

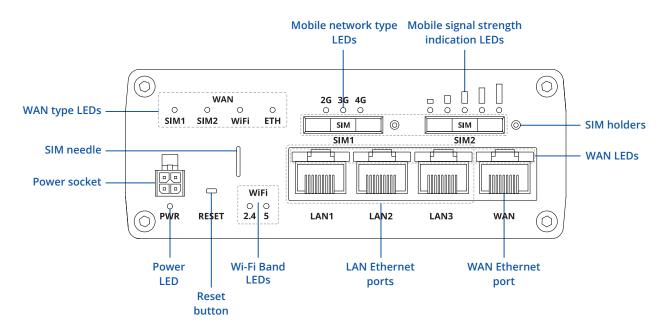
# RUTM11



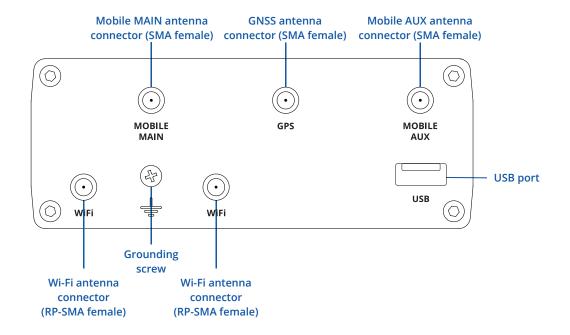


# **HARDWARE**

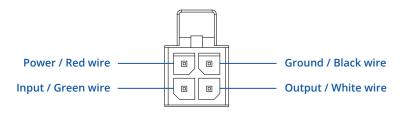
# **FRONT VIEW**



# **BACK VIEW**



# **POWER SOCKET PINOUT**





# **FEATURES**

# MOBILE

Mobile module	4G (LTE) – Cat 6 up to 300 Mbps, 3G – Up to 42 Mbps			
SIM switch	2 SIM cards, auto-switch cases: weak signal, data limit, SMS limit, roaming, no network, network denied, data connection fail, SIM idle protection			
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 MN			
SMS	SMS status, SMS configuration, send/read SMS via HTTP POST/GET, 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			
Black/White list	Operator black/white list (by country or separate operators)			
Multiple PDN	Possibility to use different PDNs for multiple network access and services			
Band management	Band lock, Used band status display			
SIM idle protection service	When working with devices with two SIM slots, the one not currently in use will remain idle until the device switches to it, meaning that no data is used on the card until then			
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			
WIRELESS				
Wireless mode	802.11b/g/n/ac Wave 2 (Wi-Fi 5) with data transmission rates up to 867 Mbps (Dual Band, MU-MIMO)			
Wi-Fi 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			
SSID/ESSID	ESSID stealth mode			
Wi-Fi users	Up to 150 simultaneous connections			
Wireless Connectivity Features	Wireless mesh (802.11s), fast roaming (802.11r), BSS transition management (802.11v), radio resource measurement (802.11k)			
Wireless MAC filter	Whitelist, blacklist			
Wireless QR code generator	Once scanned, a user will automatically enter your network without needing to input login information			
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 crossove			
LAN	3 x LAN ports, 10/100/1000 Mbps, compliance with IEEE 802.3, IEEE 802.3u, 802.3az standards, supports auto MDI/MDIX crossove			
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)			
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 o			
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 >25 service providers, others can be configured manually			
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, 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			
SSHFS	Possibility to mount remote file system via SSH protocol			
VRF support	Initial virtual routing and forwarding (VRF) support			



# **SECURITY**

Authentication	Pre-shared key, digital certificates, X.509 certificates, TACACS+, Radius, IP & login attempts block, time-based login blocking, built-in random password generator			
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-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	Blacklist for blocking out unwanted websites, Whitelist for specifying allowed sites only			
Access control	Flexible access control of SSH, Web interface, CLI and Telnet			
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-CFB8 192, AES-192-CFB 192, AES-192-CFB 192, AES-192-CFB 192, AES-192-CFB8 256, AES-256-CFB 256, AES-2			
IPsec	IKEv1, IKEv2, with 14 encryption methods for IPsec (3DES, DES, AES128, AES192, AES256, AES128GCM8, AES192GCM8, AES256GCM8, AES128GCM12, AES192GCM12, AES256GCM12, AES256GCM16, 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			
Tailscale	Tailscale offers speed, stability, and simplicity over traditional VPNs. Encrypted point-to-point connections using the open source WireGuard protocol			
OPC UA				
Supported modes	Client, Server			
Supported connection types	TCP			
MODBUS				
Supported modes	Server, Client			
Supported connection types	TCP, USB			
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			
MQTT GATEWAY				
Modbus MQTT Gateway	Allows sending commands and receiving data from MODBUS Server through MQTT broker			
DNP3				
Supported modes	Station, Outstation			
Supported connection	TCP, USB			
DLMS				
DLMS Support	DLMS - standard protocol for utility meter data exchange			
Supported modes	Client			
Supported modes Supported connection types	TCP, USB			
API	· <del>- · ,</del>			
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**

MONITORING & MANAGEM	IENI			
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, send/read SMS via HTTP POST/GET			
Call	Reboot, Status, Mobile data on/off, Output on/off, answer/hang-up with a timer			
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			
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, Mobile Operator Name, Mobile Signal Strength, Mobile Network Type			
Cumulocity	Allows monitoring of: Device Model, Revision and Serial Number, WAN Type and IP, Mobile Cell ID, ICCID, IMEI, Connection Type, Operator, Signal Strength			
Azure IoT Hub	Can send device IP, Number of bytes send/received, Temperature, PIN count to Azure IoT Hub server, Mobile connection stat Network link state, IMEI, ICCID, Model, Manufacturer, Serial, Revision, IMSI, SIM State, PIN state, GSM signal, WCDMA RSCP, WCDMA EC/IO, LTE RSRP, LTE SINR, LTE RSRQ, CELL ID, Operator, Operator number, Connection type			
SYSTEM CHARACTERISTICS				
CPU	MediaTek, Dual-core, 880 MHz, MIPS1004KC			
RAM	256 MB, DDR3			
FLASH storage	16MB serial NOR flash, 256MB serial NAND flash			
FIRMWARE / CONFIGURATI	ON			
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 CUSTOMISATIO	N			
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			
LOCATION TRACKING				
GNSS	GPS, GLONASS, BeiDou, Galileo and QZSS			
Coordinates	GNSS coordinates via WebUl, SMS, TAVL, RMS			
NMEA	NMEA 0183			
NTRIP	NTRIP protocol (Networked Transport of RTCM via Internet Protocol)			
Server software	Supported server software TAVL, RMS			
Geofencing	Configurable multiple geofence zones			
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 INPUT / OUTPUT	FAT, FAT32, exFAT, NTFS (read-only), ext2, ext3, ext4			
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			
" o Jaggiei	Amons to set certain no conditions to middle event			

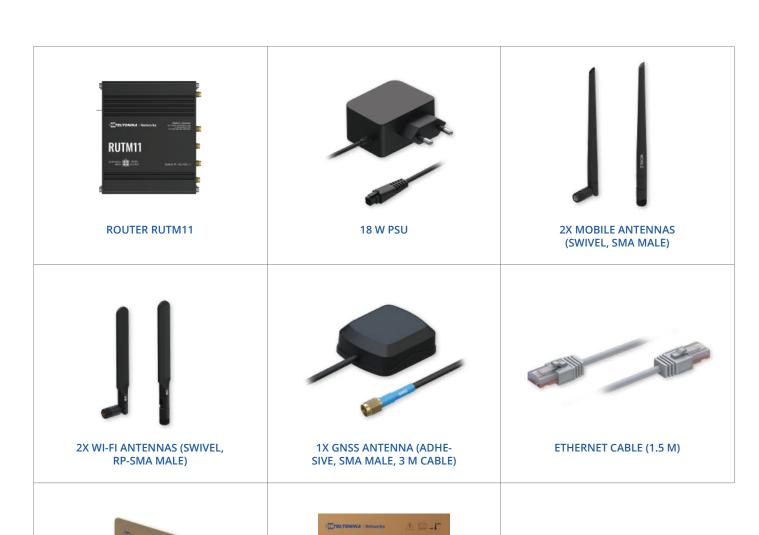


POWER				
Connector	4-pin industrial DC power socket			
Input voltage range	9 – 50 VDC, reverse polarity protection, surge protection >51 VDC 10us max			
PoE (passive)	Possibility to power up through LAN1 port, not compatible with IEEE802.3af, 802.3at and 802.3bt standards, Mode B, 9 - 50 VD			
Power consumption	Idle: < 3.9 W, Max: < 12.3 W			
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	4 x WAN type LEDs, 2 x Mobile connection type, 5 x Mobile connection strength, 8 x LAN status, 1 x Power, 2 x 2.4G and 5G Wi-F			
SIM	2 x SIM slots (Mini SIM - 2FF), 1.8 V/3 V, external SIM holders			
Power	1 x 4-pin power connector			
Antennas	2 x SMA for Mobile, 2 x RP-SMA for Wi-Fi, 1 x SMA for GNSS			
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	Anodized aluminum housing and panels			
Dimensions (W x H x D)	115 x 44.2 x 95.1 mm			
Weight	460 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			
REGULATORY & TYPE APPRO				
	WEE			
Regulatory				
EMC EMISSIONS & IMMUNIT				
Standards	EN 55032:2015 + A11:2021 EN 55035:2017 + A11:2020 EN IEC 61000-3-2:2019 + A1:2021 EN 61000-3-3:2013 + A1:2019 + A2:2021 EN 301 489-1 V2.2.3 EN 301 489-3 V2.1.1			
	EN 301 489-17 V3.2.4 EN 301 489-19 V2.2.1			
	EN 301 489-52 V1.2.1			
ESD	EN 61000-4-2:2009			
Radiated Immunity	EN IEC 61000-4-3:2020			
EFT	EN 61000-4-4:2012			
Surge Immunity (AC Mains Power Port)	EN 61000-4-5:2014 + A1:2017			
CS	EN 61000-4-6:2014			
DIP	EN 61000-4-11:2020			
RF				
Standards	EN 301 908-1 V15.2.1 EN 301 908-2 V13.1.1 EN 301 908-13 V13.2.1 EN 303 413 V1.2.1 EN 300 328 V2.2.2 EN 301 893 V2.1.1 EN 300 440 V2.2.1			
SAFETY				
Standards	CE: EN IEC 62368-1:2020 + A11:2020, EN IEC 62311:2020 RCM: AS/NZS 62368.1:2022 CB: IEC 62368-1:2018			



# **STANDARD PACKAGE\***

- Router RUTM11
- 18 W PSU
- 2x Mobile antennas (swivel, SMA male)
- 2x Wi-Fi antennas (swivel, RP-SMA male)
  1x GNSS antenna (adhesive, SMA male, 3 m cable)
- Ethernet cable (1.5 m)
- SIM Adapter kit
- QSG (Quick Start Guide)
- Packaging box



SIM ADAPTER KIT

QSG (QUICK START GUIDE)

<sup>\*</sup> Standard package contents may differ based on standard order codes.



# **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

RUTM11 0\*\*\*\* Europe<sup>1</sup>, the Middle East, Africa, Australia, Brazil

4G (LTE-FDD): B1, B3, B5, B7, B8, B20, B28, B32 4G (LTE-TDD): B38, B40, B41

**3G**: B1, B3, B5, B8

The price and lead-times for region (operator) specific versions may vary. For more information please contact us.

1 - Regional availability - excluding Russia & Belarus.

RUTM11000000 / Standard package with EU PSU



# **RUTM11 SPATIAL MEASUREMENTS**

### MAIN MEASUREMENTS

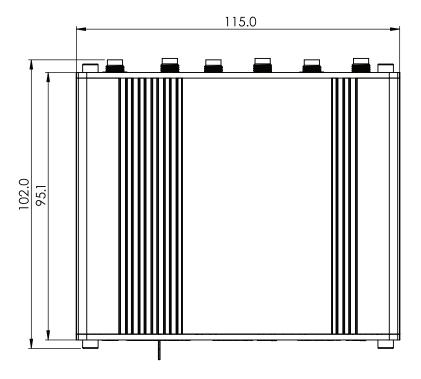
 $W \times H \times D$  dimensions for RUTM11:

Device housing\*: 115 x 44.2 x 95.1 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.

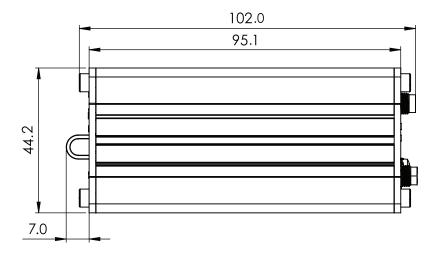
### **TOP VIEW**

The figure below depicts the measurements of RUTM11 and its components as seen from the top:



# **RIGHT VIEW**

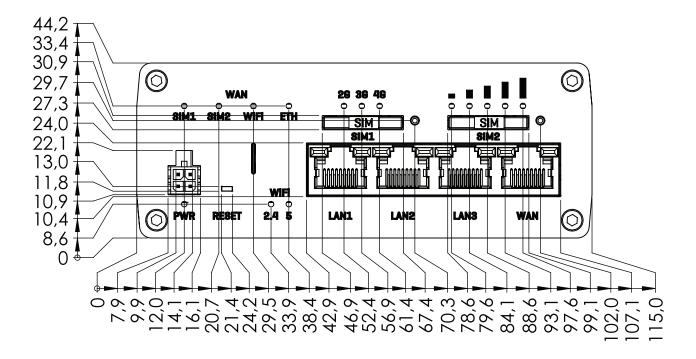
The figure below depicts the measurements of RUTM11 and its components as seen from the right side:  $\frac{1}{2} \left( \frac{1}{2} \right) = \frac{1}{2} \left( \frac{1}{2} \right) \left( \frac{1}$ 





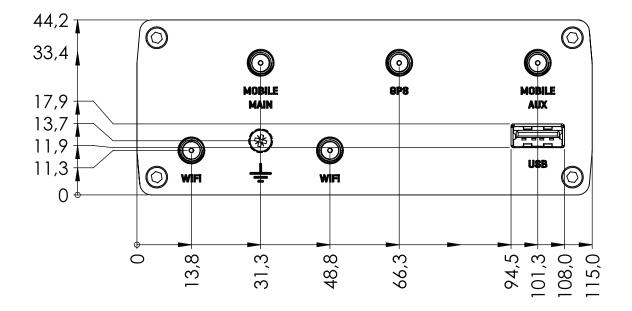
### **FRONT VIEW**

The figure below depicts the measurements of RUTM11 and its components as seen from the front panel side:



# **REAR VIEW**

 $The figure \ below \ depicts \ the \ measurements \ of \ RUTM11 \ and \ its \ components \ as \ seen \ from \ the \ back \ panel \ side:$ 





# MOUNTING SPACE REQUIREMENTS

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

