User Manual

---Apply to WL-R520 Series Industrial 3G/4G Router

V3.1

http://www.wlink-tech.com

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Caution

Due to product updates or functional upgrading, we may renew the content of this file, and this file only for reference. All statement, information, suggestion.etc in this file does not compose any form of guarantee and we WLINK reserves the right of final explanation.

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Contents

1 Product Introduction

1.1 Product overview

WLINK industrial Router use industrial grade design, high-powered 32bit MIPS network processor, embedded industrial grade, high powered, multi-band frequency mobile 3G+ communication module, support WCDMA, HSPA+、TD/FDD-LTE、EVDO（CDMA 2000）etc., high-speed mobile, wide band, provide quick, convenient internet access or private network transmission to customer, optional built-in WI-FI module or multi-LAN port, provide wire-line network or wireless WLAN share high speed wide band access, meanwhile, customized high security VPN (Open VPN、IPSec、SSL), to construct safe channel, widely used in financial, electric power, environment, oil, transportation, security, etc..

WLINK industrial series router provide WEB GUI, optional CLI configuration interface, customer can configure only by IE explore or Telnet/SSH, various configuration method, concise and friendly interface make configuring and managing of all router terminal easier ,meanwhile, WLINK provide M2M terminal management platform to manage all router terminal with remote management. User can monitor all terminals which connected to platform successfully by this platform, provide long-distance control, parameter configuration, and long-distance upgrade service.

1.2 Model introduction

WLINK industrial grade router series have single module / single SIM card, single module / double SIM card, double module / double SIM card design, support multi-band frequency WCDMA, HSPA+, TD/FDD-LTE, EVDO（CDMA 2000) etc., mobile wide-band, downward compatibility to GPRS、EDGE、CDMA 1x, etc., mobile narrow-band, optional built-in Wi-Fi module to build WLAN network, optional GPS module Expansion positioning function, to suit different requirement and different network environment of different operator, our Router series have many model for option, below is the product model indications in detail, for more optional models, please consult local distributors /resellers.

Table 1-1 Router partial model table

Optional Model list								
Model	LTE	3G	Interface	Dual SIM	WiFi	GPS	DL	UL
WL-R520L	FDD LTE 2600/2100/1800/900/800MHz	UMTS 800/850/900/1900/2100MHz	4xLAN 1xWAN		√		100M	50M
WL-R520L-d	FDD LTE 2600/2100/1800/900/800MHz	UMTS 800/850/900/1900/2100MHz	4xLAN 1xWAN	√	√		100M	50M
WL-R520L-g	FDD LTE 2600/2100/1800/900/800MHz	UMTS 800/850/900/1900/2100MHz	4xLAN 1xWAN		√	√	100M	50M
WL-R520LZ	FDD LTE: 2600/2100/1900/1700/900/850/700MHz TDD LTE: B338	UMTS 2100/1900/850/900MHz	4xLAN 1xWAN		√		FDD:100M TDD: 60M	FDD:100M TDD: 60M
WL-R520LZ-d	FDD LTE: 2600/2100/1900/1700/900/850/700MHz TDD LTE: B38	UMTS 2100/1900/850/900MHz	4xLAN 1xWAN	√	√		FDD:100M TDD: 60M	FDD: 50M TDD: 60M
WL-R520LZ-g	FDD LTE: 2600/2100/1900/1700/900/850/700MHz TDD LTE: B40	UMTS 2100/1900/850/900MHz	4xLAN 1xWAN		√	√	FDD:100M TDD: 60M	FDD: 50M TDD: 60M
WL-R520H		HSPA+ 2100/1900/850MHz	4xLAN 1xWAN		√		21M	5.76M
WL-R520H-d		HSPA+ 2100/1900/850MHz	4xLAN 1xWAN	√	√		21M	5.76M
WL-R520H-g		HSPA+ 2100/1900/850MHz	4xLAN 1xWAN		√	√	21M	5.76M
WL-R520H2		HSPA 2100/1900/900/850MHz	4xLAN 1xWAN		√		14M	5.76M
WL-R520H2-d		HSPA 2100/1900/900/850MHz	4xLAN 1xWAN	√	√		14M	5.76M
WL-R520H2-g		HSPA 2100/1900/900/850MHz	4xLAN 1xWAN		√	√	14M	5.76M
WL-R520U		HSUPA 2100/1900/900/850MHz	4xLAN 1xWAN		√		7.2M	5.76M
WL-R520U-d		HSUPA 2100/1900/900/850MHz	4xLAN 1xWAN	√	√		7.2M	5.76M
WL-R520U-g		HSUPA 2100/1900/900/850MHz	4xLAN 1xWAN		√	√	7.2M	5.76M
WL-R520E		EVDO 800MHz	4xLAN 1xWAN		√		3.1M	1.8M
WL-R520E-d		EVDO 800MHz	4xLAN 1xWAN	√	√		3.1M	1.8M
WL-R520E-g		EVDO 800MHz	4xLAN 1xWAN		√	√	3.1M	1.8M
WL-R520E-dm		EVDO 800MHz HSPA+ 2100/1900/850MHz	4xLAN 1xWAN	Dual SIM Dual Module	√		3.1M	1.8M
Note: 1. If need Dual module dual SIM, pls consult wlink sale person 2. If need Special frequency band, pls consult wlink sale person 3. Please specify before order if need VPN or OpenVPN								

1.3 Product Appearance

Table 1-2 WLINK Router Appearance

Series	R200	R200—W（G）	R520-g	R520-d
Appearance				
Ports	1*LAN 1*WAN	1*LAN + 1*WAN + GPS or WLAN(11n 1T1R)	1*WAN + 4*LAN + GPS or WLAN(11n 1T1R)	1*WAN + 4*LAN + single module/dual SIM, dual module/dual SIM
Product category	Single port router	Single port Wi-Fi（GPS）router	Multi-port Wi-Fi router	multi-port double-link router

1.4 Typical Application Diagram

WLINK 4G/3G Router widely used in Telecom, economic, advertisement, traffic, environment protection business area.

For example, in economic area, R520 Series Router connect server by IPSec & GRE to ensure data security, tiny design makes it could installed into ATM machine. All these technology ensured safe and reliable data transmission, and minimize the probability of network disconnection, and maximize the usability of economic business like ATM, POS .etc.

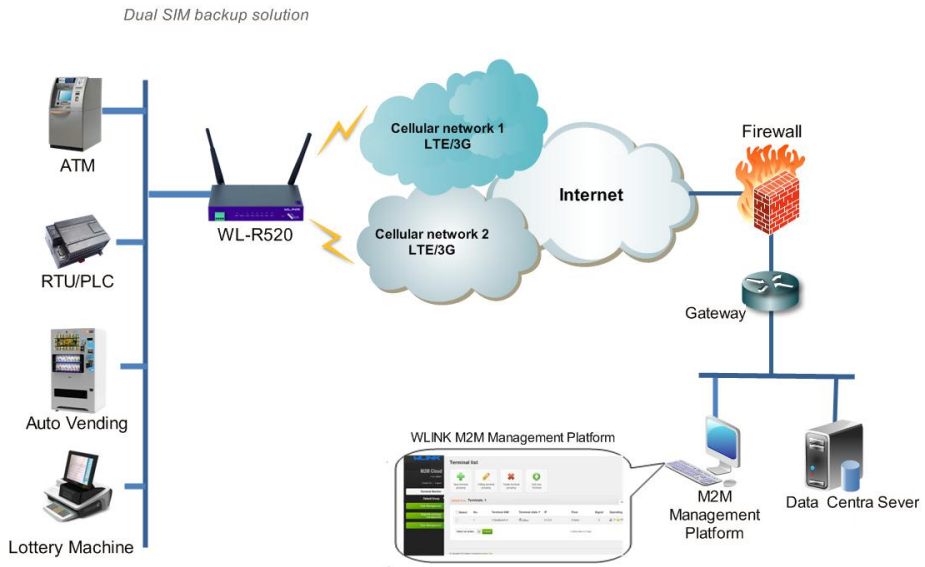


Figure 1-1 Network Topology

WLINK industrial router is based on mobile wireless public network or private network, build wireless data channel in mature network, to lower down the cost of wireless data transmission and technique.

1.5 Features

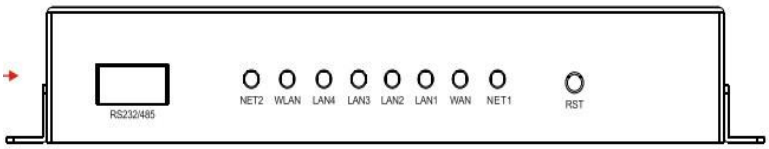
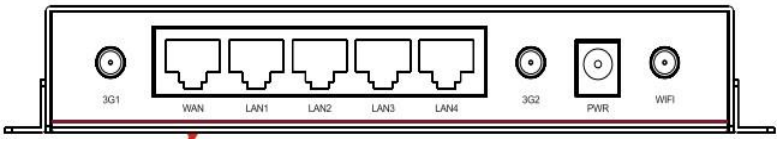
- Various cellular module optional, LTE/HSPA+/EVDO/CDMA2000 optional
- Support IEEE802.11b/g/n Wi-Fi AP function, extended support to Wi-Fi terminal, WDS bridging, support WEP, WPA/WPA2 Personal/Enterprise, TKIP/AES, etc., Authenticated encryption mode
- Support virtual data and private network（APN/VPDN）
- Optional support RS-232/RS-485 interface data transparent transmission and protocol conversion
- Support on-demand dialing, include timing on/off-line, voice or SMS control on/off-line, data trigger online or link idle offline
- Support TCP/IP protocol stack, support Telnet, HTTP, SNMP, PPP, PPPoE, etc., network protocol
- Support VPN Client（PPTP, L2TP）,optional support Open VPN, IPSec, HTTPs, SSH, etc. advanced VPN function
- Provide friendly user interface, use normal web internet explorer to easily configure and manage, long-distance configure Telnet/SSH + CLI
- Optional IPv6 protocol stack
- Optional support M2M terminal management platform
- WDT watchdog design, keep system stable
- Customization as customer’s demand

2 Hardware Installation

This chapter is mainly for installation introduction, there would be some difference between the scheme and real object. But the difference doesn't have any influence to products performance.

2.1 Panel:

Table 2-1 WL-R520 Structure

WLINK Tech.	R520 series
Front	
Rear	

NOTE

There are some different for Antenna interface and indicator light for the expanded Wi-Fi, GPS series.

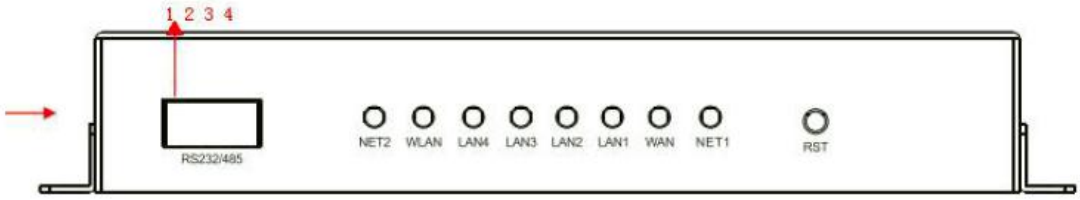
Table 2-2 Router Interface

Port	Instruction	Remark
USIM	Plug type SIM Slot, support 1.8/3V/5V automatic detection	
3G	3G antenna, SMA connector, 50Ω	
WIFI	Wi-Fi antenna, SMA connector, 50Ω	Optional
GPS	GPS antenna, SMA connector, 50Ω	Optional

Port	Instruction	Remark
LAN	10/100Base-TX，MDI/MDIX self-adaption,	R200: 1*LAN R520: 4*LAN
WAN	10/100Base-TX，MDI/MDIX self-adaption	R20 serial port and WAN port multiplex
RST	Reset button,(press on button 5 seconds)	
PWR	Power connector	5 ～ 26V DC
RS232/RS485	Four pin serial port, suitable for collection device with RS-232 or RS-485 interface, for wireless data transmission, CON for debug test.	R20 serial port and WAN port multiplex

NOTE

RS232/RS485 Pins Indirection as below.



1	VCC	3.3V output
2	GND	
3	TX	
4	RX	

2.2 LED Status

Table 2-3 Router LED indictor Status

silk-screen	color	status	Indication
NET	Green	Blink	Strong Signal
	Orange	Blink	Normal Signal
	Red	Blink	Weak Signal
		Blinking slowly(2s)	Already login network or dialing online. LED color is matched with signal indication. For example, for strong signal, after login network or online, it will blink green light.
		Blinking quickly(0.5s)	Dialing

silk-screen	color	status	Indication
WLAN	Green	Solid light	WLAN port open, but no data sending.
	Green	Blinking quickly	Data is in transmitting
	Green	Dark	WLAN port isn't opened
LAN	Green	Solid light	connect ok
	Green	Blinking	Data Sending
	Green	Dark	Not connected

NOTE

There are some difference among the LED indicator of expanded Wi-Fi, GPS function and single module/double SIM, double module/double SIM series products.

2.3 Dimension

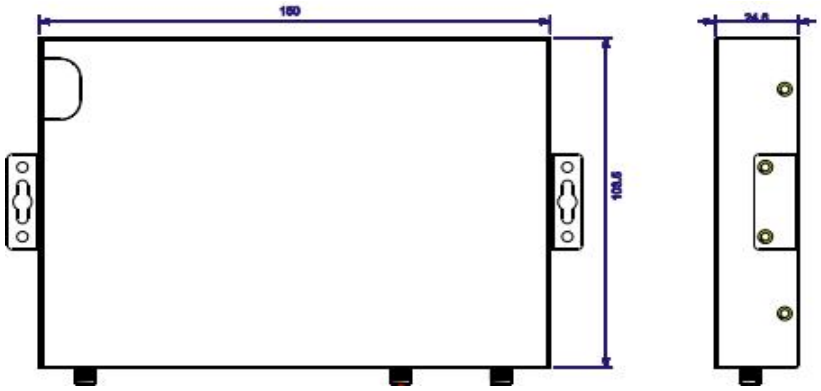


Figure 2-2 R520 Series Router Dimension Figure

2.4 How to Install

2.4.1 SIM/UIM card install

If use dual SIM/UIM card router, you may need insert dual SIM before configure it. After installation, please follow below steps to connect the router.

CAUTION

Before connecting, please disconnect any power resource of router

2.4.2 Ethernet Cable Connection

Use the Ethernet cable to connect the cellular Router to computer directly, or transit by a switch.

2.4.3 Serial Port Connection

If you want to connect the router via serial port to laptop or other devices, you should prepare a serial port or RJ45 cable, this cable is optional. One end connect to computer serial port, the other end connects the Rx, Tx and GND pin of the router

Before connecting, please disconnect any power resource of router

2.4.4 Power Supply

In order to get high reliability, WLINK Series Router adapt supports wide voltage input range: +5V～+36VDC, support hot plug and complex application environment.

2.4.5 Review

After insert the SIM/UIM card, connect Ethernet cable and necessary antenna, connect power cable.

Please connect the antenna before connect the power cable, otherwise the signal maybe poor because of impedance mismatching.

Notice:

Step 1 Check antenna connection.

Step 2 Check SIM/UIM card, confirm SIM/UIM card is available.

Step 3 Power on the industrial Router

----END

3 Router Configuration

This Chapter introduces the parameter configuration of the router, the router can be configured via web internet explorer, Firefox, or chrome. Here we take GUIs 7 system and Internet Explorer 9.0 as sample.

3.1 Local Configure

The router supports to be configured by local Ethernet port, you could specify a static IP or DHCP get IP for your computer. The default IP address is 192.168.1.1， subnet mask is 255.255.255.0, please refer to followings:

Step 1 Click “start > control panel”, find “Network Connections” icon and double click it to enter, select “Local Area Connection” corresponding to the network card on this page. Refer to the figure below.

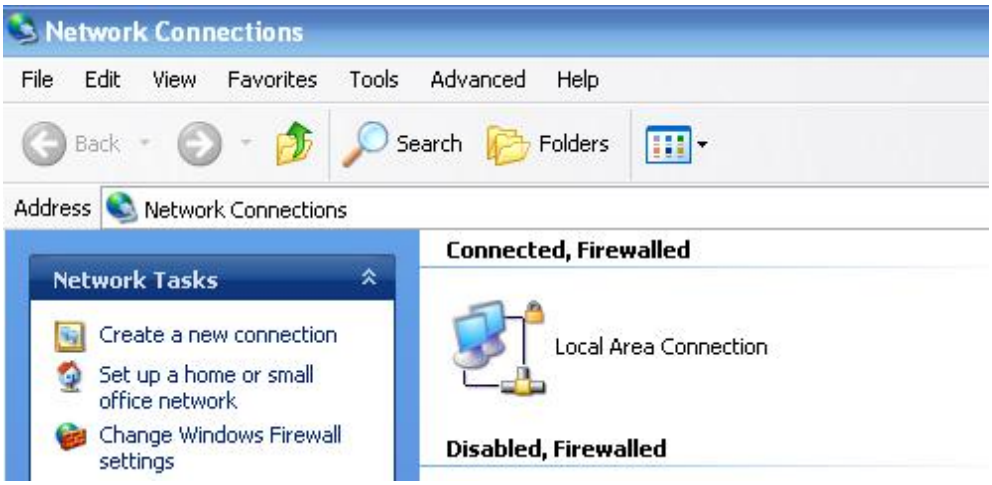


Figure 3-3 Network Connection

Step 2 Obtain a IP address automatically or set up IP address,192.168.1.xxx(XXX can be any number between 2～254)

Step 3 Run an Internet Explorer and visit “http://192.168.1.1/”, to enter identify page.

User should use the default user name and password when log in for the first time

Figure 3-4 User Identify Interface

----END

3.2 Basic Configuration

NOTE

Different software version have different web configuration interface, below take R520 2.6.0.1 version as example.

After visit the WEB interface, you can check the current status of Router, or modify router configuration via web interface, below is the introduction for the common setting.

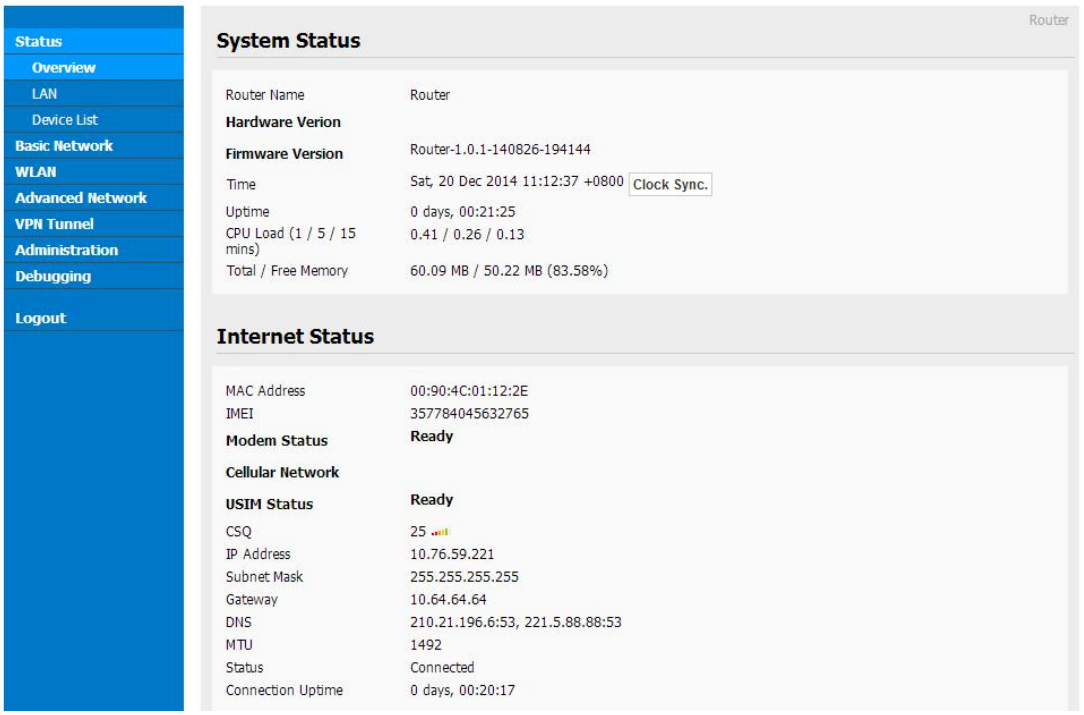


Figure 3-5 Router Status GUI

3.2.1 Cellular Network Configure

Step 1 Single Click Basic Network-> Cellular, you can modify relevant parameter according to the application.

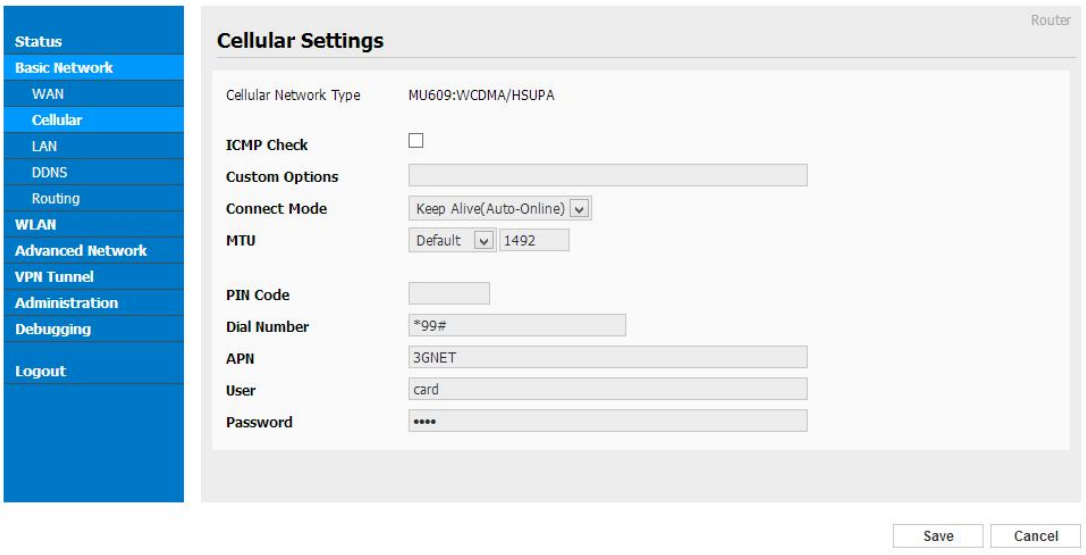


Figure 3-1 Cellular Settings GUI

Table 3-1 Cellular Setting Parameter Instruction

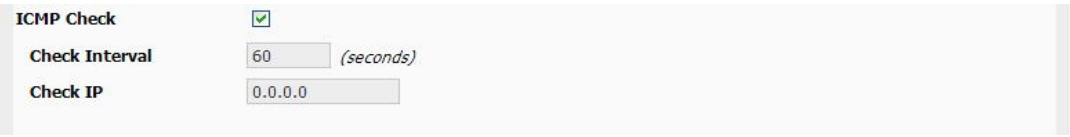
Parameter	Instruction
Enable	Enable SIM card dial
ICMP check	To enable or disable ICMP check rules. Enable the ICMP check and setup a reachable IP address as destination IP. Once ICMP check failed, router will switch SIM card.
Custom Options	
Connect Mode	● Keep alive (Auto-online).The router will automatically connect 3G/4G network and keep online. ● Connect On Demand. Idle offline if no data from LAN to 3G/4G within defined time. ● Schedule, Define online and offline time. This function need to enable NTP function, ● Call/SMS Triggered. Call/SMS trigger router online. ● Manually. Connect 3G/4G network by manual.
MTU	Maximum Transmission Unit is 1492 as default. It supports other value as requested.
PIN Code	Input SIM card PIN code if SIM is setup PIN by ISP.
APN	APN, provided by local ISP, usually CDMA/EVDO network do not need this parameter.
User	SIM card user name is provided by ISP
Password	SIM card password is provided by ISP

NOTE

【ICMP Check】

Enable ICMP, Router will automatically check whether the defined IP address is reachable per 60s. If the IP address is unreachable and ICMP check is timeout at the first time, it will check 2 times every 3 seconds. If the third time is still failed, the router will redial.

The ICMP Check IP is a public IP or company server IP address.



Step 2 After Setting, please click “save” icon.

----End

3.2.2 LAN Setting

Step 1 Single Click “ Basic Network>LAN” to enter below interface

Figure 3-2 LAN Setting GUI

Table 3-2 LAN Setting Instruction

Parameter	Instruction
Router IP Address	Router IP address, default IP is 192.168.1.1
Subnet Mask	Router subnet mask, default mask is 255.255.255.0
DHCP	Dynamic allocation IP service, after enable, it will show the IP address range and options of lease
IP Address Range	IP address range within LAN
Lease	The valid time

Step 2 After setting, please click “save” to finish, the device will reboot.

----End

3.2.3 Dynamic DNS Setting

Step 1 Single click “Basic Network->DDNS to enter the DDNS setting GUI.

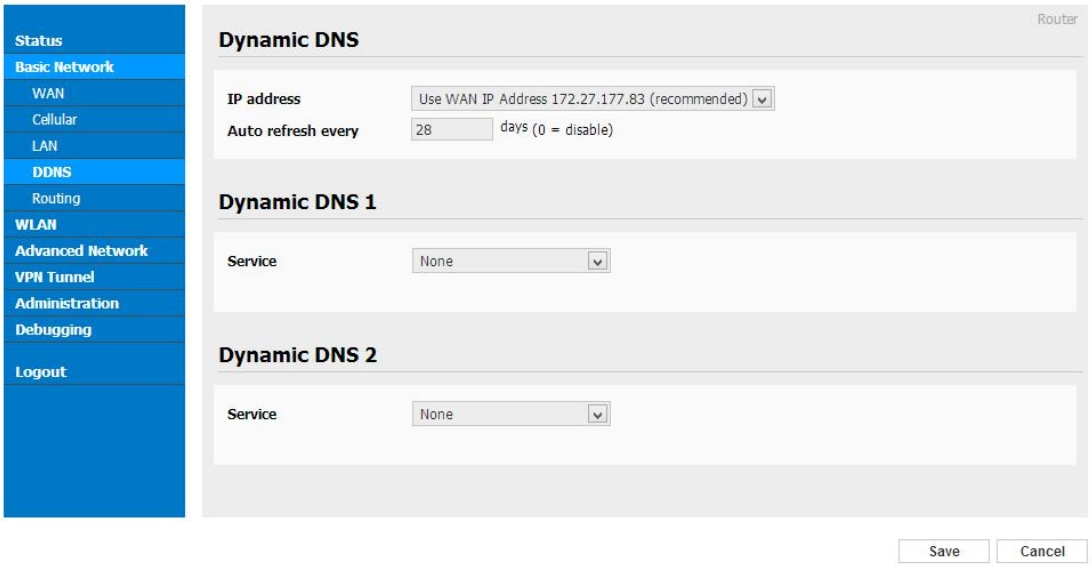


Figure 3-3 Dynamic DNS Setting

Table 3-3 DDNS Setting Instruction

parameter	Instruction
IP address	Default is standard DDNS protocol, for customized protocol, please contact Wlink engineer. Usually, use default IP 0.0.0.0
Auto refresh time	Set the interval of the DDNS client obtains new IP, suggest 240s or above
Service provider	Select the DDNS service provider that listed.

Step 2 Please Click “Save“ to finish.

----End

3.2.4 Routing Setting

Step 1 Single click “Basic Network->Routing to enter the DDNS setting GUI.

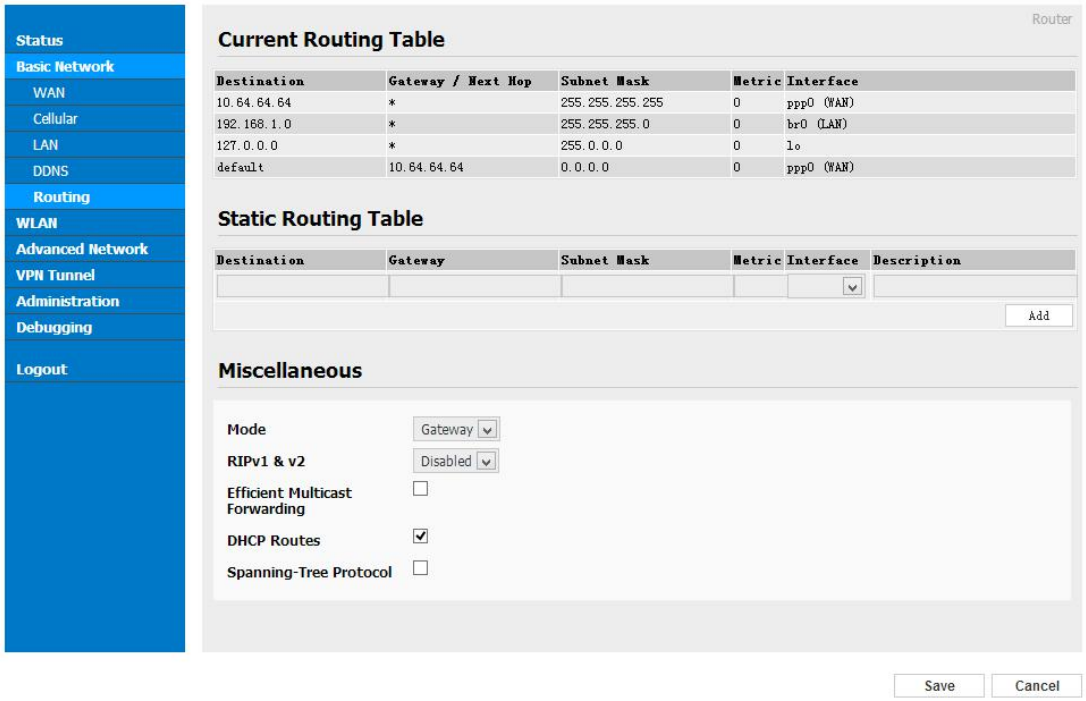


Figure 3-4 Routing Setting

Table 3-4 Routing Setting Instruction

Parameter	Instruction
Destination	Router can reach the destination IP address.
Gateway	Next hop IP address which the router will reach
Subnet Mask	Subnet mask for destination IP address
Metric	Metrics are used to determine whether one particular route should be chosen over another.
Interface	Interface from router to gateway.
Description	Describe this routing name.

Step 2 Please Click " Save " to finish.

3.3 WLAN Setting

It's mainly for router which support Wi-Fi, you can modify and configure WLAN parameter through Web GUI, below is the common setting

3.3.1 Basic Setting

Step 1 Click "WLAN->Basic Setting" to configure relative parameter

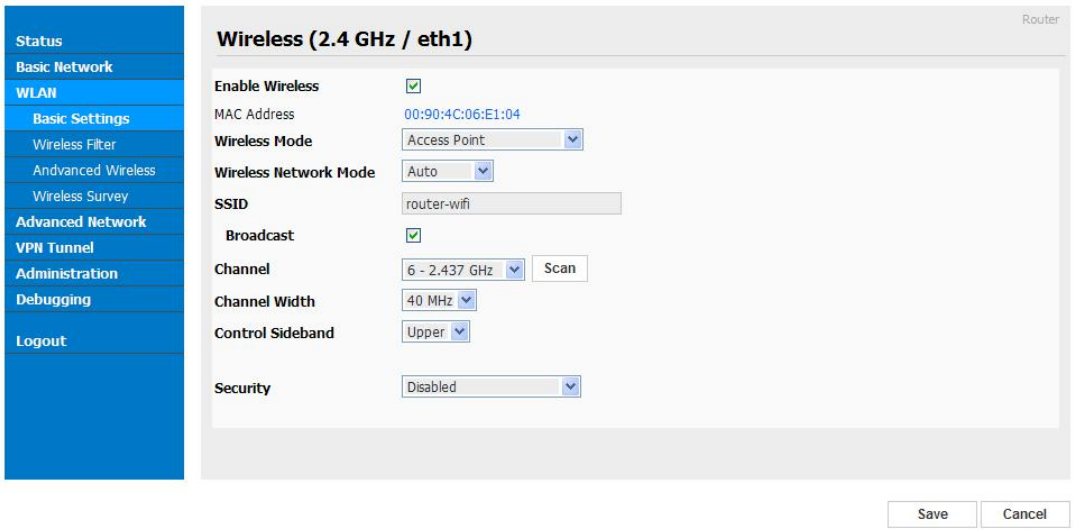


Figure 3-5 WLAN Basic Settings GUI

Table 3-5 Basic Setting Instruction

Parameter	Instruction
Enable wireless	Enable or Disable the Wireless
Wireless mode	Support AP, AP+WDS, Bridge, Client, WDS
Wireless Network protocol	Support Auto, IEEE 11b/g/n selectable
SSID	The default is router, can be modified as per application.
Channel	The channel of wireless network, suggest keep the default
Channel Width	20MHZ and 40MHZ alternative
Security	Support various encryption method

Step 2 Please click “Save” to finish.

----End

3.3.2 Wireless Filter Setting

Step 1 Single click “WLAN > Wireless Filter”.

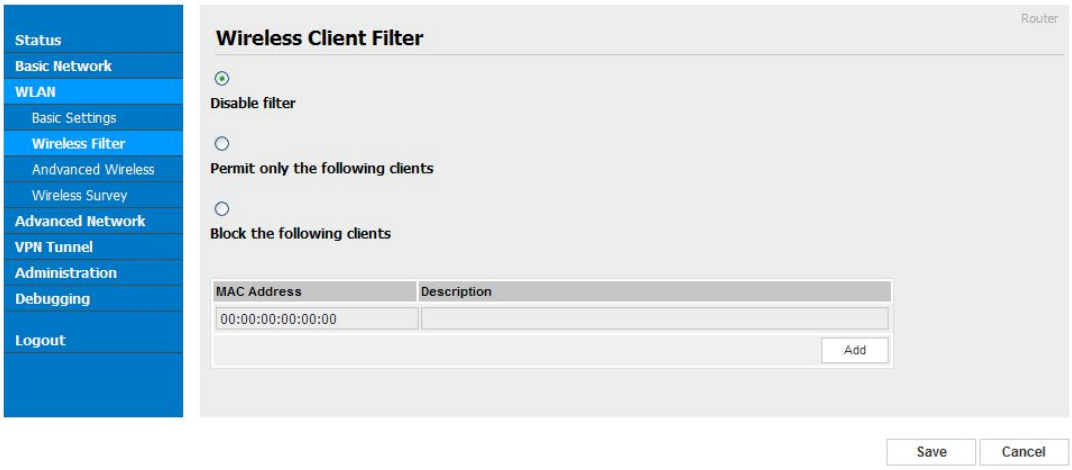


Figure 3-6 Wireless Client Filter Setting GUI

The Wireless Filter enable to set the permitted client or prohibit the specific client to connect the WiFi, However, this feature is invalid for wired connection application.

Table 3-6 "Wireless Client Filter" Setting Instruction

Parameter	Instruction
Disable Filter	Choose to disable
Permit on the following client	Only allow the listed MAC address to connect to router by wireless
Block the follow Client	Prevent the listed MAC address to connect to router by wireless

Step 2 Please click "save" to finish

----End

3.3.3 Advanced Wireless Setting

Step 1 Please click "WLAN> Advanced Wireless" to check or modify the relevant parameter.

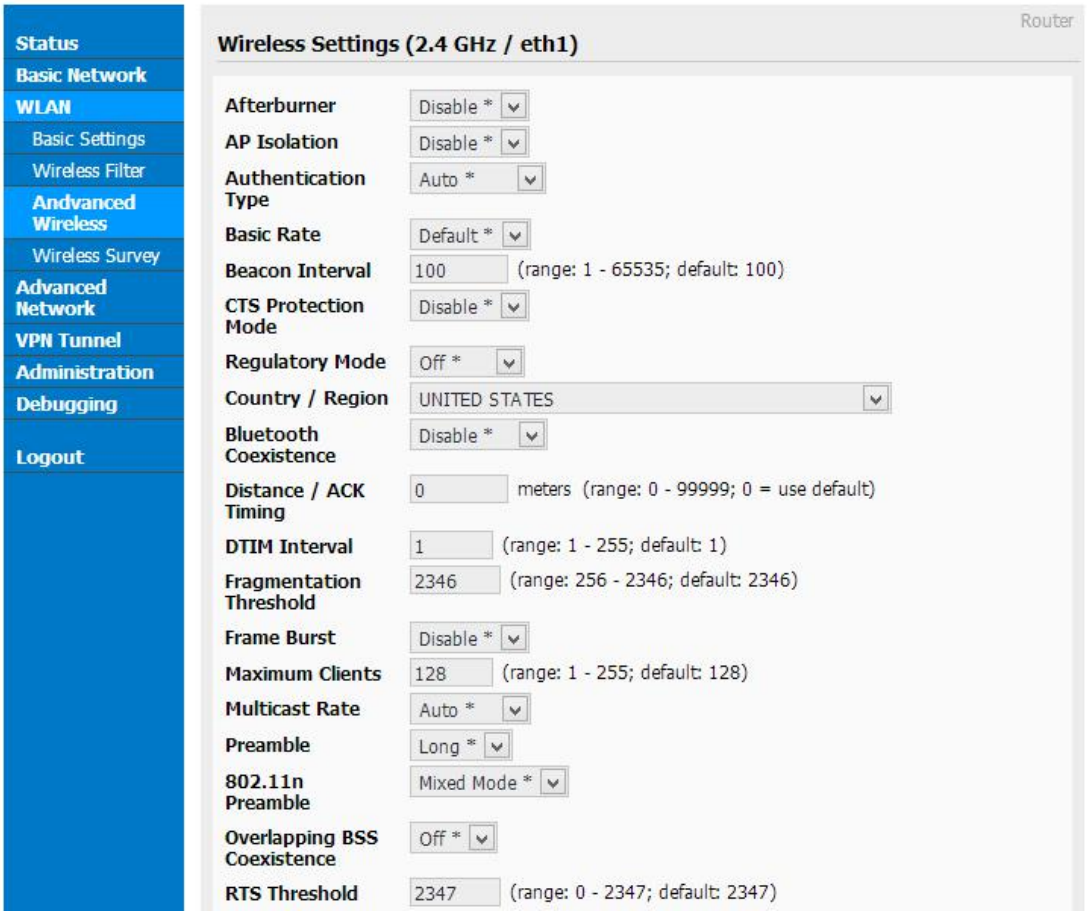


Figure 3-7 Advanced Wireless Setting GUI

Step 2 Please click ”save” to finish.

----End

3.3.4 **Wireless Survey**

Step 1 Please click “WLAN> Wireless Survey” to check survey.

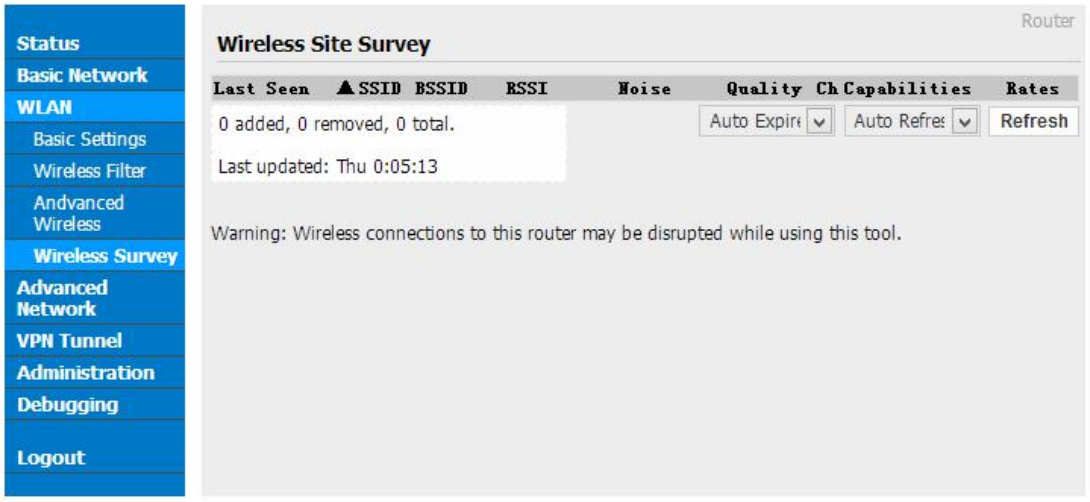


Figure 3-8 Wireless Survey Setting GUI

----End

3.4 Advanced Network Setting

3.4.1 Port Forwarding

Step 1 Please click “Advanced Network > Port Forwarding” to enter the GUI, you may modify the router name, Host name and Domain name according to the application requirement.

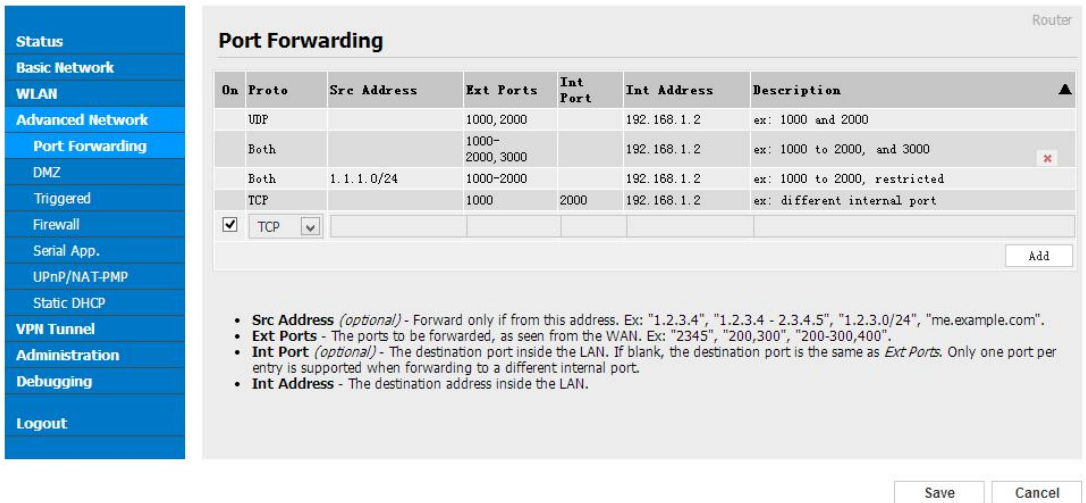


Figure 3-9 Port Forwarding GUI

Table 3-7 "Port Forwarding" Instruction

Parameter	Instruction
Protocol	Support UDP, TCP, both UDP and TCP
Src. Address	Source IP address. Forward only if from this address.
Ext. Ports	External ports. The ports to be forwarded, as seen from the WAN.
Int. Port	Internal port. The destination port inside the LAN. If blank, the destination port is the same as Ext Ports. Only one port per entry is supported when forwarding to a different internal port.
Int. Address	Internal Address. The destination address inside the LAN.
Description	Remark the rule

Step 2 Please click "save" to finish

----End

3.4.2 DMZ Setting

Step 1 Please click "Advanced Network> DMZ" to check or modify the relevant parameter.

Figure 3-10 DMZ GUI

Table 3-8 "DMZ" Instruction

parameter	Instruction
Destination Address	The destination address inside the LAN.

parameter	Instruction
Source Address Restriction	If no IP address inside, it will allow all IP address to access. If define IP address, it will just allow the defined IP address to access.
Leave Remote Access	

Step 2 Please click ”save” to finish

----End

3.4.3 Triggered Setting

Step 1 Please click “Advanced Network> Triggered” to check or modify the relevant parameter.

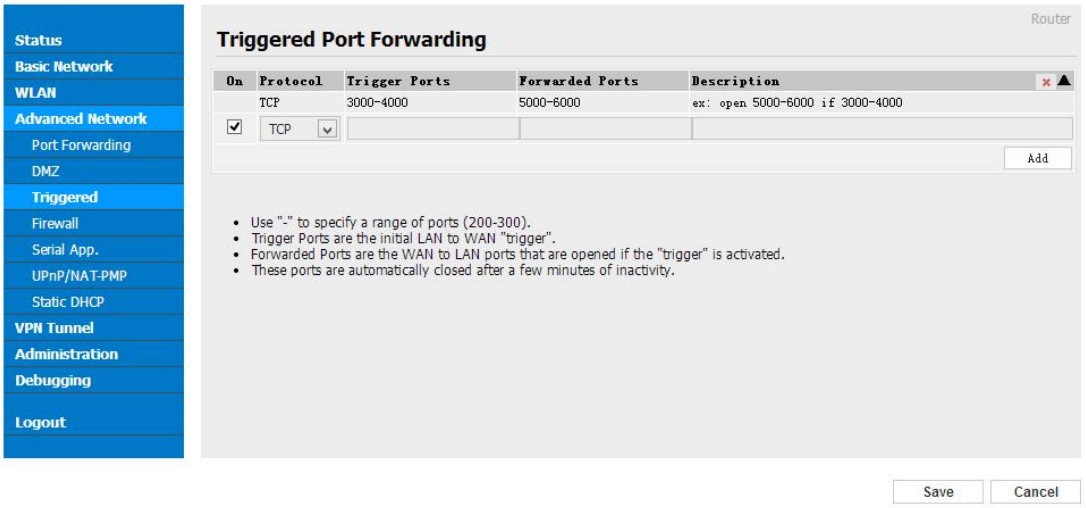


Figure 3-11 Triggered GUI

Table 3-9 “Triggered” Instruction

parameter	Instruction
Protocol	Support UDP, TCP, both UDP and TCP
Triggered Ports	Trigger Ports are the initial LAN to WAN "trigger".
Transferred Ports	Forwarded Ports are the WAN to LAN ports that are opened if the "trigger" is activated.
Note	Port triggering opens an incoming port when your computer is using a specified outgoing port for specific traffic.

Step 2 Please click ”save” to finish.

----End

3.4.4 Firewall Setting

Step 1 Please click “Advanced Network> Firewall” to check or modify the relevant parameter.

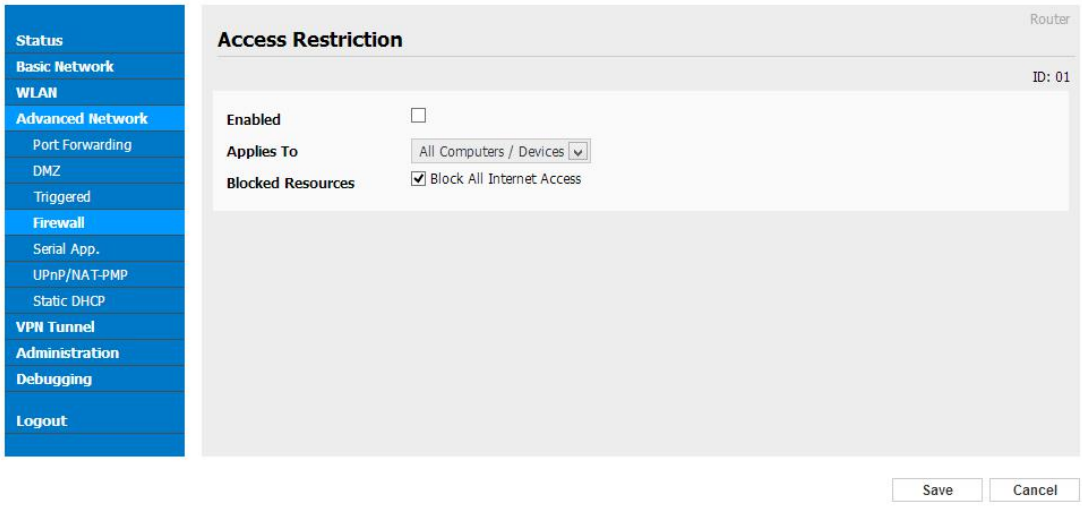


Figure 3-12 Firewall Setting GUI

Table 3-10 “Firewall” Instruction

Parameter	Instruction
Applies To	White list.
Blocked Resources	Black list.

Step 2 Please click ”save” to finish.

3.4.5 Serial App. Setting

Step 1 Please click “Advanced Network> Serial App” to check or modify the relevant parameter.

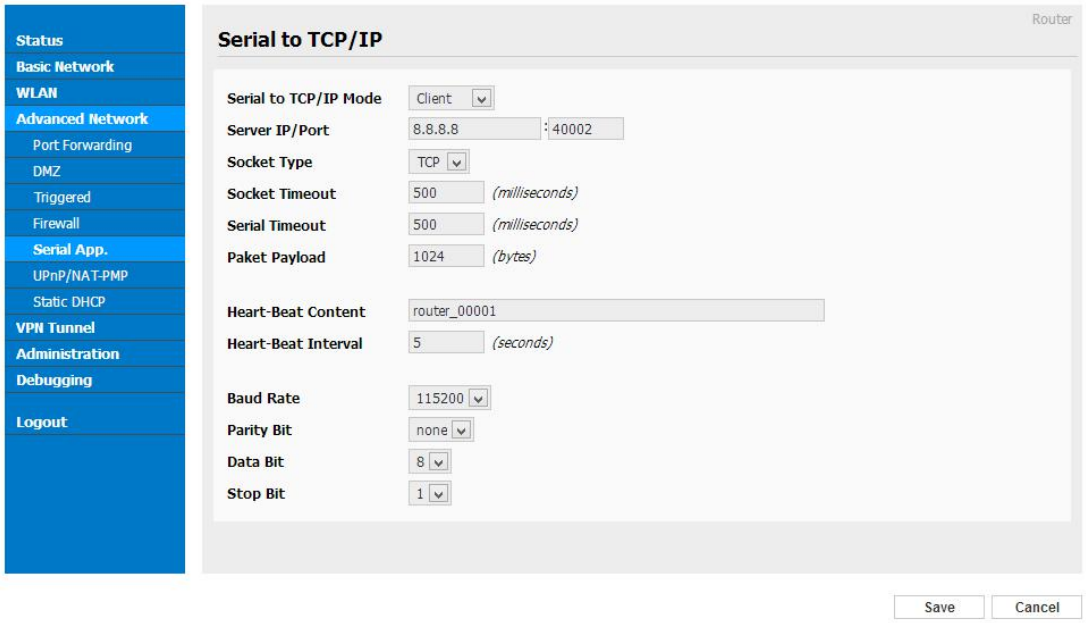


Figure 3-13 Serial App Setting GUI

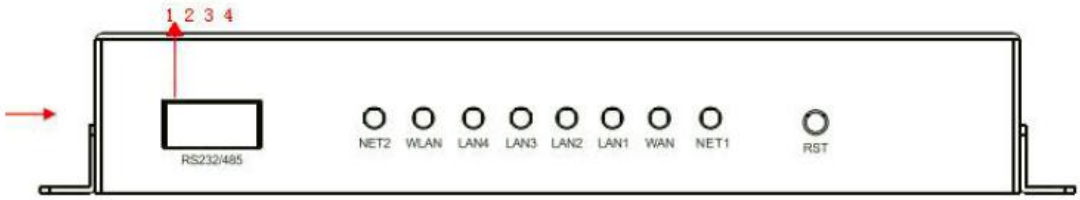
Table 3-11 "Serial App" Instruction

Parameter	Instruction
Serial to TC/IP mode	Support Disable, Server and Client mode. Such as Client.
Server IP/Port	IP address and domain name are acceptable for Server IP
Socket Type	Support TCP/UDP protocol
Socket Timeout	Router will wait the setting time to transmit data to serial port.
Serial Timeout	Serial Timeout is the waiting time for transmitting the data package that is less the Packet payload. If the last package equals to the Packet payload, Serial port will transmit it immediately. The default setting is 500ms.
Packet payload	Packet payload is the maximum transmission length for serial port data packet. The default setting is 1024bytes.
Heart-beat Content	Send heart beat to the defined server to keep router online. Meantime, it's convenient to monitor router from server.
Heart beat Interval	Heart beat interval time
Baud Rate	115200 as default
Parity Bit	None as default
Data Bit	8bit as default
Stop Bit	1bit as default

Parameter	Instruction

NOTE

WL-R520 PINs indication



1	VCC	3.3V output
2	GND	
3	TX	
4	RX	

WL-R520 serial port connection to terminal.

PINs		DB9(male)
VCC		
GND	----	5
TX	----	2
RX	----	3

Step 2 Please click ”save” to finish.

3.4.6 UPnp/NAT-PMP Setting

Step 1 Please click “Advanced Network> Upnp/NAT-PMP” to check or modify the relevant parameter.

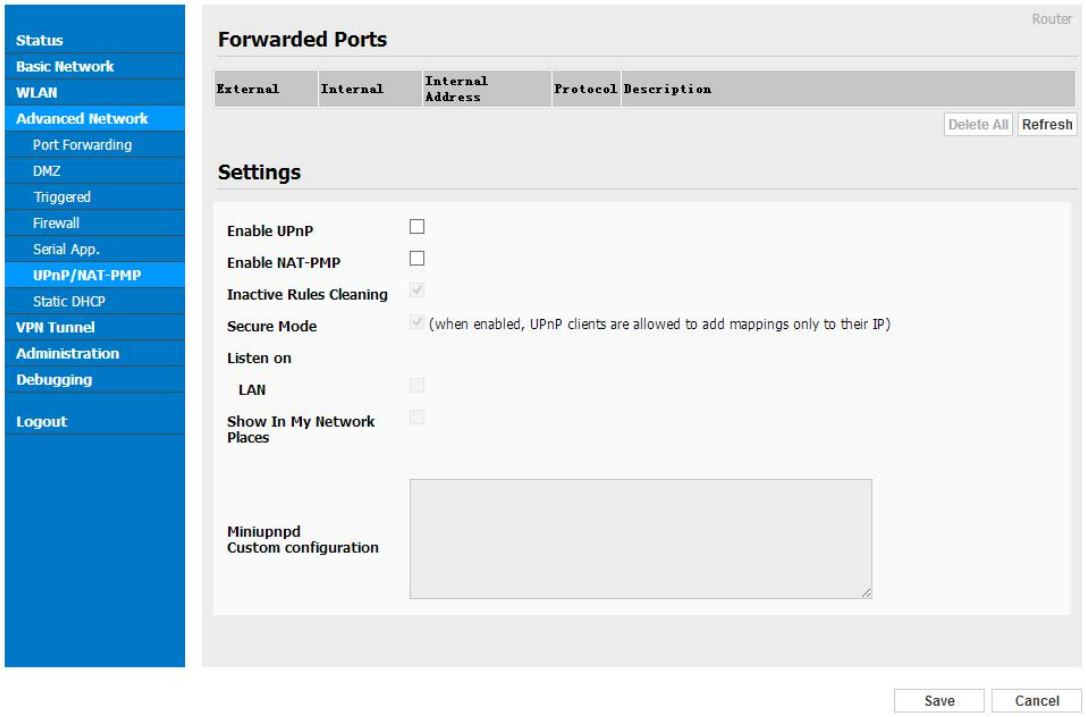


Figure 3-14 UPnp/NAT-PMP Setting GUI

Step 2 Please click ”save” to finish.

3.4.7 Static DHCP Setting

Step 1 Please click “Advanced Network> Static DHCP” to check or modify the relevant parameter.

Figure 3-15 Static DHCP Setting GUI

Step 2 Please click ”save” to finish.

3.5 VPN Tunnel

3.5.1 GRE Setting

Step 1 Please click “VPN Tunnel> GRE” to check or modify the relevant parameter.

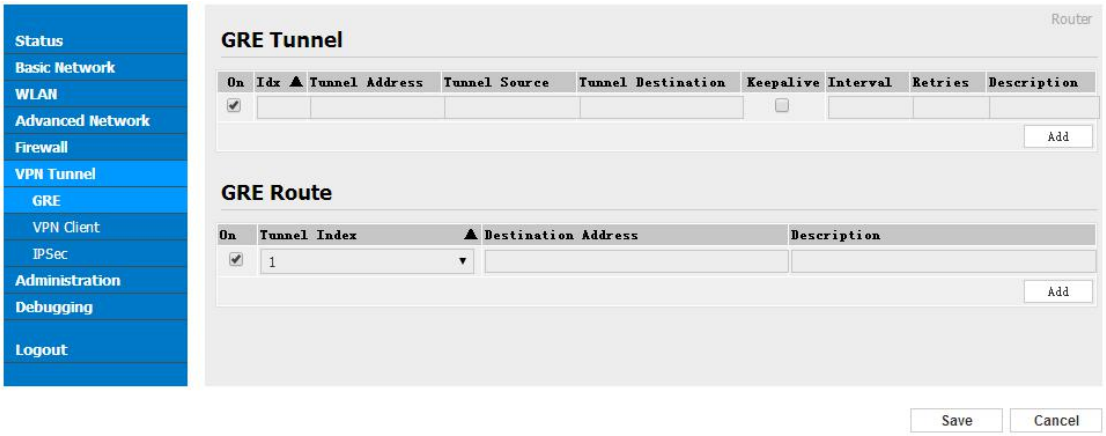


Figure 3-16 GRE Setting GUI

Table 3-12 “GRE” Instruction

Parameter	Instruction
Idx	GRE tunnel number
Tunnel Address	GRE Tunnel local IP address which is a virtual IP address.
Tunnel Source	Router’s 3G/WAN IP address.
Tunnel Destination	GRE Remote IP address. Usually a public IP address
Keep alive	GRE tunnel keep alive to keep GRE tunnel connection.
Interval	Keep alive interval time.
Retries	Keep alive retry times. After retry times, GRE tunnel will be re-established.
Description	

Step 2 Please click ”save” to finish.

3.5.2 VPN Client Setting

Step 1 Please click “VPN Tunnel> VPN Client” to check or modify the relevant parameter.

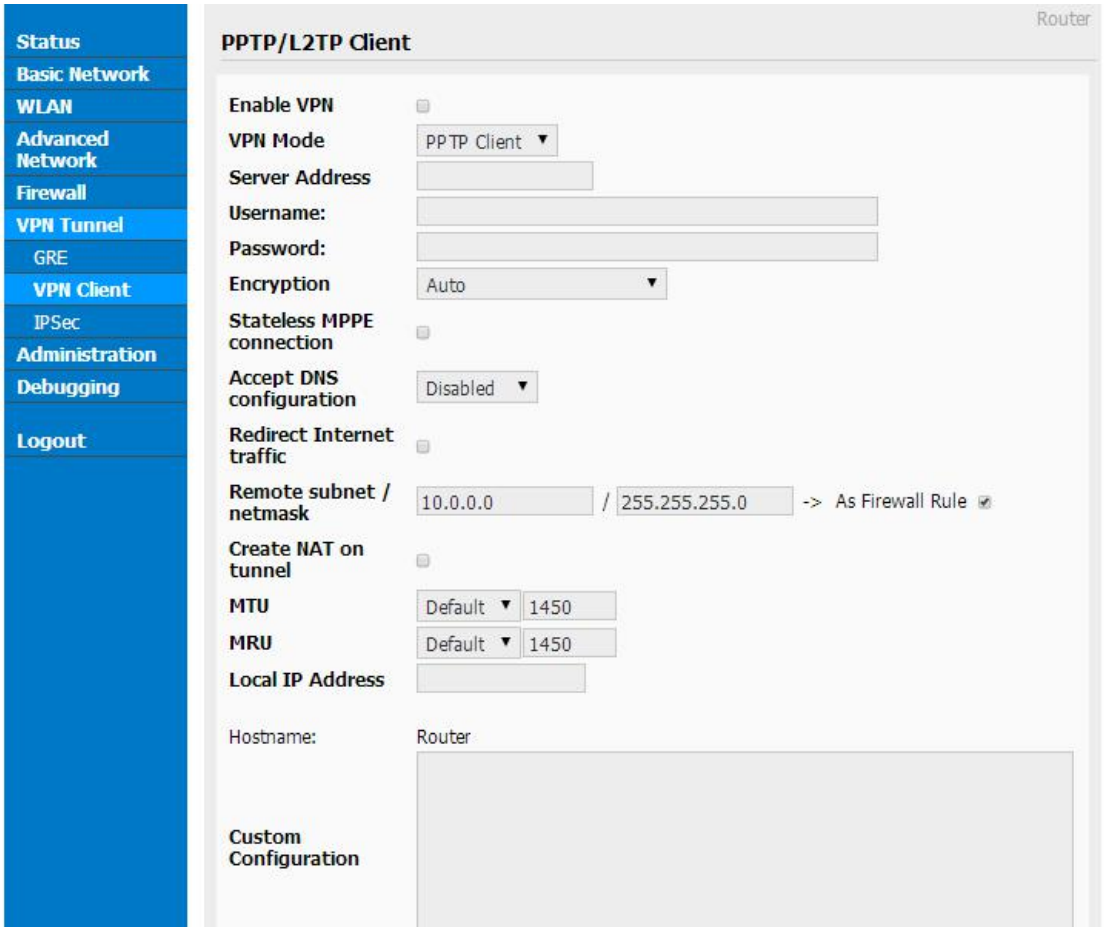


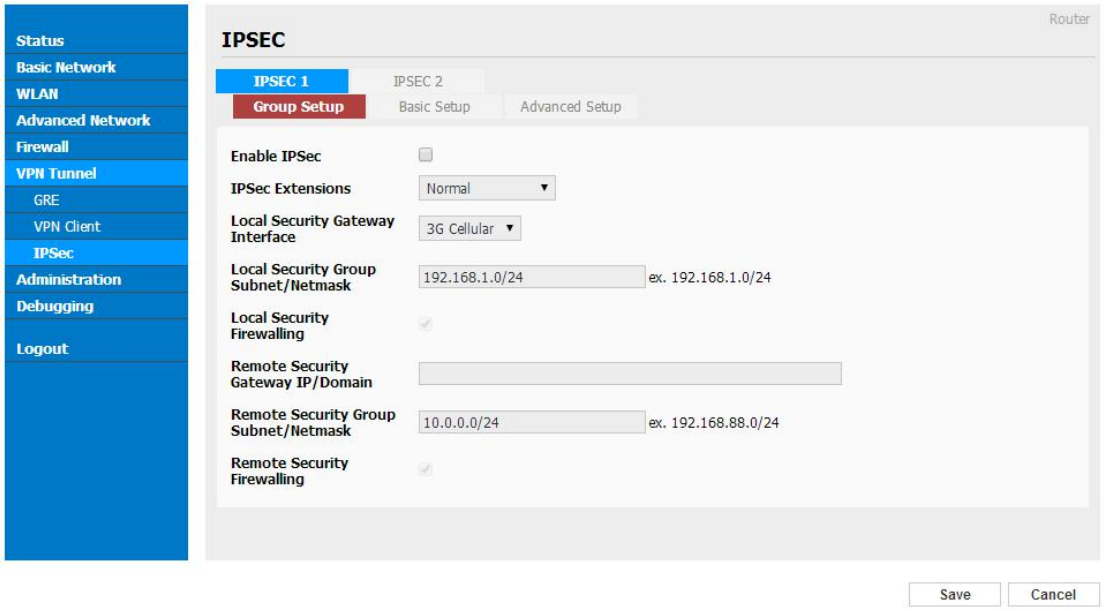
Table 3-13 "VPN Client" Instruction

parameter	Instruction
VPN Mode	VPN Mode for PPTP and L2TP
Server Address	VPN Server IP address.
User name	As the configuration requested.
Password	As the configuration requested.
Encryption	As the configuration requested.
Stateless MPPE	As the configuration requested.
Accept DNS	As the configuration requested.
Remote Subnet	As the configuration requested.
Create NAT on Tunnel	As the configuration requested.
MTU	MTU is 1450bytes as default
MRU	MRU is 1450bytes as default
Local IP	Defined Local IP address for tunnel

parameter	Instruction
Address	

Step 2 Please click ”save” to finish.

3.5.3 IPSec Setting



3.5.3.1 IPSec Group Setup

Step 1 Please click “IPSec> Group Setup” to check or modify the relevant parameter.

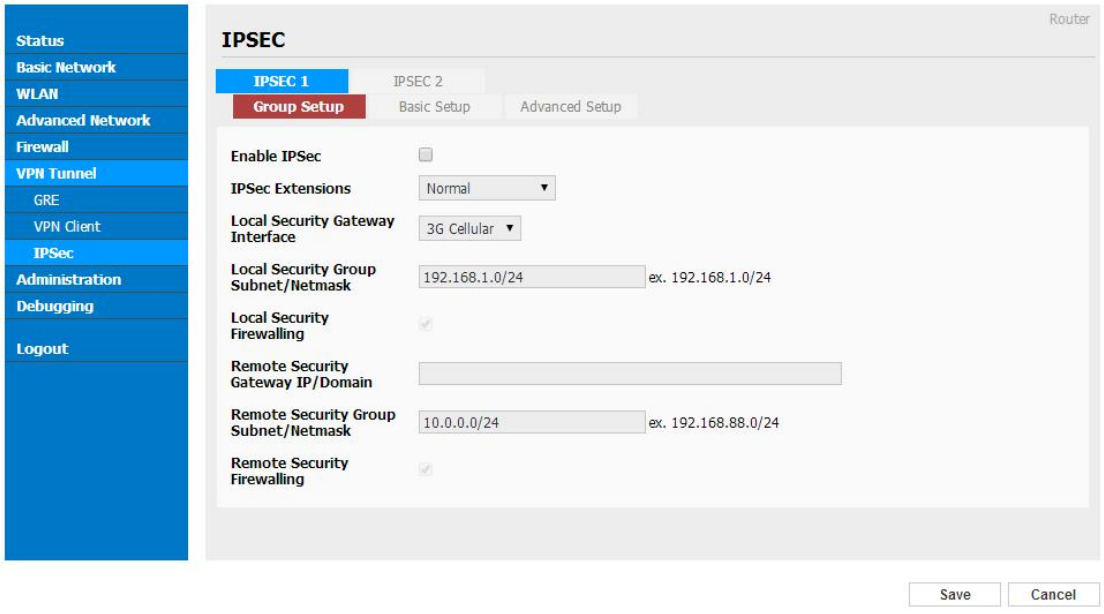


Table 3-14 “ IPSec Group Setup” Instruction

parameter	Instruction
IPSec Extensions	Support Standard IPSec, GRE over IPSec, L2TP over IPSec

parameter	Instruction
Local Security Interface	Defined the IPSec security interface
Local Subnet/Mask	IPSec local subnet and mask.
Local Firewall	Forwarding-firewalling for Local subnet
Remote IP/Domain	IPsec peer IP address/domain name.
Remote Subnet/Mask	IPSec remote subnet and mask.
Remote Firewall	Forwarding-firewalling for Remote subnet

Step 2 Please click ”save” to finish.

3.5.3.2 IPSec Basic Setup

Step 1 Please click “IPSec >Basic Setup ” to check or modify the relevant parameter.

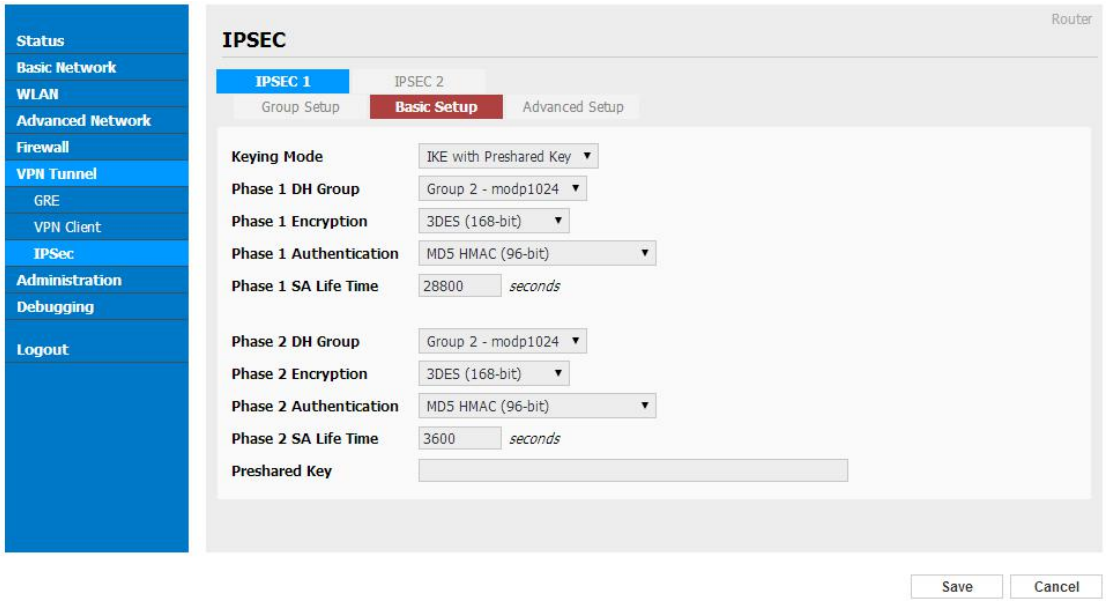


Table 3-15 “ IPSec Basic Setup” Instruction

parameter	Instruction
Keying Mode	IKE preshared key
Phase 1 DH Group	Select Group1, Group2, Group5 from list. It must be matched to remote IPSec setting.
Phase 1 Encryption	Support 3DES, AES-128, AES-192, AES-256

parameter	Instruction
Phase 1 Authentication	Support HASH MD5 and SHA
Phase 1 SA Life Time	IPSec Phase 1 SA lifetime
Phase 2 DH Group	Select Group1, Group2, Group5 from list. It must be matched to remote IPSec setting.
Phase 2 Encryption	Support 3DES, AES-128, AES-192, AES-256
Phase 2 Authentication	Support HASH MD5 and SHA
Phase 2 SA Life Time	IPSec Phase 2 SA lifetime
Preshared Key	Preshared Key

Step 2 Please click ”save” to finish.

3.5.3.3 IPSec Advanced Setup

Step 1 Please click “IPSec >Advanced Setup ” to check or modify the relevant parameter.

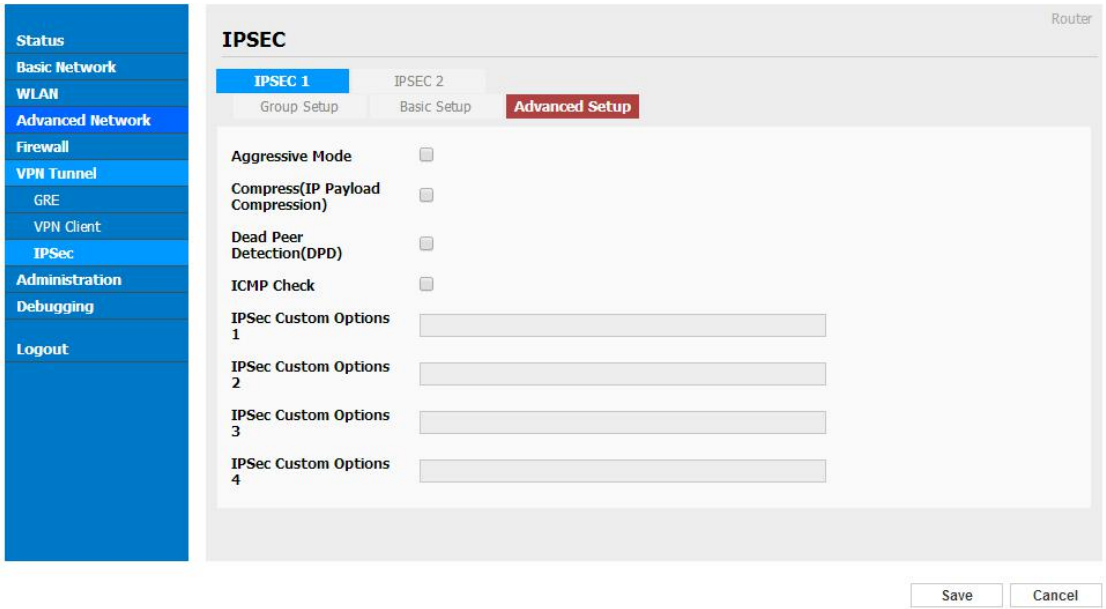


Table 3-16 “ IPSec Advanced Setup” Instruction

parameter	Instruction
Aggressive Mode	Default for main mode
ID Payload	Enable ID Payload compress

parameter	Instruction
Compress	
DPD	To enable DPD service
ICMP	ICMP Check for IPSec tunnel
IPSec Custom Options	IPSec advanced setting such as left/right ID.

Step 2 Please click ”save” to finish.

----End

3.6 System Management

3.6.1 Identification Setting

Step 1 Please click ”Administrator> Identification” to enter the GUI, you may modify the router name, Host name and Domain name according to self-requirement.

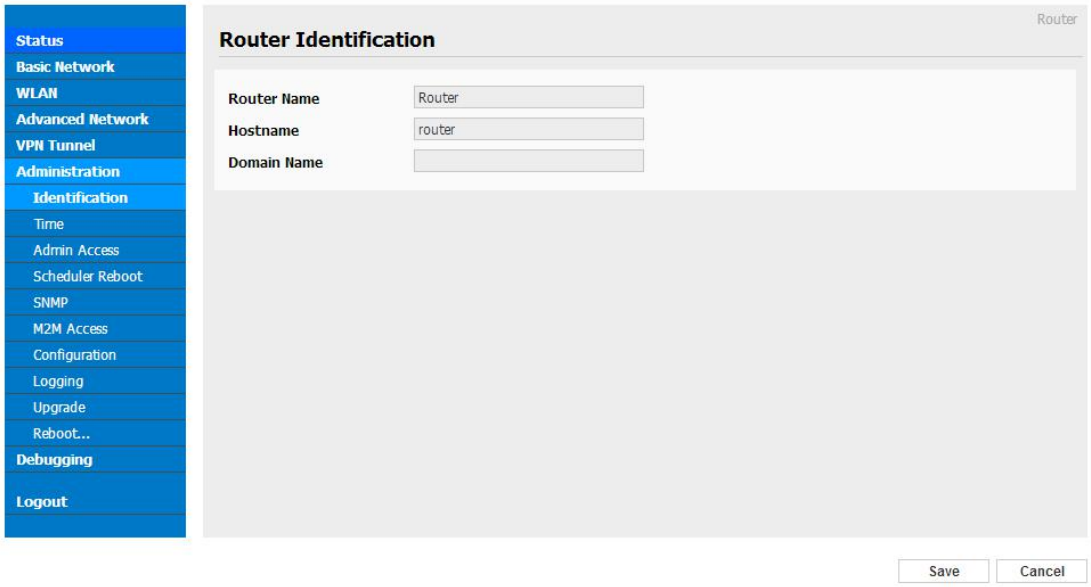


Figure 3-17 Router Identification GUI

Table 3-17 “Router Identification” Instruction

Parameter	Instruction
Router name	Default is router, can be set maximum 32 character
Host name	Default is router, can be set maximum 32 character
Domain name	Default is empty, support maximum up to 32 character, it is the domain of WAN, no need to configure for most

Parameter	Instruction
	application.

Step 2 Please click ”save” to finish

----End

3.6.2 Time Setting

Step 1 Please click “Administrator> time” to check or modify the relevant parameter.

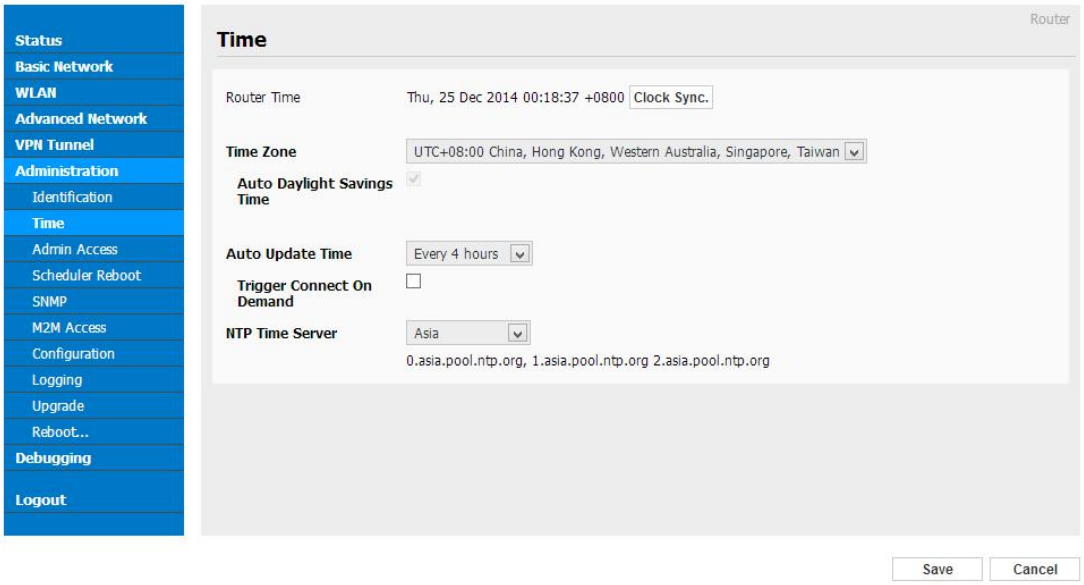


Figure 3-18 System Configuration GUI

CAUTION

If the device is online but time update is fail, please try other NTP Time Server.

Step 2 Please click “save to finish.

----End

3.6.3 Admin Access Setting

Step 1 Please click “Administrator>Admin” to check and modify relevant parameter.

In this page, you can configure the basic web parameter, make it more convenient for usage. Please note the “password” is the router system account password.

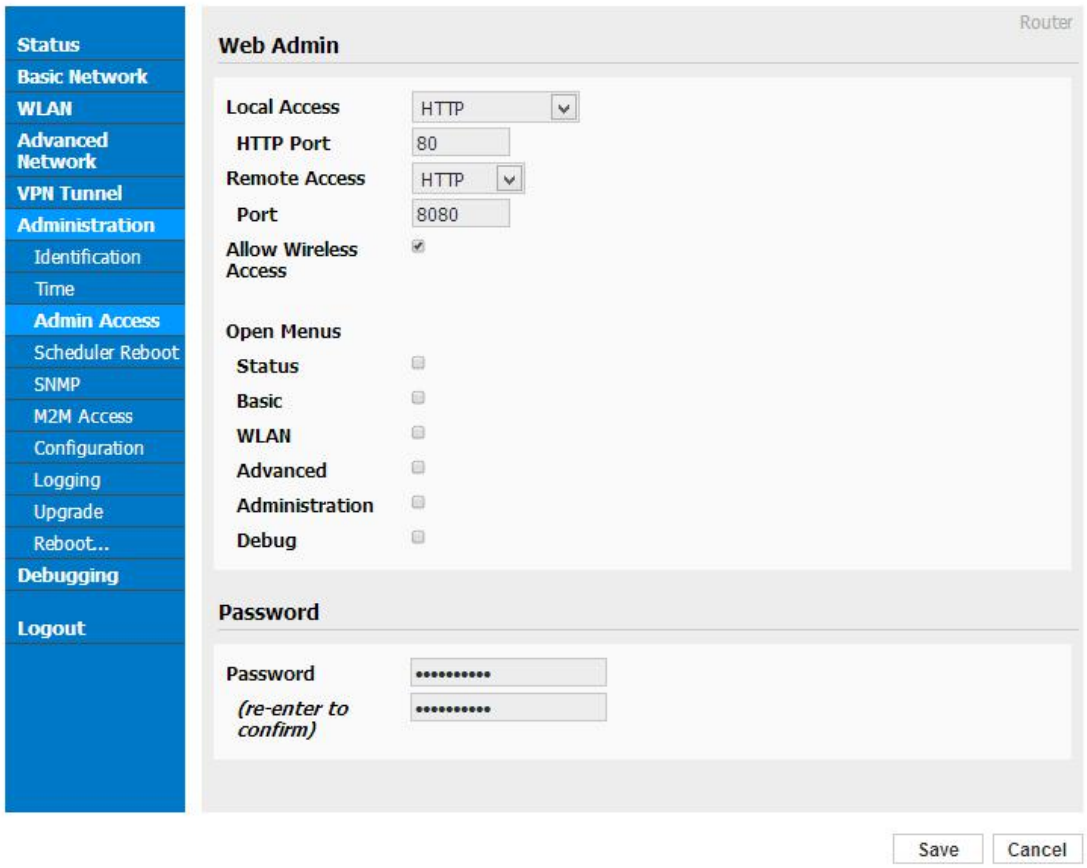


Figure 3-19 Admin Setting GUI

Step 2 Please click save iron to finish the setting

----End

3.6.4 Schedule Reboot Setting

Step 1 Please click “Administrator>Schedule Reboot” to check and modify relevant parameter.

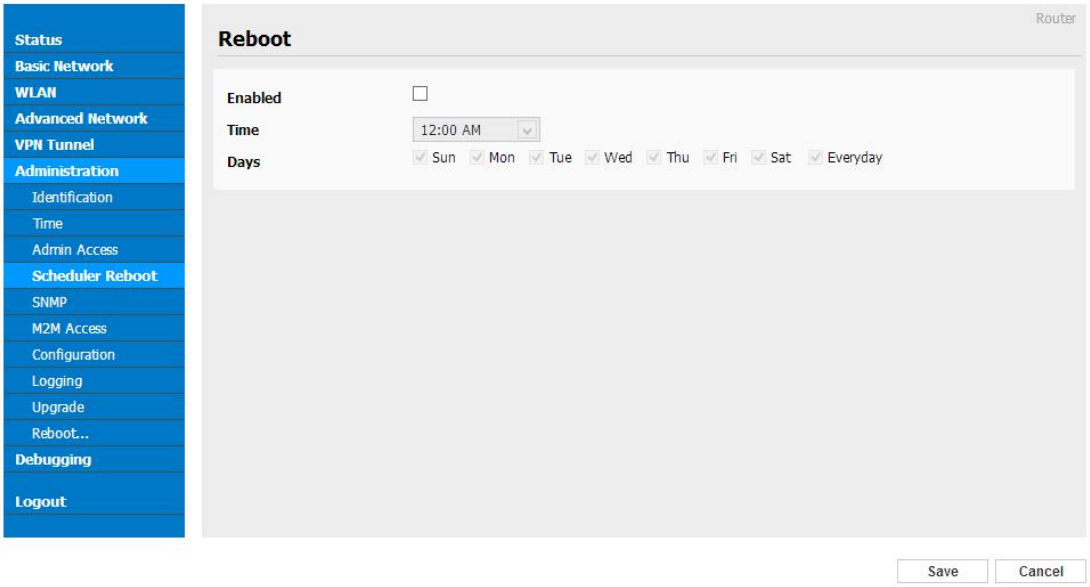


Figure 3-20 Scheduler Reboot Setting GUI

Step 2 Please click save iron to finish the setting

----End

3.6.5 SNMP Setting

Step 1 Please click “Administrator>SNMP” to check and modify relevant parameter.

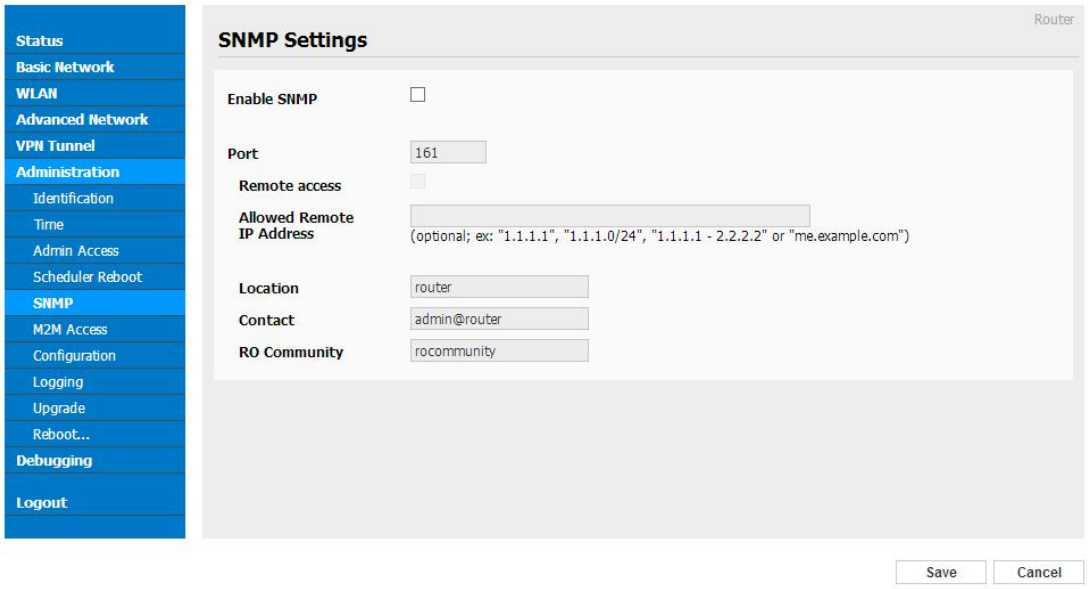


Figure 3-21 SNMP Setting GUI

Step 2 Please click save iron to finish the setting

----End

3.6.6 M2M Access Setting (Apply to M2M management platform installation application only)

Step 1 Please click “Administrator>M2M Access” to check and modify relevant parameter.

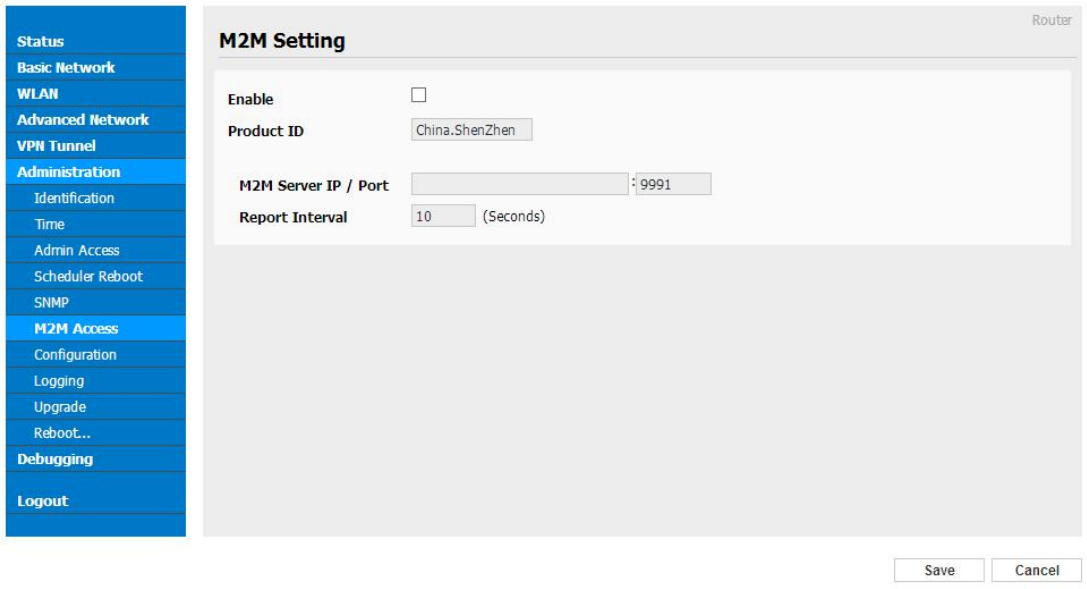


Figure 3-22 M2M Access Setting GUI

Parameter	Instruction
M2M Enable	Enable/Disable M2M feature in router.
Device ID	Identify router in M2M Platform. Max length 24byts and Min length 7bytes visible characters.
M2M Server/Port	Configure M2M platform IP and port. The router will log in M2M platform and establish a connection between router and M2M platform. The connection protocol is UDP.
Heartbeat Interval	Router send heartbeat to M2M platform as the defined time interval to keep connection.

Step 2 Please click save iron to finish the setting

----End

3.6.7 **Backup Setting**

Step 1 Please click " Administrator> Back up Configuration " to do the backup setting

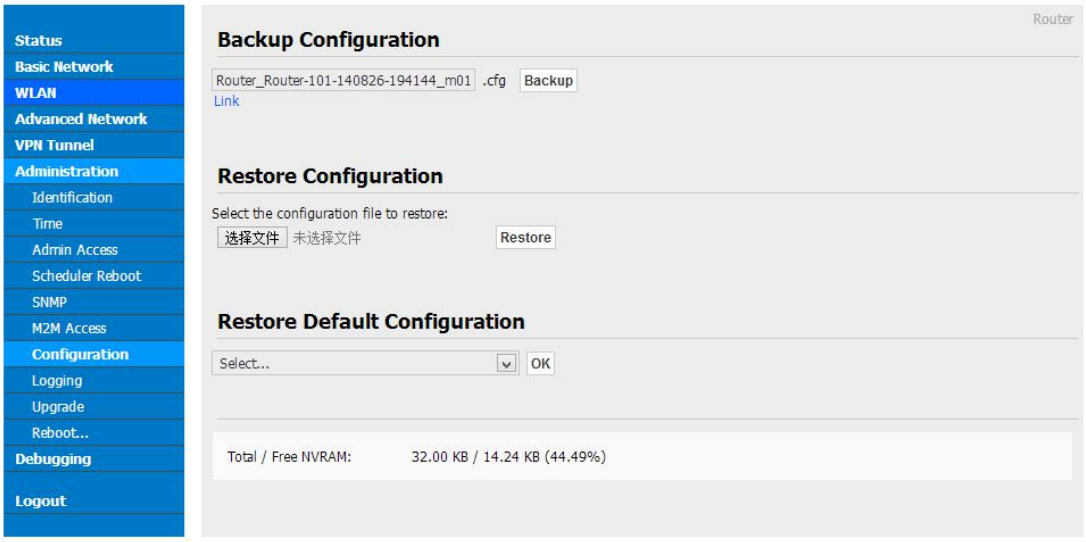


Figure 3-23 Backup and Restore Configuration GUI

CAUTION

Restore Default would lose all configuration information, please be careful.

Step 2 After setting the backup and restore configuration. The system will reboot automatically.

----End

3.6.8 System Log Setting

Step 1 Please click “Administrator> Logging” to start the configuration, you can set the file path to save the log (Local or remote sever).

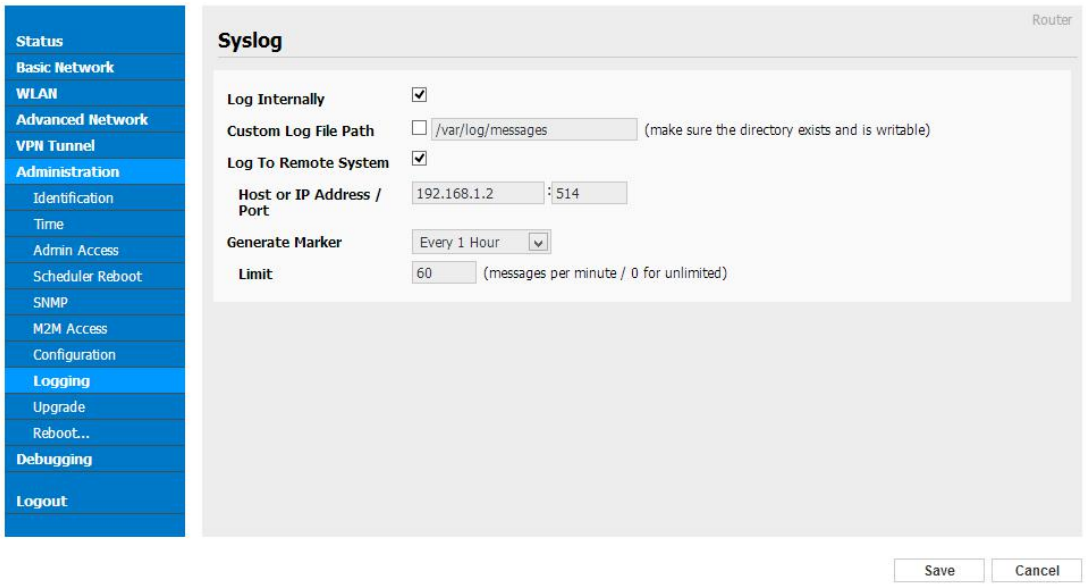


Figure 3-24 System log Setting GUI

Step 2 After configure, please click “Save” to finish.

----End

3.6.9 Firmware upgrade

Step 1 Please click “Administrator>firmware upgrade” to open upgrade firmware tab.

Figure 3-25 Firmware Upgrade GUI

NOTE

When upgrading, please don’t cut off the power.

3.6.10 System Reboot

Step 1 Please click “Administrator>Reboot” to restart the router. System will popup dialog to remind “Yes” or “NO” before the next step.

Step 2 If choose “yes”, the system will restart, all relevant update configuration will be effective after reboot.

----End

3.7 Debugging Setting

3.7.1 Logs Setting

Step 1 Please click “Debugging>Logs” to check and modify relevant parameter.

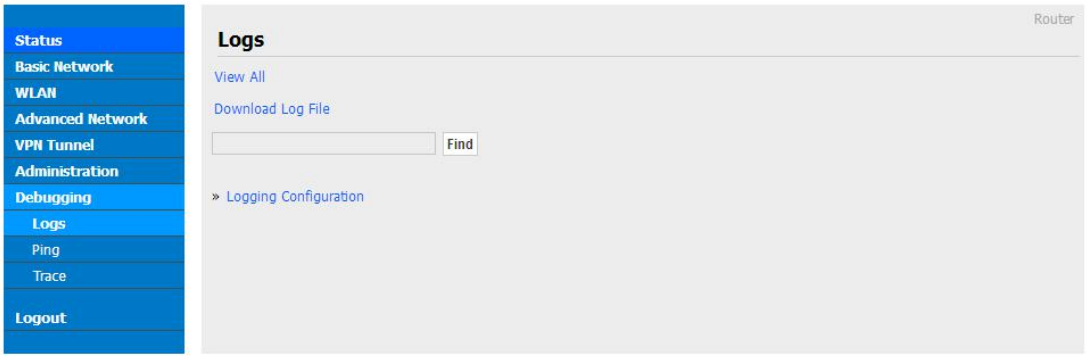


Figure 3-26 Logs GUI

Step 2 After configure, please click “Save” to finish.

----End

3.7.2 Ping Setting

Step 1 Please click “Debugging>Logs” to check and modify relevant parameter.

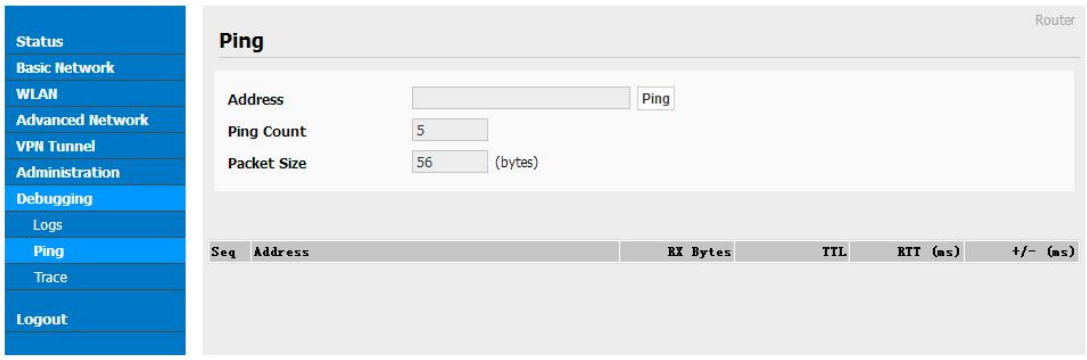


Figure 3-27 Ping GUI

Step 2 After configure, please click “Save” to finish.

----End

3.7.3 Trace Setting

Step 1 Please click “Debugging>Trace” to check and modify relevant parameter.

Figure 3-28 Trace GUI

Step 2 After configure, please click “Save” to finish.

----End

3.8 "RST" Button for Restore Factory Setting

If you couldn't enter web interface for other reasons, you can also use this way.

For R200 Series, "RST" button is on the left or Ethernet port, for R520 Series, the button is on the left of NET light. This button can be used when the router is in use or when the router is turned on.

Press the "RST" button and keep more than 8 seconds till the NET light stopping blink. The system will be restored to factory.

Table 3-18 System Default Instruction

Parameter	Default setting
LAN IP	192.168.1.1
LAN Subnet Mask	255.255.255.0
DHCP server	Enable
User Name	admin
Password	admin

NOTE

After reboot, the previous configuration would be deleted and restore to factory settings.

3.9 Appendix (For advanced optional features only)

3.9.1 Cellular Setting (Dual-SIM)

Step 1 Single Click Basic Network-> Cellular, you can modify relevant parameter according to the application.

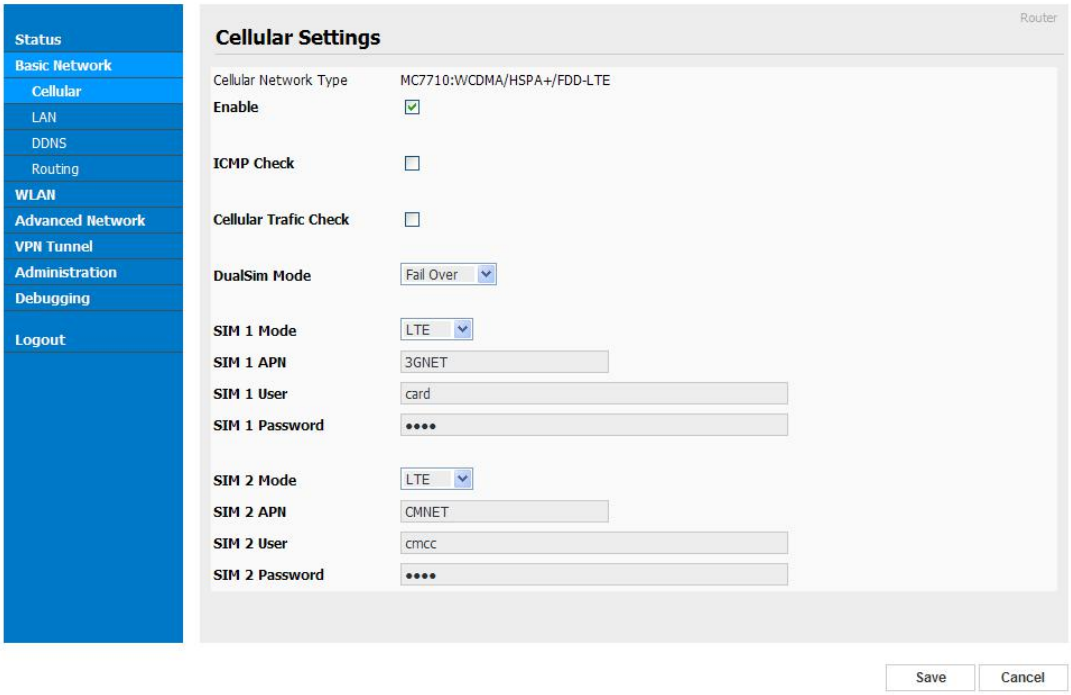


Figure 3-29 Dual SIM GUI

Table 3-19 Cellular Instruction

Parameter	Instruction
Enable	Enable SIM card dial
ICMP check	To enable or disable ICMP check rules. Enable the ICMP check and setup a reachable IP address as destination IP. Once ICMP check failed, router will switch SIM card.
SIM Mode	Select the network type
APN	APN, provided by local ISP, usually CDMA/EVDO network do not need this parameter
User	SIM card user name is provided by ISP
Password	SIM card password is provided by ISP

NOTE ICMC Check and Cellular Traffic Check are alternative.

【ICMP Check】

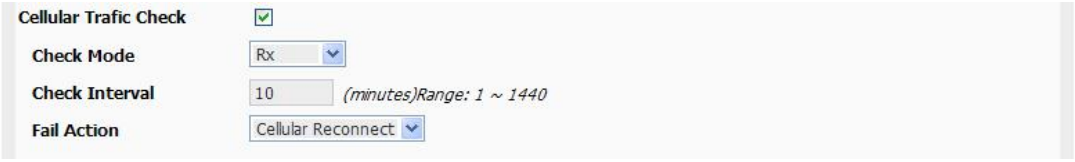
Enable ICMP, Router will automatically check whether the defined IP address is reachable per 60s. If the IP address is unreachable and ICMP check is timeout at the first time, it will check 2 time as 3s interval. If the third time is still failed, the router will implement fail action as you configured..

The Check IP is an public IP or company server IP address.

【Cellular Traffic Check】

【Check Mode】there are Rx(Receive), Tx(Transmission) and Rx/Tx check modes.

【Rx】Router will check the 3G/LTE cellular receiver traffic. If no receiver traffic within the defined check interval, the router will implement the specified action Reconnect or reboot.



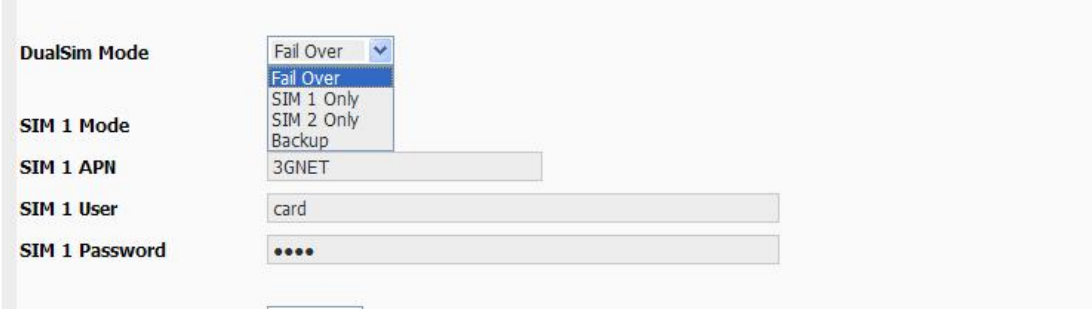
【SIM Mode】

【Fail Over】SIM card mutual backup. Once SIM card is failed, it will switch to the SIM2 and work on SIM2. Once SIM2 is failed, it will switch back to SIM1.

【SIM1 Only】Just SIM1 is available.

【SIM2 Only】Just SIM2 is available.

【Backup】SIM1 is the primary SIM. Once SIM1 is failed, it will switch to SIM2 and work on SIM2 within the defined time. Once the time is over, it will switch back to SIM1.



Step 2 After Setting, please click “save” icon.

----End

3.9.2 GPS Setting

Step 1 Please click “Advanced Network> GPS” to view or modify the relevant parameter.

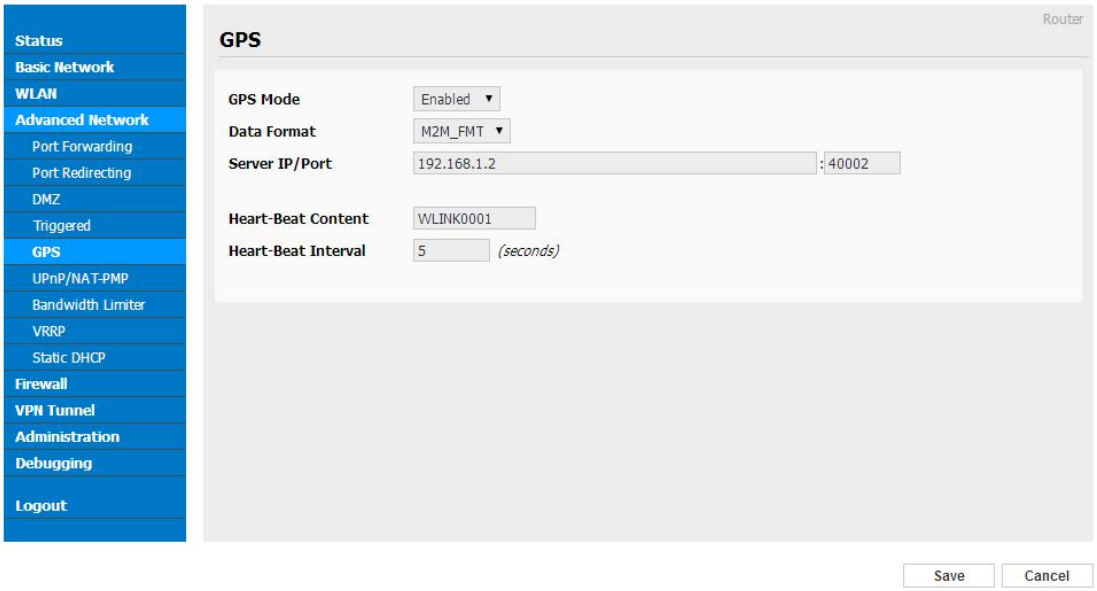


Figure 3-30 GPS Setting GUI

Table 3-20 “GPS” Instruction

parameter	Instruction
GPS Mode	Enable/Disable
GPS Format	NMEA and M2M_FMT(WLINK)
Server IP/Port	GPS server IP and port
Heart-Beat	If choose M2M_FMT format, heart-beat ID will be packed into GPS data.
Interval	GPS data transmit as the interval time.

Step 2 Please click ”save” to finish

NOTE

M2M_FMT Format as below.

1. GPS data structure.

Router ID, gps_date, gps_time, gps_use, gps_latitude, gps_NS, gps_longitude, gps_EW, gps_speed, gps_degrees, gps_FS, gps_HDOP, gps_MSL

2. Example

0001_R081850ac,150904,043215.0,06,2234.248130,N,11356.626179,E,0.0,91.5,1,1.2,9

7.5

3. GPS data description

Field No.	Name	Format	Example	Description
1	Router ID	String	0001_R081850ac	0001 customizable product ID. _R router indicator. 081850ac Last 8digits of routers MAC address.
2	gps_date	yymmdd	150904	Date in year,month,day
3	gps_time	hhmmss.sss	043215.0	UTC Time, Time of position fix.
4	gps_use	numeric	06	Satellites Used, Range 0 to 12.
5	gps_latitude	ddmm.mmmm	2234.248130	Latitude, Degrees + minutes.
6	gps_NS	character	N	N/S Indicator,N=north or S=south.
7	gps_longitude	ddmm.mmmm	11356.626179	Longitude, Degrees + minutes.
8	gps_EW	character	E	E/W indicator, E=east or W=west.
9	gps_speed	numeric	0.0	Speed over ground, units is km/h.
10	gps_degrees	numeric	91.5	Course over ground, unit is degree.
11	gps_FS	digit	1	Position Fix Status Indicator,
12	gps_HDOP	numeric	1.2	HDOP, Horizontal Dilution of Precision
13	gps_MSL	numeric	97.5	MSL Altitude, units is meter.

-- THE END