

WISNETWORKS

User Manual

WisOS 11ac V1.1

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Software version WisOS 11ac 1.0.0021

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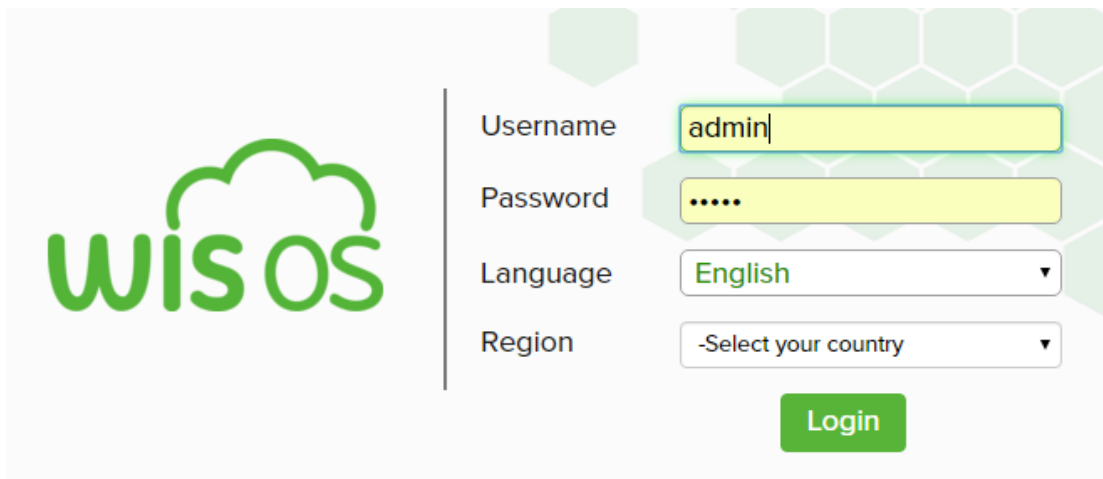
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1. Setup & WMI

1.1 Hardware Setup

1.2 Web Management Interface

- Set PC and set IP address as 192.168.1.x (x is 1-254 except 2, to make sure no conflict with other IP in the network.)
- Run Web browser, input <http://192.168.1.2> (default IP address) and enter.
- As Figure 1.2, default username: **admin**, password: **admin** (You can change this password after entering the system) , and then click Login to the software system.



The screenshot shows the login interface for the WisOS web management system. On the left is the WisOS logo. On the right, there is a form with the following fields:

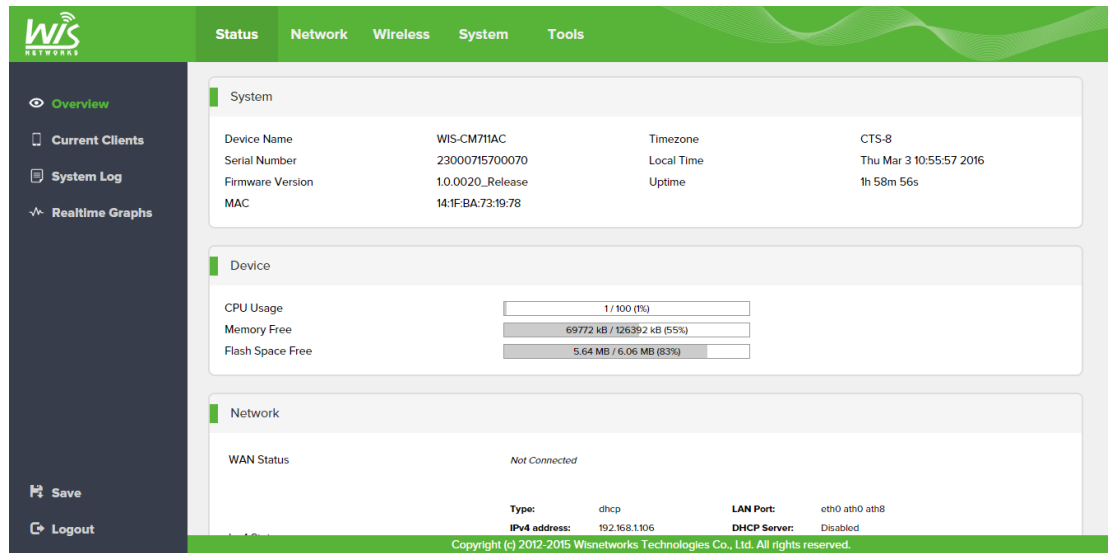
- Username:** A text input field containing the text "admin".
- Password:** A text input field containing five dots, indicating a masked password.
- Language:** A dropdown menu with "English" selected.
- Region:** A dropdown menu with "-Select your country" selected.

Below the form is a green button labeled "Login".

- Starting for the first time you need to set up area code. After setting it cannot be changed unless restore the device to factory settings.

2. Status

The Status page contains the Overview, Current Clients, System Log, and Real-time Graphs 4 sub menu.

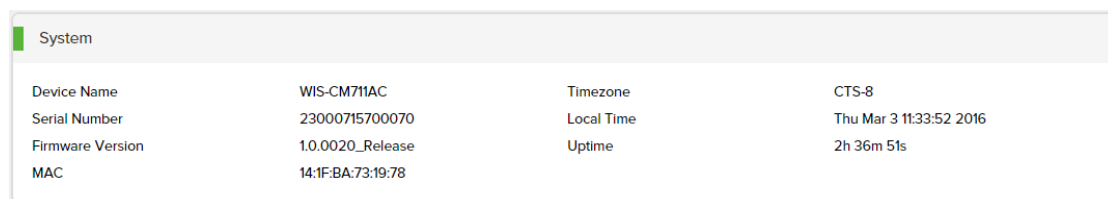


2.1 Overview

You can check the device' s information in the overview page Include 4 parts. They are System, Device, Network, and Wireless.

2.1.1 System

The System page is for you to check the basic information of the device such as device name, serial number, firmware version and etcetera. As follow



Device Name: the MAC address of the LAN port

Serial Number: the IP address of the LAN port

Firmware Version: display the current firmware version

MAC: display the MAC of this device

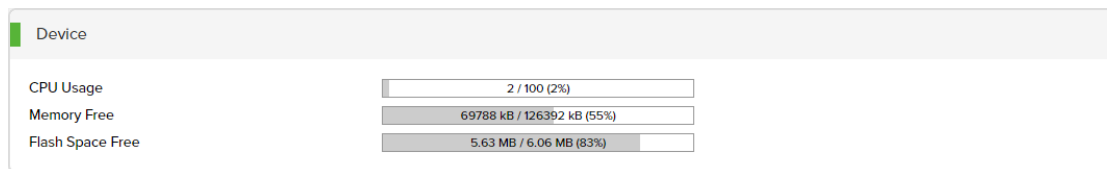
Time zone: display the time zone

Local Time: display the time of the current time zone

Uptime: display the running time

2.1.2 Device

Device page shows the hardware status information of this device. As figure



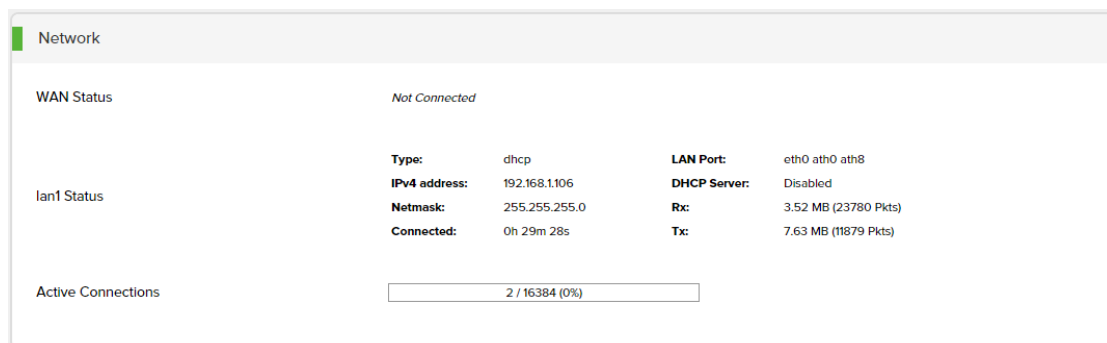
CPU Usage: display the current CPU usage

Memory Free: display the current memory usage.

Flash Space Free: display the current Flash usage.

2.1.3 Networks

Networks page is used to view network working state of the device, the binding interface, and the DHCP server etc. As follows



WAN Status:

Interface: display WAN interface binding port, eth means wired Ethernet port, ath means wireless air ports.

Type: display the WAN IP access mode. There are 3 types, DHCP client, Static IP,

and PPPoE dial-up.

IPv4 address: display the current IP on WAN port.

Net mask: display the current mask

Gateway: display the current Gateway IP

DNS: display the first DNS address and the second address

Connected: display the last time since the connection is build up. If there is no effective IP on WAN, it will show “not connected”

Rx: show how many data or packets have the WAN port received

Tx: show how many data or packets have the WAN port transformed

LAN Status:

The parameters of LAN Status mostly are the same with WAN. Here only list the differences.

LAN Port: display all the interfaces under the same LAN, these ports can forward packets in Layer 2.



DHCP Server: display the DHCP Server status.

Active Connections:

Active Connections: display the current amount of TCP/IP connection sessions.

2.1.4 Wireless

This part is mainly used to show the RF information.

Wireless							
802.11bgn Wireless (wifi0)							
SSID	BSSID	Interface	Mode	Encryption	Channel	Frequency	Association
 Wisnetworks_2.4G	14:1F:BA:73:19:78	ath0	AP	None	6	2.437GHz	5
802.11an Wireless (wifi1)							
SSID	BSSID	Interface	Mode	Encryption	Channel	Frequency	Association
 Wisnetworks_5G	14:1F:BA:73:19:80	ath8	AP	None	56	5.280GHz	0

SSID: display the wireless service' s SSID, you can modified it on wireless page.

BSSID: the MAC of this wireless service.

Interface: display wireless service' s interface. A radio can bound eight service templates. If the device is dual-bands, ath0-ath7belong to 2.4GHz radio and ath8-ath15 belong to 5GHz radio.

Mode: display the device mode. There are two modes AP or STA.

Encryption: None/WEP/WPA /WPA2

Channel: display the current channel number

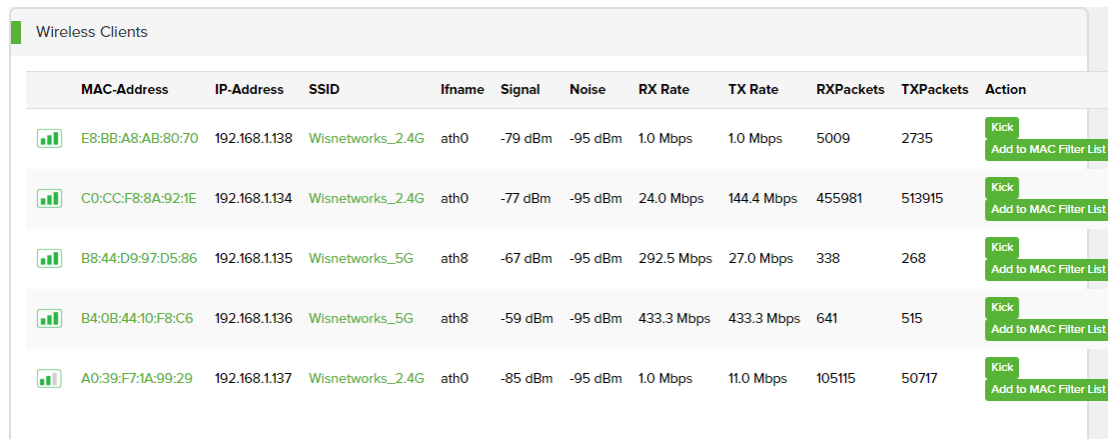
Frequency: display the current frequency of this channel

Association: if the radio mode is AP, here shows the amount of clients. If the radio mode is STA, connected means have connected with AP nor it displays Not-Associated.

2.2 Current Client

2.2.1 Wireless Client

Current client page shows wireless clients' details and DHCP clients' details. As figure



MAC-Address	IP-Address	SSID	Ifname	Signal	Noise	RX Rate	TX Rate	RXPackets	TXPackets	Action
E8:BB:A8:AB:80:70	192.168.1.138	Wisnetworks_2.4G	ath0	-79 dBm	-95 dBm	1.0 Mbps	1.0 Mbps	5009	2735	Kick Add to MAC Filter List
C0:CC:F8:8A:92:1E	192.168.1.134	Wisnetworks_2.4G	ath0	-77 dBm	-95 dBm	24.0 Mbps	144.4 Mbps	455981	513915	Kick Add to MAC Filter List
B8:44:D9:97:D5:86	192.168.1.135	Wisnetworks_5G	ath8	-67 dBm	-95 dBm	292.5 Mbps	27.0 Mbps	338	268	Kick Add to MAC Filter List
B4:0B:44:10:F8:C6	192.168.1.136	Wisnetworks_5G	ath8	-59 dBm	-95 dBm	433.3 Mbps	433.3 Mbps	641	515	Kick Add to MAC Filter List
A0:39:F7:1A:99:29	192.168.1.137	Wisnetworks_2.4G	ath0	-85 dBm	-95 dBm	1.0 Mbps	11.0 Mbps	105115	50717	Kick Add to MAC Filter List

MAC-Address: display the client' s MAC-Address.

IP-Address: display the client' s IP-address.

SSID: the SSID of this this wireless service.

Signal: signal strength at the client' s side.

Noise: device' s noise floor.

RX Rate: display the receiving rate.

TX Rate: display the translate rate.

RX Packets: display the account of received packets.

TX Packets: display the account of translated packets.

Action: here are two buttons “kick” and “add to MAC filter list” .

If you click client’ s MAC, you can see the details as follows

Station details B8:44:D9:97:D5:86			
MAC-Address :	B8:44:D9:97:D5:86	Connection Time :	0 - 0:57:32
AID :	3	Bandwidth :	20M
SSID :	Wisnetworks_2.4G	PS Mode :	Sleep
Channel	11	Frequency	2462MHz
Mode :	802.11bgn	Auth Mode :	OPEN
RSSI :	23	Encryption :	NONE
Listen Interval :	20	TX/RX Packets :	11616 / 16283
TX/RX Bytes :	12.74 MB / 147 MB		
TX/RX Rate :	72.222Mbps / 24Mbps		

Kick
Add to MAC Filter List

MAC address: display this client’ s MAC address.

AID: display Association ID. Each client has an only AID.

SSID: display the AP’ s SSID.

Channel: display the current wireless channel.

Mode: 2.4GHz radio support 802.11b/g/n. 5GHz support 802.11a/n/ac.

RSSI: the RSSI at the AP side.

Listen interval: display the wireless client listening interval of Beacon frames. 0 means every frame reception. The number 1 means to receive one in every two frame.

RX/TX packets: display the amount of packets.

RX/TX Rate: display the rate of RX/TX.

Connection time: the online time.

Bandwidth: 20MHz, 40MHz, and 80MHz. Wireless performance and bandwidth is positive correlation.

PS Mode: there are two type active and sleep.

Frequency: display the AP' s frequency.

Auth Mode: display the Auth mode.

Encryption: display the security type.

2.2.2 DHCP Lease

You can see the details of DHCP clients in this page.

DHCP Leases				
Hostname	IPv4-Address	MAC-Address	Leasetime remaining	Action
<i>There are no active leases.</i>				

Hostname: display client' s hostname.

IPv4-Address: display the IP of client.

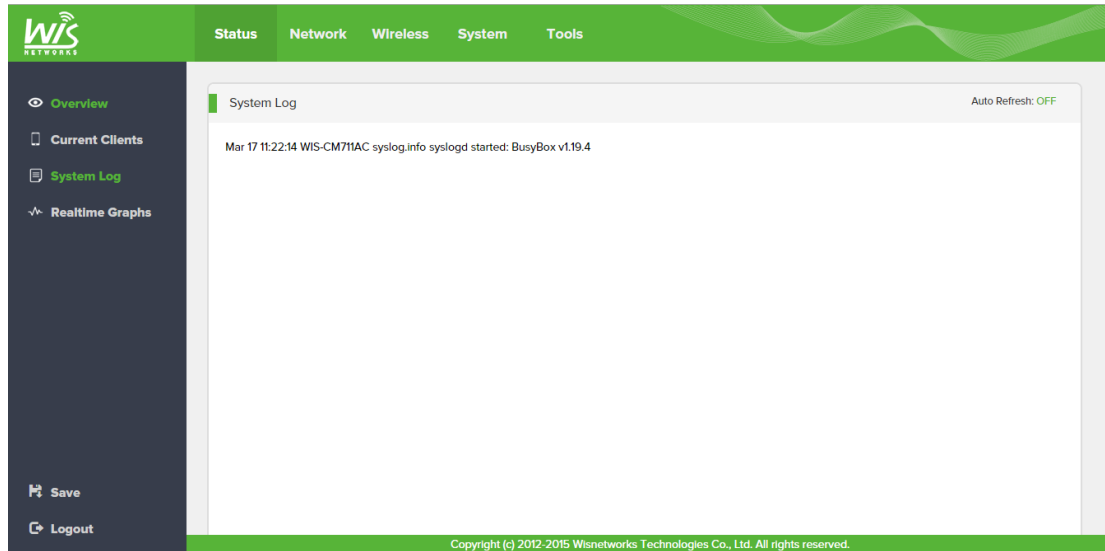
MAC-Address: display client' s MAC address.

Lease time remaining: the rest of the DHCP address lease time. The lease time can be setting in the DHCP server.

Static Leases: this is used to bind the MAC address on this current IP address.

2.3 System Log

System log pages can intuitive to check the equipment operation information in details. This is used to help troubleshooting by knowing the running status of device.



Auto Refresh: When the auto refresh button in the ON state, the system log will refresh automatically.

Refresh: manual refresh button, click to refresh log.

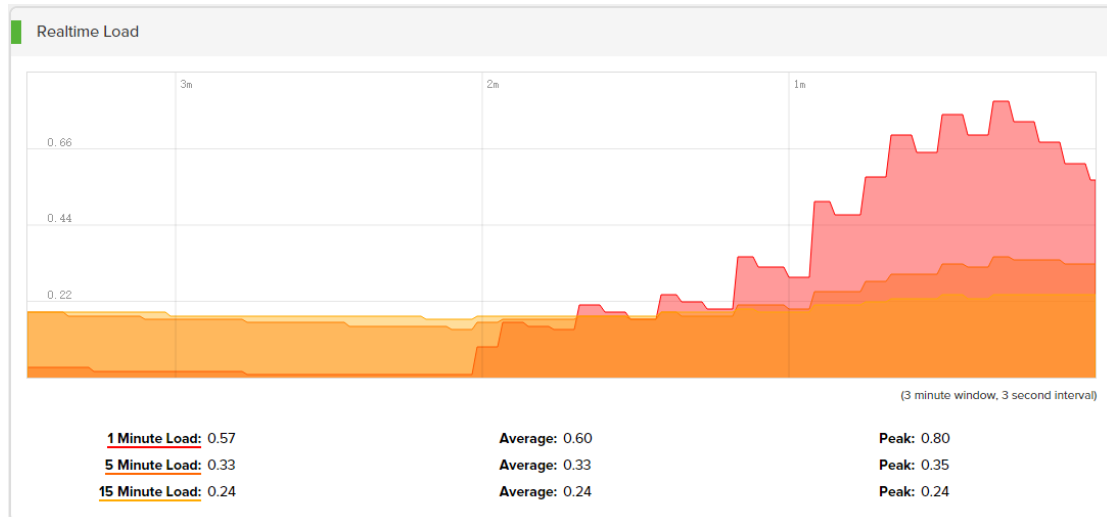
Clear: clear the current log.

2.4 Real-time Graphs

This page can see the form about device' s information for instance the load information, traffic statistics, connection amount, and signal intensity.

2.4.1 Load

The Load Graph monitors the CPU Load during a period of time. There are three kinds of period to choose 1minute, 5minute, and 15minute.

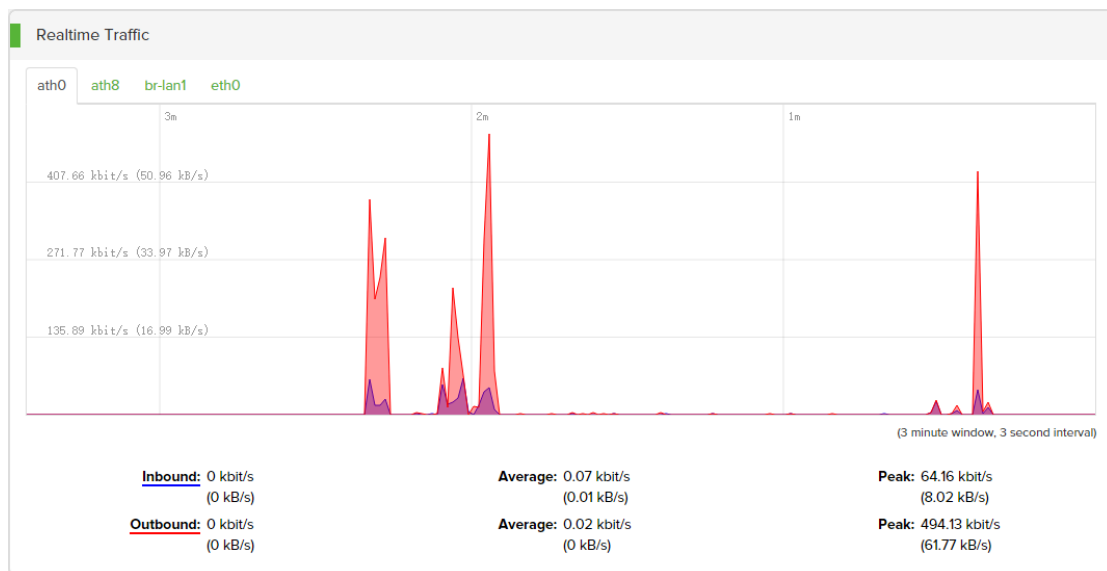


Average: display the average load of CPU in this period of time.

Peak: display the CPU peak during this period of time.

2.4.2 Traffic

Real time traffic can monitor the rate of flow in each interface in instance ath0, ath8, br-lan1, and eth0.



Inbound: display the receive rate of this interface. The unit is kbit/s.

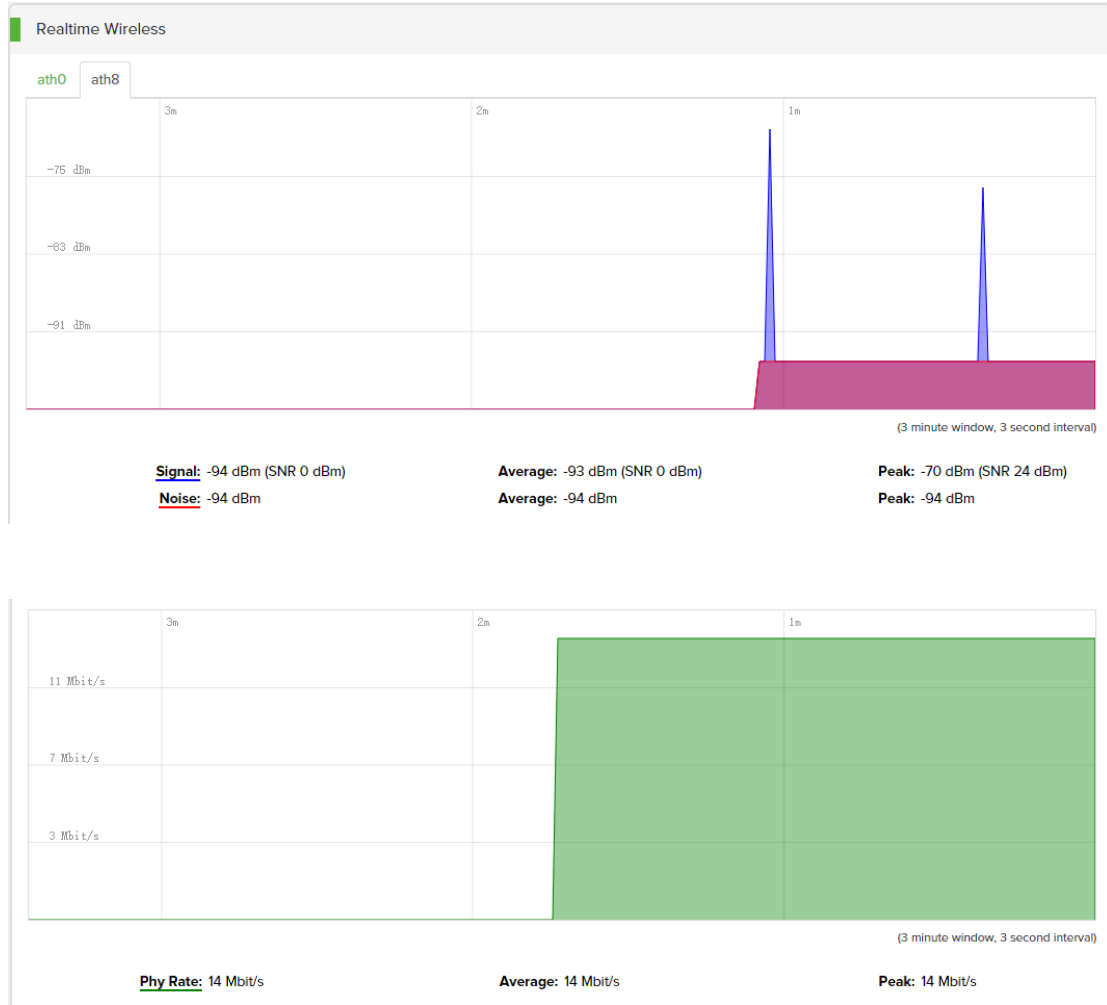
Outbound: display the transmit rate of this interface. The unit is kbit/s.

Average: display the average rate in this period of time.

Peak: the rate peak during this time.

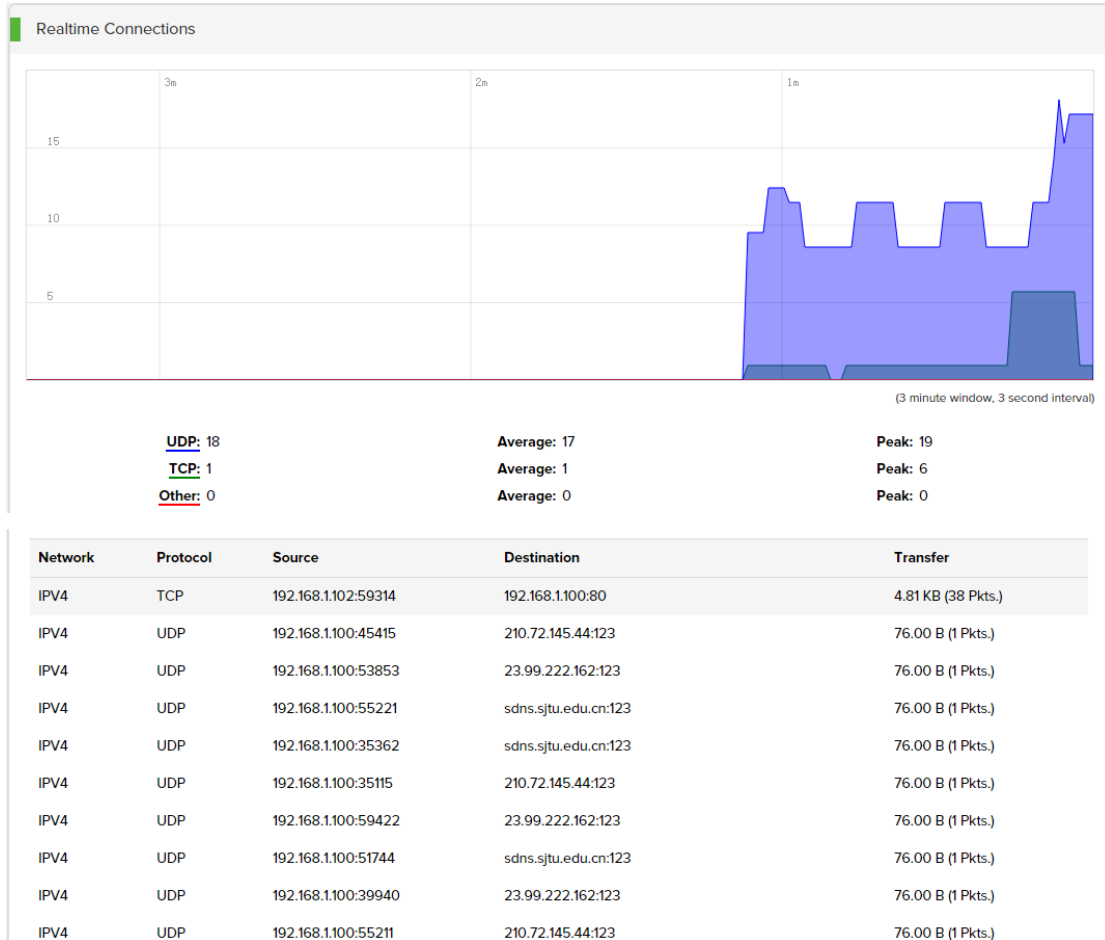
2.4.3 Wireless

This page is for real time wireless forum.



2.4.4 Connections

This form shows device' s UDP/TCP concurrent connections and corresponding change trend. Record time is 4 minutes. Sampling period is 3 seconds.



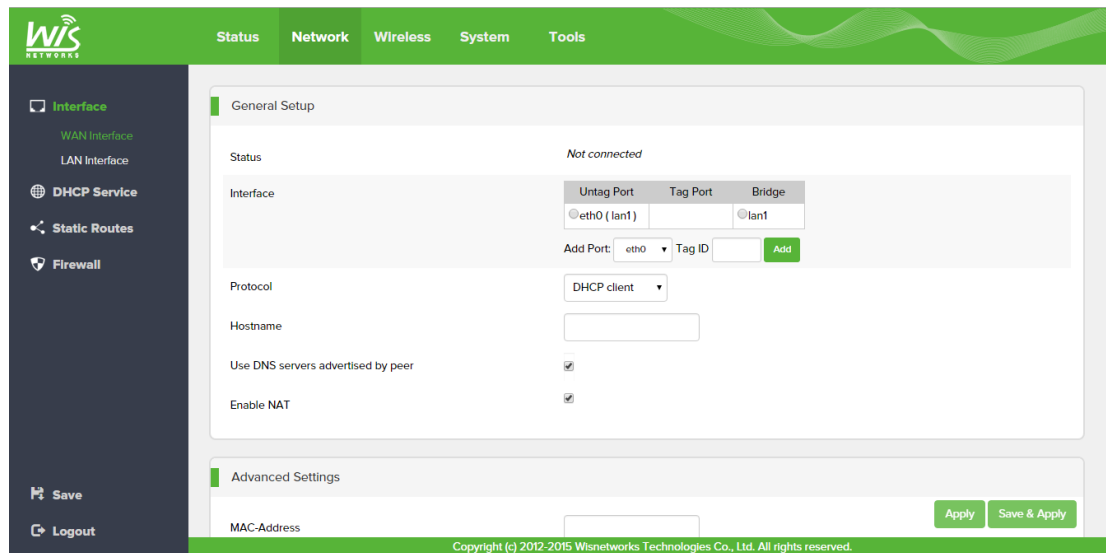
UDP: display the account of UDP connections.

TCP: display the account of TCP connections

Average: display the average number of connections.

3. Network

Network Settings used to configure network parameters on device for instance the mode of the wired and the wireless interfaces, VLAN setting, DHCP service, and Static route, as follows.



3.1 Interface

The interface page is used to set WAN/LAN port mode, IP address, and VLAN setting.

3.1.1 WAN Interface

This page is used to set WAN parameters such as IP type, interface and etc.

General Setup

Status *Not connected*

Interface

Untag Port	Tag Port	Bridge
<input checked="" type="radio"/> eth0 (lan1)		<input type="radio"/> lan1

Add Port: Tag ID

Protocol

Hostname

Use DNS servers advertised by peer

Enable NAT

Status: display the status of WAN port. Such as type, address, connected time, Mask, MAC, gateway, Rx and Tx.

Interface: display the physical interface binding on WAN. Only one physical interface can binding on WAN. When eth0 is WAN, the device worked as a SOHO router. When ath0 is WAN, the device worked as a WISP client.

Untag Port: packets with a VLAN tag can't be forwarded by the interface.

Tag Port: packets with a right VLAN tag can be forwarded by the interface.

Bridge: display the bridge port. Ports belong to same bridge are in the same broadcast domain. They can communicate in Layer-2.

Add Port: choose the interface which you want to add a VLAN tag in the drop-down menu.

Tag ID: input the Tag ID.

Add: click "add" button to build a VLAN interface.

Protocol: Used to configure the address of the wan port. There are three types Static, DHCP, and PPPoE as follows.

Enable NAT: network address translation. Enable or disable this function.

Static address:

Protocol	Static address ▾
IPv4-Address	<input type="text"/>
Netmask	<input type="text"/>
Gateway	<input type="text"/>
Primary DNS server	<input type="text"/>
Secondary DNS server	<input type="text"/>

IPv4-Address: set the IPv4 address.

Net mask: display the net mask.

Gateway: set the gateway address.

Primary DNS server: set the primary DNS server.

Second DNS server: set the second DNS server as reserve

DHCP Client:

Protocol	DHCP client ▾
Hostname	<input type="text"/>
Use DNS servers advertised by peer	<input checked="" type="checkbox"/>

Hostname: the hostname for this DHCP client.

Use DNS servers advertised by peer: Used to open or close the DNS proxy function

PPPoE

Protocol	PPPoE ▾
Username	admin
Password
Use DNS servers advertised by peer	<input checked="" type="checkbox"/>

Username: input the PPPoE username

Password: input the PPPoE password

Use DNS servers advertised by peer: Used to open or close the DNS proxy function

Advanced Setting

Advanced Settings

MAC-Address

MTU

MAC Address: Used to modify the wan the MAC address of the interface

MTU: Used to configure the wan interface MTU size, default is 1500 bytes

3.1.2 LAN Interface

This page is used to setting LAN parameters.

VLAN Overview

Name	LAN Port	Protocol	IPv4-Address	Netmask	DHCP Server	
lan1	eth0 ath0 ath8	dhcp	192.168.1.151	255.255.255.0	Disabled	<input type="button" value="Disable"/> <input type="button" value="Delete"/> <input type="button" value="Edit"/>

Name: bridge port's name such as lan1, lan2, lan3, and etc.

LAN Port: the physical interface in this LAN.

Protocol: the type of how did this LAN port get IP address.

IPv4 Address: IP address for this bridge port.

Net mask: display the Mask.

DHCP Server: display the status of DHCP server on this LAN.

Add New VLAN: click to add new VLAN.

Disable: disable this VLAN. Lan1 can't be disabled.

Delete: delete this VLAN. Lan1 can't be deleted.

Edit: edit the parameters for this VLAN.

When you click edit button, the page as follows.

LAN Name	lan1	
LAN Port	Untag Port	Tag Port
	<input checked="" type="checkbox"/> eth0 <input checked="" type="checkbox"/> ath0 <input checked="" type="checkbox"/> ath8	
	Add Port: eth0 ▼ Tag ID: <input type="text"/>	<input type="button" value="Add"/>
STP	<input type="checkbox"/>	
Auto IP Alias	<input checked="" type="checkbox"/>	
Protocol	DHCP client ▼	
Hostname	<input type="text"/>	
Fallback IPv4 Address	192.168.1.2	
Fallback Netmask	255.255.255.0	
MTU	1500	
		<input type="button" value="Apply"/> <input type="button" value="Save & Apply"/>

LAN name: the name can't be modified. The first bridge named lan1. Second bridge port named lan2.

LAN Port: you can add VLAN tag here.

STP: enable or disable the STP protocol.

Auto IP Alias: enable or disable the function.

Protocol: the type of getting IP address. This has been explained in WAN page.

MTU: set the size of MTU.

3.2 DHCP Service

This page is used to set DHCP service and static IP address binding, as follows.

DHCP Services Overview						
Interface	Status	Start	Limit	Leasetime	Action	
lan1	Enabled	192.168.1.200	192.168.1.201	1m	<input type="button" value="Disable"/>	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
<input type="button" value="Add new DHCP Server"/>						

Interface: display the LAN interface for this DHCP server.

Status: display the status of this server.

Start: the first IP of the IP pool.

Limit: The account of address in the address pool.

Lease time: display the lease time.

Action: here are three buttons disable, edit, and delete.

Add new DHCP Server: click to add new DHCP server as follows.

Add new DHCP server

Interface:

Enable:

Start:

Limit:

Lease Time:

DNS proxy:

Configuration has been explained in the above and no repeat here.

Static DHCP is a useful feature which makes the DHCP server on your device always assigns the same IP address to a specific computer on your LAN.

DHCP Static Leases

Hostname	MAC-Address	IP-Address	Action
Hostname: <input style="border: 1px solid green;" type="text"/>	MAC-Address: <input type="text"/>	IP-Address: <input type="text"/>	<input type="button" value="Add"/>

Hostname: set the hostname.

MAC Address: input the client' s MAC.

IP-Address: select an IP in pool for this DHCP client.

3.3 Static Routes

This page is used to set the static route for this device.

Static Routes

Destination IP Address	Destination Netmask	Gateway	Interface	Metric	MTU	Action
<input type="text"/>	<input type="text"/>	<input type="text"/>	lan1	<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>

Destination IP Address: In put the destination for this static route

Destination Net mask: In put the net mask

Gateway: In put the next hop address.

Interface: display the interface.

Metric: display the metric, Generally do not need to fill in.

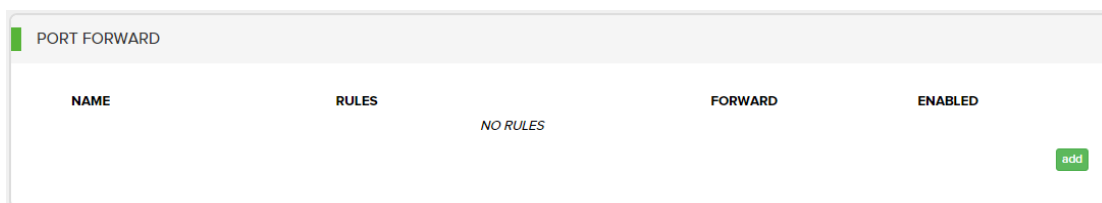
MTU: set the MTU.

Action: click add button.

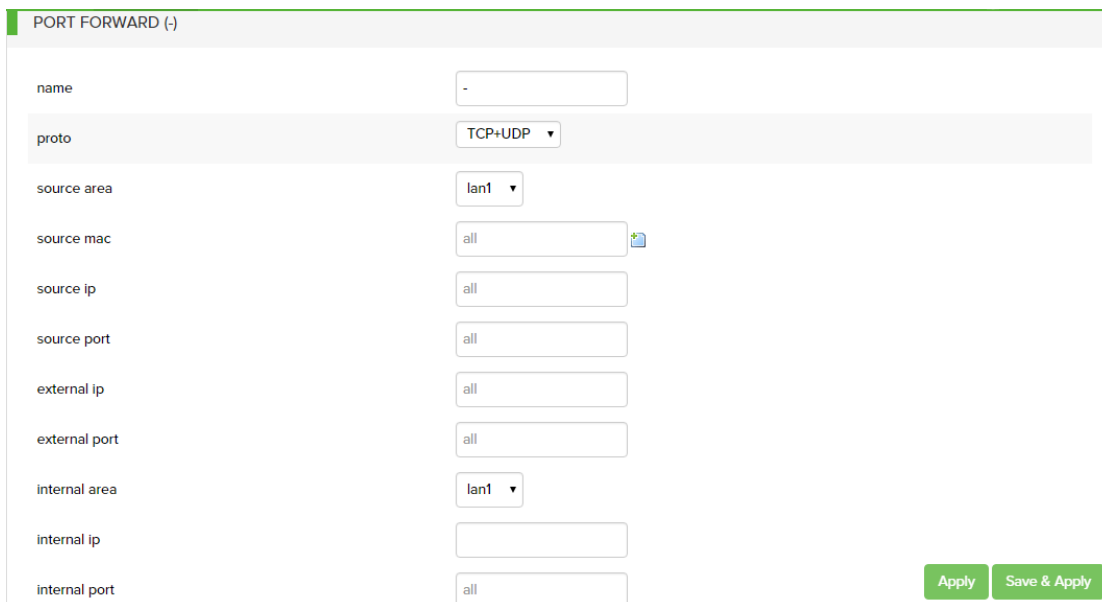
3.4 Firewall

Firewall page contains two parts port forwards and traffic rules.

The device support port forwards and traffic rules function.



If you click add button, the figure as follows.



And the traffic rules shows as follows.

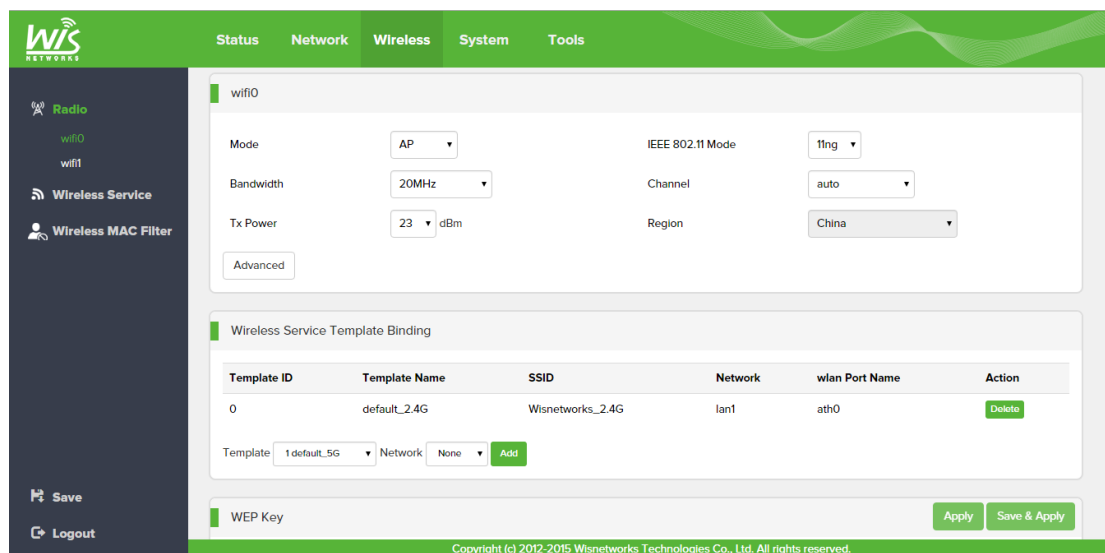
RULES			
NAME	RULES	ACTION	ENABLED
Allow-DHCP-Renew	ipv4, udp from <i>all</i> at <i>wan</i> to <i>all routing address</i> at port <i>68</i> at <i>this device</i>	ACCEPT	<input type="checkbox"/> disable <input type="button" value="modify"/> <input type="button" value="delete"/>
Allow-Ping	ipv4, icmp from <i>all</i> at <i>wan</i> to <i>all routing address</i> at <i>this device</i>	ACCEPT	<input type="checkbox"/> disable <input type="button" value="modify"/> <input type="button" value="delete"/>
Allow-DHCPv6	ipv6, udp from <i>fe80:::10</i> at <i>wan</i> source port <i>547</i> to IP <i>fe80:::10</i> at port <i>546</i> at <i>this device</i>	ACCEPT	<input type="checkbox"/> disable <input type="button" value="modify"/> <input type="button" value="delete"/>
Allow-ICMPv6-Input	ipv6, icmp from <i>all</i> at <i>wan</i> to <i>all routing address</i> at <i>this device</i>	ACCEPT limit 1000/sec	<input type="checkbox"/> disable <input type="button" value="modify"/> <input type="button" value="delete"/>
Allow-ICMPv6-Forward	ipv6, icmp from <i>all</i> at <i>wan</i> to <i>all</i> at <i>all area</i>	ACCEPT limit 1000/sec	<input type="checkbox"/> disable <input type="button" value="modify"/> <input type="button" value="delete"/>

The firewall setting usually be done on the gateway device, here we don' t introduce the details.

4. Wireless

This page is used to set radio parameters, wireless service template, and MAC lists.

As follows,

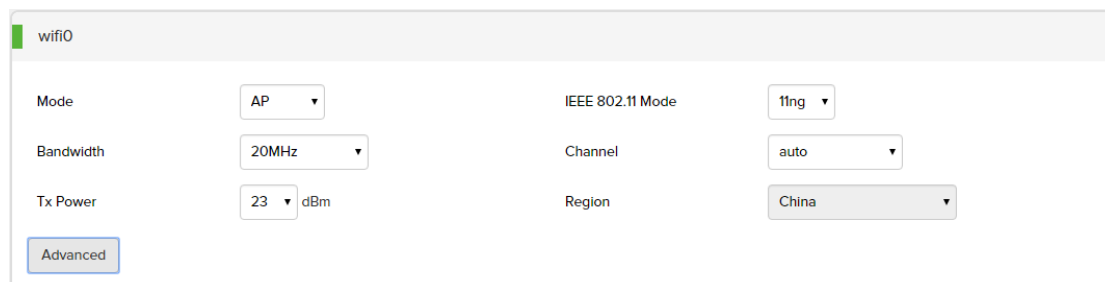


If the device is dual-band, the wif0 means 2.4GHz radio and the wif1 means 5GHz radio.

4.1 Radio

Radio page is used to set wireless parameters and binding the wireless service templates. One radio can bind multi services.

Wifi Interface



Mode: configure the radio's working mode. The default is AP mode, you can choose AP mode or station mode.

Bandwidth: set the bandwidth 20MHz, or 40MHz for 802.11n and 20MHz, 40MHz, or 80MHz for 802.11ac.

Tx Power: set the radio's Tx power. The different models' default Tx power are different. Most maximum value is 27dBm. The lite series are 20dBm.

IEEE 802.11 mode: 2.4GHz radio is 802.11b/g/n. 5GHz radio is 802.11a/n/ac.

Channel: set the channel for radio. The default is auto.

Click the Advanced button, the advanced setting page show up.

wifi0 Advanced Setting
✕

DTIM <input style="width: 100%;" type="text" value="1"/>	WMM <input style="width: 100%;" type="text" value="Enable"/>
RTS Threshold <input style="width: 100%;" type="text" value="2347"/>	Max Association Number <input style="width: 100%;" type="text" value="128"/>
Enable Reject Weak RSSI <input type="checkbox"/>	Weak RSSI Threshold <input style="width: 100%;" type="text"/>
Wireless Client Isolation <input type="checkbox"/>	
Capability	<input checked="" type="checkbox"/> A-MPDU <input checked="" type="checkbox"/> A-MPDU Limit <input type="checkbox"/> A-MSDU <input checked="" type="checkbox"/> short GI
Aggr Frames <input style="width: 100%;" type="text" value="32"/>	Aggr Length Limit <input style="width: 100%;" type="text" value="65535"/>
Transmit Distance <input style="width: 100%;" type="text" value="1"/> KM	
Answer Broadcast Probe Request <input checked="" type="checkbox"/>	

DTIM: Delivery Traffic Indication Message. Set the beacon account. The default is 1. Radio will send broadcast or multicast traffic according to this interval you set. 1 beacon is 100ms.

RTS Threshold: Determines the packet size of a transmission and, through the use of an AP, helps control traffic flow. The range is 0-2346 bytes. The default setting is the value 2347; this means that RTS is disabled.

WMM: enable or disable WMM.

Max Association Number: set the max association number for this radio.

Enable Reject Weak RSSI: when enable this function, radio will refuse clients which

signal strength below a certain threshold to access in. and the online clients will be kicked when the signal strength less than threshold.

Weak RSSI Threshold: set the RSSI threshold.

Wireless Client isolation: when you enable this function, the wireless clients under this AP can't get communication by layer 2.

Aggr Frames: Determines the number of frames combined in the new larger frame.

Aggr Length Limit: Determines the size (in bytes) of the larger frame.

Transmit Distance: To specify the distance value in miles (or kilometers), use the slider or manually enter the value. The signal strength and throughput fall off with range. Changing the distance value will change the ACK (Acknowledgement) timeout value accordingly.

Answer Broadcast Probe Request: the default is enabled.

Wireless Service Template Binding

When the device radio mode is AP, this page is used for wireless service template binding. Setting the template in next wireless service page.

Template ID	Template Name	SSID	Network	wlan Port Name	Action
0	default_2.4G	Wisnetworks_2.4G	lan1	ath0	Delete

Template: Network:

Template ID: display template ID from 0.

Template Name: display template name.

SSID: display the template SSID.

Network: display the network this template binding. Usually set lan1 when we add the template.

Wlan Port Name: display the wireless interface this template binding.

Action: click the "Delete" button to delete this wireless template on this radio.

Template: Choose binding service template from the drop-down menu.

Network: Choose LAN from the drop-down menu.

Add: click to add then click apply to run the configuration.

Wireless Client Setting

When the device radio mode is station, here is the wireless client setting.

SSID: input the AP' s SSID.

BSSID: input the AP' s MAC.

Enable WDS: WDS means the bridge mode. The packets will pass through directly without change source MAC. When PtP instance, enable the WDS.

Network: choose LAN binding on the wireless interface. 2.4GHz radio is ath0. 5GHz radio is ath8.

Encryption: choose the AP' s SSID encryption. It support None/WEP/WPA/WPA2.

Auth type: display the Auth type.

PSK Key: input PSK key here.

Wireless security Settings

If the destination AP is WPA/WPA2-PSK, configure as follows.

Just put the key in PSK Key.

If the destination AP' s security setting is WPA/WPA2-EAP, configure as follows.

EAP Auth Mode: Click the drop-down menu to choose

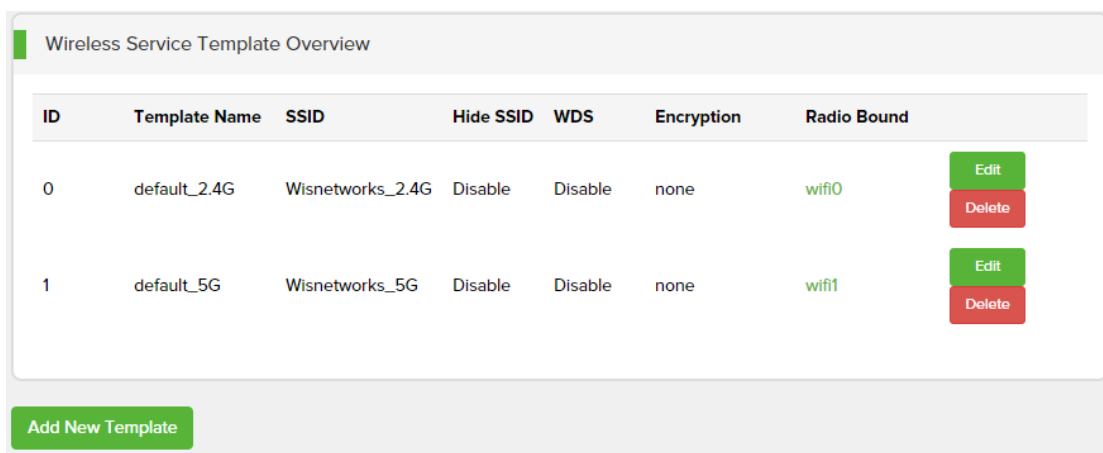
Anonymous identity: display the anonymous identity

Username: display the username

Password: display the password

4.2 Wireless Service

Wireless service page is used to configure Wireless access service template when the device worked as an AP. It is no use under mode station.



ID	Template Name	SSID	Hide SSID	WDS	Encryption	Radio Bound	
0	default_2.4G	Wisnetworks_2.4G	Disable	Disable	none	wifi0	Edit Delete
1	default_5G	Wisnetworks_5G	Disable	Disable	none	wifi1	Edit Delete

[Add New Template](#)

ID: display the number of service template

Template Name: display the template name

SSID: Service Set Identifier. The client can be connected to the network only by it

Hide SSID: display the status of hide SSID function enable or disable. The clients can't scan the hide SSID.

WDS: display the status of WDS function.

Encryption: show the type of this template's encryption

Radio Bound: display which radio is binding on this template. One template can bound one or two radios.

Edit: click edit button to configure this service template.

Delete: click to delete this service.

Add new template: click to add.

If you click the button, as follows.

New Template

Template Name	<input type="text"/>
SSID	<input type="text"/>
Hide SSID	<input type="checkbox"/>
WDS	<input type="checkbox"/>
Max Client	<input type="text" value="admin"/>
MAC Filter	<input type="text" value="Disable"/>
MAC List	<input type="text" value="None"/>
Multicast Optimization	<input type="checkbox"/>
Security	<input type="text" value="None"/>
Auth Type	<input type="text" value="None"/>

Part of the configuration above has been explained, not repeat here.

Max Client: set the maximum clients amount for this wireless service template.

MAC Filter: there are three types disable, deny, and allow. Disable means don't use MAC filter function. Deny means rejected the MAC address in the list access. Allow means only allow clients in the MAC list access.

MAC List: choose MAC list in wireless filter.

Multicast Optimization: the default is disabled.

Security: display the security type.

Auth type: display the Auth type.

When security type is WEP as follows,

Security	<input type="text" value="WEP"/>
Auth Type	<input type="text" value="OPEN"/>
WEP Key Index	<input type="text" value="1"/>

Auth type: set the Auth type "Open" or "Shared Key" . The default is Open.

WEP Key Index: set key Index, the default is 1.

WEP Key: set the WEP key in the radio page.

When security type is WPA/WPA2-PSK as follows,

Security	WPA/WPA2
Auth Type	PSK
PSK Key	123456

Auth type: the default is PSK.

PSK Key: input your PSK key here.

When security type is WPA/WPA2-EAP as follows,

Security	WPA/WPA2
Auth Type	EAP
Auth Server IP/Port	<input type="text"/> / <input type="text"/>
Auth Server Secret	<input type="text"/>
Accounting Server	<input type="checkbox"/>
Accounting Server IP/Port	<input type="text"/> / <input type="text"/>
Accounting Server Secret	<input type="text"/>

Auth Server IP/Port: set the authentication server IP and the port number here.

Auth Server secret: set the key when the device connected with the Auth server.

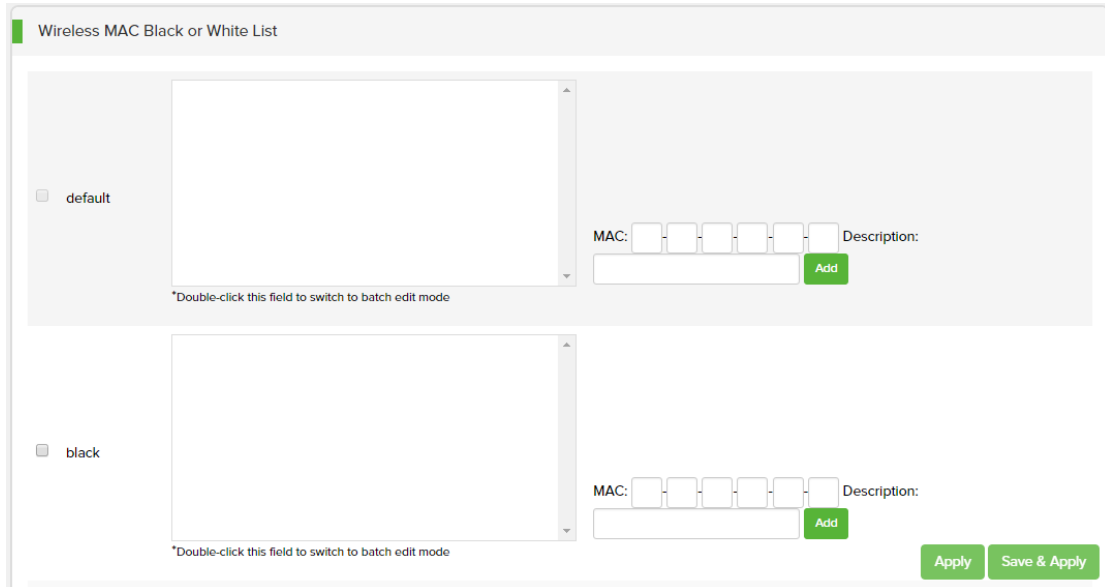
Accounting Server: enable or disable the accounting function.

Acct server IP/port: set the accounting server IP and the port number here.

Acct Server Secret: set the key when the device connected with the Acct server.

4.3 Wireless Filter

Wireless filter page is used to build one or more MAC address list to control the access of clients as follows.



Default: the default MAC list name is default. This list can't be deleted.

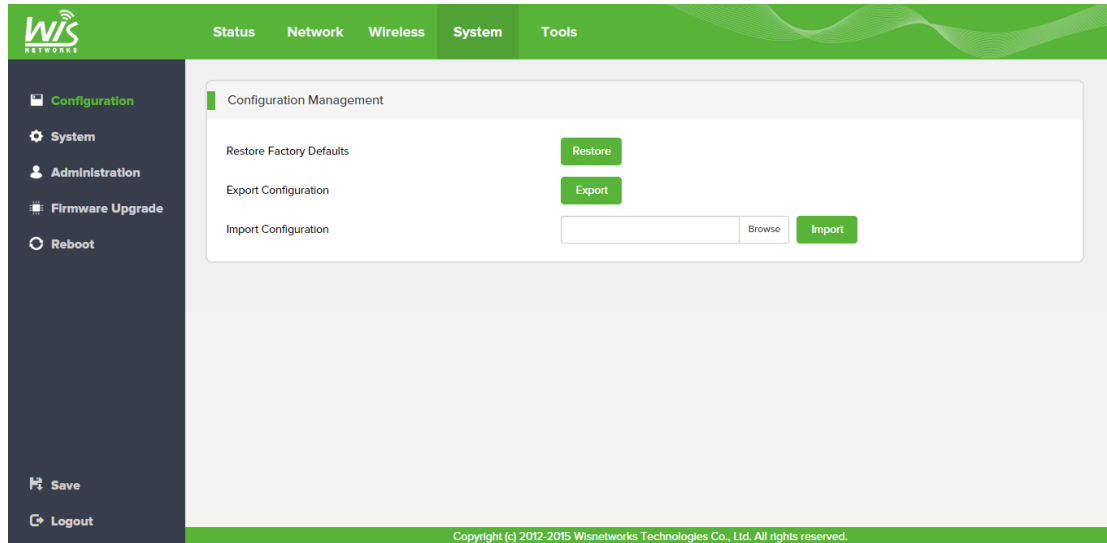
Add: fill in clients' MAC in the blank. And make some easy words for description.

Add new MAC list: fill in the new MAC list name. Click "add" to build a new list.

Delete MAC List: Check the box in front of the name of lists, click to delete.

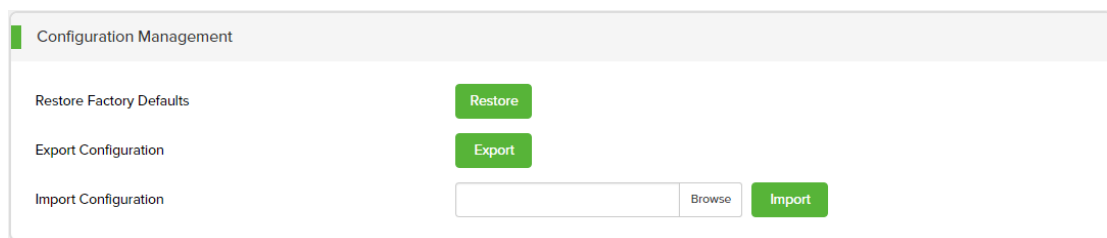
5. System

The System page contains these 5 sub menu, Configuration, System, Administration, Firmware Upgrade and Reboot. This page is mainly used to set the running parameters of device.



5.1 Configuration

This page is used to restore, export and import configuration.



Restore Factory defaults: Click the Restore button to recovery factory Settings, this operation will delete all existing configuration.

Export Configuration: Export the existing configuration as a .CSV file.

Import Configuration: choose a .CSV configuration file to import to the device.

5.2 System

This page contains 3 parts, device, time synchronization, and syslog.

Device

Description	<input type="text"/>
Hostname	<input type="text" value="WIS-CM711AC"/>
Language	<input style="border: none; border-bottom: 1px solid #ccc; text-decoration: none; font-family: sans-serif; font-size: 1em; padding: 0 5px; margin: 0 5px;" type="text" value="English"/> ▾
Local Time	Mon Mar 7 14:30:13 2016 Sync with browser
Timezone	<input style="border: none; border-bottom: 1px solid #ccc; text-decoration: none; font-family: sans-serif; font-size: 1em; padding: 0 5px; margin: 0 5px;" type="text" value="Asia/Shanghai"/> ▾

Description: make an easy description for this device.

Hostname: hostname for this device.

Language: the WEB interface language. Choose English or Chinese.

Local Time: display current device' s time

Time zone: display the time zone for this device. You can modify it.

Time Synchronization

NTP Client	<input checked="" style="background-color: #27ae60; color: white; padding: 2px 5px; font-size: 0.8em; font-weight: bold; border: none; border-radius: 3px; margin-right: 5px;" type="checkbox"/> ON
Provide NTP server	<input type="checkbox"/>
NTP server candidates	<input style="border: 1px solid #ccc; width: 100%; margin-bottom: 5px;" type="text" value="time.windows.com"/> ✕ <input style="border: 1px solid #ccc; width: 100%; margin-bottom: 5px;" type="text" value="ntp.sjtu.edu.cn"/> ✕ <input style="border: 1px solid #ccc; width: 100%; margin-bottom: 5px;" type="text" value="210.72.145.44"/> ✕ <input style="border: 1px solid #ccc; width: 100%; margin-bottom: 5px;" type="text"/> +

NTP Client: when this is enabled, the device can get clock from NTP server.

Provide NTP server: when this is enabled, the device can work as a NTP server to provide time for other clients.

NTP server candidates: display the NTP list. You can configure multiple servers as candidates.

Syslog	
System log buffer size	<input type="text" value="16"/>
External system log server	<input type="text"/>
External system log server port	<input type="text"/>
Log output level	<input type="text" value="Debug"/>
Cron Log Level	<input type="text" value="Debug"/>

System log buffer size: display the log cache space, the default is 16KB.

External system log server: This is for a remote log server. Fill in the server address here.

External system log server port: fill in the system log server' s port here.

Log output level: output the log according to the importance

Cron Log Level: record the script running log of Linux system.

5.3 Administration

This device can be managed in 3 different ways, by Web, by software, and by SSH.

This page contains 4 parts, Password, WEB service, SNMP Server, and SSH Access.

Password	
Current Password	<input type="text"/>
New Password	<input type="text"/>
Confirmation	<input type="text"/>

Current Password: put in current password here.

New Password: put in new word.

Confirmation: put in new word again to confirm.

WEB Service	
WEB Server Port	<input type="text" value="80"/>
Session Timeout	<input type="text" value="3600"/> second

WEB Server Port: set the port for WEB access.

Session Timeout: set the timeout after success access by WEB.

SNMP Server

SNMP Server	<input type="checkbox"/> ON <input type="checkbox"/>	SNMP Version	V1V2
Contact	<input type="text"/>	R/O Community	<input type="text" value="public"/>
Location	<input type="text"/>	R/W Community	<input type="text" value="private"/>
Trap IP address	<input type="text"/>		
Trap Port	<input type="text"/>		
Trap Community	<input type="text"/>		

SNMP Server: enable or disable SNMP function.

Contact: put in the contact information here.

Location: you can put in the device' s location information here.

Trap IP address: the SNMP trap packets address. Put in the network management server' s IP address.

Trap Port: put in the network management server' s port.

Trap Community: the trap community IP address.

SNMP Version: display SNMP version.

R/O Community: the default is public.

R/W community: the default is private.

SSH Access

Interface	<input type="radio"/> lan1 <input type="radio"/> wan <input checked="" type="radio"/> unspecified
Port	<input type="text" value="22"/>
Password authentication	<input checked="" type="checkbox"/>
Allow root logins with password	<input checked="" type="checkbox"/>
Gateway ports	<input type="checkbox"/>
SSH-Keys	<div style="border: 1px solid #ccc; height: 40px; width: 100%;"></div>

Interface: set the interface which is allowed to be remove access. The default is unspecified means no limit.

Port: set the SSH port. The default is 22.

Password authentication: enable or disable password authentication function.

Allow root logins with password: allow root user access.

Gateway ports: enable or disable gateway ports

SSH-Keys: set the SSH-Keys here.

5.4 Firmware Upgrade

When there are new functions or some bugs need to fix up, we need to upgrade the firmware on this page.



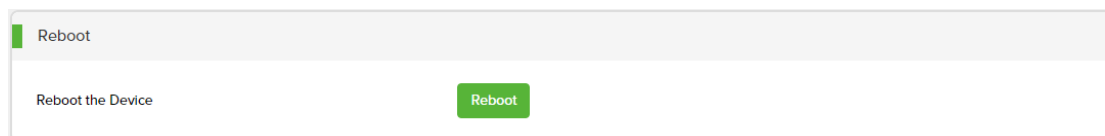
The screenshot shows a web interface titled "Firmware Upgrade". It features a "Version" field displaying "1.0.0020_Release". Below this is an "Image" field with a "Browse" button and a green "Flash image..." button.

Version: display the current version number.

Image: choose the .bin file here for upload. Then click the button to firmware upgrade.

5.5 Reboot

This page is used to reboot the device.



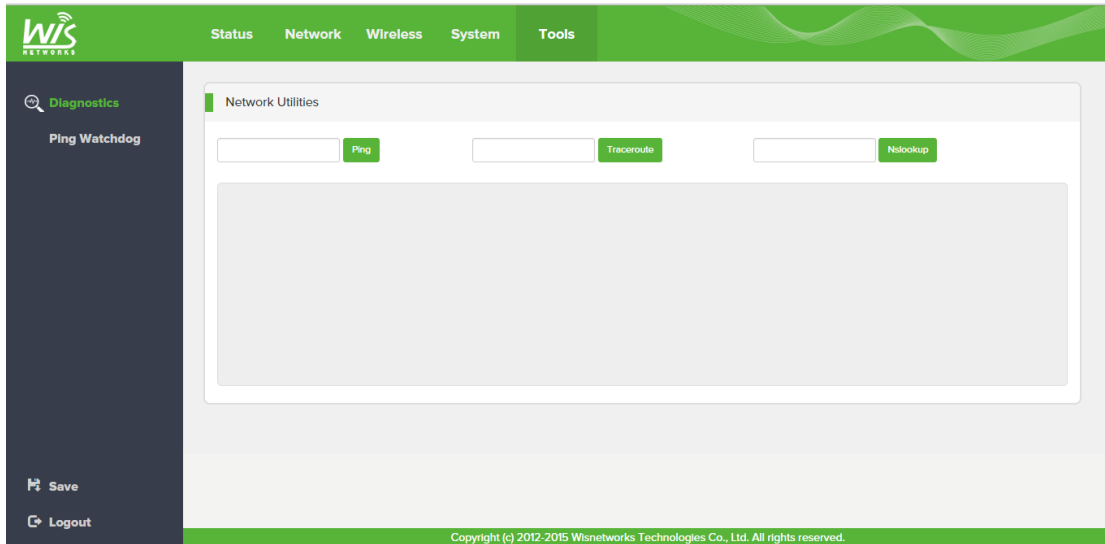
The screenshot shows a web interface titled "Reboot". It features a "Reboot the Device" label and a green "Reboot" button.

Reboot the device: click this button to reboot this device.

Don't cut off the power when the device is rebooting.

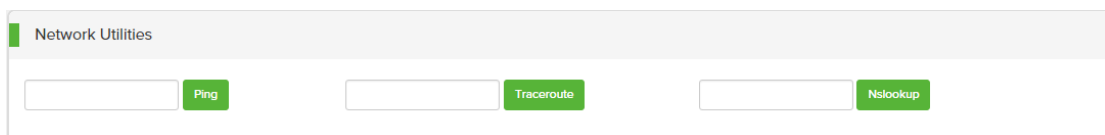
6. Tools

There are two web tools inside the WisOS_AC, Diagnostics and Ping Watchdog.



6.1 Diagnostics

The integrated diagnostic tool can be used to test the current network connecting situation.



Ping: Fill in the destination IP address in the input blank to test connectivity.

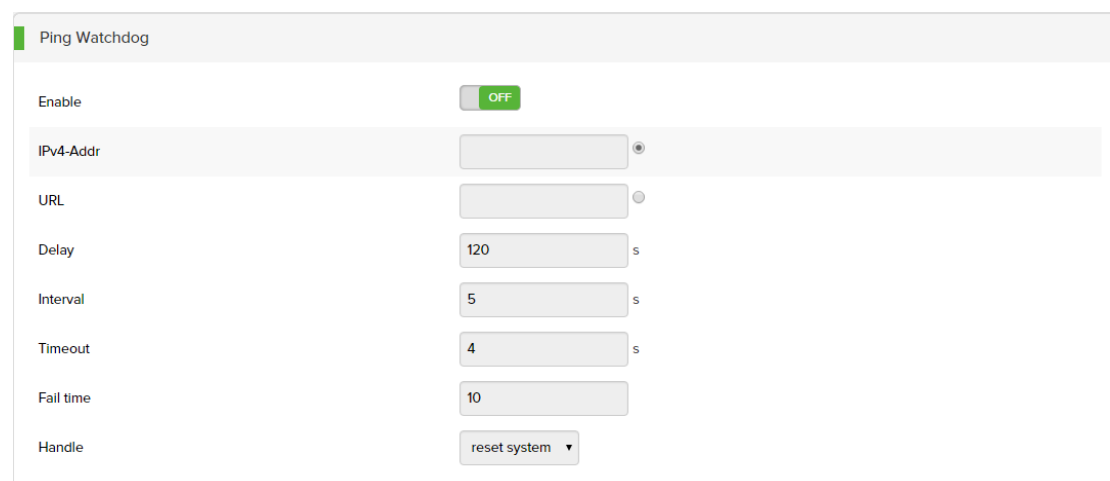
Tracert: Tracert is a computer network diagnostic tool for displaying the route (path) and measuring transit delays of packets across an Internet Protocol (IP) network.

Nslookup: Nslookup is a network administration command-line tool available for many computer operating systems for querying the Domain Name System (DNS)

to obtain domain name or IP address mapping or for any other specific DNS record

6.2 Ping Watchdog

Ping watchdog is used to detect the connectivity of the network. It can send packets to a destination IP or a domain periodically. When Ping packets timeout after reaching a certain condition, the device will consider there is something wrong with itself. The device will try to fix it by reboot.



Enable: turn on or off the ping watchdog function.

IPv4-Addr: set the IP address for detecting.

URL: fill in the domain in this blank for detecting.

Delay: this is used to configure the starting delay time. Because in some cases, the device could not be started to connect with the specify address as soon as started, so you need to set a delay time to ensure the device have run normally.

Interval: set the interval time for ping packets.

Timeout: set the timeout time. The default is 4s.

Fall time: when the failing times beyond the times you set, the device will reset the radio or reboot automatically.