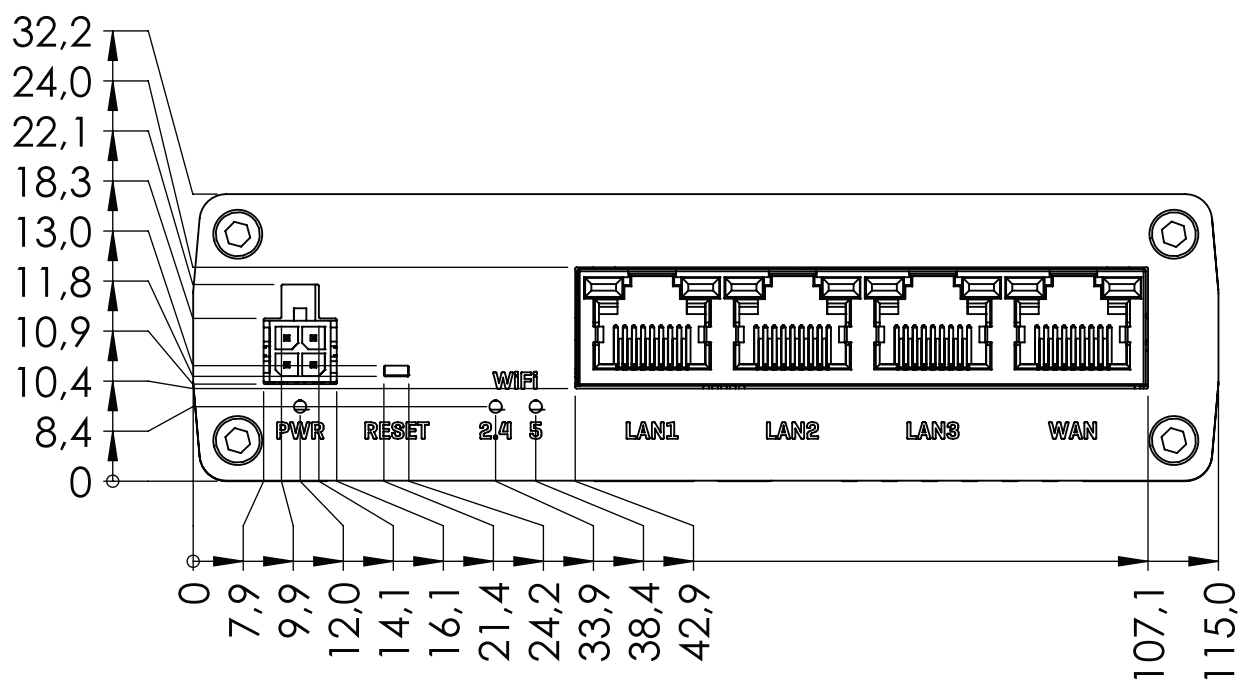
RIGHT VIEW

The figure below depicts the measurements of RUTX10 and its components as seen from the right side:



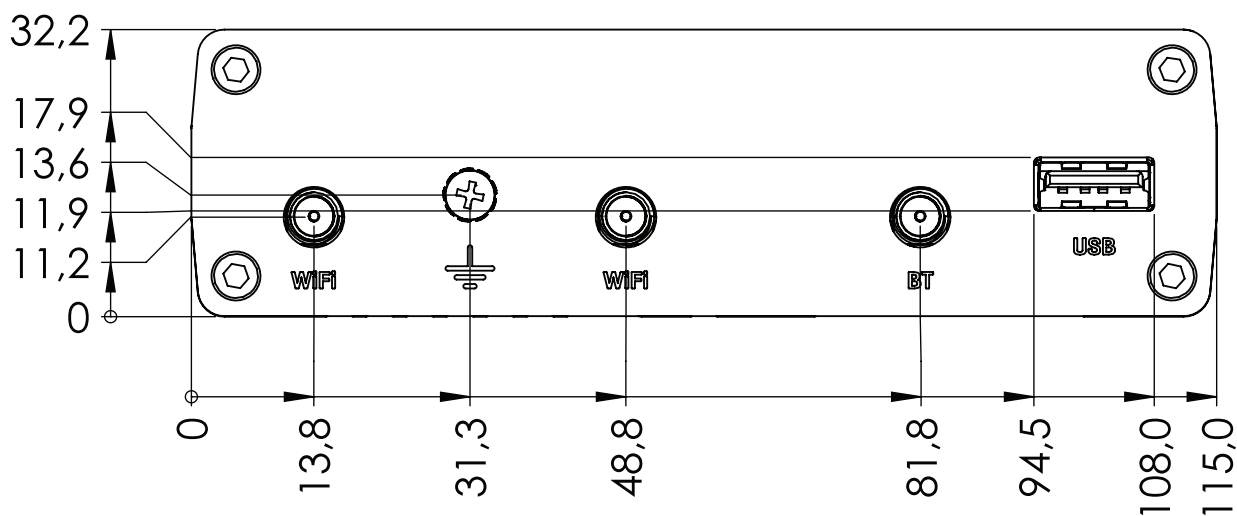
FRONT VIEW

The figure below depicts the measurements of RUTX10 and its components as seen from the front panel side:



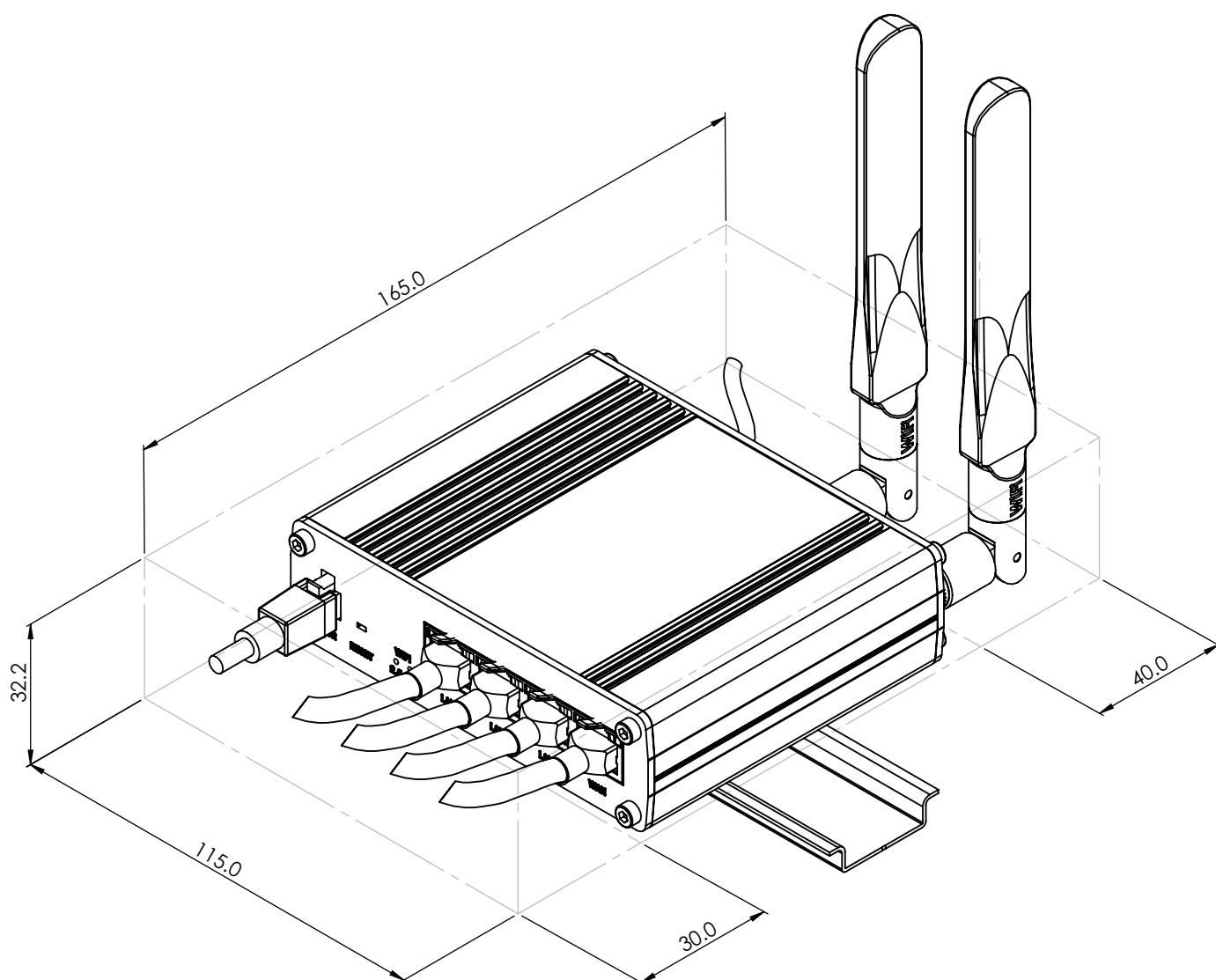
REAR VIEW

The figure below depicts the measurements of RUTX10 and its components as seen from the back panel side:



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:

