RUT901 Network

The information in this page is updated in accordance with firmware version **RUT9M_R_00.07.09.1**.

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Summary

The **Network** page contains information related to the device's networking. This chapter is an overview of the Network page in RUT901 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 state	The current SIM card state. Possible values are: • **Inserted** - SIM card is inserted and ready to be used • **Not inserted** - SIM card is not inserted • **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: • **Unregistered** - not registered to a network and the device is not currently searching for a new operator to register to • **Registered (home)** - registered, home network • **Searching** - not registered to a network, but the device is currently searching for a new operator to register to • **Network denied** - registration to network denied by operator • **Unknown** - operator state is currently unknown • **Registered (roaming)** - registered to network, roaming conditions
Data connection state	Indicates whether the device has a mobile data connection or not.
Connection stage	Show intermediate stages of mobile connection establishing process.
Network type	Mobile network type. Possible values are: • **4G**: 4G (LTE) • **3G**: 3G (WCDMA), 3G (HSDPA), 3G (HSUPA), 3G (HSPA), 3G (HSPA+), 3G (DC-HSPA+), 3G (HSDPA+HSUPA), UMTS • **2G**: 2G (GSM), 2G (GPRS), 2G (EDGE) • **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.
Bandwidth	Bandwidth describes the maximum data transfer rate of Internet connection.
Connected band	Currently used mobile frequency band.
RSSI	Received signal strength indicator (**RSSI**) measured in dBm. Values closer to 0 indicate a better signal strength
Data received	Amount of data received through the mobile interface
Data sent	Amount of data sent through the mobile interface
Cell ID	The ID of the cell that the modem is currently connected to
LAC/TAC	• **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 GSM/3G • **TAC** Tracking Area Code is a numerical identifier used in LTE networks to distinguish different tracking areas. A tracking area is a group of cells that share the same identity for tracking and paging purposes. TAC is an essential parameter for the UE to determine its location within the LTE/5G network.
Physical cell ID	Physical Cell ID is an identification of a cell at physical layer.
EARFCN	In mobile 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: • **4G** - RSRP - reference signal received power, measured in dBm. Values closer to 0 indicate better signal strength - RSRQ - reference signal received quality, measured in dB. Values closer to 0 indicate a better rate of information transfer - SINR - signal-to-interference-plus-noise ratio, measured in dB. Higher values indicate a better rate of information transfer • **3G** - EC/IO - downlink carrier-to-interference ratio. Values range from -20 to 0 (closer to 0 indicates better signal quality/cleanliness) - RSCP - received signal code power. Values range from -124 to 0 (closer to 0 indicates better signal stength) • **2G** - 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
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	
Interface	Interface which leased the address
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.

Similarly there is an IPv6 dedicated tab.

lan information	
Name	LAN interface name
Address	IP address of the LAN interface
Delegated prefix	The delegated prefix is a smaller subnet given to a device to lease IPv6 addresses for its own DHCPv6 clients.
dhcp leases	
Interface	Interface which leased the address
Hostname	Hostname of a LAN client
Address	IP address of a LAN client
Delegated prefix	The delegated prefix is a smaller subnet given to a device to lease IPv6 addresses for its own DHCPv6 clients.
DUID	DHCP unique identifier is used by DHCPv6 to identify device. Similar to MAC that is used by DHCPv4.
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