# RUT955 Network

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The information in this page is updated in accordance with firmware version **RUT9_R_00.07.06.10**.
*Note: **click here** for the old style WebUI (FW version RUT9XX_R_00.06.09.5 and earlier) user manual page.*

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# Contents

# Summary

The **Network** page contains information related to the device's networking. This chapter is an overview of the Network page in RUT955 devices.

If you're having trouble finding this page or some of the parameters described here on your device's WebUI, you should **turn on "Advanced WebUI" mode**. You can do that by clicking the "Advanced" button, located at the top of the WebUI.



# Mobile

The **Mobile** tab displays information about the mobile connection. The figure below is an example of the Mobile tab: 

| field name | description |
| --- | --- |
| Sim card slot in use | Shows which sim card slot is currently in use |
| SIM card state | The current SIM card state. Possible values are:<br>• **Inserted** - SIM card is inserted and ready to be used<br>• **Not inserted** - SIM card is not inserted<br>• **Unknown** - unable to obtain SIM card state value. Possible communication issue between the the device and the modem |
| Provider | Network operator's name |
| IMSI | The IMSI (international mobile subscriber identity) is a unique 15 decimal digit (or less) number used to identify the user of a cellular network |
| ICCID | SIM card's ICCID - a unique serial number used to identify the SIM chip |
| Operator | Network operator's name |

| | |
|---|---|
| Operator state | Shows whether the network has currently indicated the registration of the mobile device. Possible values are:<br>• **Unregistered** - not registered to a network and the device is not currently searching for a new operator to register to<br>• **Registered (home)** - registered, home network<br>• **Searching** - not registered to a network, but the device is currently searching for a new operator to register to<br>• **Network denied** - registration to network denied by operator<br>• **Unknown** - operator state is currently unknown<br>• **Registered (roaming)** - registered to network, roaming conditions |
| Data connection state | Indicates whether the device has a mobile data connection or not. |
| Mobile connection state | Show intermediate stages of mobile connection establishing process. |
| Network type | Mobile network type. Possible values are:<br>• **4G**: 4G (LTE)<br>• **3G**: 3G (WCDMA), 3G (HSDPA), 3G (HSUPA), 3G (HSPA), 3G (HSPA+), 3G (DC-HSPA+), 3G (HSDPA+HSUPA), UMTS<br>• **2G**: 2G (GSM), 2G (GPRS), 2G (EDGE)<br>• **N/A** - not possible to determine at the moment |
| Carrier Aggregation | LTE Advanced Carrier Aggregation, CA, is one of the key techniques used to enable the very high data rates of 4G to be achieved. By combining more than one carrier together, either in the same or different bands it is possible to increase the bandwidth available and in this way increase the capacity of the link. |
| Connected band | Currently used mobile frequency band. |
| Signal strength | Received signal strength indicator (**RSSI**) measured in dBm. Values closer to 0 indicate a better signal strength |
| Bytes received | Amount of data received through the mobile interface |
| Bytes sent | Amount of data sent through the mobile interface |
| Cell ID | The ID of the cell that the modem is currently connected to |
| LAC | The Location Area Code, abbreviated as LAC is the unique number given to each location area within the network. The served area of a cellular radio access network is usually divided into location areas, consisting of one or several radio cells. |
| Physical cell ID | Physical Cell ID is an identification of a cell at physical layer. |
| EARFCN | In GSM cellular networks, an absolute radio-frequency channel number (ARFCN) is a code that specifies a pair of physical radio carriers used for transmission and reception in a land mobile radio system, one for the uplink signal and one for the downlink signal. |
| Mobile country code | The Mobile Country Code, abbreviated as MCC, is the code uniquely identifying the home country of a (Glossary:Mobile network operator (MNO|mobile network operator (MNO). |
| Mobile network code | Mobile Network Code (MNC) is a unique two- or three-digit number used to identify a home Public Land Mobile Network (PLMN) to. MNC is allocated by the national regulator. |

If mobile data limit is set and reached, near *Connection* column warning mark will appear. E.g.:



## Bands

| bands information | |
|---|---|
| Name | Connected band |
| Other signal level measurements | Overall signal quality for different network types is defined by different measurements. Short explanations and recommendations are provided below. Click **here** for more in-depth information or click on one of the links below:<br>• **4G**<br>  - RSRP - reference signal received power, measured in dBm. Values closer to 0 indicate better signal strength<br>  - RSRQ - reference signal received quality, measured in dB. Values closer to 0 indicate a better rate of information transfer<br>  - SINR - signal-to-interference-plus-noise ratio, measured in dB. Higher values indicate a better rate of information transfer<br>• **3G**<br>  - EC/IO - downlink carrier-to-interference ratio. Values range from -20 to 0 (closer to 0 indicates better signal quality/cleanliness)<br>  - RSCP - received signal code power. Values range from -124 to 0 (closer to 0 indicates better signal stength)<br>• **2G**<br>  - RSSI - received signal strength indicator, measured in dBm. Values closer to 0 indicate better signal strength |

# LAN

This tab displays information about the device's local network(s). The figure below is an example of the **Network** window:



| | |
|---|---|
| **lan information** | |
| Name | LAN interface name |
| IP address | IP address of the LAN interface |
| Netmask | Netmask of the LAN interface. In a sense, a netmask specifies the size of a network. In other words, it indicates which part of the IP address denotes the network, and which denotes the device |
| **dhcp leases** | |
| Hostname | Hostname of a LAN client |
| IP Address | IP address of a LAN client |
| MAC Address | MAC address of a LAN client |
| Leasetime Remaining | Remaining lease time for a DHCP client. Active DHCP lease holders will try to renew their DHCP leases after a half of the lease time passes. |
| Static Lease | This action will reserve currently assigned IP address for the device in Network -> Interfaces -> Static leases. |

# Firewall

This tab displays information about the device's firewall. Info is shown of IPv4 and IPv6 traffic. The figure below is an example of the **Firewall** page tables:









| Field name | Description |
|---|---|
| Reset counters | Resets all traffic and packet fields |
| Name | Name of the chain |
| Traffic | Size of traffic that was matched to the chain |
| Packets | Count of packets that were matched to the chain |
| Policy | Policy for traffic entering the zone. |
| Rules | Count of rules the chain has |
| References | Count of times the chain was referenced in other chains |

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For more information about specific firewall chain, **INFO** button can be pressed. Window like this should pop up:



| Field name | Description |
|---|---|
| Traffic | Size of traffic that was matched to the rule |
| Packets | Count of packets that were matched to the rule |
| Target | Name of the rule (if highlighted you can click it to open modal to it) |
| Protocol | Filters by Internet protocol |
| In | Filters by inbound interface |
| Out | Filters by outbound interface |
| Source | Filters by source address |
| Destination | Filters by destination address |
| Options | Additional iptables options |
| Comment | Filters by comment |

# Topology

The **Topology** tab allows scanning of WAN, LAN or both interfaces via arp scan to check active connected devices. After scan it shows how many active devices were found and on which interface.



## All active devices

This section displays the results of the scan.



| field name | description |
|---|---|
| Hostname (Vendor) | Hostname of scanned device |
| IP Address | IP address of scanned device |
| MAC Address | MAC address of scanned device |
| Type | The type of connection |
| Interface | The interface the scanned device is connected |