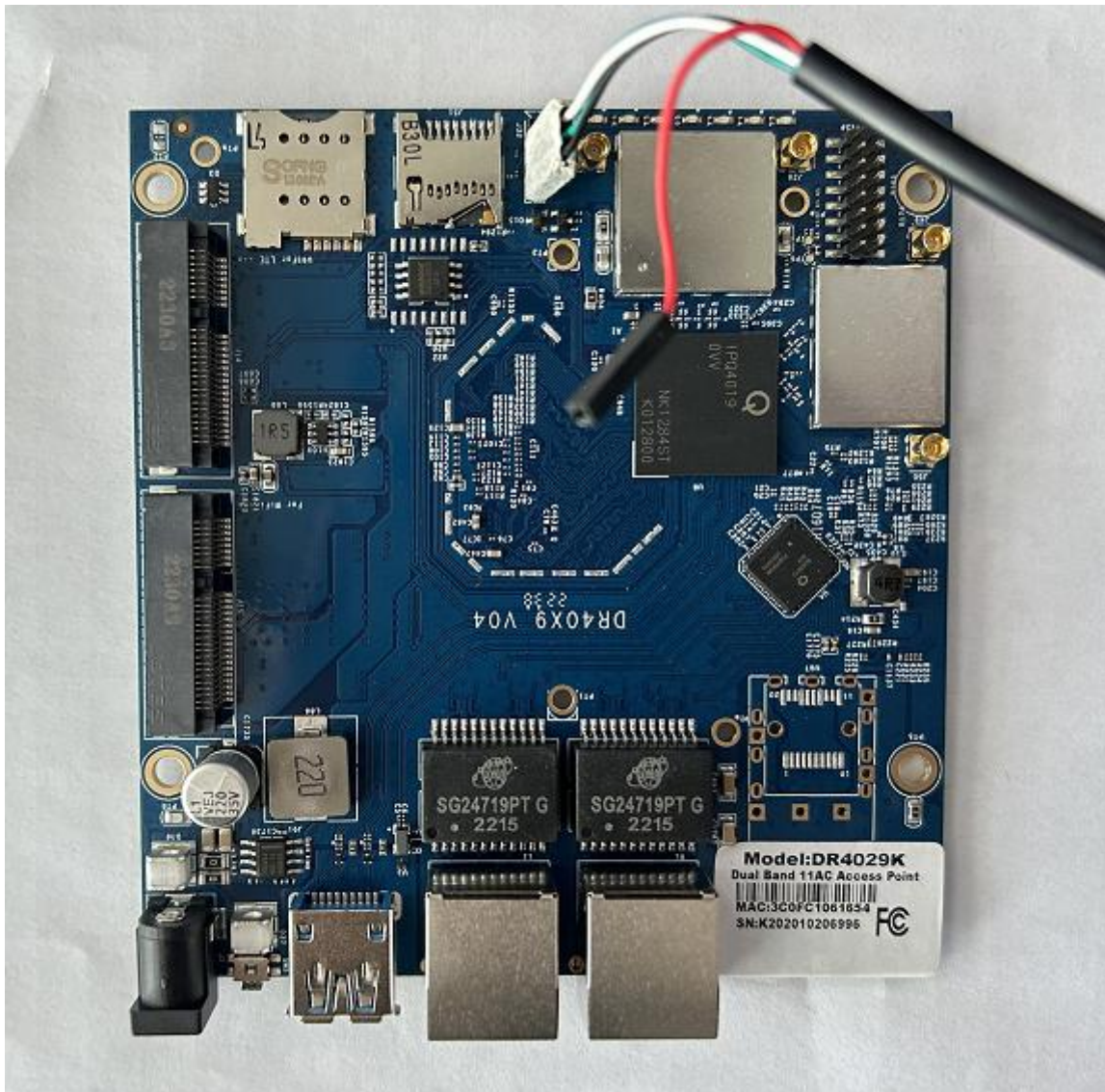


Logging in with serial

Step1:

Use SERIAL to connect localhost.

That is show how to use the Uart for DR40X9



Step2:

When you see“Hit any key to stop autoboot“,please click“Enter”in your keyboard.

```
D - 210704 - APPSBL Image Loaded, Delta - (430795 Bytes)
B - 1350874 - QSEE Execution, Start
D - 60 - QSEE Execution, Delta
B - 1357108 - SBL1, End
D - 664669 - SBL1, Delta
S - Flash Throughput, 2007 KB/s (731014 Bytes, 364221 us)
S - DDR Frequency, 672 MHz

U-Boot 2012.07 [Chaos Calmer 15.05.1,r255] (Apr 22 2021 - 13:02:26)

smem ram ptable found: ver: 1 len: 3
DRAM: 512 MiB
machid : 0x8010006
NAND: ID = 302012c
Vendor = 2c
Device = 1
ONFI device found
SF: Detected MX25L1605D with page size 4 KiB, total 2 MiB
ipq_spi: page_size: 0x100, sector_size: 0x1000, size: 0x200000
130 MiB
MMC: qca_mmc: 0
In: serial
Out: serial
Err: serial
machid: 8010006
flash_type: 0
Hit any key to stop autoboot: 0
Net: MAC0 addr:c4:4b:d1:0:4a:58
PHY ID1: 0x4d
PHY ID2: 0xd0b1
ipq40xx_ess_sw_init done
eth0

(IPQ40xx) # █
```

Writing command

Step1:

Write the following command

If you want to load the firmware as below,
write the command as follows

```
normand-ipq40xx-single-2168-202104231204
```

```
tftpboot 0x84000000 normand-ipq40xx-single-2168-  
202104231204.img&&imgaddr=0x84000000  
&&source$imgaddr:script
```

Please note that please replace normand-ipq40xx-single-2168-202104231204 with your firmware name.

Step2:

It's done when you see as below picture shows.

```
#####
#####
#####
#####
#####
#####
#####
#####
#####
#####
#####
done
Bytes transferred = 23221388 (162548c hex)
## Executing script at 84000000
crc32+ SF: Detected MX25L1605D with page size 4 KiB, total 2 MiB
Flashing mibib:          ## Copying 'mibib-e1b8dae18137ae92508d2592f50a0cfca44215db'
 subimage from FIT image at 84000000 ...
crc32+ [ done ]
Flashing sbl1:          ## Copying 'sbl1-a9831d8db37c18ebe43878fda3139605f6b0d448'
 subimage from FIT image at 84000000 ...
crc32+ [ done ]
Flashing ddr-AP-DK07.1-C1:  ## Copying 'ddr-AP-DK07.1-C1-b94afd0a0980962195094d37e91242
81bfa45421' subimage from FIT image at 84000000 ...
crc32+ [ done ]
Flashing tz:           ## Copying 'tz-5371ff12800ec75037875b90289bbafe482dee9f' su
bimage from FIT image at 84000000 ...
crc32+ [ done ]
Flashing u-boot:       ## Copying 'u-boot-b8bcdbc1998051e4fb46d4c339fa87b3d5ef9ea7
' subimage from FIT image at 84000000 ...
crc32+ [ done ]
Flashing ubi:          ## Copying 'ubi-2113e3f3cc2a94e31f40d2c220669cca1b7e2845' s
ubimage from FIT image at 84000000 ...
crc32+
NAND erase: device 0 offset 0x0, size 0x4000000
Erasing at 0x3fe0000 -- 100% complete.
OK

NAND write: device 0 offset 0x0, size 0x1500000
 22020096 bytes written: OK
[ done ]
(IPQ40xx) # █
```

已连接 COM3 ◦ xterm 99x51 51, 13 1 会话 CAP RTM

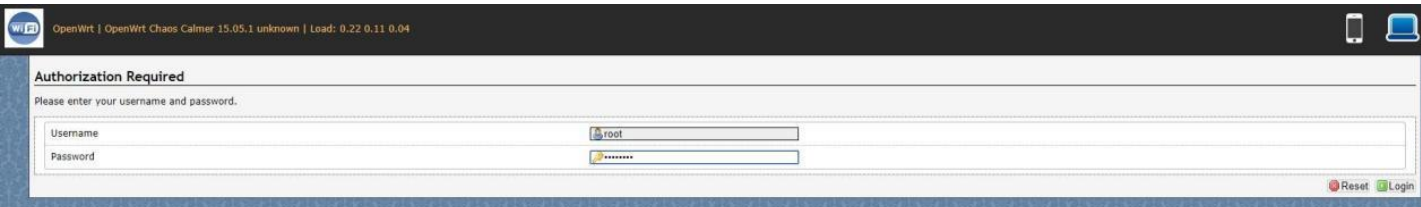
IPQ40xx UI setting

Step1:

Input the IP: 192.168.1.1 and login;

Step2:

Input the user name: root; password: asdf1234, then press the button“Login”,

A screenshot of the OpenWrt web interface showing the login page. The page title is "Authorization Required" and it prompts the user to "Please enter your username and password." There are two input fields: "Username" with the value "root" and "Password" with masked characters "*****". At the bottom right, there are "Reset" and "Login" buttons. The top status bar shows "OpenWrt | OpenWrt Chaos Calmer 15.05.1 unknown | Load: 0.22 0.11 0.04" and icons for mobile and desktop views.

OpenWrt | OpenWrt Chaos Calmer 15.05.1 unknown | Load: 0.22 0.11 0.04

Authorization Required

Please enter your username and password.

Username

Password

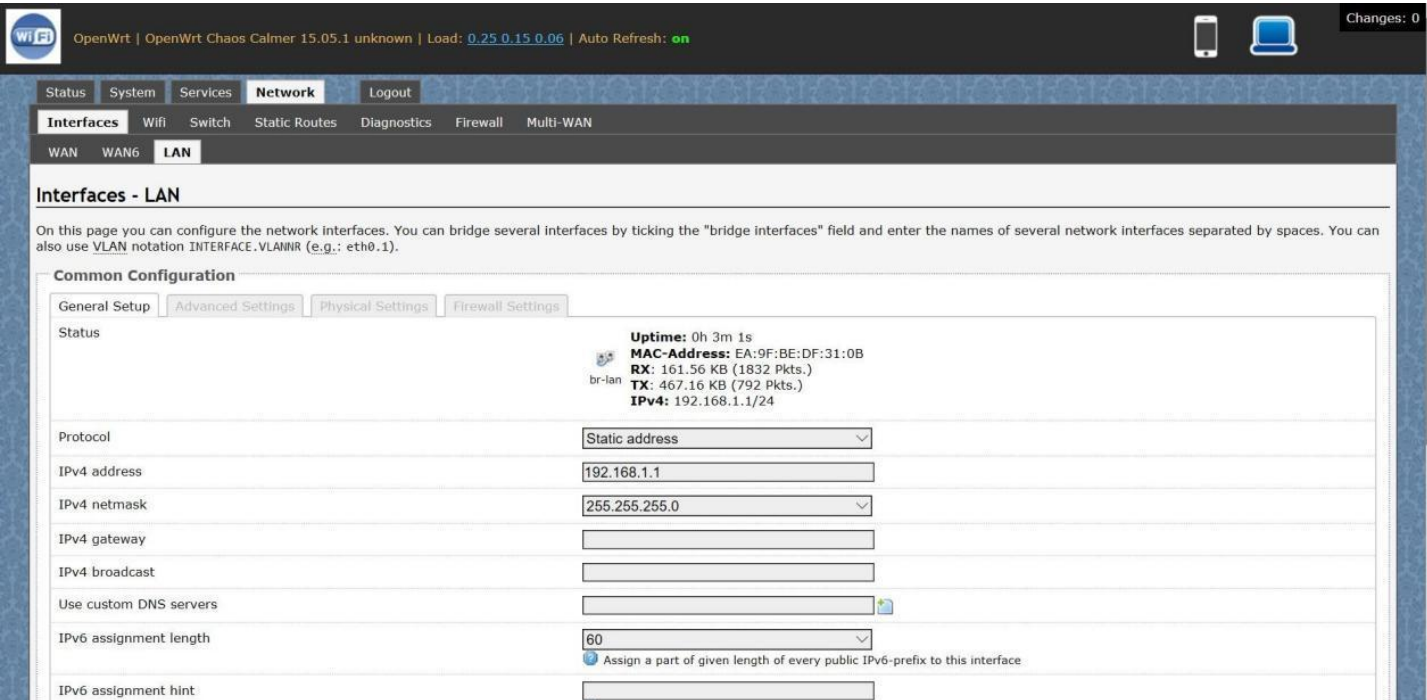
[Reset](#) [Login](#)

IPQ40xx UI setting

Step3: network setting

IP Setting:setting IP in the path“network->Interfaces->LAN->IPV4 address”

DHCP setting:DHCP and other protocol setting in the path network->Interfaces->LAN->protocol”



The screenshot shows the Wallys web interface for network configuration. At the top, there is a status bar with system information: "OpenWrt | OpenWrt Chaos Calmer 15.05.1 unknown | Load: 0.25 0.15 0.06 | Auto Refresh: on". Below this is a navigation menu with tabs for "Status", "System", "Services", "Network", and "Logout". The "Network" tab is active, and sub-tabs include "Interfaces", "Wifi", "Switch", "Static Routes", "Diagnostics", "Firewall", and "Multi-WAN". The "Interfaces" sub-tab is selected, and the "LAN" interface is highlighted.

The main content area is titled "Interfaces - LAN". Below the title, there is a note: "On this page you can configure the network interfaces. You can bridge several interfaces by ticking the 'bridge interfaces' field and enter the names of several network interfaces separated by spaces. You can also use VLAN notation INTERFACE.VLANNR (e.g.: eth0.1)."

The configuration is organized into sections. The "Common Configuration" section has sub-tabs for "General Setup", "Advanced Settings", "Physical Settings", and "Firewall Settings". The "General Setup" sub-tab is active. It shows the "Status" of the interface "br-lan" with the following details:

- Uptime: 0h 3m 1s
- MAC-Address: EA:9F:BE:DF:31:0B
- RX: 161.56 KB (1832 Pkts.)
- TX: 467.16 KB (792 Pkts.)
- IPv4: 192.168.1.1/24

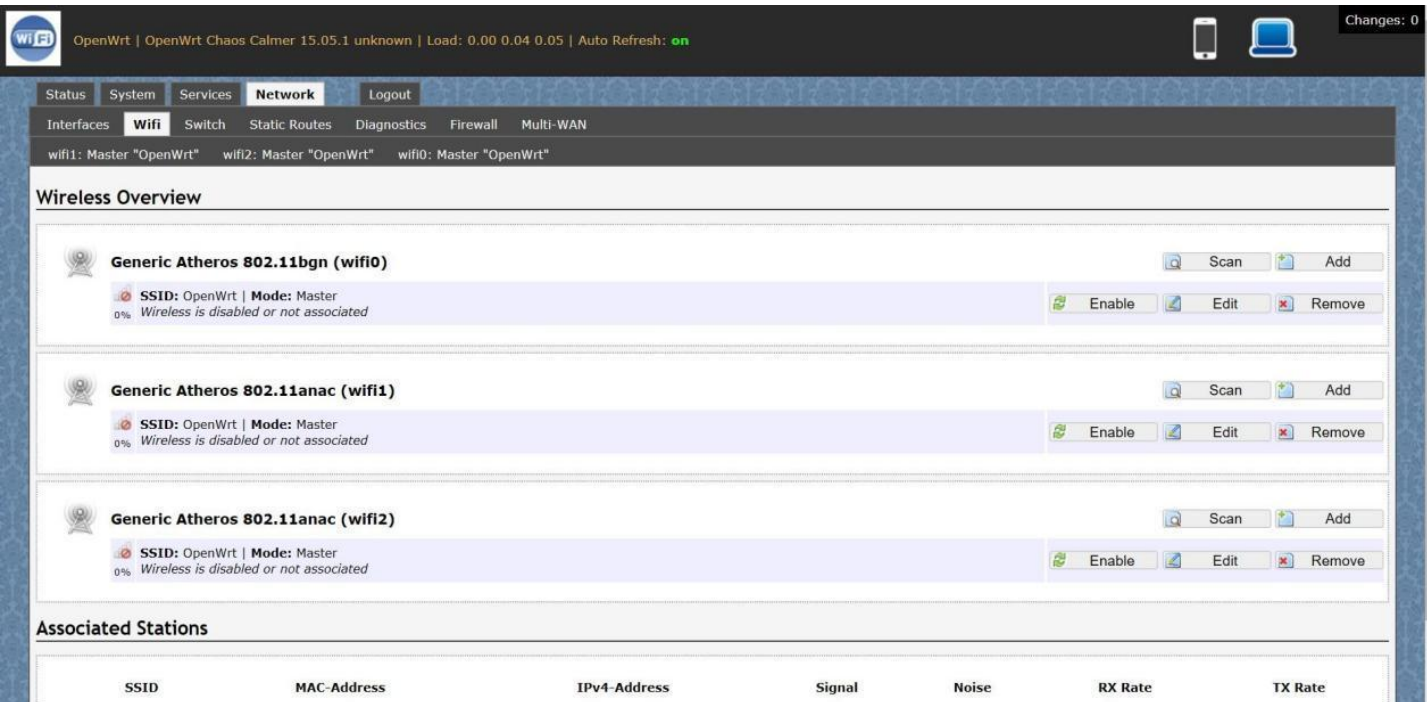
Below the status, there is a table of configuration options:

Field	Value
Protocol	Static address
IPv4 address	192.168.1.1
IPv4 netmask	255.255.255.0
IPv4 gateway	
IPv4 broadcast	
Use custom DNS servers	
IPv6 assignment length	60
IPv6 assignment hint	

IPQ40xx UI setting

Step4: wireless setting

1. login the path network->Interfaces->WIFI, then choose one wifi, we select the red marked as example, click the button 'Edit'



The screenshot shows the OpenWrt web interface for network configuration. The top navigation bar includes 'Status', 'System', 'Services', 'Network', and 'Logout'. Under 'Network', there are sub-menus for 'Interfaces', 'Wifi', 'Switch', 'Static Routes', 'Diagnostics', 'Firewall', and 'Multi-WAN'. The 'Wifi' sub-menu is selected, showing three wireless interfaces: 'wifi1: Master "OpenWrt"', 'wifi2: Master "OpenWrt"', and 'wifi0: Master "OpenWrt"'. The 'Wireless Overview' section displays three entries for 'Generic Atheros 802.11bgn (wifi0)', 'Generic Atheros 802.11anac (wifi1)', and 'Generic Atheros 802.11anac (wifi2)'. Each entry shows 'SSID: OpenWrt | Mode: Master' and '0% Wireless is disabled or not associated'. To the right of each entry are buttons for 'Scan', 'Add', 'Enable', 'Edit', and 'Remove'. The 'Associated Stations' section is currently empty, with a table header showing columns for 'SSID', 'MAC-Address', 'IPv4-Address', 'Signal', 'Noise', 'RX Rate', and 'TX Rate'.

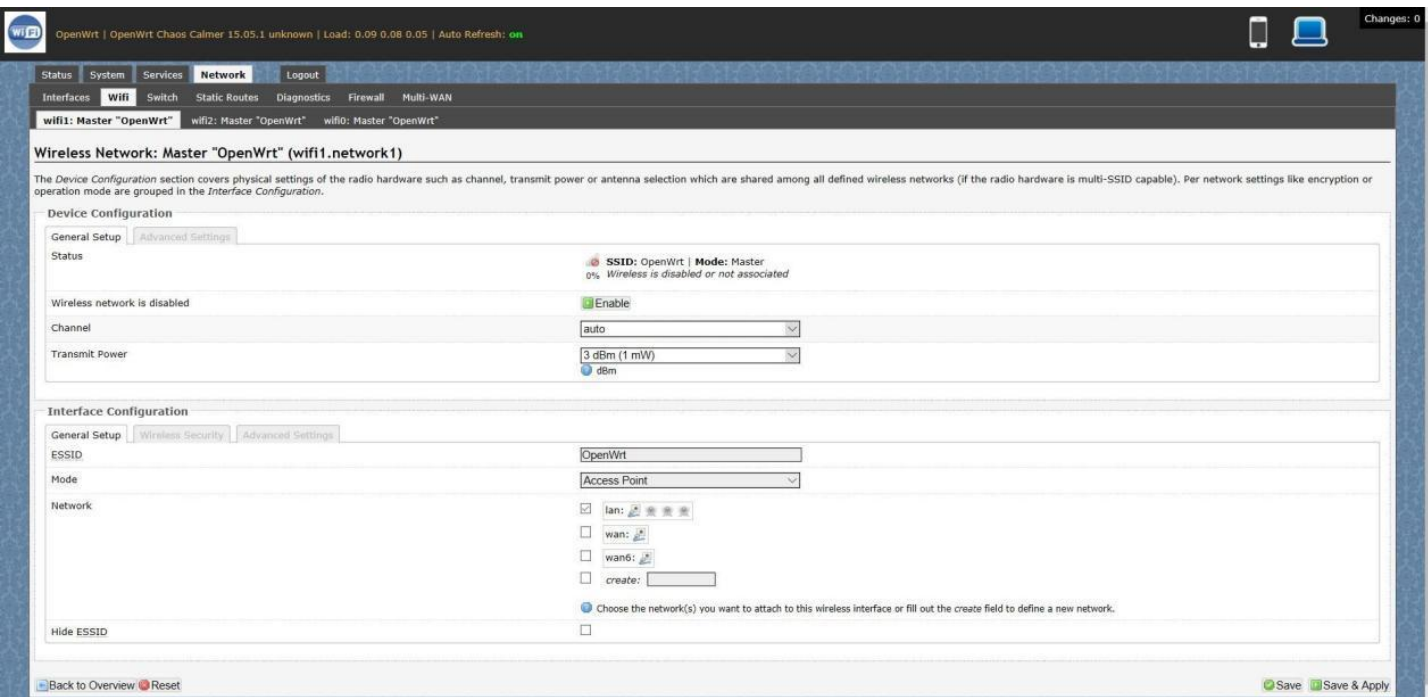
IPQ40xx UI setting

Step4: wireless setting

2.The detail information show in the picture as below:
Channel:for channe lselect;

3.Transmit Power:signal chain power setting;ESSID:forID

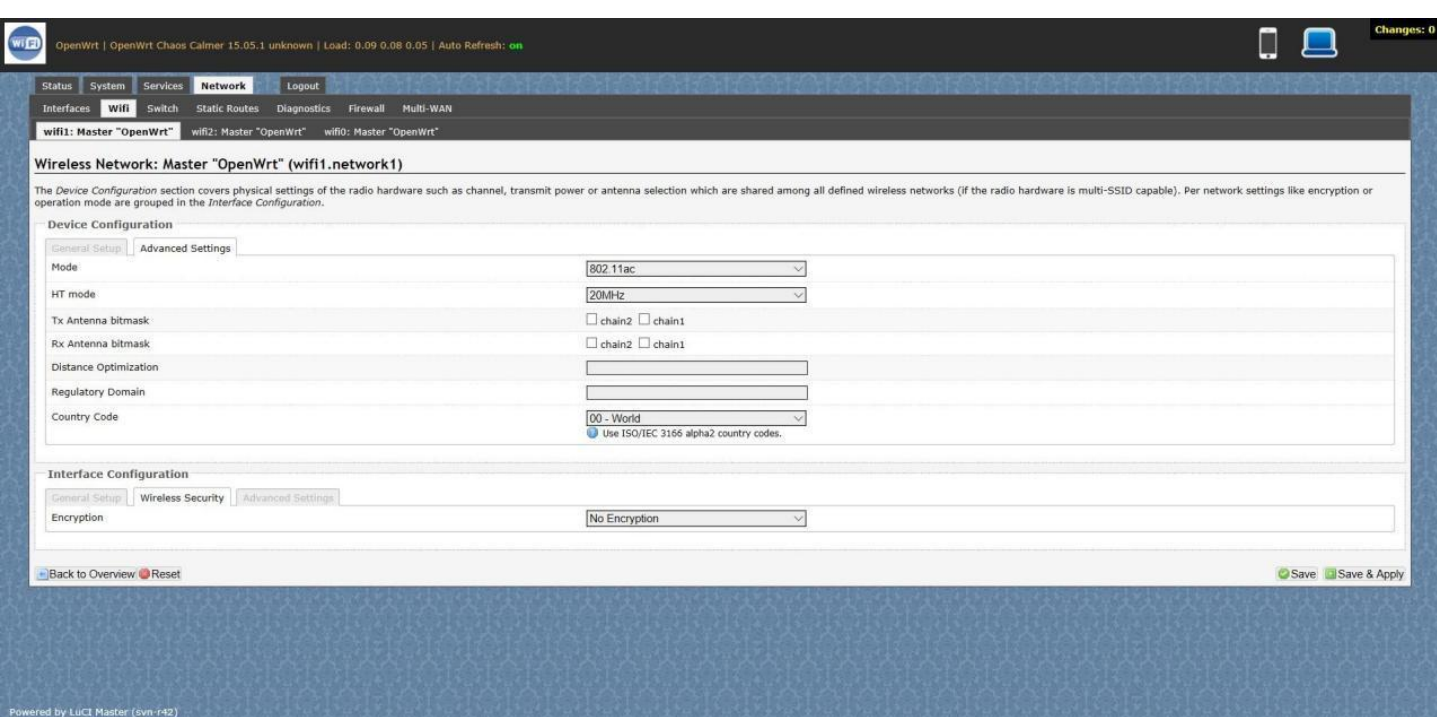
4.Mode:it support 4 mode AP,AP(WDS),client,client(WDS)
Wireless Security:for Encryption setting



IPQ40xx UI setting

Step4: wireless setting

5. In advance setting you can select which chain do you need, which BW do you need and so on.



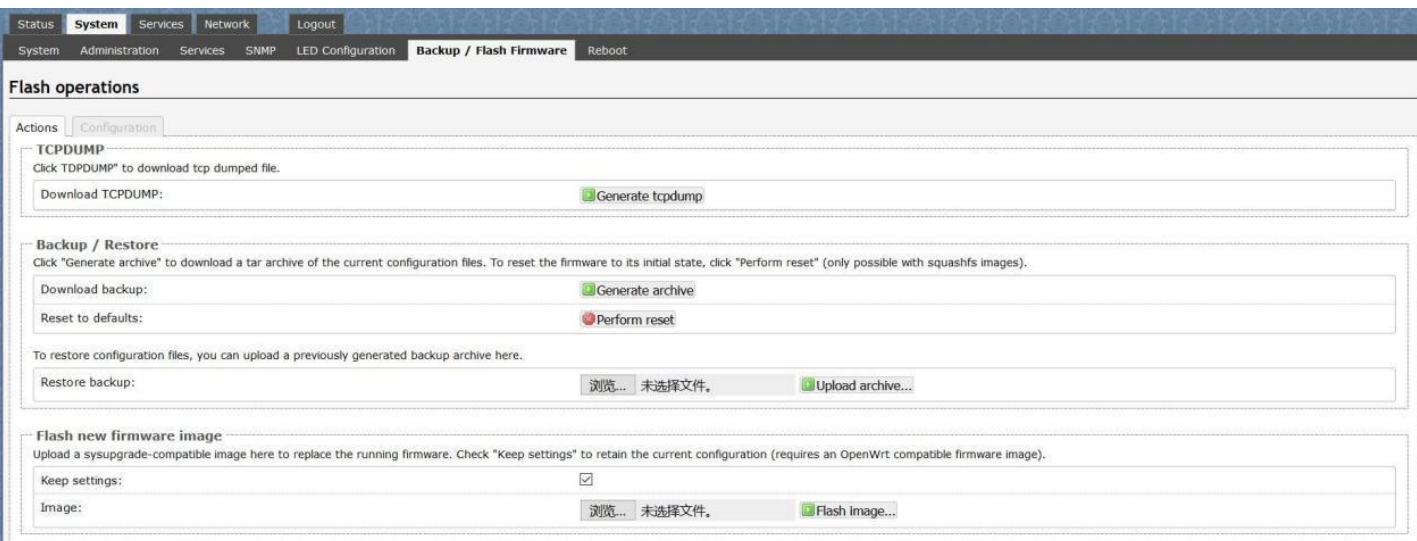
The screenshot displays the OpenWrt web interface for configuring wireless settings. The top navigation bar includes 'Status', 'System', 'Services', 'Network', and 'Logout'. The 'Network' section is active, with sub-tabs for 'Interfaces', 'WiFi', 'Switch', 'Static Routes', 'Diagnostics', 'Firewall', and 'Multi-WAN'. The 'WiFi' tab is selected, showing three wireless networks: 'wifi1: Master "OpenWrt"', 'wifi2: Master "OpenWrt"', and 'wifi0: Master "OpenWrt"'. The 'wifi1: Master "OpenWrt"' network is selected, and the 'Wireless Network: Master "OpenWrt" (wifi1.network1)' configuration page is shown. The page is divided into two main sections: 'Device Configuration' and 'Interface Configuration'. The 'Device Configuration' section has two tabs: 'General Setup' and 'Advanced Settings'. The 'Advanced Settings' tab is active, showing fields for 'Mode' (set to '802.11ac'), 'HT mode' (set to '20MHz'), 'Tx Antenna bitmask' (with checkboxes for 'chain2' and 'chain1'), 'Rx Antenna bitmask' (with checkboxes for 'chain2' and 'chain1'), 'Distance Optimization' (checkbox), 'Regulatory Domain' (text input), and 'Country Code' (set to '00 - World'). The 'Interface Configuration' section has two tabs: 'General Setup' and 'Wireless Security'. The 'General Setup' tab is active, showing the 'Encryption' field set to 'No Encryption'. At the bottom of the page, there are buttons for 'Back to Overview', 'Reset', 'Save', and 'Save & Apply'. The footer of the page reads 'Powered by LuCI Master (svn-r42)'.

6. In the end, you need click the button "Save & Apply", and wait for 2 minutes, then you can enjoy it.

IPQ40xx UI setting

Step5: Backup archive

Login System->Backup/Flash Firmware;Then click the button”Generate archive”;Then download the archive.



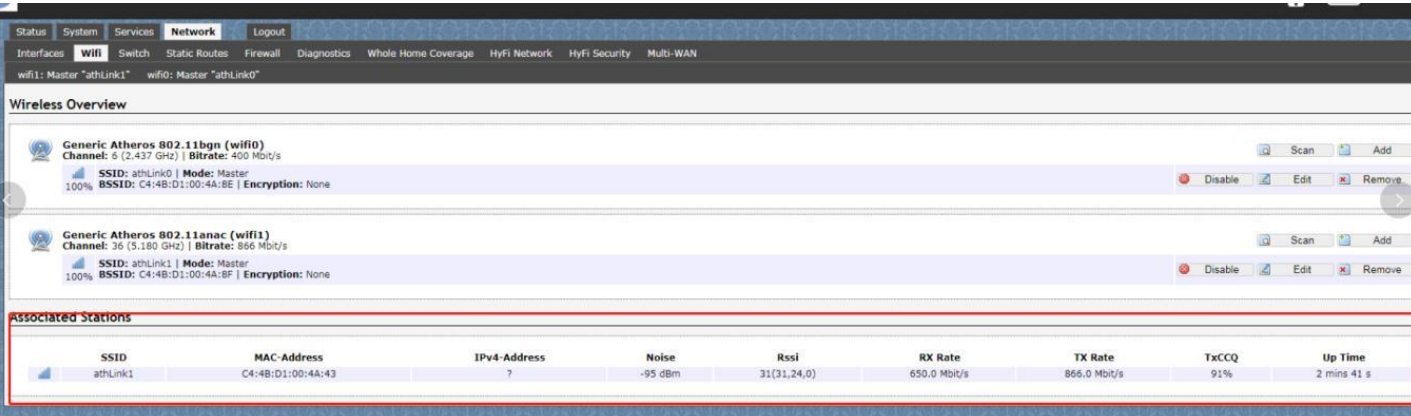
The screenshot shows the 'Flash operations' section of the Wallys UI. It contains several functional areas:

- TCPDUMP:** A section with a 'Generate tcpdump' button.
- Backup / Restore:** A section with a 'Generate archive' button and a 'Perform reset' button.
- Restore backup:** A section with a file selection button (浏览...) and an 'Upload archive...' button.
- Flash new firmware image:** A section with a 'Keep settings' checkbox (checked) and a file selection button (浏览...) followed by a 'Flash Image...' button.

IPQ40xx UI setting

Step6: Link up

If 2 devices are link up, please check the information in the “Associated Stations” toc performance.



The screenshot shows the 'Network' configuration page in the Wallys web interface. It displays two wireless networks: 'athLink0' and 'athLink1'. Below this, the 'Associated Stations' table shows the performance of the 'athLink1' network.

SSID	MAC Address	IPv4 Address	Noise	Rssi	RX Rate	TX Rate	TxCCQ	Up Time
athLink1	C4:4B:D1:00:4A:43	?	-95 dbm	31(31,24,0)	650.0 Mbit/s	866.0 Mbit/s	91%	2 mins 41 s



DR40X9 USER MANUAL

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