8.4 Status

Overview

System

System section in status tab shows basic information about current status of the system.

Hostname: The label that is used to identify the device in the network.
Model: Model of the device.
Firmware version: Current firmware version.
Kernel version: Current kernel version.
Local Time: Current local time.
Uptime: The time a device has been working.
Load average: Measure CPU utilization of the last 1, 5, and 15 minute periods. Load of 0.5 means the CPU has been 50% utilized over the last period. Values over 1.0 mean the system was overloaded.

Memory

The "Memory" window provides memory usage information on the device.
Total available memory: The amount of available memory that could be used over installed physical memory.
Free: The amount of physical memory that is not currently in use over installed physical memory.
Buffered: The amount of buffered memory that is currently in use for active I/O operations over installed physical memory.

Network

IPv4 WAN, IPv6 WAN status and active connections of the device.
Type: Type of addressing of IPv4 network interface – DHCP or static.
Address: IP address of the device.
Netmask: Netmask of the device.
Gateway: IP address of the Gateway.
DNS: IP address of DNS server.
Expires: DHCP lease expiration time of the connection.
Connected: The time a device has been connected.
Active Connections: The number of the active connections with the device.

DHCP leases

DHCP LEASES			
Hostname	**IPv4-Address**	**MAC-Address**	**Leasetime remaining**
		There are no active leases.	

DHCPV6 LEASES			
Host	**IPv6-Address**	**DUID**	**Leasetime remaining**
?	fd74:8536:7bae::33f/128	00046836d59efa382760f3193e5ec5bf4a24	11h 58m 53s

DHCPv4 and DHCPv6 lease expiration time.
Hostname: The label that is used to identify the device in the network.
IPv4-Address: IPv4 address of network interface.
MAC-Address: The media access control address of IPv4 network interface.
DUID: DHCP Unique Identifier of IPv6 network interface.
Lease Time remaining: The amount of time the device will be allowed connection to the Router.

Wireless

WIRELESS

Generic 802.11bgn Wireless Controller (radio0)

0%
SSID: WCC Lite
Mode: Master
Channel: 11 (2.462 GHz)
Bitrate: ? Mbit/s
BSSID: C6:93:00:0E:C4:33
Encryption: None

60%
SSID: AP5
Mode: Client
Channel: 11 (2.462 GHz)
Bitrate: 6.5 Mbit/s
BSSID: 02:1A:11:FF:87:09
Encryption: WPA2 PSK (CCMP)

WiFi interface information window.
SSID: The sequence of characters that uniquely names a wireless local area network.
Mode: Shows how the device is connected to the wireless network – Master or Client.
Channel: The number of channel and radio frequency for connection to access point.
Bitrate: The number of bits that pass the device in a given amount of time.
BSSID: The MAC address of the wireless access point.
Encryption: Security protocol for the wireless network.

Associated stations

ASSOCIATED STATIONS					
	Network	**MAC-Address**	**Host**	**Signal / Noise**	**RX Rate / TX Rate**
wlan0	Client "AP5"	02:1A:11:FF:87:09	192.168.43.1	-71 / -95 dBm	1.0 Mbit/s, 20MHz 6.5 Mbit/s, 20MHz, MCS 0

List of associated stations (clients).

Network: Mode and SSID of network point.
MAC-Address: The media access control address of IPv4 network interface.
Hostname: The label or IP address that is used to identify the device in the network.
Signal/Noise: Received signal level over the background noise level. -30 dBm is the maximum achievable signal strength, -70 dBm is the minimum signal strength for reliable packet delivery in the wireless network.
RX Rate/TX rate: Used measure data transmission in the wireless network over bandwidth. RX Rate represents the rate at which data packets being received by the device, TX Rate represents the rate at which data packets being sent from the device.

Board information

BOARD INFORMATION	
Hardware version	WCCLite v1.3
Serial number	318040040
SoC ID	c493000bf455

Board information provides the following details:

Hardware version: Current hardware version;
Serial number: Serial number of the board;
SoC ID: Unique identifier of CPU unit;

Firewall

IPv4 Firewall

IPv4 Firewall   IPv6 Firewall

Table: Filter

Chain INPUT **(Policy:** ACCEPT**, Packets: 0, Traffic: 0.00 B)**

Pkts.	Traffic	Target	Prot.	In	Out	Source	Destination	Options
576	38.25 KB	ACCEPT	all	lo	*	0.0.0.0/0	0.0.0.0/0	/* !fw3 */
1038	217.50 KB	input_rule	all	*	*	0.0.0.0/0	0.0.0.0/0	/* !fw3: user chain for input */
985	214.56 KB	ACCEPT	all	*	*	0.0.0.0/0	0.0.0.0/0	ctstate RELATED,ESTABLISHED /* !fw3 */
42	2.46 KB	syn_flood	tcp	*	*	0.0.0.0/0	0.0.0.0/0	tcp flags:0x17/0x02 /* !fw3 */
53	2.94 KB	zone_lan_input	all	br-lan	*	0.0.0.0/0	0.0.0.0/0	/* !fw3 */
0	0.00 B	zone_wan_input	all	eth1	*	0.0.0.0/0	0.0.0.0/0	/* !fw3 */

Firewall rule list for IPv4 traffic.
Table: The four distinct tables which store rules regulating operations on the packet. Filter concerns filtering rules. NAT concerns translation of source or destination addresses and ports of packages. Mangle table is for specialized packet alteration. The raw table is for configuration exceptions.

Chain: The list of rules. Filter table has the following built-in chains: Input – concerns packets whose destination is the firewall itself, Forward – concerns packets transiting through the firewall, Output – concerns packets emitted by the firewall, Reject – reject the packet, Accept – allow the packet to go on its way. NAT table has the following built-in chains: Prerouting – to modify packets as soon as they arrive, Postrouting – to modify packets when they are ready to go on their way. Mangle table has one built-in chain: Forward for transiting packets through the firewall.

Pkts.: The packets processed by the firewall.

Traffic: The amount of data processed by the firewall.

Target: The chain of the table of the firewall.

Prot.: The transport layer protocol processed by the firewall.

In: The network interface for the input chain processed by the firewall.

Out: The network interface for the output chain processed by the firewall.

Source: IPv4 address of the device that the packet comes from.

Destination: IPv4 address of the device that the packet goes to.

Options: The options for configuring the firewall.

IPv6 Firewall

IPv4 Firewall   IPv6 Firewall

Table: Filter

Chain INPUT **(Policy:** ACCEPT**, Packets: 0, Traffic: 0.00 B)**

Pkts.	Traffic	Target	Prot.	In	Out	Source	Destination	Options
0	0.00 B	ACCEPT	all	lo	*	::/0	::/0	/* !fw3 */
8041	684.54 KB	input_rule	all	*	*	::/0	::/0	/* !fw3: user chain for input */
32	3.08 KB	ACCEPT	all	*	*	::/0	::/0	ctstate RELATED,ESTABLISHED /* !fw3 */

Firewall rule list for IPv6 traffic.

Table: The three distinct tables which store rules regulating operations on the packet. Filter concerns filtering rules. Mangle table is for specialized packet alteration. The raw table is for configuration exceptions.

Chain: The list of rules. Filter table has the following built-in chains: Input – concerns packets whose destination is the

firewall itself, Forward – concerns packets transiting through the firewall, Output – concerns packets emitted by the firewall, Reject – reject the packet, Accept – allow the packet to go on its way. Mangle table has one built-in chain: Forward for transiting packets through the firewall.

Pkts.: The packets processed by the firewall.

Traffic: The amount of data processed by the firewall.

Target: The chain of the table of the firewall.

Prot.: The transport layer protocol processed by the firewall.

In: The network interface for the input chain processed by the firewall.

Out: The network interface for the output chain processed by the firewall.

Source: IPv6 address of the device that the packet comes from.

Destination: IPv6 address of the device that the packet goes to.

Options: The options for configuring the firewall.

Routes

ARP

IPv4-Address	MAC-Address	Interface
192.168.2.2	f0:76:1c:3b:cb:13	br-lan

ACTIVE IPV4-ROUTES

Network	Target	IPv4-Gateway	Metric	Table
lan	192.168.2.0/24		0	main

ACTIVE IPV6-ROUTES

Network	Target	Source	Metric	Table
lan	fd74:8536:7bae::/64		1024	main
lan	ff00::/8		256	local

IPV6 NEIGHBOURS

IPv6-Address	MAC-Address	Interface

The routing tables provide information on how datagrams are sent to their destinations.

ARP: An address Resolution Protocol which defines how IP address is converted to a physical hardware address needed to deliver packets to the devices.

Interface: The type of Network interface. br-lan refers to the virtual bridged interface: to make multiple network interfaces act as if they were one network interface.

Network: The type of network through which the traffic will be sent to the destination subnet.

Target: An address of the destination network. The prefix /24 refers the subnet mask 255.255.255.0.

IPv4-Gateway: IP address of the gateway to which traffic intended for the destination subnet will be sent.

Metric: The number of hops required to reach destinations via the gateway.

Table: The type of routing tables: main (default), local (maintained by the kernel).

IPv6 Neighbours: The devices on the same network with IPv6 addresses.

System Log

#	Time	Facility	Process	Priority	Message
1	Sat Mar 30 08:57:04 2019	local0	gsm-pinger	info	network unreachable, resetting modem
2	Sat Mar 30 08:57:04 2019	daemon	pppd[14918]	info	Terminating on signal 15
3	Sat Mar 30 08:57:04 2019	daemon	pppd[14918]	info	Connect time 5.0 minutes.
4	Sat Mar 30 08:57:04 2019	daemon	pppd[14918]	info	Sent 272 bytes, received 3180 bytes.
5	Sat Mar 30 08:57:04 2019	daemon	netifd	notice	Network device 'ublox-gsm' link is down
6	Sat Mar 30 08:57:04 2019	daemon	netifd	notice	Network alias 'ublox-gsm' link is down
7	Sat Mar 30 08:57:04 2019	daemon	netifd	notice	Interface 'gsm_6' has link connectivity loss
8	Sat Mar 30 08:57:04 2019	kern	kernel	info	[154912.796479] usb 1-1.1: USB disconnect, device number 126
9	Sat Mar 30 08:57:04 2019	kern	kernel	err	[154912.800748] cdc_acm 1-1.1:1.2: failed to set dtr/rts
10	Sat Mar 30 08:57:04 2019	daemon	pppd[14918]	notice	Modem hangup
11	Sat Mar 30 08:57:04 2019	daemon	pppd[14918]	notice	Connection terminated.
12	Sat Mar 30 08:57:04 2019	daemon	netifd	notice	Interface 'gsm_6' is now down
13	Sat Mar 30 08:57:04 2019	daemon	netifd	notice	Interface 'gsm_6' is disabled
14	Sat Mar 30 08:57:04 2019	daemon	dnsmasq[2046]	info	reading /tmp/resolv.conf.auto
15	Sat Mar 30 08:57:04 2019	daemon	dnsmasq[2046]	info	using local addresses only for domain lan
16	Sat Mar 30 08:57:04 2019	daemon	dnsmasq[2046]	info	using nameserver 192.168.67.1#53
17	Sat Mar 30 08:57:04 2019	daemon	dnsmasq[2046]	info	using nameserver fe80::c693:ff:fe0b:ae28%eth1#53
18	Sat Mar 30 08:57:05 2019	daemon	pppd[14918]	info	Exit.
19	Sat Mar 30 08:57:05 2019	daemon	netifd	notice	Interface 'gsm' is now down
20	Sat Mar 30 08:57:05 2019	local0	gsm	info	Modem was reset
21	Sat Mar 30 08:57:06 2019	kern	kernel	info	[154914.314857] usb 1-1.1: new high-speed USB device number 127 using ehci-platform
22	Sat Mar 30 08:57:08 2019	kern	kernel	info	[154916.380202] usb 1-1.1: USB disconnect, device number 127
23	Sat Mar 30 08:57:10 2019	kern	kernel	info	[154918.914874] usb 1-1.1: new high-speed USB device number 3 using ehci-platform
24	Sat Mar 30 08:57:10 2019	kern	kernel	info	[154919.070028] cdc_acm 1-1.1:1.0: ttyACM0: USB ACM device
25	Sat Mar 30 08:57:10 2019	kern	kernel	info	[154919.075447] cdc_acm 1-1.1:1.2: ttyACM1: USB ACM device
26	Sat Mar 30 08:57:10 2019	kern	kernel	info	[154919.084318] cdc_acm 1-1.1:1.4: ttyACM2: USB ACM device
27	Sat Mar 30 08:57:11 2019	kern	kernel	info	[154919.093522] cdc_acm 1-1.1:1.6: ttyACM3: USB ACM device
28	Sat Mar 30 08:57:11 2019	kern	kernel	info	[154919.103248] cdc_acm 1-1.1:1.8: ttyACM4: USB ACM device
29	Sat Mar 30 08:57:11 2019	kern	kernel	info	[154919.109495] cdc_acm 1-1.1:1.10: ttyACM5: USB ACM device
30	Sat Mar 30 08:57:16 2019	daemon	netifd	notice	Interface 'gsm' is setting up now
31	Sat Mar 30 08:57:18 2019	daemon	netifd	notice	gsm (19093): SIM ready
32	Sat Mar 30 08:57:18 2019	daemon	netifd	notice	gsm (19093): pin_check 0
33	Sat Mar 30 08:57:18 2019	daemon	netifd	notice	gsm (19093): pin_status -> 0
34	Sat Mar 30 08:57:19 2019	daemon	netifd	notice	gsm (19093): sending -> AT+COPS=2
35	Sat Mar 30 08:57:20 2019	daemon	pppd[19260]	notice	pppd 2.4.7 started by root, uid 0

System log window shows a table containing the events that are logged by the device. It has the following columns:

- # (sequence number);
- Time (day of the week, month, day of the month, time and year);
- facility;
- process (who generated the message);
- priority level;
- message.

Messages can be sorted and filtered to extract a particular set of messages. This might be useful when debugging kernel or protocol level problems.

Kernel Log

```
[    0.000000] Linux version 4.4.14 (paulius@paulius-desktop) (gcc version 5.3.0 (OpenWrt GCC 5.3.0 50087) ) #15 Mon Mar 27 14:57:19 UTC 2017
[    0.000000] MyLoader: sysp=23fff3b3, boardp=137b7fb7, parts=70537976
[    0.000000] bootconsole [early0] enabled
[    0.000000] CPU0 revision is: 00019374 (MIPS 24Kc)
[    0.000000] SoC: Atheros AR9330 rev 1
[    0.000000] Determined physical RAM map:
[    0.000000]  memory: 04000000 @ 00000000 (usable)
[    0.000000] Initrd not found or empty - disabling initrd
[    0.000000] No valid device tree found, continuing without
[    0.000000] Zone ranges:
[    0.000000]   Normal   [mem 0x0000000000000000-0x0000000003ffffff]
[    0.000000] Movable zone start for each node
[    0.000000] Early memory node ranges
[    0.000000]   node   0: [mem 0x0000000000000000-0x0000000003ffffff]
[    0.000000] Initmem setup node 0 [mem 0x0000000000000000-0x0000000003ffffff]
```

Kernel log shows a list of the events that are logged by the kernel of the device. Log format: time in seconds since the kernel started and message.

Processes

PID	Owner	Command	CPU usage (%)	Memory usage (%)	Hang Up	Terminate	Kill
1	root	/sbin/procd	8%	3%	Hang Up	Terminate	Kill
2	root	[kthreadd]	0%	0%	Hang Up	Terminate	Kill
3	root	[ksoftirqd/0]	0%	0%	Hang Up	Terminate	Kill
5	root	[kworker/0:0H]	0%	0%	Hang Up	Terminate	Kill
67	root	[writeback]	0%	0%	Hang Up	Terminate	Kill
68	root	[crypto]	0%	0%	Hang Up	Terminate	Kill
70	root	[bioset]	0%	0%	Hang Up	Terminate	Kill
71	root	[kblockd]	0%	0%	Hang Up	Terminate	Kill
73	root	[kswapd0]	0%	0%	Hang Up	Terminate	Kill
152	root	[fsnotify_mark]	0%	0%	Hang Up	Terminate	Kill
169	root	[spi0]	0%	0%	Hang Up	Terminate	Kill
180	root	[bioset]	0%	0%	Hang Up	Terminate	Kill
185	root	[bioset]	0%	0%	Hang Up	Terminate	Kill

List of processes running on the system.

PID: Process ID.

Owner: User to whom the process belongs.

Command: Process.

CPU usage: It is CPU usage of the individual process. CPU usage above 90 % is an indicator of insufficient processing power.

Memory usage: Memory usage of the individual process.

Hang Up: To freeze the process.

Terminate: To end the process cleanly.

Kill: To end the process immediately.

Realtime graph

Realtime Load
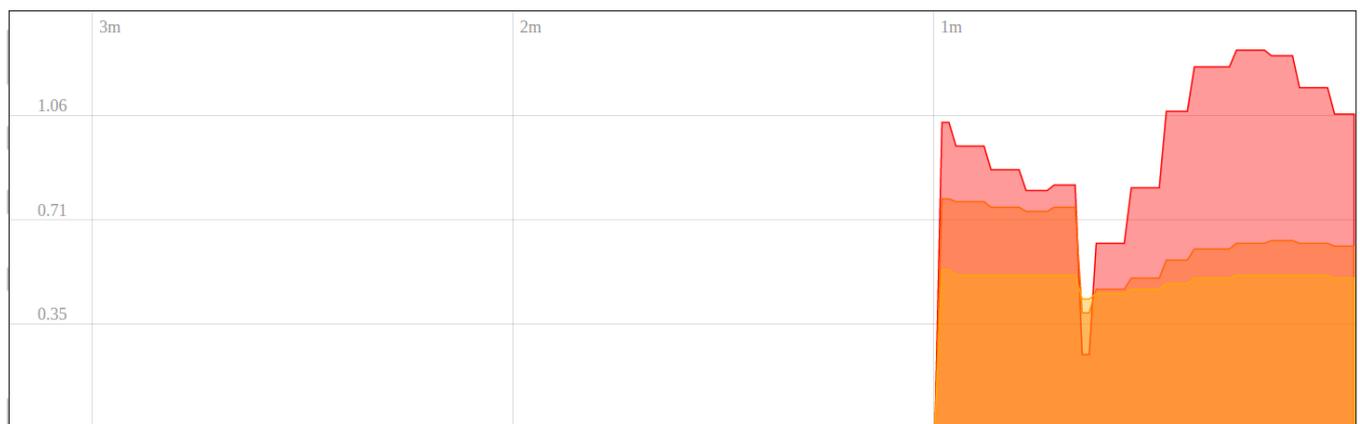
(3 minute window, 3 second interval)

1 Minute Load:	1.07	**Average:**	1.08	**Peak:**	1.29
5 Minute Load:	0.62	**Average:**	0.62	**Peak:**	0.78
15 Minute Load:	0.51	**Average:**	0.51	**Peak:**	0.54

CPU utilization graph. Load of 0.5 means the CPU has been 50% utilized over the last period. Values over 1.0 mean the system was overloaded.

Realtime Traffic

3m	2m	1m

221.73 kbit/s (27.72 kB/s)

147.82 kbit/s (18.48 kB/s)

73.91 kbit/s (9.24 kB/s)

(3 minute window, 3 second interval)

Inbound:	4.92 kbit/s (0.62 kB/s)	**Average:**	7.22 kbit/s (0.9 kB/s)	**Peak:**	41.63 kbit/s (5.2 kB/s)
Outbound:	15.89 kbit/s (1.99 kB/s)	**Average:**	34.7 kbit/s (4.34 kB/s)	**Peak:**	268.76 kbit/s (33.59 kB/s)
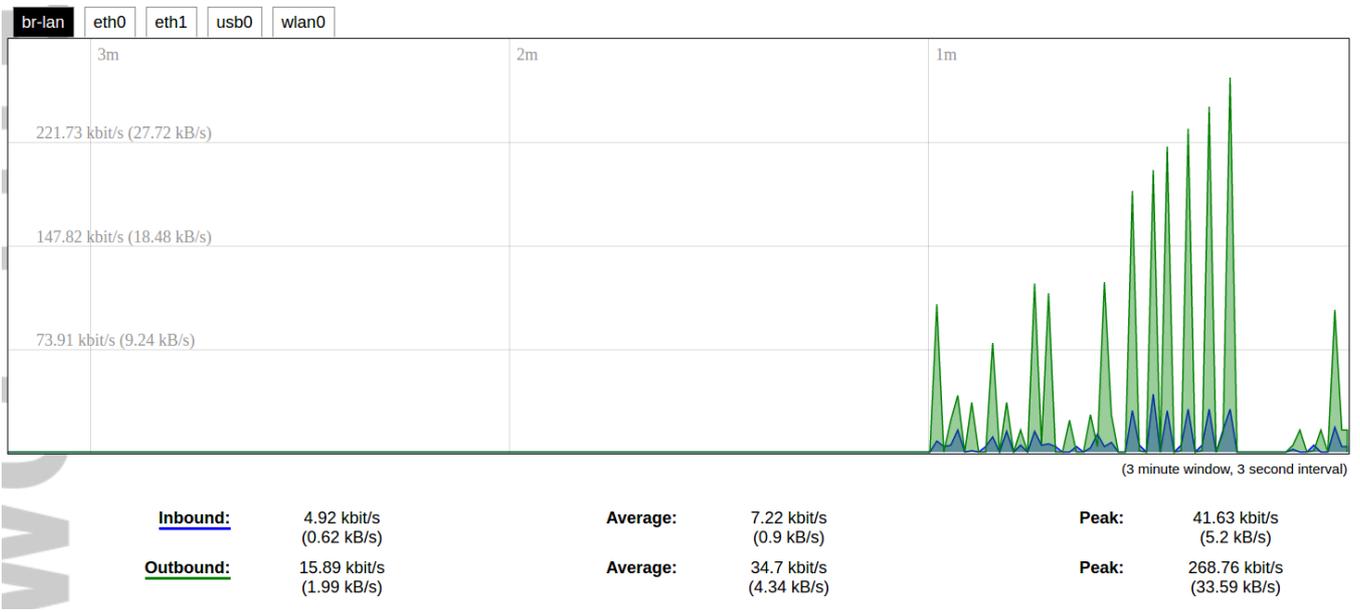
Graphs representing the status of the virtual and physical network interfaces of the device.

Inbound: The speed at which the incoming packets arrive at the device.

Outbound: The speed of the packets which were originated by the device.

Phy. Rate: The speed at which bits can be transmitted over the physical layer.

Realtime Wireless

3m	2m	1m

-255 dBm

-257 dBm

-258 dBm

(3 minute window, 3 second interval)

|					
Signal:	-255 dBm (SNR 0 dBm)	**Average:**	-255 dBm (SNR 0 dBm)	**Peak:**	-255 dBm (SNR 0 dBm)
Noise:	-255 dBm	**Average:**	-255 dBm	**Peak:**	-255 dBm
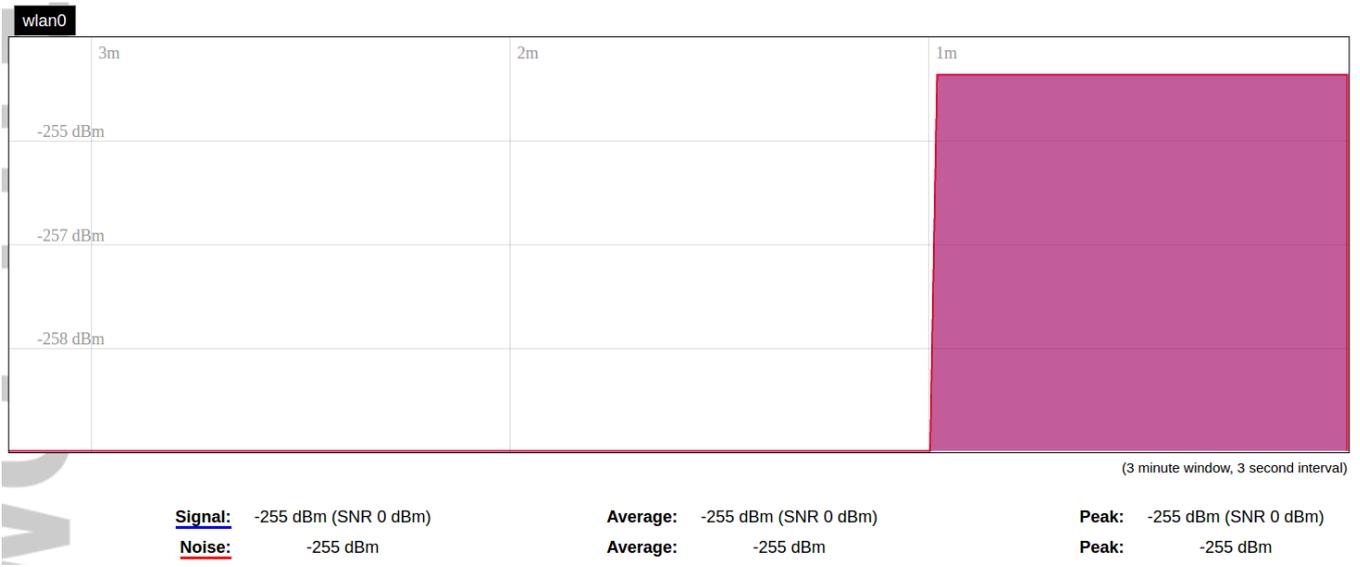
WiFi status graph.

Signal: Signal strength level.

Noise: Noise level.

Phy. Rate: The speed at which bits can be transmitted on the physical layer.

Active connections

ACTIVE CONNECTIONS

UDP:	76	**Average:**	72	**Peak:**	84
TCP:	1	**Average:**	1	**Peak:**	6
Other:	1	**Average:**	1	**Peak:**	1
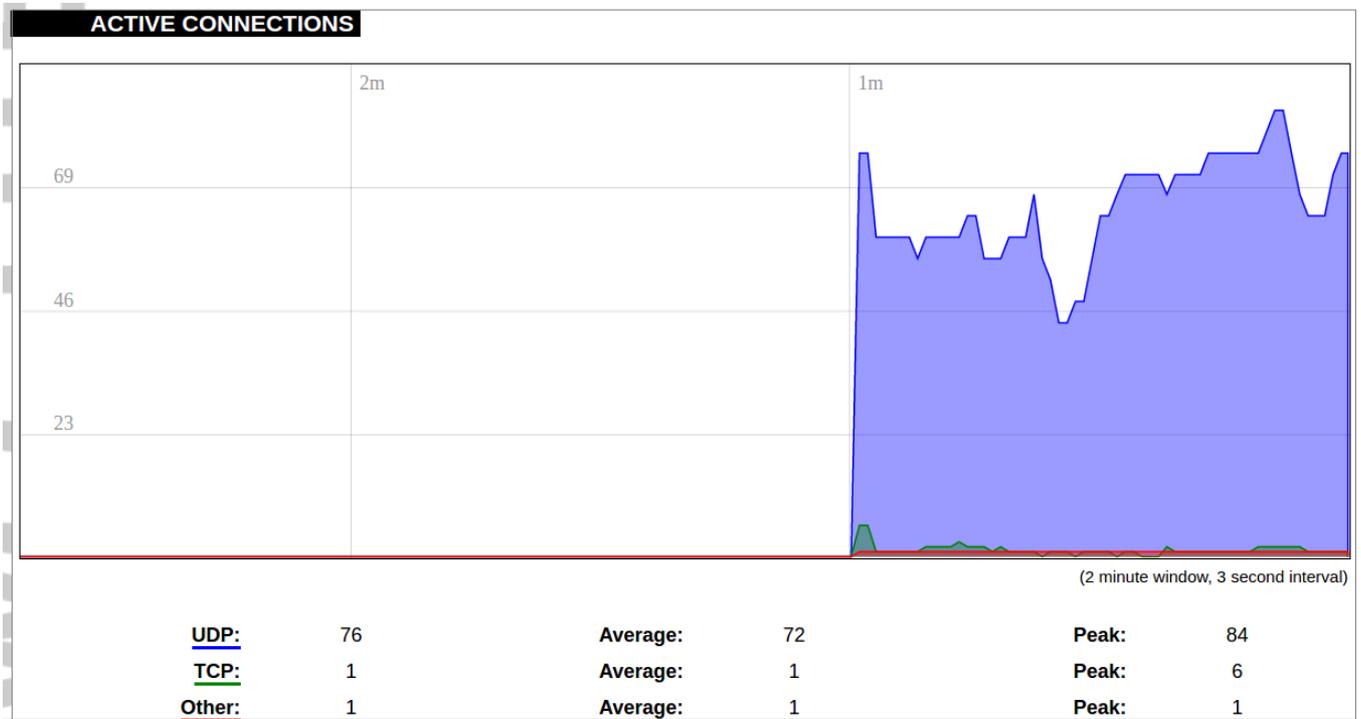
Graph representation of active connections with the device.

UDP: Transport layer – User Datagram Protocol.

TCP: Transport layer – Transmission Control Protocol.

Network: Type of the network layer – IPv4 or IPv6.

Source, Destination: IP address and the port number.

Transfer: The amount of the transferred data in kB and packets.

GSM signal quality

Realtime GSM Signal Quality

This page gives an overview over current RSSI (2G/3G) or RSRP, RSRQ (4G) signal strengths.

RSSI:	-83 dBm	**Average:**	-82 dBm	**Peak:**	-69 dBm
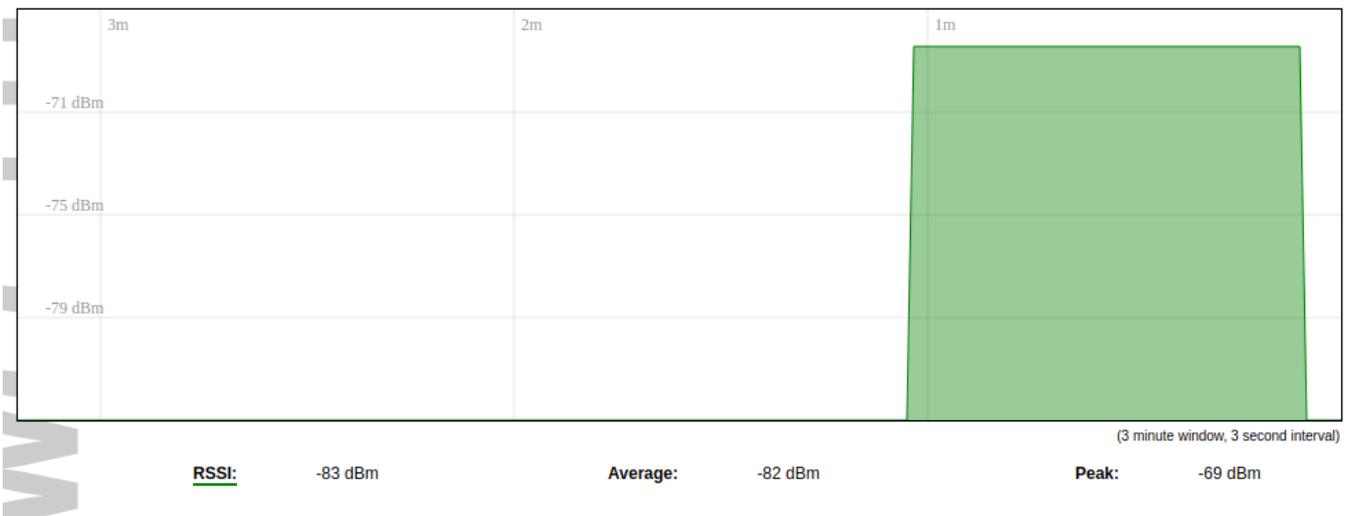
Realtime GSM Signal Quality

This page gives an overview over current RSSI (2G/3G) or RSRP, RSRQ (4G) signal strengths.

(3 minute window, 3 second interval)

RSRP:	-108 dBm	Average:	-107 dBm	Peak:	-102 dBm

(3 minute window, 3 second interval)

RSRQ:	-13 dBm	Average:	-12 dBm	Peak:	-11 dBm

Graph representation of gsm modem receiving signal quality. RSRP - RSRQ graph is showed, when connected to 4G/LTE network, RSSI - when 2G/3G networks are used.

RSSI: Received Signal Strength Indicator in dBm.

RSRP: Received Signal Reference Power in dBm.

RSRQ: Received Signal Reference Quality in dBm.

GSM status

This page shows all information that is related to GSM modem.

GSM Status

Current hardware and network status of GSM

HARDWARE INFO

Modem model	QUECTEL EC25
Modem type	DUAL SIM
Supported network modes	2G 3G 4G 2G/3G/4G
IMEI	

NETWORK INFO

IMSI:
ICCID:
Registration status: Registered, home network
Internet status: Offline
Operator: Tele2 LT Tele2
Service provider: Tele2
Data interface: Down
SIM state: SIM READY
Signal quality: RSRP: -105 RSRQ: -13
Radio access tech.: 4G, LTE
Active SIM: 1
Roaming status: Off

37%

[Reset modem] [Switch SIM]

Hardware info

All static information on GSM modem.

Modem model: Manufacturer and model of present modem.

Modem type: Single SIM or Double SIM modem.

Supported network modes: Shows which network modes (or their combinations) are supported (e.g. 2G 4G 2G/4G).

IMEI: IMEI (International Mobile Equipment Identity number).

Network info

All dynamic information on GSM modem and connected network.

IMSI: IMSI (International Mobile Subscriber Identity) number related to current SIM card user.

ICCID: ICCID (Integrated Circuit Card Identifier) number related to physical SIM card.

Registration status: Curren status of network connection.

Internet status: Status of connection to internet (valid, when gsm-pinger is enabled and can reach provided hosts).

Operator: Operator's name, to which modem is currently connected.

Service provider: IMEI (Service provider for SIM card. Data interface: Shows, whether wcc-lite have a data connection through gsm or not (possible values: "Up", "Down").

SIM state: Shows current status of SIM card (needs PIN, needs PUK, not-inserted and etc.).

Signal quality: Shows current signal strength value in dBms. RSSI value is shown, when connected to 2G/3G networks, RSRP-RSRQ values - when connected to 4G network.

Radio access tech.: Current radio technology used (2G, 3G or 4G).

Active SIM: Shows which SIM card is active (if the modem is Dual SIM).

Roaming status: Current status of roaming ("Off", "On").

Little bars with percentage at the center left shows signal strength. It is calculated with the respect to current radio access technology used (RSSI or RSRP). Two buttons at the bottom can reset (cold-reset) modem or manually switch SIM cards (if it is Dual SIM modem and both cards are enabled).

[Reset modem] [Switch SIM]

VNSTAT Traffic monitor

To monitor the traffic of various network interfaces VNSTAT Traffic monitor can be used. Traffic tracking can be useful if user wants to have a precise information on how much data is used because it can have a dependance with data transmission costs, for example, mobile (cellular) data.

Graph
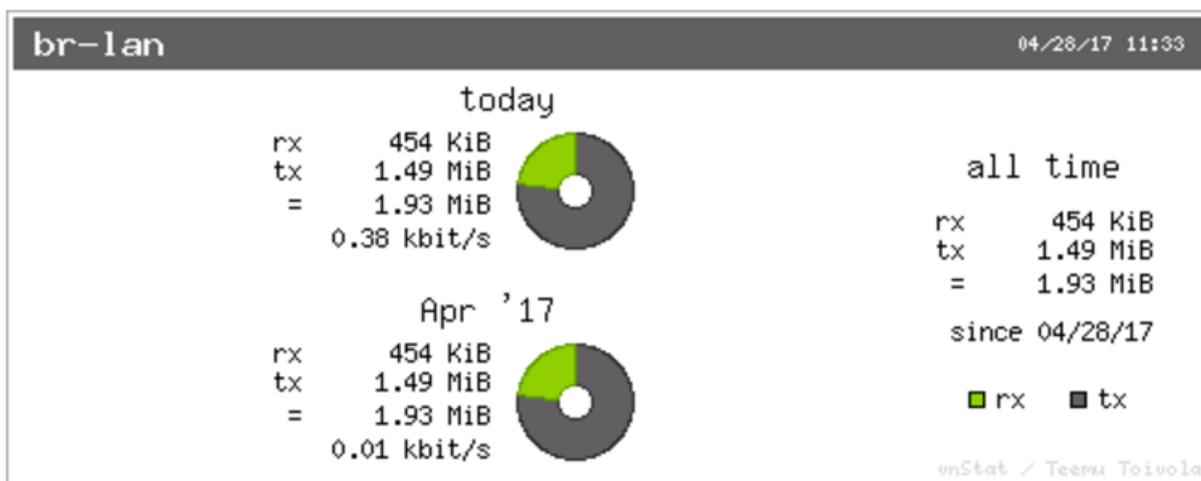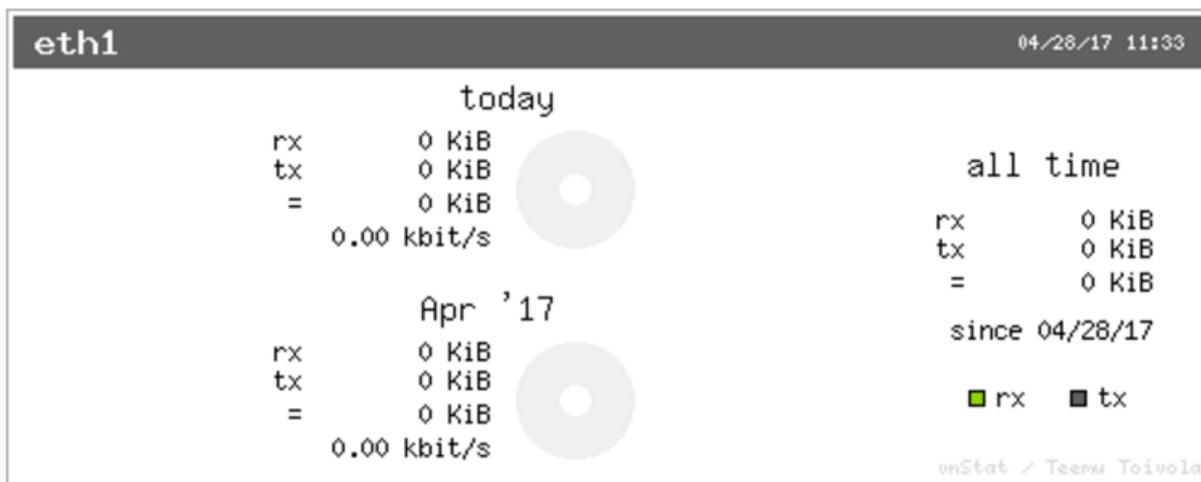
An example graph shows the statistics gathered for two network interfaces. In these graphs:

eth1: Network interface (e.g. Ethernet).

br-lan: Virtual network interface (bridge).

rx: Data packets received by the device.

tx: Data packets sent from the device.

Configuration

Monitor selected interfaces	☑	Bridge: "br-lan" (lan)
	☐	Ethernet Adapter: "eth0"
	☑	Ethernet Adapter: "eth1" (wan, wan6)

Save & Apply **Save** **Reset**

Interfaces to be monitored can be selected in a configuration screen. It includes all the network interfaces configured in a system. To start or stop monitoring user should either select or unselect respective checkbox and save settings by pressing Save & Apply.