

RUT906 Firmware Downloads

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This page contains firmware files for RUT906 devices. Look to the table below or the [changelog](#) to find download links.

To upgrade firmware using WebUI, follow the instructions in [RUT906 Firmware](#).

RUT906

File	Type	Release date	Size	MD5	Changelog
RUT9M_R_00.07.07.3_WEBUI.bin	Latest FW	2024.06.25	12.63 MB	39bbc8484f4d8de512e679010e7d0675	Link
RUT9M_R_00.07.06.10_WEBUI.bin	Mass production FW	2024.04.04	12.31 MB	a8f196d4a1b1d2c36e98162ee2c92144	Link
RUT9M_R_GPL_00.07.07.3.tar.gz	SDK	2024.06.25	21.27 MB	c9d43cc320b1f1f72b5c15d65915d568	

Note: packages for [Package Manager](#) are independent from firmware and can be downloaded in the [Package Downloads](#) page.

FW checksums

Checksums for firmware files can be found [here](#).

Changelog

[RUT9M_R_00.07.07.3](#) | 2024.06.25

- **Fix**
 - **Network**
 - WebUI: fixed port advertisement change
 - **System**
 - FOTA: fixed config when upgrading from older firmware with keep settings
- **CVE Patches**
 - CVE-2024-31950
 - CVE-2024-31951

[RUT9M_R_00.07.07.2](#) | 2024.06.12

- **Improvements**
 - **Network**
 - Zerotier: added backup WAN interface blacklisting if WAN failover is enabled
 - Mobile: improved communication stability with eSIM

- **Services**
 - SNMP: added bruteforce attack prevention when using SNMP v3 user
 - L2TP: improved reconnect attempt logic
 - Wireless: removed unnecessary information from system logs
 - **System**
 - SSH: removed weak SSH algorithms
 - Telnet: moved to Package Manager
 - **Fix**
 - **Network**
 - BGP: fixed instance migration issues
 - Mobile: fixed forced APN configuration
 - **Services**
 - DMVPN: fixed duplicate NHRP map entries creation
 - OpenVPN: added fixes for the insecure tls-cert-profile option usage
 - **System**
 - IP Block: fixed blocking of UDP traffic
 - Ledman: fixed WiFi LED indication when WiFi configuration is changed
 - Uboot: fixed firmware recovery update via uboot on Windows
 - **CVE Patches**
 - CVE-2024-31948
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[RUT9M_R_00.07.07.1](#) | 2024.05.03

- **Improvements**
 - **Network**
 - Mobile: improved connection establish time for uqmi protocol
 - **System**
 - WebUI: improved first login password change logic
 - Certificates: updated Root CA certificates
- **Fix**
 - **Network**
 - Mobile: fixed denied roaming flag set
 - **Services**
 - Modbus TCP Over Serial Gateway: fixed gateway returning corrupted data with larger baud rates
- **CVE Patches**
 - CVE-2024-2397

[RUT9M_R_00.07.07](#) | 2024.04.16

- **New**
 - **Network**
 - WebUI: added ESM/EMM message notifications
 - WebUI: added internet status tracking configuration and overview widget
 - LAN: added a new IPv6 LAN status page
 - Static Leases: added a new IPv6 Static Leases page
 - WebUI: added custom domain name resolve option in “DNS” configuration page
 - Auto APN: added “uno.au-net.ne.jp” APN for “KDDI” operator

- Auto APN: added 'eprivate010.tisparkle.com' APN for “Sparkle” operator
- QoS: added mobile interface select option
- Failover: added additional connection flush options
- Wireless: added auto-reconnect disable functionality
- Wireless: added ability to use PKCS#12 certificates for EAP-TLS authentication
- VRF: added initial Virtual Routing and Forwarding support
- **Services**
 - Post/Get: added I/O invert support
 - DLMS Client: added persistent TCP connections
 - Events Reporting: added unexpected shutdown event
 - Modbus Client: added 64bit data types
 - IPerf3: added iPerf3 to Package Manager
 - DNP3 Outstation: added I/O objects
 - Modbus Serial Server: added option 'Mobile data type'
 - TR-069: added PCI, LAC, TAC, EARFCN and Neighbour cells data to Device.MobileInfo node
 - Hotspot: added domain and subdomain options for external landing page
 - Over IP: added option 'Keep alive enable'
- **System**
 - WebUI: added the ability to generate random passwords for password input fields
 - WebUI: added reset to “Factory defaults” option
 - System: changed firmware certificate verification tool
 - IP Block: added time-based login attempt blocking
 - WebUI: added firmware update notification support
 - PAM: added the ability to set port for TACACS+
 - Logging: added multiple remote syslog servers support
- **Improvements**
 - **Network**
 - Static Leases: added possibility to use MAC with wildcard
 - WebUI: added ability to disable modem update notifications
 - Topology: changed network devices scanning application
 - WebUI: improved design of Status - LAN page
 - DHCP: simplified DHCP configurations in other pages and moved full DHCP configuration to a separate page
 - DHCP: removed default disabled server configuration for WAN interface
 - WebUI: simplified data entry of DNS forwardings by separating hostname and IP address fields
 - BGP: added Virtual Routing and Forwarding (VRF) support
 - BGP: added multiple BGP instance support
 - WebUI: adjusted responsive design breakpoints
 - WebUI: added additional field for warning threshold to allow entering value as percentage in Mobile Data Limit section
 - Mobile: improved mobile services stability when SIM card is lost during SMS sending
 - Mobile: updated bridge/passthrough mode logic to flush ARP and add static ARP entry if MAC is specified
 - Mobile: improved SIM switch logging and protection on failure to acquire data
 - WebUI: added partial data loading to APN database page
 - Mobile: improved SMS sending timeouts during network issues
 - Mobile: improved connection handling when data limit is reached
 - Mobile: added metric to default gateway when using passthrough mode

- WebUI: added validation for 2 same APNs
- WebUI: updated Band selection field to show duplex modes in Mobile General page
- Mobile: improved connection establishment time on device boot up
- WebUI: added an information icon and disabled delete button for wireless instance when it is associated with a hotspot interface
- Wireless: improved hidden AP handling when showing scan results
- Dnsmasq: updated dnsmasq to version 2.89
- **Services**
 - Wireguard: added option to bind tunnel to a specific interface
 - OPC UA Client: added limits (10 servers, 20 groups, 50 nodes per server, 50 values per group)
 - DLMS Client: increased maximum count of connection sections to 30
 - DLMS Client: added short name referencing
 - SNMP: set strict default community access when IPv6 address is used
 - SNMP: improved sysName OID to set device's hostname
 - OpenVPN: added the bridge option for selecting the network device to be bridged with
 - OpenVPN: added possibility to create more than one TAP client
 - Auto Reply: added available SMS message parameters to "Message text" input
 - Modbus Client: allow using diacritics in SMS alarms
 - Hotspot: moved MAC blocking option from Access Control to Hotspot page
 - WebUI: added MAC authentication support when using RADIUS authentication mode
 - WebUI: moved licenses to footer
 - AVL: added HDOP in TAVL settings
 - AVL: added ADC and ACL I/O types for secondary AVL rules
 - NTRIP: added a limit of 20 configurations
 - SSTP: updated package version to 1.0.19
 - Mosquitto: updated package version to 2.0.17
- **System**
 - WebUI: added more strict password requirements for restoring backup
 - SMTP: added option to either not verify SMTP server or upload SMTP server's CA file to verify authenticity
 - WebUI: Added the ability to choose the ROOT CA when using certificates from the device
 - WebUI: unified time format to ISO8601 across the entire WebUI
 - WebUI: added ability to choose imported certificate and key as 'Server certificate' and 'Server key' in 'Access Control'
 - WebUI: added 'Hosts' and 'IP Addresses' options for 'Simple' certificate generation and certificate signing
 - WebUI: changed firmware update option to server as a default option
 - GPL: added offline package preparation command for GPL builds
 - Speedtest: added multiple connections support to improve accuracy
 - Kernel: updated to version 5.15.149
 - Libcap: updated package version to 2.69
- **Fix**
 - **Network**
 - Topology: fixed showing interfaces with assigned VLAN
 - WebUI: fixed static routing creation for GRE instance
 - Network: fixed DHCPv4 relay mode enabling

- Mobile: fixed PIN code set after modem restart
- Mobile: fixed an issue where using SIM change command on one SIM slot modems would reset connection
- Mobile: fixed an issue where message storage would not be checked correctly
- Mobile: fixed temperature value sometimes returning 0
- Mobile: fixed issue where RSSI value was displayed as 0 when using 2G/3G network types
- SIM Switch: fixed an issue when low "Check interval" was causing connection to fail
- SIM Idle Protection: fixed problem when the SIM slot remained unchanged
- Mobile: fixed an issue where SIM switch would fail when switching to PUK blocked SIM
- Mobile: fixed an issue where sim switch would be executed twice immediately causing sim to not be switched
- Mobile: fixed SIM PIN saving for non primary SIM cards
- Failover: fixed Failover missing active rules when using multiple source and destination IP addresses
- Failover: fixed an issue where failover would not function correctly while using a mobile interface
- WebUI: fixed network and failover interface metric sorting synchronization issue
- WebUI: fixed failover rule policy save issue with newly added WAN interface
- Interfaces: fixed failover value for new WAN being taken from WAN that was just deleted
- Wireless: fixed Wifi Scanner not saving scanned WiFi SSIDs
- Wireless: fixed missing CCMP-256 and GCMP-256 cipher types in scan results
- Wireless: fixed missing GCMP-256 cipher when using WPA3-EAP encryption in Client mode
- Wireless: fixed skipped MAC address value for interface in Client mode
- Wireless: fixed scanning issue when connected via the same network
- Wireless: fixed mesh functionality
- Wireless: fixed missing signal strength value on Client interfaces
- Wireless: fixed Client interface taking excessive time to connect after boot
- Wireless: fixed missing EAP authentication in Client mode
- WebUI: fixed mesh nodes not being shown in Status->Wireless->Interfaces page
- WebUI: fixed proposed configuration settings when connecting to a mesh point network
- Wireless: fixed connected wireless clients being shown duplicated
- MultiAP: fixed client not switching to another AP if incorrect password was provided

◦ **Services**

- Modbus Client: allow using negative floating point values in requests
- Azure IoT Hub: fixed Data to Server minor WebUI dependency bugs
- Data to Server: fixed DLMS data formatting
- Data to Server: fixed Network link state data display
- DLMS Client: fixed segfault while reading profile generic COSEM object
- DLMS Client: fixed profile generic entries reading
- DLMS Client: fixed application memory allocation issues
- SSTP: fixed route adding when default route is enabled
- SNMP: fixed VLAN OID naming
- OpenVPN: added fixes for instance status tracking functionality
- OpenVPN: resolved uptime counting issues

- PPTP: fixed PPTP instance deletion problem
- Azure IoT Hub: fixed 'contentType' telemetry message parameter
- Hotspot: fixed password validation for locally created users and signed-up users
- Hotspot: fixed session invalidation after deleting registered user
- Hotspot: fixed SMS OTP password reuse
- Hotspot: fixed firewall rule creation
- PPTP: fixed problem related with routes when failover is enabled
- Modbus Client: fixed issue where service freezes when SMS alarm is sent
- Modem over serial: improved robustness against modem reboots
- Modbus Server: updated 'GPS fix time' register to store the UTC date and time of GPS position
- WebUI: fixed data loading error in Input/Output > Post/Get page
- UPnP: updated package version to 2.3.4
- **System**
 - NTP Client: fixed "Count of time synchronizations" execution when synchronization to mobile operator is chosen
 - Package Manager: fixed spinner message when restarting network after package upload or download
 - Package Manager: fixed supported devices check when installing a package from server
 - WebUI: fixed language install from uploaded package after upgrade with keep settings
 - WebUI: fixed an issue when a user was not logged out after changing profiles
 - Telnet: fixed segmentation fault during concurrent connections
 - CLI: fixed enter key issue on mobile chromium based browsers
 - System Users: fixed SSH session close after deleting user or disabling SSH access
 - Profiles: fixed profile migration with installed packages
 - JVM: fixed package installation
 - WebUI: fixed Hotspot log page table search functionality
 - Speedtest: fix missing download speed on some servers
 - PAM: updated libpam to version 1.6.0
- **CVE Patches**
 - CVE-2022-4603
 - CVE-2022-23308
 - CVE 2022-45061
 - CVE-2023-0466
 - CVE-2023-6129
 - CVE-2023-7042
 - CVE 2023-24329
 - CVE 2023-27043
 - CVE-2023-42366
 - CVE-2023-46218
 - CVE-2023-46219
 - CVE-2023-46752
 - CVE-2023-46753
 - CVE-2023-48795
 - CVE-2024-25062
 - CVE-2024-27913
 - CVE-2024-22365

[RUT9M_R_00.07.06.10](#) | 2024.04.04

- Global changelog for **R_00.07.06.10** - [LINK](#)

RUT9M_R_00.07.06.8 | 2024.03.25

- Firmware **R_00.07.06.8** was removed due to an issue with inefficient memory allocation for LED control.

[RUT9M_R_00.07.06.6](#) | 2024.03.04

- Global changelog for **R_00.07.06.6** - [LINK](#)

[RUT9M_R_00.07.06.5](#) | 2024.02.21

- Global changelog for **R_00.07.06.5** - [LINK](#)

[RUT9M_R_00.07.06.3](#) | 2024.01.17

- Global changelog for **R_00.07.06.3** - [LINK](#)

[RUT9M_R_00.07.06.1](#) | 2024.01.04

- **Fix**
 - **Services**
 - Fixed issue with NTPclient zombie processes

[RUT9M_R_00.07.06](#) | 2023.12.20

- **New**
 - **Network**
 - Enabled IPv6 by default for mobile interfaces
 - Added operator blacklisting and whitelisting based on mobile country code
 - Added SIM card not inserted event in Events Log
 - Added 802.11v BSS Transition Management and 802.11k Radio Resource Measurement
 - **Services**
 - Added OPC UA Server
 - Added the ability to set port for TACACS+ in PAM service
 - Added switch to enable using root certificate authority for MQTT alarms in Modbus Client services
 - Added new alarm action "Ubus event" in Modbus Client services
 - Added new input "Modbus alarms" in Data to Server service
 - Added wget ping subtype support in Events Reporting service

- Added new I/O SNMP OID that returns numeric I/O state
 - Added new Post/Get service action "mobile_sim_pin" for changing used SIM PIN code on the device
 - Added TLS support for OverIP serial functionality
- **WebUI**
 - Added Tailscale VPN support
 - Renewed user interface design
 - Added network interface name change functionality
 - Added last resort configuration option for multiwan policy rules
 - Added indication when new modem firmware is available
 - Added mobile connection establishment display in mobile status page
 - Added default value for "Reset threshold" field in Low Signal Reconnect feature
- **System**
 - Added ability to enable/disable SSH access for specific users in System Users
 - API support
 - Added new ADC IC "TLA2021" support
 - Added new Serial IC "CH343" support
- **Improvements**
 - **Network**
 - Disabled operator scan when SIM card is not inserted
 - **Services**
 - Expanded GRE VPN keep alive functionality to disable routes from unreachable tunnel
 - Added PKCS#12 certificate container authentication method in IPsec VPN
 - Added TLV message_payload support for SNMP service
 - Added Purple.ai configuration profile
 - Replaced option "No leading zeros" with "Remove all zeros" in Over IP serial functionality
 - Added possibility to assign mobile interface in SQM service
 - Added reboot on storage device disappearance and re-appearance
 - Added additional anonymous phone number validation in Mobile Utilities service
 - Added "N/A" signal strength response in DNP3 service if SIM card is not inserted
 - **WebUI**
 - Improved Events Log page loading by adding asynchronous pagination (pasikeitė puslapiavimo logika nei prieš tai buvusi)
 - Removed requirement for Diffie-Hellman parameters in OpenVPN service
 - Added improvements for creating OpenVPN IPv6 configurations
 - Added auto redirect after changing router's IP address or port
 - Added "Interface" dropdown for interfaces selection in Wake on LAN service
 - Increased Data to Server service MQTT topic length limit to 65535 characters
 - Added OSPF external routes section to Status page
 - Moved device menu entry "Reboot" to header menu
 - Added indication in Overview, Status -> Mobile and WAN pages when mobile data limit is reached
 - Updated Operator state field to show if modem is in limited service
 - Combined Mobile Usage day, week, month and total pages into one
 - Updated Realtime data -> Mobile signal page design to show all available modems and their bands data in one graph
 - Added message when SIM card requires PIN/PUK code in Status -> Mobile page
 - Moved WiFi scanner page to Services section

- **System**
 - Added Mosquitto CVE patch 2023-28366
 - Added Mosquitto CVE patch 2023-3592
 - Updated cURL version to 8.4.0
 - Updated kernel version to 5.4.259
 - Added RMS data display to generated troubleshoot
 - Added downloaded Package Manager packages list to generated troubleshoot
 - Added process activity load list to generated troubleshoot
 - Changed default OPKG feed to use Teltonika's URL
- **Fix**
 - **Network**
 - Fixed DMVPN firewall rule creation issues
 - Fixed Failover missing active rules when using multiple source and destination IP addresses
 - Fixed mobile service crash due to buffer overflow while reading partially overwritten SMS
 - Fixed an issue with Manual APN connection making attempts too rapidly
 - Fixed deny data roaming functionality when transitioning between roaming and home operator network
 - Fixed network disconnection on mobile network detach and DHCP lease loss situations
 - Fixed VoLTE configuration after modem reboot
 - Fixed Mobile interface bridge and passthrough mode connectivity loss
 - Fixed an issue where rarely PIN code would get removed after SIM switch
 - Fixed mobile operator list being not updated after changes in WebUI
 - Fixed issue where mobile interface was unreachable after device reboot or interface restart while using Failover service
 - Fixed wireless client authentication failures when using AP and STA with WPA3-SAE authentication
 - Fixed STA connection failure to AP with hidden SSID using WPA3-SAE authentication
 - Fixed incorrect signal strength values in Wireless scan results
 - **Services**
 - Fixed SSH module enable in PAM service
 - Added minimum free space check when saving logs to flash in Logging service
 - Fixed "Set multiple coils" function sending too many bytes in Modbus Client services
 - Fixed multiple Events Reporting messages being sent when Firewall configuration is changed
 - Fixed VRRP instances advertising wrong virtual IPs
 - Added Hotspot information in SNMP MIB file
 - Fixed registered Hotspot Local Users showing random username
 - Fixed selection of MAC Auth for LAN interfaces in Hotspot service
 - Fixed inconsistent Hotspot login behaviour when using MAC Auth with Password
 - fixed instance shutdown after last local user deletion
 - Fixed Cumulocity app not sending any telemetry data
 - Fixed Call Utilities failure when caller id is hidden during a call
 - Fixed AVL with poor mobile connections
 - Fixed default profile SMS Utilities I/O status rule configuration in Profiles functionality

- Fixed serial timeout not working in Over IP serial functionality
- Removed "Echo" option in Modbus TCP over Serial functionality
- Fixed CRC verification failing when CRC is correct in Modbus TCP over Serial functionality
- Fixed crash when getting unexpected messages from RTU in Modbus TCP over Serial functionality
- Fixed RMS I/O data display to return values calculated by formula
- **WebUI**
 - Fixed side menu style issues when Japanese language is used
 - Fixed displaying of vendor names in Topology page
 - Fixed language packs being selectable when still in Package Manager queue
 - Added ability to configure IPv6 BGP peer
 - Fixed RelayD configuration issues after keep settings
 - Fixed realtime graphs responsive design issues
 - Fixed Network Shares users deletion
 - Fixed not all LAN interfaces shown in dropdown in Hotspot service page
 - Fixed modem updater legacy firmware flashing
 - Fixed wireless realtime data to show signal as unavailable with no connected clients
 - Fixed WiFi scanner disconnecting AP users
 - Fixed setup wizard errors in Wireless configuration page
 - Fixed Unicode SSID representation in Wireless scan results
- **System**
 - Patched FRR CVE-2023-38406
 - Patched FRR CVE-2023-38407
 - Patched FRR CVE-2023-41358
 - Patched FRR CVE-2023-41360
 - Patched FRR CVE-2023-41909
 - Patched FRR CVE-2023-47234
 - Patched FRR CVE-2023-47235
 - Patched OpenSSL CVE-2023-3446
 - Patched OpenSSL CVE-2023-3817
 - Patched LibXML2 CVE-2023-39615
 - Patched LibXML2 CVE-2023-45322
 - Patched FFMPEG CVE-2021-28429
 - Patched FFMPEG CVE-2022-48434
 - Patched dnsmasq CVE-2023-28450
 - Fixed running out of space when SSHFS is mounted in /tmp while generating troubleshoot

[RUT9M_R_00.07.05.4](#) | 2023.11.09

• Improvements

- **WebUI**
 - Improved asynchronous pagination in events log pages
 - Optimized Overview page load
 - Added resource loading cancellation after switching to different page

[RUT9M_R_00.07.05](#) | 2023.10.09

• New

- **Network**

- Added "shared.m2m.ch" APN for Swisscom IoT operator to APN database
- Added "gamma" APN to auto-APN database
- Added "soracom.io" APN for Soracom operator to APN database
- Added "simbase" APN to auto-APN database
- Added "pnd" APN for Pond IoT to auto-APN database
- Added "spitfire1" APN for Spitfire operator to APN database
- New argument in "gsmctl" CLI command for Carrier aggregation
- Numeric mode support for modem AT commands
- Enabled dynamic MTU configuration on mobile interfaces by default
- WDS support for wireless bridging
- **Services**
 - DLMS Client package
 - 7zip package
 - TincVPN package
 - Added router uptime and mobile connection uptime data parameters to SNMP
 - Custom MQTT publisher/subscriber topics definition support
 - Alternative configuration file upload support for MQTT Broker service
 - Device Provisioning Service support for Azure IoT Hub service
 - Added more mobile usage parameters to SNMP
 - JamVM package
 - SIM Idle Protection package
 - Moved SOcat to Package Manager
- **WebUI**
 - Firewall status page
 - Page search feature
 - Network Topology page
 - "Allow insecure connection" option for MQTT TLS protocol in Data to Server service
 - Package Restore feature Enable/Disable option
 - Hotspot client connection/disconnection trap option for SNMP service
 - Added Events log trap option for SNMP service
 - Confirm dialog when cancelling a verified package in Package Manager
 - "Bridge ALPN" option for Bridge configuration in MQTT Broker service
 - New subtypes of events that specify a specific port on "Events Reporting" and "SNMP Trap rules" pages
 - Specific firmware packages repository link in Package Manager page
 - Ability to enter decryption passphrase for encrypted private keys
 - "Reconnect" button in RMS page
 - New event "Device startup completed" in Events Reporting service
 - Port status and configuration page
 - Wireless interface QR code generator
 - Channel analysis page Status -> Wireless -> Channel Analysis
 - Disabled direct network interface deletion when it is associated with a wireless interface
 - Limited to a single section configuration and added IP address field for Relayd service
 - "Fast roaming" configuration for Wireless service in Client mode
 - Updated Status->Network->Wireless page to display interfaces as cards and added ability to filter connected clients by selected interface
 - "Write to config" option for SIM Switch action in I/O Juggler service
 - Added formula for analog signal value conversion to other unit value

- Configurable GPS NMEA prefix
- Support for using hostnames in "Server address" field for NTRIP service
- "Start up message" field for Modem control serial utility
- Modem Debug page
- APN database management page added to package manager
- Added "Message forwarding" option in SMS Rules page when rule type is "Execute custom script"
- Ability to unblock SIM card and insert SIM PIN in Overview page
- New SMS rules "Reset mobile connection" and "Reload config"
- "SMS limit clear due" display in Overview page
- Added modem temperature to System -> Status page
- New "Server+Client" work mode for OverIP Serial Utility
- New "Connect on data" action for OverIP Serial Utility
- Multiple Client instance support for OverIP Serial Utility
- IP6 table configuration option for DHCPv6 protocol in Network -> WAN page
- **System**
 - Mechanism to rebrand WebUI using GPL
 - Possibility to create web applications with closed-source GPL
- **Improvements**
 - **Network**
 - Moved FRR VTYSH package to package manager
 - Made newly created Firewall Traffic, NAT rules and Port Forwards disabled by default
 - Improved Interfaces to enable IPv6 DHCP server when mobile v6 or v4v6 PDP type is set
 - Improved auto APN selection
 - SMS sending event is now logged into events log
 - Improved roaming control
 - Removed unused APN usernames and passwords from auto-APN database
 - Added connection to the operator when no mobile interfaces are active
 - Improved VoLTE management functions
 - Improved cases where Low Signal Reconnect sometimes executed prematurely
 - Improved wrong SIM PIN remove logic
 - Added automatic reconfiguration when switching between wireless interface modes
 - Added automatically generated name option for new network
 - WPA3/WPA2 (PSK/SAE) mixed mode is now default encryption standard
 - Improved operator information parsing logic on MeiG modem
 - **Services**
 - New reworked Data to Server
 - UPNP moved to package manager
 - Added IPv6 support for Modbus TCP Server/Client services
 - Refactored Azure IoT Hub service
 - Improved resiliency to timeouts in Modbus Client service
 - Added PDU data type to Modbus read requests
 - Added new formatters for MQTT alarms in Modbus Client service
 - Added main section to make test functions independent in Modbus Client service
 - Improved WAN IP register reading time in Modbus service
 - Sped up default profile and profile template generation for Profiles functionality
 - Optimized profile change time for Profiles functionality

- Added IPv6 support for Stunnel VPN
- Added MAC blocking for client connections after set amount of failed login attempts in Hotspot service
- Improved TCPdump by allowing to capture packets from any interface
- Added OSPF support for DMVPN
- Updated Hotspot password hashing to sha512
- A single SMS message with multiple PDUs is sent instead of multiple SMS messages in Email to SMS service
- Allowed connection to SMPP server using IPv6 address
- Extended IP unblock action functionality in SMS Utilities
- Increased allowed Email to SMS service message size to 61440 bytes
- Added parameter "%gs" that sends GPS data in formatted info message
- Updated AVL to prefer checking network status through Failover if configured
- Added I/O pin name to trap notification message
- **WebUI**
 - Reorganized menu
 - Updated header design
 - Split Interfaces configuration in Advanced mode into two pages: WAN and LAN, identically as in Basic WebUI mode
 - Moved Interfaces IPv6 configuration into separate tab
 - Added client/server status information in OpenVPN instance overview page
 - Added more IPv6 information to interface status in Interfaces page
 - Removed "Custom delegated IPv6-prefix" field from DHCPv6 configuration in Interfaces page
 - Disabled DHCPv6 interface editing while in basic mode
 - Refactored custom DHCP options into separate modal
 - Added automatic start and end IP allocation for DHCP server configuration in Interfaces
 - Added client/server status information in L2TP VPN page
 - Added "MTU" field to L2TP client configuration page
 - Added CHAP, PAP and MSCHAP-v2 authentication fields to L2TP instance configuration
 - Added more detailed IPsec VPN status information
 - Encryption AES-256-CBC added as default in OpenVPN
 - Added "Authentication algorithm" support to OpenVPN configuration with static key mode
 - Added GRE (DMVPN) VPN tunnel source support to any instead of specific interface
 - Improved Hotspot landing page theme package removal
 - Added upload and download theme functionality to Hotspot Landing page
 - Improved ZeroTier VPN bridge configuration
 - Added ability to adjust order of rules in Firewall page
 - Added IPv6 RAW table to be displayed in Status -> Firewall
 - Improved file upload component's visual appearance
 - Change "Allow anonymous" option default value to 0 in MQTT Broker
 - Added option to specify "Client ID" in MQTT Publisher
 - Added functionality to select specific interface in Web Filter service
 - Allowed to select FTP server subfolder in Traffic Logging service
 - Renamed various service master/slave naming convention in config files, package names and webUI to client/server
 - Added "Create static" button in Status -> Network -> LAN which bind DHCP lease

for device

- Updated Status -> Network -> Mobile page layout
- Added bandwidth, provider in Status -> Network -> Mobile page
- Added colors for signal strength values in Status -> Network -> Mobile page
- Added frequency, pcid, mcc, mnc and LAC values in Status->Network->Mobile page
- Refactored network type selection in Network -> Mobile -> General page
- Serving cell information is not returned anymore when SIM card is not inserted
- Changed default "Check interval" option value in Network -> Mobile -> SIM Switch page
- Added button in a Scanned operators table which allows to add an operator to the operator list
- Added search bar in Mobile Utilities -> SMS Utilities page
- Added SMS sent and limit count to Network -> Mobile -> General page
- Added GPS longitude and latitude data in TR069
- Updated Mobile Signal graphs to show EC/IO and RSCP values when network type is 3G
- Added DFS channel marking in Network -> Wireless
- Show wireless MAC address even when interface is inactive in Status -> System page
- Merged Multi AP configuration to wireless interface edit modal
- Added automatic network switch to bridge if selected in Wireless configuration
- Added default encryption for newly created wireless interfaces
- Simplified "802.11r Fast Transition" configuration options in Wireless interface configuration
- Added IPv6 support in OverIP serial utility
- Updated "Change SIM" action type to display configured SIM target in I/O Juggler -> Actions overview page

◦ **System**

- Updated kernel version to 5.4.251
- Updated UCI version to 2021-10-22
- Updated SSHFS version to 3.7.1
- Updated FRR suite to 8.4.2
- Updated cURL version to 8.2.0
- Updated TCPdump version to 4.99.4
- Updated C-ares version to 1.19.1
- Updated curl version to 7.88.0
- Updated iproute2 version to 5.19.0
- Updated libubox package version to 2021-08-19
- Added CVE patch CVE-2023-2650
- Added additional firmware information in CLI prompt banner
- Connection mode LED now blinks on data transfer
- Changed "routername" to "devicename" in system config file
- Made all clients get disconnected out once dropbear service is disabled
- Improved firmware downgrade restrictions for certain regions
- Device name is now displayed in browser tab when in WebUI login page
- Added NF conntrack information in generated troubleshoot archive

• **Fix**

◦ **Network**

- Fixed UDP Broadcast Relay service crashing on start without physical network

device

- Fixed SMS limit period migration
- Fixed SMS limit size breaking various functionality
- Fixed custom IPv6 DNS option not overriding default DNS from operator
- Fixed an issue with blacklist and whitelist connection
- Fixed multipart SMS handling
- Changed modem init behavior if Modem Control serial utility feature is enabled
- Fixed wrong SIM state display when SIM is fully blocked
- Fixed incorrect virginmobile APN MNC
- Fixed mobile operator scanning fault when no mobile interfaces are active
- Fixed mobile interfaces generating multiple events on mobile connection
- Fixed PDU SMS parsing when operator provides user data header in single part SMS
- Added scheduled data limit clear for inactive mobile interfaces
- Fixed wrong or empty WAN state info
- Fixed Wireless scanning issue with certain configuration
- Fixed Wireless transmit power changing without user input after saving different country code
- Fixed clients isolation functionality in Wireless
- Fixed Wireless STA authentication failure in case of channel change
- Fixed Multi AP startup when changing Multi AP configuration in Wireless
- Fixed client connection to EAP Wireless network
- Fixed LTE band 14 management with Quectel modems
- Fixed Wireless disconnection issues
- Fixed connection tracking for main interface in Failover

◦ **Services**

- Fixed reconnecting to inactive connections for Modbus Server service
- Fixed Modbus Client response after reboot write request
- Fixed Modbus Server to show error when trying to get operator name without SIM
- Updated Modbus Client to handle large numbers of schedule rules, when frequency is set to schedule (Daini
- Fixed "Input" rule displaying incorrect and missing ports in Network -> Firewall -> Traffic Rules
- Fixed WireGuard VPN endpoint resolving problem
- Peer cache is no longer deleted when ZeroTier service is restarted
- Fixed RMS data collection about the list of devices connected to WiFi
- Fixed showing incorrect Internet state in RMS
- Fixed WiFi client info display in RMS
- Implemented error handling when device is blocked or unrecognized by RMS
- Fixed L2TP client sometimes not adding routes on successful connection
- Fixed NTP time sync with browser functionality in some edge cases
- Fixed reinstalled packages" verification when device name is changed
- Fixed an issue where signal query would return invalid value instead of error in case of no signal in MQTT Publisher service
- Fixed OpenVPN firewall rule creation for both IPv4 and IPv6
- Fixed OpenVPN server crash loop after changing authentication from TLS to Static Key
- Fixed IPsec VPN connection problem with small lifetime values
- Fixed IPsec "Default Route" not working when Flow Offloading is enabled
- Fixed an issue where system directory could be used as a mount point in SSHFS service

- Fixed IP block feature to unblock an OpenVPN IP address on successful authentication
- Fixed package installation process bug when packages have different architecture names
- Added "bearer token" authentication functionality in Dynamic DNS
- Fixed MQTT Broker "local_port" option keep settings migration
- Remove public keys when key-based authentication is disabled in Access Control
- Fixed "Parity" field "Mark" and "Space" options being ignored in DNP3 Serial services
- Corrected SNMP MIB file syntax according to standards
- Fixed returned port count in SNMP
- Fixed disabled CLI remote access taking up a session slot
- Fixed received SMS messages parsing with trailing whitespaces
- Fixed VPN status rule message text in SMS Utilities
- Fixed data being lost when sending large packets to serial devices using OverIP serial utility
- Fixed OverIP possible serial device overflow and minor bugs
- More robust error recovery for RTU communication in Modbus Client service
- Fixed UDP payload size in GPS AVL
- Fixed user deletion in Network Shares service
- Fixed router reboot inconsistencies after Storage Memory Expansion
- **WebUI**
 - Fixed empty events cards in Overview page when no content is available
 - Fixed modal form inputs not clearing upon closing after nested modal is saved
 - Fixed select menu closing when selecting custom option
 - Fixed multi select expanding table row when adding new values
 - Fixed global section caching after deleting a section in a table
 - Fixed unpredictable search logic in tables
 - Fixed interfaces reordering by metrics in Failover page
 - Removed ability to select ports on ICMP and ESP protocol in Failover page
 - Fixed wrong status when interface is disabled in Failover page
 - Fixed firewall zone and rule creation/deletion on VPN configuration creation/deletion
 - Fixed STP enabling issue in Interfaces
 - Fixed EIGRP status info in Dynamic Routes
 - Fixed issue with custom DHCP options where you could not have multiple values per rule
 - Fixed Routing/NAT Offloading section display in Network -> Firewall -> General Settings when device is not supported
 - Fixed SSH/HTTP/HTTPS/ICMP setting in Network -> Firewall -> Attack Prevention page
 - Fixed failing Firewall rules with united protocol formats
 - Fixed zone select component not closing options menu when selecting an option in Firewall pages
 - Fixed memory leak when cancelling file uploads on Chromium-based browser
 - Fixed group settings saving by removing deprecated ":section" routes in Administration -> User Settings -> System Users
 - Fixed allowing IDs above 247 in Modbus Client service
 - Fixed selecting SIM in Modbus Client service Alarms
 - Fixed Modbus Alarm telephone number limit
 - Fixed to show available options for test requests on error in Modbus Client service

- Fixed Modbus Alarm I/O pin display values
- Fixed issue when creating instance named "gre" does not show in GRE VPN
- Remote endpoint field now allows underscore character in IPsec VPN
- Fixed ZeroTier wrong service status display in Status -> Services
- Fixed problems with L2TP/PPTP VPN firewall rules automatic creation
- Fixed problem related to the enable/disable toggle in OpenVPN instance overview page
- Added fixes for key-direction missing problem when uploading OpenVPN config file
- Fixed login page read-only inputs after custom user logout
- Fixed issue when double clicking firmware upgrade cancel button returned error
- Fixed Package Manager prompt message to appear when package requires network restart
- Fixed showing in queue packages when they contained special symbols in the Package Manager page
- Fixed various visual Side Widget bugs
- Fixed Data to Server DNP3 filter from flash display
- Fixed incorrect source data displayed in Realtime Data -> Connections table
- Fixed memory expansion confirmation prompt title
- Fixed incorrect configuration saving in Hotspot 2.0 service
- Disabled password hashing for new user creation in Hotspot service
- Fixed Hotspot landing page themes saving bug
- Fixed test email sending to more than one recipient in Events Reporting page
- Fixed VLAN OID values in SNMP service
- Output proper error message in case of hardware not being supported in Firmware Upgrade
- Fixed being able to open side widget when user does not have read access
- Fixed profile creation when current configuration is not present
- Fixed wrong protocol data display in "Access control" page
- Fixed LAN interfaces not showing up before WAN interfaces in Status -> Realtime Data -> Traffic
- Fixed carrier aggregation information when no connection is made or SIM card is not inserted
- Changed representation of mobile cell ID from hexadecimal to integer type
- Fixed Mobile Utilities "SMS forwarding to HTTP" URL generation
- Fixed an issue where sometimes bands were not represented correctly on certain modems
- Fixed provider information and IMSI value representation when SIM and modem cannot provide this information
- Fixed mobile pages throwing 404 error when modem disconnects
- Fixed WebUI showing mobile connection when no SIM card is inserted
- Updated Network -> Wireless interface add and delete button visibility in basic mode
- Fixed Wireless Multi AP incorrect SSID list after removal of an instance
- Fixed MAC address filtering in Network -> Wireless page to list only connected WiFi devices
- Fixed "Clear Collect Data" button logic to not clear overall mobile usage info
- Fixed "Used data" showing large negative numbers for disabled mobile interfaces with Data Limit enabled
- Fixed GPS AVL I/O trigger option filtering
- Fixed disabling DLNA service when USB drive is removed

- Fixed error when user has no write permissions in Speed Test page
- **System**
 - Patched CVE-2023-0386 vulnerability
 - Patched CVE-2023-0464 vulnerability
 - Patched CVE-2023-0465 vulnerability
 - Patched CVE-2023-2602 vulnerability
 - Patched CVE-2023-3772 vulnerability
 - Patched CVE-2023-4128 vulnerability
 - Patched CVE-2023-33476 vulnerability
 - Patched CVE-2023-28484 vulnerability
 - Patched CVE-2023-29469 vulnerability
 - Patched CVE-2023-31490 vulnerability
 - Patched CVE-2023-36369 vulnerability
 - Patched CVE-2023-48174 vulnerability
 - Delayed Custom Scripts execution on boot, after storage devices are mounted
 - Fixed Custom Scripts permissions after save
 - Changed certificate expiry calculation mechanism to fix Y2K38 bug
 - Fixed downloading of certificates that have a space in their name in Administration -> Certificates -> Certificates Manager
 - Fixed Events Log database rotation to prevent log partition space exhaustion
 - Fixed duplication and sorting of all events IDs in Events Log
 - Fixed FOTA crash when current hours is with leading 0
 - Fixed crontab job removal after disabling FOTA
 - Changed Mosquitto build options to not include cJSON library
 - Fixed device name resetting to default upon refresh in Administration
 - fixed backup upload validation with memory expansion

[RUT9M_R_00.07.04.6](#) | 2023.09.12

- **Fix**
 - **WebUI**
 - Fixed possible WebUI hang when lots of SMS messages were received in short amount of time

[RUT9M_R_00.07.04.5](#) | 2023.07.24

- **Improvements**
 - **Network**
 - Improved MBN reselection algorithm when switching SIM
 - Improved SIM card change detection algorithm
 - Improved connection establishment speeds after sim switch
 - Added metric field support in BGP Route-maps page
 - **WebUI**
 - Updated SIM slot labeling in modem card Overview page
- **Fix**
 - **Network**
 - Fixed an issue with MBN selection when device is started for the first time
 - Fixed an issue where MBN activation would not be successful
 - Fixed service provider parsing when operator does not provide all fields for Quectel modems
 - Fixed a condition where mobile connection would not get established after a SIM

switch

- Fixed an issue with SIM switch causing connection problems

[RUT9M_R_00.07.04.3](#) | 2023.05.11

- **New**

- **System**

- Initial firmware release