RUT361 Firmware Downloads

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This page contains firmware files for RUT361 devices. Look to the table below or the <u>changelog</u> to find download links.

To upgrade firmware using WebUI, follow the instructions in <u>RUT361 Firmware</u>.

RUT361					
File RUT361_R_00.07.08_WEBUI.bin RUT361_R_00.07.07.2_WEBUI.bin RUT361_R_GPL_00.07.08.tar.gz	Type Latest FW Mass production FW SDK	Release date 2024.07.18 2024.06.12 2024.07.18	Size 11.5 MB 11.44 MB 20.47 MB	MD5 f984fa209bbb75367c2d455596c1e9b1 6d465a094d990f78e7b3b354180cb018 4792151b063f043f80ac96c35c0017f4	Changelog Link Link

Note: packages for <u>Package Manager</u> are independent from firmware and can be downloaded in the <u>Package Downloads</u> page.

FW checksums

Checksums for firmware files can be found here.

Changelog

RUT361_R_00.07.08 | 2024.07.18

- New
 - Network
 - DNS: added inherited server status to configuration page
 - HTTPS DNS Proxy: added new HTTPS DNS Proxy package to package manager
 - Mobile: added SIM card lock/unlock functionality in Mobile->Utilities page
 - Mobile: added SIM card PIN change functionality in Mobile->Utilities page
 - Mobile: added new Mobile->Limits page which shows information and allows to configure Data and SMS limits
 - Mobile: added DFOTA support for RG520N modems
 - Mobile: added nr-arfcn display to mobile status page
 - Mobile: added dfota support for devices with RG520N-EB modem
 - \circ Services
 - Data to Server: added 'Lua script' data input
 - Hotspot: added Single Sign-on (OIDC) authentication mode
 - Hotspot: added Walled Garden blocklist functionality
 - Input/Output: added ability to configure gpio debounce timer and changed default gpio debounce timer value from 200 ms to 10 ms

- IPsec: added initial XFRM support
- MQTT Modbus Gateway: added JSON message type format
- OpenVPN: added DCO support
- System
 - API Core: added option to configure api session timeout
 - Certificates: added "Let's encrypt" certificate generation
 - PAM: added RADIUS external user support
 - UI Core: added data analytics support
 - Update Firmware: added warning message about device being temporarily unreachable on firmware update

• Improvements

- Network
 - DNS: separated field "DNS forwardings" into two: one for simple server forwarding other for domain-specific
 - DNS: moved "DNS Forwardings", "Listen interfaces", "Exclude interfaces", "Local service only", options to advanced tab
 - Firewall: improved protocol field in all firewall pages by making that "All" value would be mutually exclusive with any other value
 - Mobile: improved IMS context initialization
 - Mobile: updated SMS memory management for multipart SMS
 - Mobile: added error message when attempting to enable the SIM switch without any criteria set
 - Mobile: added informative message in SIM switch page when Data/SMS limit criteria are enabled but the limits themselves are not set up
 - Mobile: moved operator list allowlist/blocklist selection to Network selection page
 - Mobile: refactored Scanned operators modal, added repeat scan button
 - Mobile: added ability to view previously scanned operators in Network selection and Operator lists pages
 - Mobile: added ability to edit operator list name and initiate scans for operators in Operator lists page
 - Mobile: updated operator code field list to include APNs from the APN database in Operator lists page
 - Mobile: split Mobile->General page into three pages: General, Connection and Utilities pages
 - Mobile: added mobile interface with highest priority APN configuration in Mobile->General page
 - Mobile: added icons with hints which show SIM card, operator, data connection statuses in Mobile->General page
 - Mobile: moved Mobile data limit section to a tab in WAN page
 - Mobile: added informative message in WAN page to indicate whether the connection will be made using APN from APN database, empty or custom APN
 - Mobile: improved logging of ping error messages
 - Mobile: added 5G SA/NSA mode selection
 - Mobile: improved modem updater to stop ping reboot service while update is in progress
 - Mobile: improved the handling of denied messages upon SIM switch
 - Mobile: added notification when a multi-IMSI SIM card is using Auto APN
 - Mobile: added validation to not allow passthrough and bridge mode when one already exists
 - Mobile: improved safeguards for modem services startup
 - Mobile: improved modem update status display

- Mobile: added corrupted mobile statistics database restoration functionallity
- Mobile: improved setting of IPv4 and IPv6 types inside the modules
- Mobile: improved provider name parsing for SLM750 modem
- Multi WAN: improved interface status representation when using load balancing
- Network: added more options for "IPv6 assignment length" field
- VLAN: added ability to configure VLAN 0
- Wireless: added warning when user configures mesh on radio with automatic frequency channel
- Wireless: added support for wireless MAC-filter MAC ranges
- Wireless: changed Radius Accounting port is not required when configuring access point with enterprise encryption
- Wireless: refactored radio configuration page layout
- Wireless: refactored assignment of wireless interfaces MAC addresses, STA interface will always use fixed address
- Services
 - Azure IoT Hub: added DPS symmetric key attestation support
 - Azure IoT Hub: added Direct Method support
 - Azure IoT Hub: added Plug and Play integration
 - Azure IoT Hub: added link to "Data to Server" page
 - Data to Server: added support for multiple filters
 - Data to Server: improved HTTP output hostname definition with automatic protocol specification in URL
 - Data to Server: improved MQTT input connection handling
 - DNP3 Client: added option to enable/disable service
 - Dynamic DNS: added Lookup hostnames support
 - GRE: increased Inbound and Outbound key limit to 4294967295
 - Hotspot: adjusted hotspot user manager page to display active and inactive user sessions
 - Hotspot: changed local users to be stored with other types of users
 - Hotspot: added 'noc2c' option for enabling client isolation, option is enabled by default
 - Input/Output: added custom name support in I/O status page
 - IPsec: added certificate warning message
 - Mobile Utilities: added interface option to sms_utils cellular command
 - Mobile Utilities: improved error log message
 - Mobile Utilities: improved naming of I/O pins in initial I/O status rule
 - Mobile Utilities: sms utilities authentication brute force prevention
 - Modbus Server: added mobile last month and last week usage registers
 - Mosquitto: added large package size check for MQTT clients
 - MQTT Modbus Gateway: improved mosquitto reconnect time and service will try to recover few times before exiting
 - MQTT Publisher: improved MQTT connection handling
 - OPC UA Client: added security modes
 - OPC UA Server: added security modes
 - OPC UA Server: added service status display
 - OpenVPN: added support for decrypting private key when uploading a configuration file
 - OpenVPN: improved instance status state
 - OpenVPN: added options to specify an IP address pool for dynamic assignment to clients
 - SMPP: added brute-force prevention

- SMPP: added TLS/SSL support
- SMS Utilities: added security warning in "Authorization method" configuration
- SNMP: changed interface module OID structure
- SNMP: improved User-based Security Model (USM) brute force attack prevention measures
- Stunnel: improved global instance settings dependencies
- emailrelay: updated version to 2.4.1
- OpenVPN: updated version to 2.6.9
- stunnel: updated version to 5.72

• System

- Access Control: added certificate key length warnings
- Access Control: adjusted access control when all pages are blocked
- Access Control: added certificate file download for CLI to work on all browsers
- API Core: implemented functionality to include warning messages for vulnerable certificates
- Boot: improved modem startup reliability
- Package Manager: added multi package actions
- Package Manager: added status filter
- Package Manager: moved package upload action to main page
- Package Manager: added links to installed packages pages
- Package Manager: refactored "Packages" page
- Package Manager: updated opkg repository link to use https
- RutOS: improved GPL example page to align with new software architecture
- Troubleshoot: refactored Modem debug section to display responses in single field, added clear button to remove received responses
- Troubleshoot: added support for multiple syslog servers
- UI Core: added additional message with IP address to loading screen for scenarios when redirect to different IP address happens
- UI Core: added toast message hiding when text is too long
- Update Firmware: added 'Firmware version' data in screen after firmware upload
- WebUI: added functionality to cancel loading screen if it takes 30 or more seconds
- WebUI: removed all ubus method calls from webui
- WebUI: improved language caching
- WebUI: added password generator for first login modal
- WebUI: added sticky position to side menu
- WebUI: added default password hint to login error message
- WebUI: added warning messages for low-security certificates
- Kernel: updated version to 5.15.159
- libexpat: updated version to 2.6.2
- SSL/TLS: updated version to 3.0.14
- vue: updated version to 3.4

• Fix

• Network

- Channel Analysis: fixed network list not being updated if a single scan fails
- Devices: fixed missing API devices status endpoint permission
- DHCP: fixed "DHCP option" allow empty input value
- DHCP: fixed IPv4 leases being not correctly shown when NTP synchronizes time
- DHCP: fixed DHCP error that occurred after changing the subnet of the LAN IP address in the setup wizard
- Dynamic routes: fixed duplicated external routes cards
- Firewall: fixed firewall zone validation when adding interfaces

- Mobile: fixed low signal reconnect being available on modems where it is not supported
- Mobile: fixed gsmctl -E output to return only json values
- Mobile: fixed Carrier Aggregation signal strength info
- Mobile: fixed wrong mobile data limit used data format for sms messages
- Mobile: fixed duplicate data connection event reporting
- Mobile: fixed an issue where low signal notifications were displayed without a SIM card
- Mobile: fixed modem serial number acquisition after modem reboot
- Mobile: fixed an issue when 4G-only network type selection may have resulted in a slower connection to the operator
- Mobile: fixed issue where USSD responses were returned in HEX format instead of text format for EC200A module
- Mobile: fixed issue where DHCP filter was not set correctly for RG501Q
- Mobile: fixed an issue where the wrong IP address was used after a DFOTA upgrade
- Multi AP: fixed Multi AP not working with fast roaming
- Multi AP: fixed switching to Multi AP mode fails due to encryption
- Multi AP: fixed Multi AP configuration being deleted when switching mode on the same radio device
- Network: fixed overriding MAC address for interfaces that are bridged
- Realtime Traffic: fixed mobile usage by week day translation by device language
- RelayD: fixed API error when "network" and "lan_mark" options are not present in a PUT request
- SQM: fixed missing PPP mobile device selection in SQM configuration
- Wireless: fixed wireless scan results sometimes not being returned
- Wireless: fixed wireless status page not updating wireless SSID status after page is opened
- Wireless: removed the ability to have different countries in radio configurations
- Wireless: fixed interface delete when it's unassigned from the wireless interface in access point mode
- Wireless: fixed backticks for WiFi SSID are not allowed in WebUI

• Services

- BACnet: fixed incorrect BACnet IP port used for sending responses
- BGP: fixed route map sequence going out of range
- BGP: fixed listen range field allowing multiple entries
- Call Utilities: fixed table header switch to be disabled if no rules were created
- DLMS: fixed DLMS test response format
- DLMS: fixed COSEM group validation
- DLMS: fixed API POST error for /dlms/devices/config endpoint
- DLMS: fixed serial connection not working after reboot
- DNP3 Client: fixed to allow reading objects past 255 index
- DNP3 Client: fixed incorrect hints
- DNP3 Outstation: fixed serial outstation starting issues
- Hotspot: fixed uploading more than one custom theme
- Hotspot: fixed creating Hotspot to SSID that is disabled
- Hotspot 2.0: fixed Venue name and Operator's name field validations
- I/O Juggler: fixed improper dout action config handling
- I/O Juggler: updated profile change action
- Input/Output: allow unselecting all Post/Get access methods
- IPsec: fixed connectivity issues when using WAN failover

- IPsec: fixed the instance status when the local firewall option is disabled
- Ledman: fixed issue when after some time network type LED starts blinking
- Modbus Client: fixed test request option validation
- Modbus Client: fixed alarm output action display values
- Modbus Client: fixed incorrect period hint
- Modbus Server: fixed APN register not clearing APN
- Modbus Server: fixed 148 and 164 modbus registers
- Modbus Server: fixed incorrect hints
- OPC UA Server: fixed not starting while modem is down
- OpenVPN: fixed displaying imported files from device
- OpenVPN: fixed the private key decryption for cases when a password is used
- OpenVPN: fixed data cipher migration
- SMPP: fixed username bypass problem
- SMPP: fixed password validation
- SMS Gateway: fixed SMS to Email recipient formatting according to RFC5322
- SNMP: fixed GSM mSignal OID value type
- SNMP: fixed GSM module memory leaks
- SSTP: fixed functionality when the default route option is not enabled
- Web Filter: fixed whitelist not working for some hosts when using IPv6

• System

- Administration: fixed repeated validation on cleared inputs and added validation when new password matches the old one
- API Core: fixed API method validation during upload action
- API Core: fixed error messages for POST method
- API Core: fixed option list validation
- Boot: fixed factory settings restore (firstboot) not deleting hidden files
- Events Log: fixed refresh button in event log table
- IP Block: fixed adding MAC addresses back to whitelist when unblocking all of them
- Recipients: made phone number field required
- Setup Wizard: fixed lan ip step not changing ip address
- Troubleshoot: fixed system log and kernel log buttons to be enabled with read only rights
- Update Firmware: fixed misleading "Firmware version" status of "N/A" to "FOTA service is disabled" when FOTA is disabled
- Update Firmware: fixed issue when infinite spinner appears after updating device firmware from server without having internet connection

• CVE Patches

- Patched CVE-2023-52425
- Patched CVE-2023-52530
- Patched CVE-2024-25629
- Patched CVE-2024-28757

RUT361_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
 - $\circ \ CVE\text{-}2024\text{-}31950$
 - CVE-2024-31951

<u>RUT361_R_00.07.07.2</u> | 2024.06.12

• Improvements

- Network
 - Zerotier: added backup WAN interface blacklisting if WAN failover is enabled
 - Mobile: improved communication stability with eSIM
- \circ 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 a SIM detection issue
 - 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

<u>RUT361_R_00.07.07.1</u> | 2024.05.03

- 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
 - Mobile: improved connection establish time for uqmi protocol
 - 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
- 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

• 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
 - MWebUI: 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
 - 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

\circ 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
- 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
- OpenVPN: added the bridge option for selecting the network device to be bridged with
- OpenVPN: added possibility to create more than one TAP client
- 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
- WebUI: improved first login password change logic
- Certificates: updated Root CA certificates
- 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 denied roaming flag set
- 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 formating
- 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
- 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
- WebUI: fixed data loading error in Input/Output > Post/Get page
- PPTP: fixed PPTP instance deletion problem
- UPnP: updated package version to 2.3.4

 \circ 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
- 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
- $\circ~\text{CVE}$ 2022-45061
- CVE-2023-0466
- $\circ \ CVE\text{-}2023\text{-}6129$
- $\circ \ CVE\text{-}2023\text{-}7042$
- CVE 2023-24329
- CVE 2023-27043
- $\circ \ CVE\text{-}2023\text{-}42366$
- CVE-2023-46218
- CVE-2023-46219
- CVE-2023-46752
- $\circ\ CVE\text{-}2023\text{-}46753$
- $\circ\ CVE\text{-}2023\text{-}48795$
- CVE-2024-2397
- \circ CVE-2024-25062
- $\circ \ CVE\text{-}2024\text{-}27913$
- · CVE-2024-22365

<u>RUT361_R_00.07.06.10</u> | 2024.04.04

• Fix

• System

Ledman: fixed memory leak

RUT361_R_00.07.06.8 | 2024.03.25

Note: Firmware $R_{00.07.06.8}$ was removed due to an issue with inefficient memory allocation for LED control.

- Improvements
 - Services
 - IPSec: disabled libgmp in favor of openssl
 - IPSec: updated Strongswan to 5.9.6
- Fix

\circ Services

- IPSec: increased charon load timeout
- IPSec: fixed loading of large private keys

<u>RUT361_R_00.07.06.6</u> | 2024.03.04

- New
 - Services
 - Added domain and subdomain options for external landing page in Hotspot
- Improvements
 - System
 - Minified *.svg WebUI files to save space on the device
 - Removed unused easy-rsa package to increase free space
- Fix
 - Network
 - Fixed mobile daily data usage representation
 - Fixed the issue with Wireless bgscan functionality not operating correctly

<u>RUT361_R_00.07.06.5</u> | 2024.02.21

• Initial FW release for the RUT361 device