16 Port Proxy Gateway

User Manual

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Chapter I Equipment Information

1.1 Product Brief

MTR716 Router is a routing product independently . In addition to basic functions such as routing, it also support socks5 proxy, http&https proxy, port forwarding , sms sending and receiving and so on. It has the characteristics of economy, security and efficiency.

1.2 Product Application

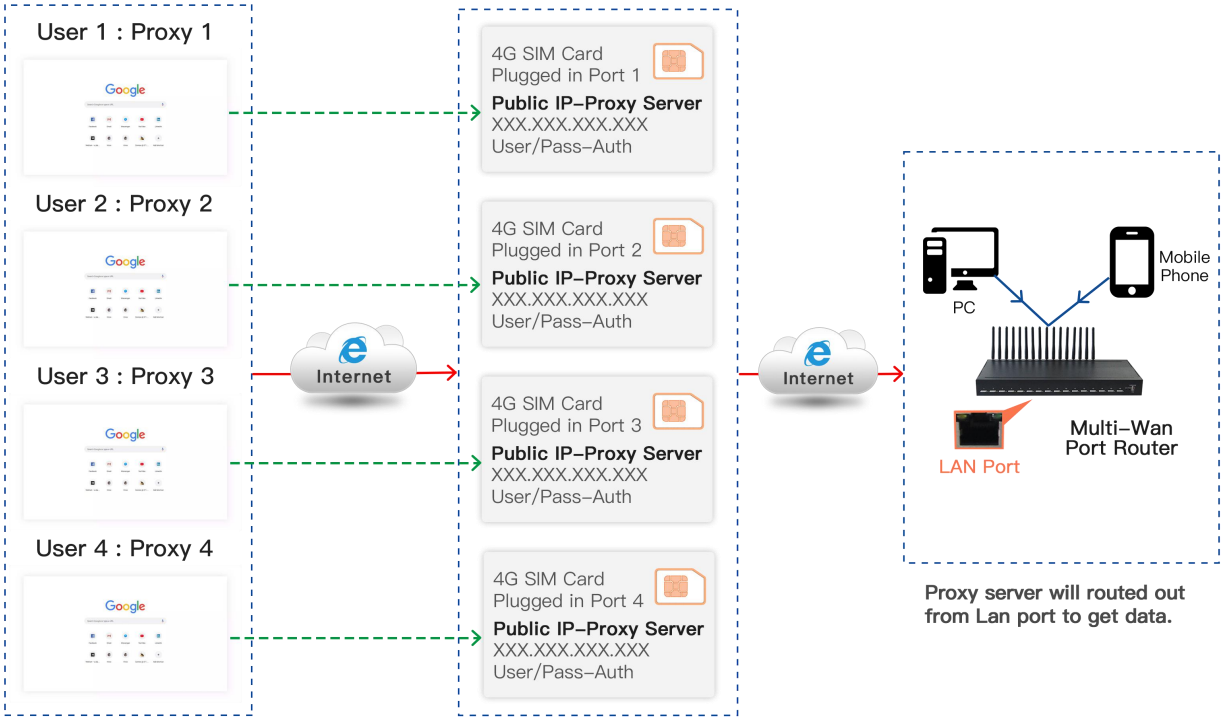

Figure 1.2-1 Product Application

1.3 Product Appearance

Back Panel

Figure 1.3-1 Back Panel

Description of the front panel(from left to right)：

- 1 Ground connection
- 1 reset button (press RST button about 10s will restore to factory settings)
- 1 Power Interface (DC 12V 5A)
- 4 Network Interface (3 LAN and WAN, RJ45)
- 32 Antenna Connector

Front Panel

Figure 1.3-2 Front Panel

Description of the front panel(from left to right)：

- 16 SIM slots (4 SIM cards per channel)
- 1 Power light (indicate the status of the power connection)
- 2 fans
- 1 Console Interface (USB to Serial, Baudrate 115200)

1.4 Special Features

- Support TCP/IP, DHCP and other protocols
- Support static routing settings
- API of Multi Wan-port Control
- Support firewall settings
- Support Socks5, HTTP&HTTPS proxy
- Support redial
- Support VPN
- Support IMEI Change
- Support port forwarding
- Support SMS sending and receiving
- Support SMPP/ SMS HTTP API
- Support USSD Inquiry/ AT Command
- Support ETMS (Remote SIMs)

Chapter II Equipment Installation

2.1 SIM Card Placement

Insert SIM cards like the figure 2.1-1. The SIM cards should be mini-SIM (2FF).

Figure 2.1-1 SIM Card Placement

2.2 Antenna Installation

The external antenna should be installed vertically always on a site with a good wireless signal. It is strongly recommend that you choose the long antenna.

Figure 2.2-1 Antenna Installation

2.3 Network Connection

Plug Ethernet line into gateway WAN port, and then connect the other end of the Ethernet line with switch or router.

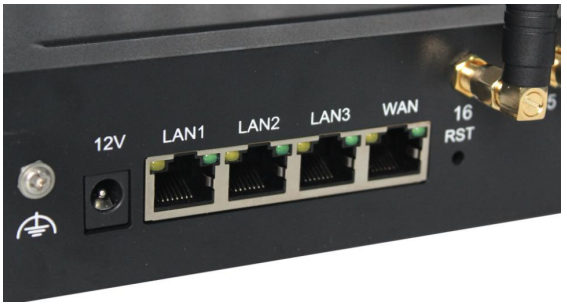

Figure 2.3-1 Network Connection

2.4 Power Connection

Connect the small end of the power cable to the power input on the back panel, and plug the other end of the cable into a 220V power outlet.

Figure 2.4-1 Power Connection

2.5 Serial Connection

Connect one side of serial cable to the console port on the back panel, another side to computer USB port.(Don't need connect it normally)

Figure 2.5-1 Serial Connection

Chapter III Web Settings

3.1 Login

Open the web browser and type the IP address. If it is the first time you login the gateway, please use the default settings below:

IP Address: 192.168.1.67

Account: admin

Password: admin

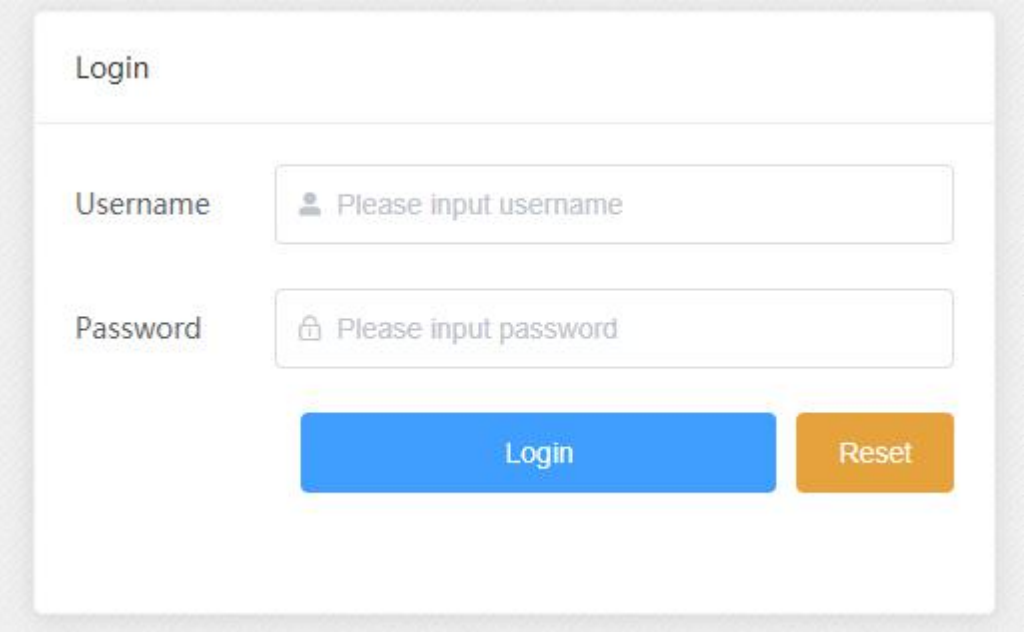

Figure 3.1-1 Login web

3.2 System Settings

3.2.1 Admin

The default username/password of gateway are admin/admin. You are allowed to change the password on this page.

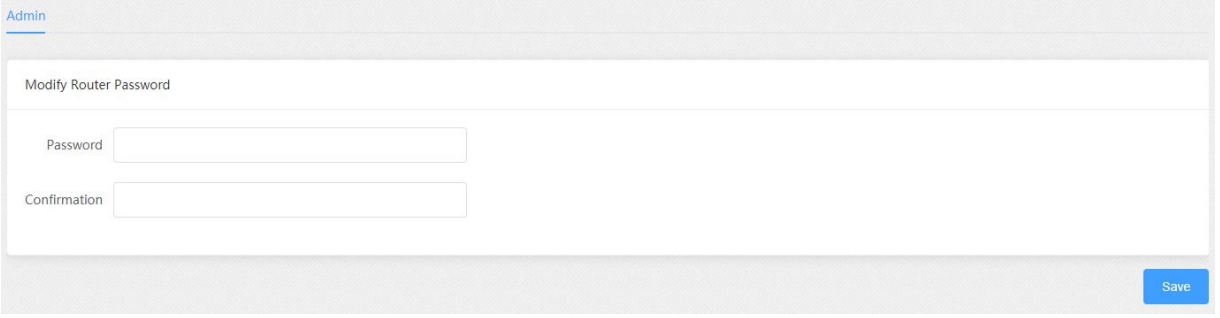

Figure 3.2.1-1 Admin

3.2.2 System config

System

On this page, you can change time zone and NTP settings, the device also can be used as a NTP server.

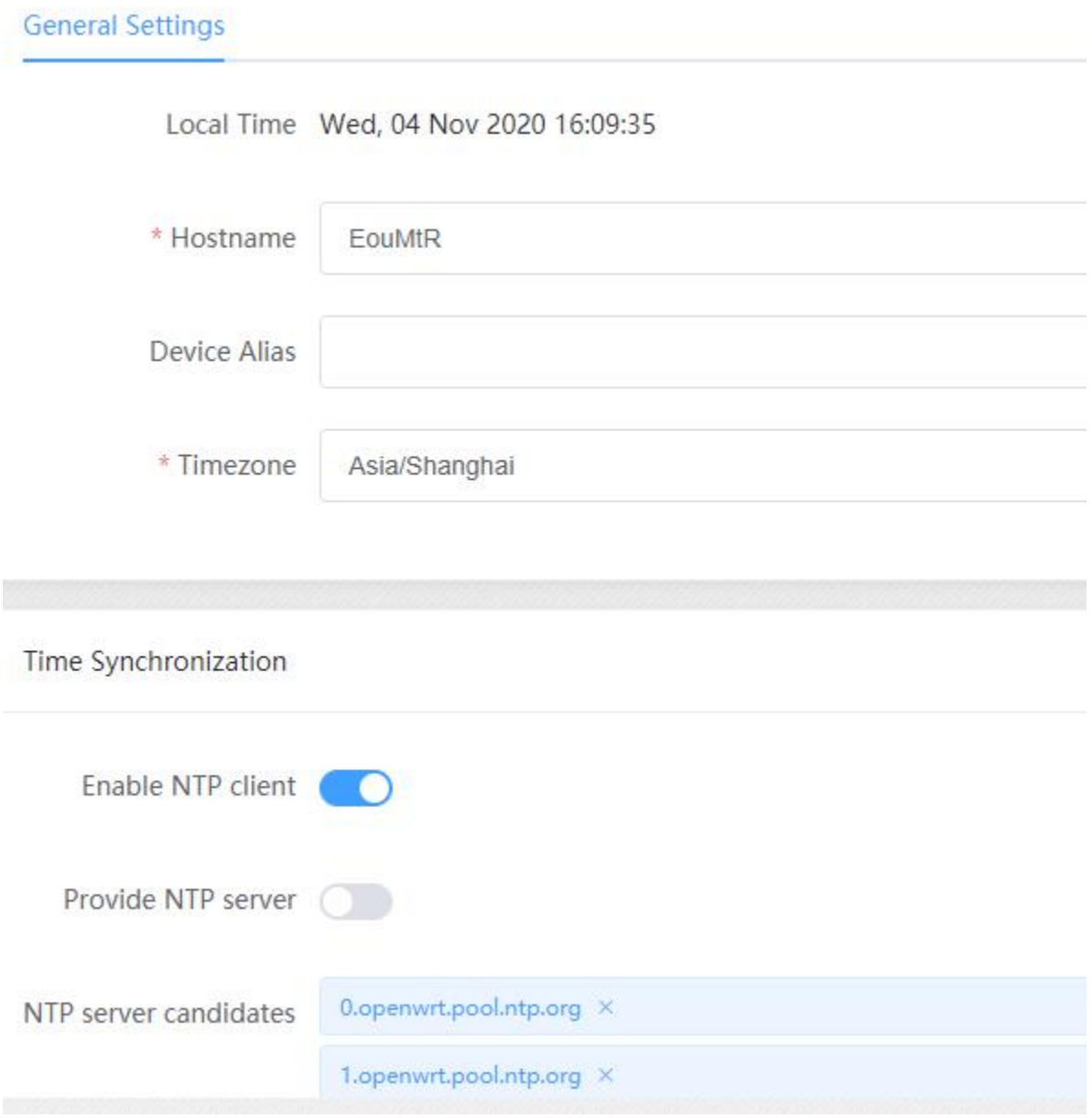

Figure 3.2.2-1 System

Set Public IP Config

When the sim card online and it dial ok, most of the sim cards can't show the public IP, you can configure on this page to get the public IP.

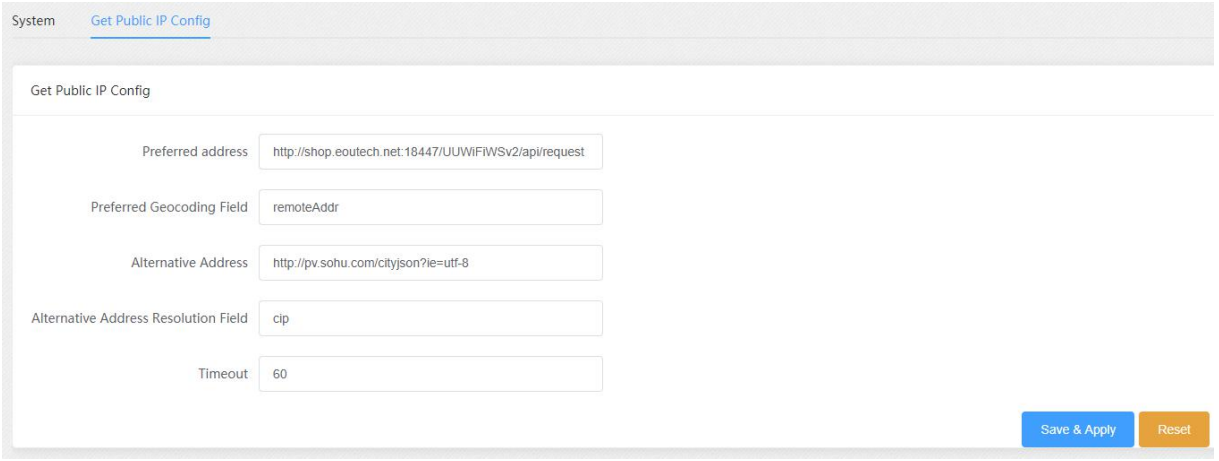

Figure 3.2.2-2 IP config

3.2.3 System operation

Import

On this page, you can update the firmware for device, you can also update other files like rom, license etc.

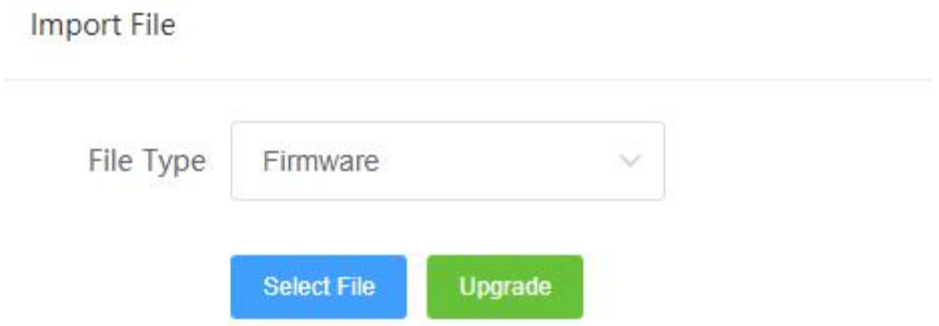

Figure 3.2.3-1 Import file

Restore To Factory

Sometimes there is something wrong with your device that you don't know how to solve it, mostly you will reset it. Just click "restore" button, your gateway will be reset to the factory settings.

Figure 3.2.3-2 Restore to factory

Reboot device

Click restart to reboot device.

Figure 3.2.3-1 Reboot device

3.2.4 Network test

It's used to test the reachability of the destination server.

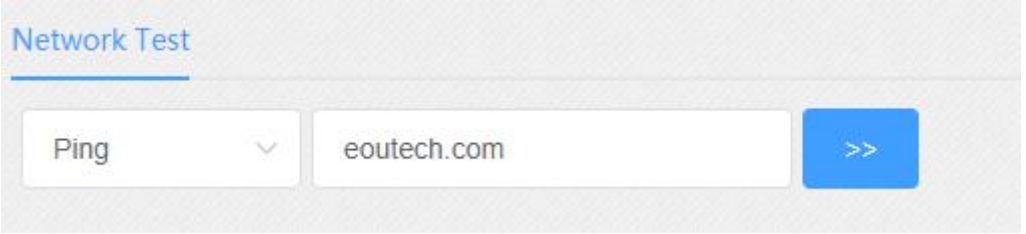

Figure 3.2.4-1 Network test

3.3 Gateway Settings

3.3.1 IMEI Settings

IMEI means International Mobile equipment Identity, it is a 15-digit number. The device can do IMEI modification. With the function, you can do static IMEI or dynamic IMEI.

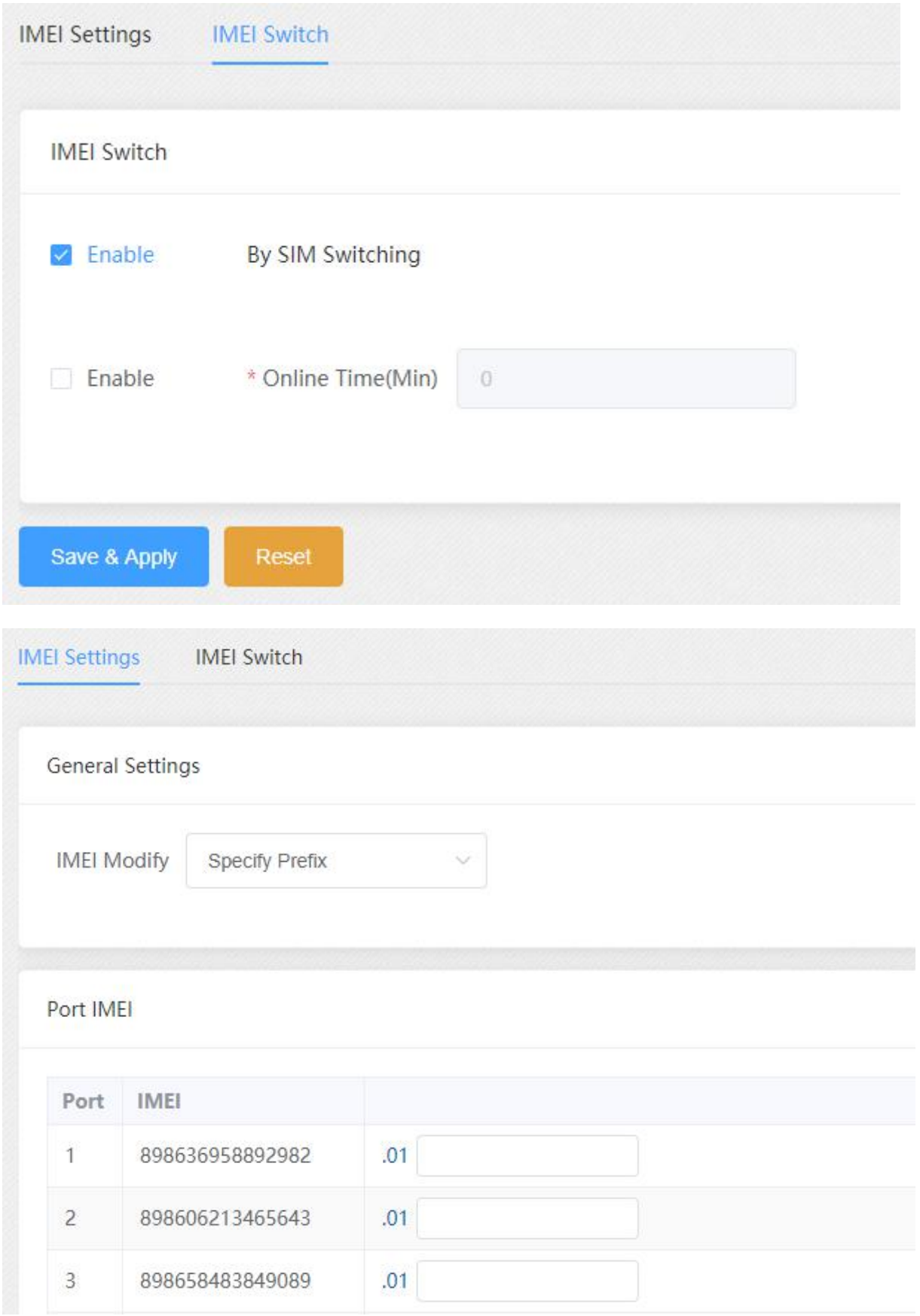

Figure 3.3.1-1 IMEI Settings

You can set any different IMEI for every port, just set 14-digit number, the last digit will generate itself. If you need set with special prefix, just click “copy” , you can see the figure as

above: set 865 in port 1, after click “copy”, every port will have a IMEI prefix 865, click “auto complete”, the IMEI prefix will generate automatically. If you just put an IMEI prefix in the blank, the IMEI will changed when SIM switch(default), and also you can change the conditions for changing above.

Figure 3.3.1-2 Dynamic IMEI Settings

You can click “Add” button to add a new dynamic IMEI list, this list includes initial IMEI value of IMEI group and the size of IMEI group. click “Delete” will delete a exist IMEI list.

3.3.2 AT Command

You can select different port then send at command

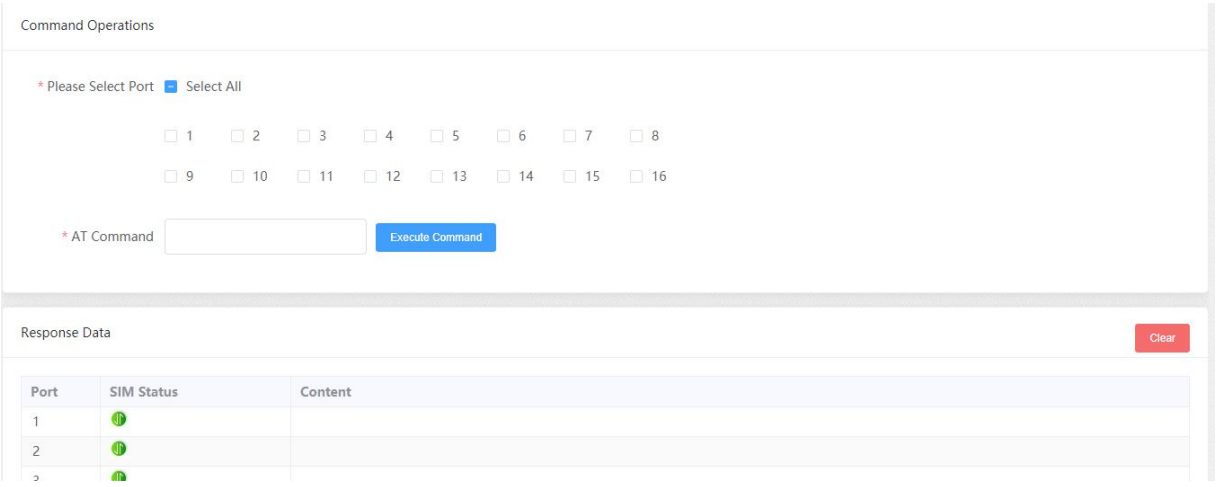

Figure 3.3.2-1 Command Operations

3.3.3 USSD Command

On this page, you can send USSD command manually and get USSD response more convenient.

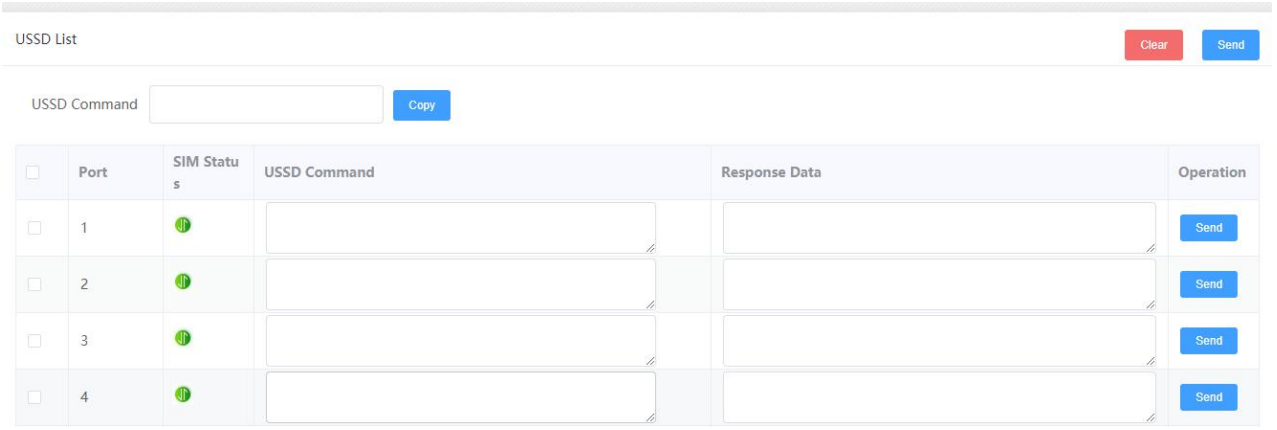

Figure 3.3.3-1 USSD List

3.3.4 Switch Card

Basic Settings

When sim card locked, device will send a sms to destination mobile for warning.

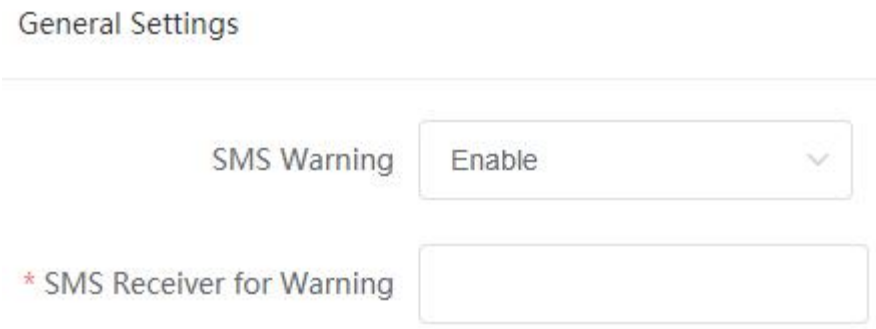

Figure 3.3.4-1 Basic Setting

Conditions for Switch Card

When the SIM reaches any conditions below, device will lock/switch it.

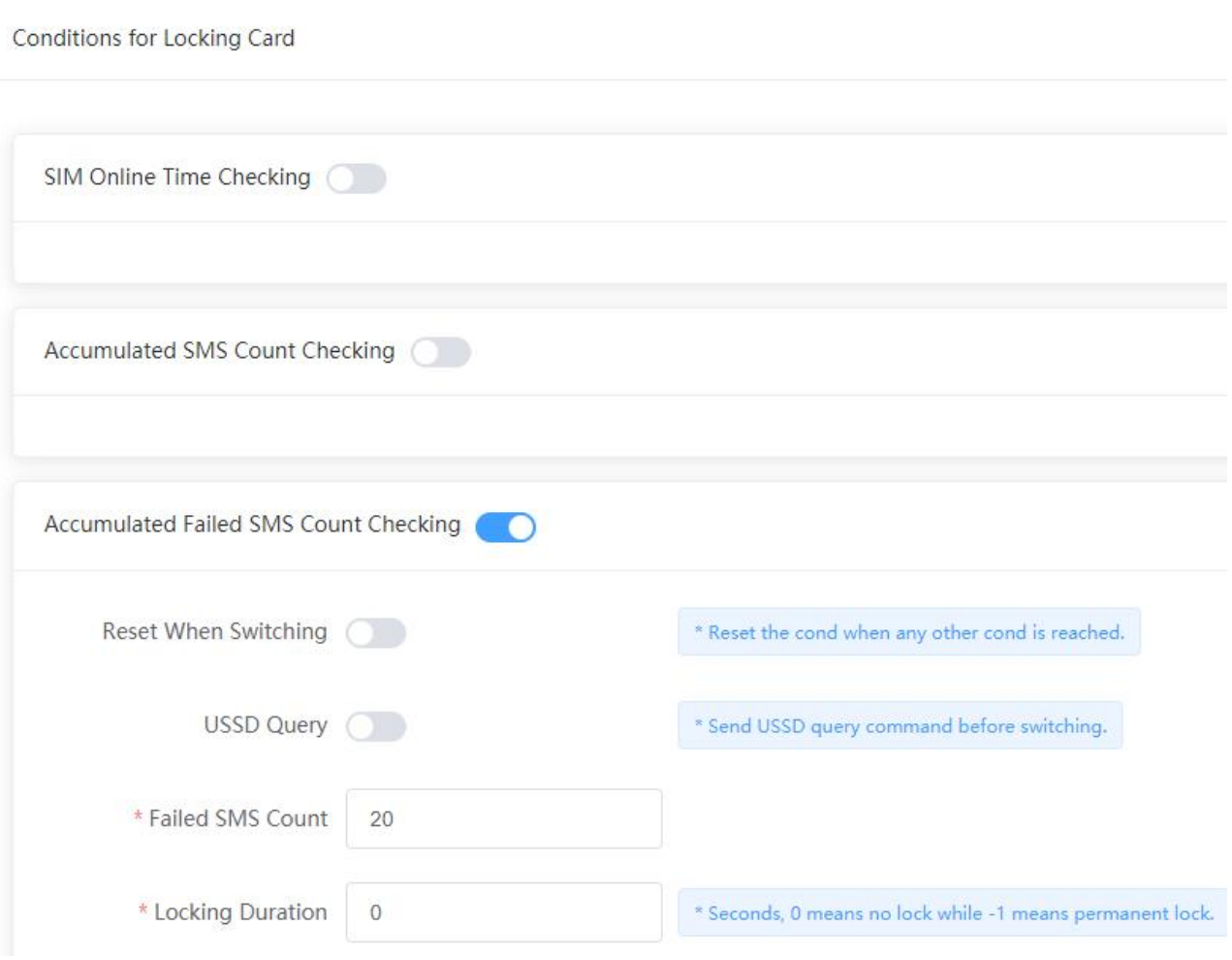

Figure 3.3.4-2 Locking Card Conditions

We take “accumulated failed SMS checking” for example to explain the lock/switch function.

Items	Description
Enable or Not	If it is enabled, the accumulated failed SMS will be used as a condition for system to check.
Reset When Switching	This condition will be recalculated next time when it is switched by other conditions.
USSD Query	After switch to next SIM, the next SIM will send USSD query command first.
Failed SMS count	The maximum number of accumulated failed SMS on this SIM card. If the number of accumulated failed SMS reaches this value, the card will be locked if this condition is enabled.
Locking duration	The duration of locking. 0 means no lock while -1 means permanent lock.

Table 3.3.4-1 Locking Card Conditions

3.3.5 APN settings

If the sim card dialed failed, please try to configure APN.

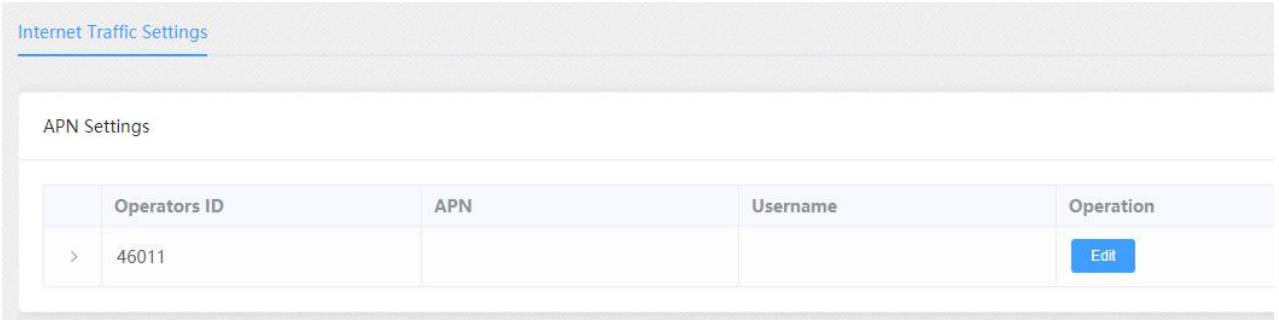

Figure 3.3.5-1 APN Settings

3.3.6 Remote MGT

We can't access in device web interface with other network if the device is behind NAT, ETMS is the remote system which can help us access in the device with other network.

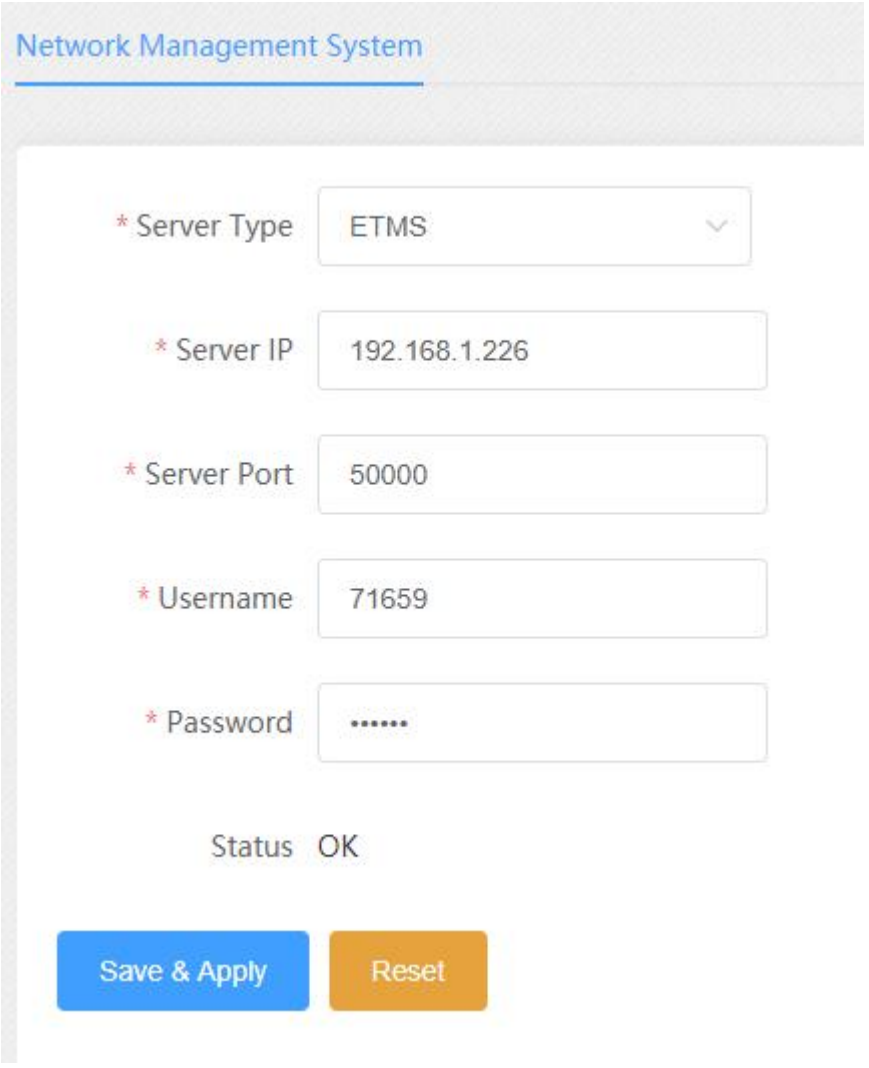

Figure 3.3.6-1 remote management

Items	Description
Server type	Disable or enable ETMS
Server IP	ETMS server ip
Server Port	The port of ETMS service. Default is 50000
Account	ETMS device account.
Password	Password of ETMS device account.
status	The Registration status of gateway with ETMS server.

Table 3.3.6-1 Locking Card Conditions

3.3.7 Data Control

Data control is for users to control the SIM data.

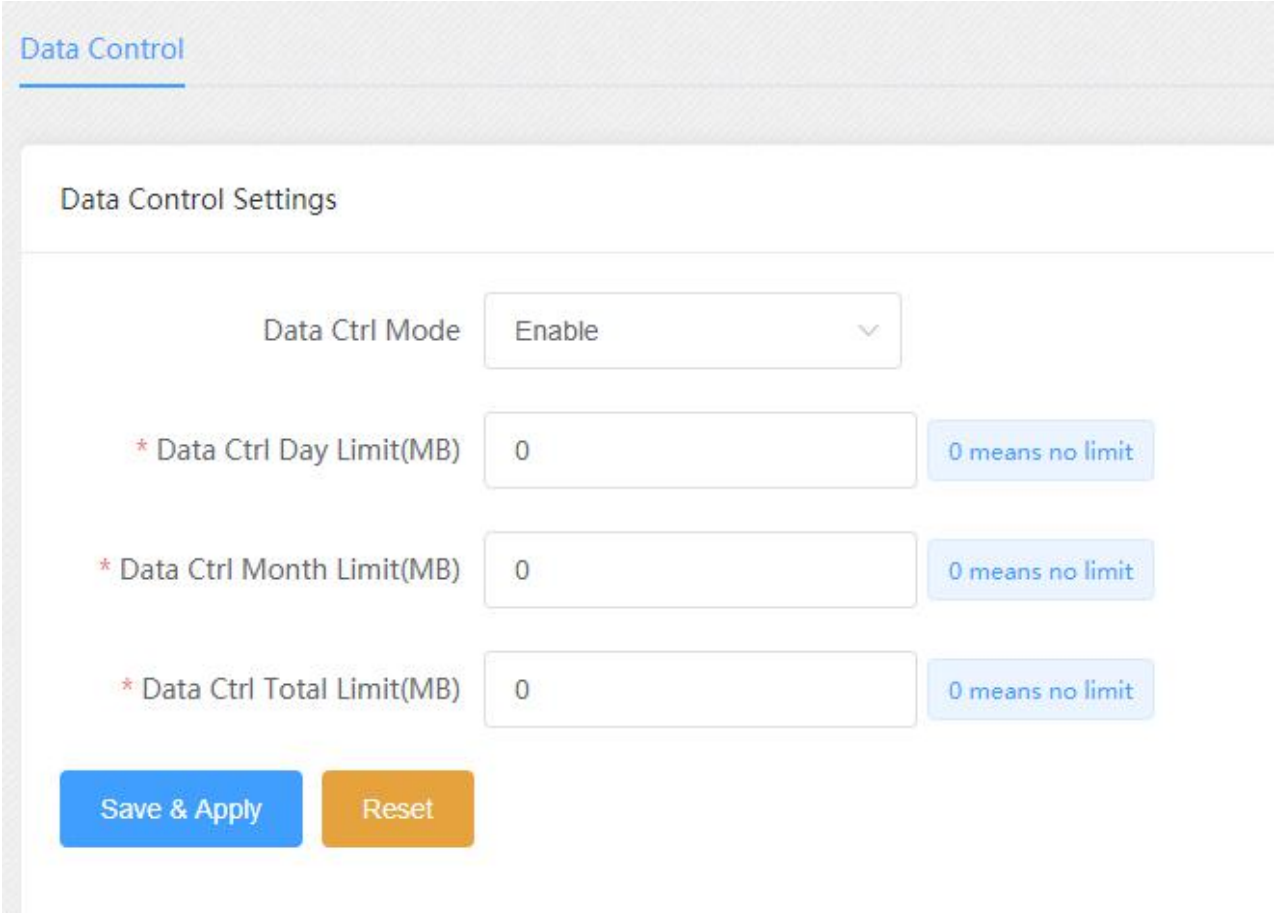

Figure 3.3.7-1 Data control Settings

Items	Description
Data Ctrl Mode	Enable or disable data control
Data Ctrl Day Limit	The value of limitation. After today's data usage reaches this value, the SIM will be locked by device. 0 means no limit.

Data Ctrl Month Limit	The value of limitation. After this month data usage reaches this value, the SIM will be locked by device. 0 means no limit.
Data Ctrl Total Limit	The value of limitation. After total data usage reaches this value, the SIM will be locked by device. 0 means no limit.

Table 3.3.7-1 Data Control Settings

You can scan more details about the data control on the page below. Once the SIM is used up, it will be locked by gateway. If you still want to use it, you need to click "Reset".

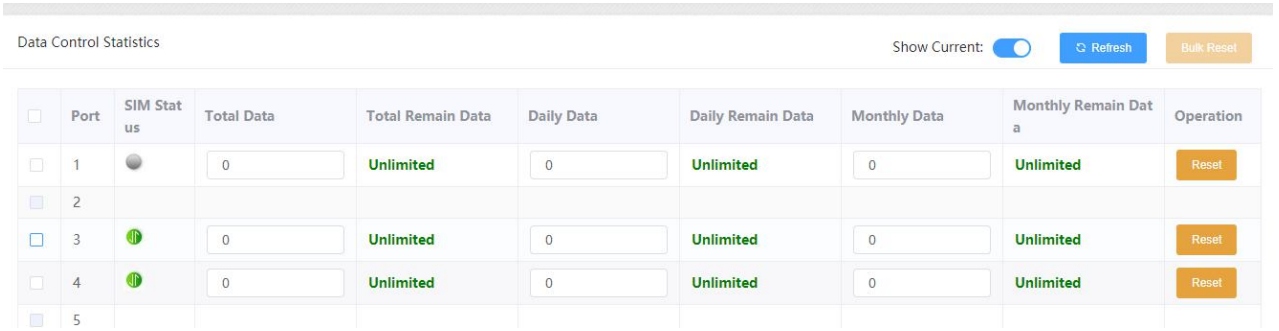

Figure 3.3.7-2 Data Control Statistics

Items	Description
Total Data	The value of total data.
Total Remain Data	Indicates the current SIM remain data
Daily Data	The value of Daily data
Daily Remain Data	Indicates the current SIM daily remain data
Monthly Data	The value of Month Data
Monthly Remain Data	Indicates the current SIM Month remain data
Show Current	Show active SIM cards data statistics, default settings
Bulk Reset	The data will reset to the initial value. (daily data will reset every day)

Table 3.3.7-2 Data Control Statistics

3.4 SMS Settings

3.4.1 SMS Send

You can select one or more ports to send SMS to different receiver. Successful and failed

SMS records will be show below.

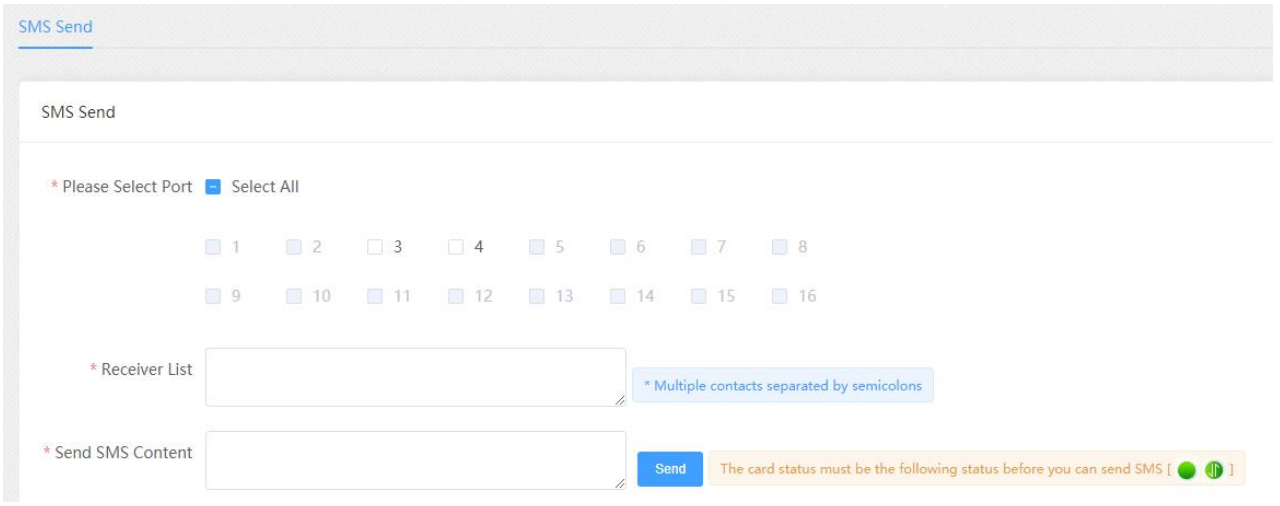

Figure 3.4.1-1 Send SMS

3.4.2 SMS Receive

You can check the latest SMS content and clean up all the SMS content on this page.

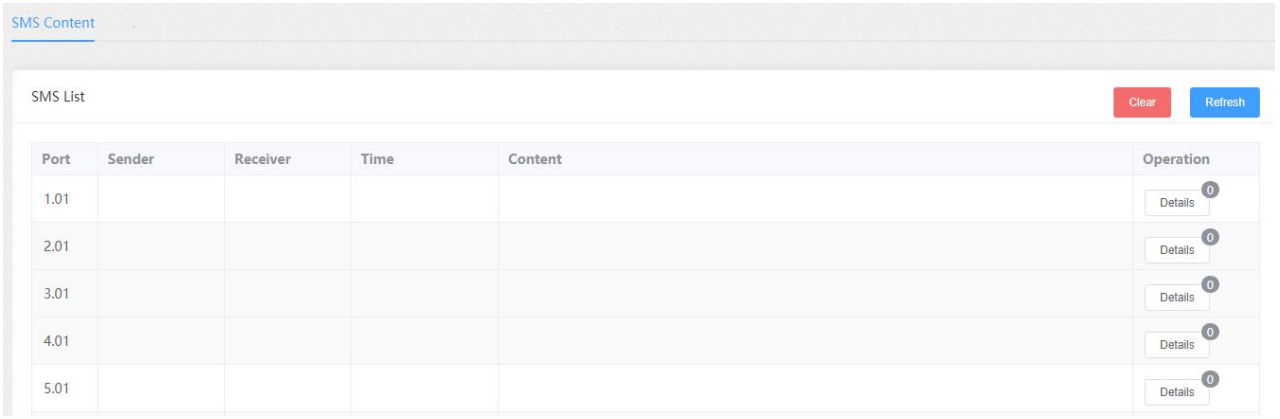

Figure 3.4.2-1 SMS Content

If you want to check more SIM content of this SIM, please click “Details” button.

Then you will see the page below. You can know the SMS details in different port and SIM, reply and delete SMS here.

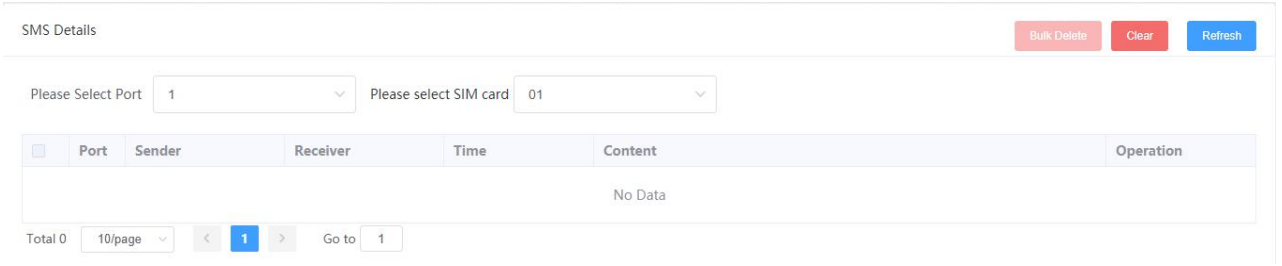

Figure 3.4.2-2 SMS Details

3.4.3 SMS Forward

Emai to message

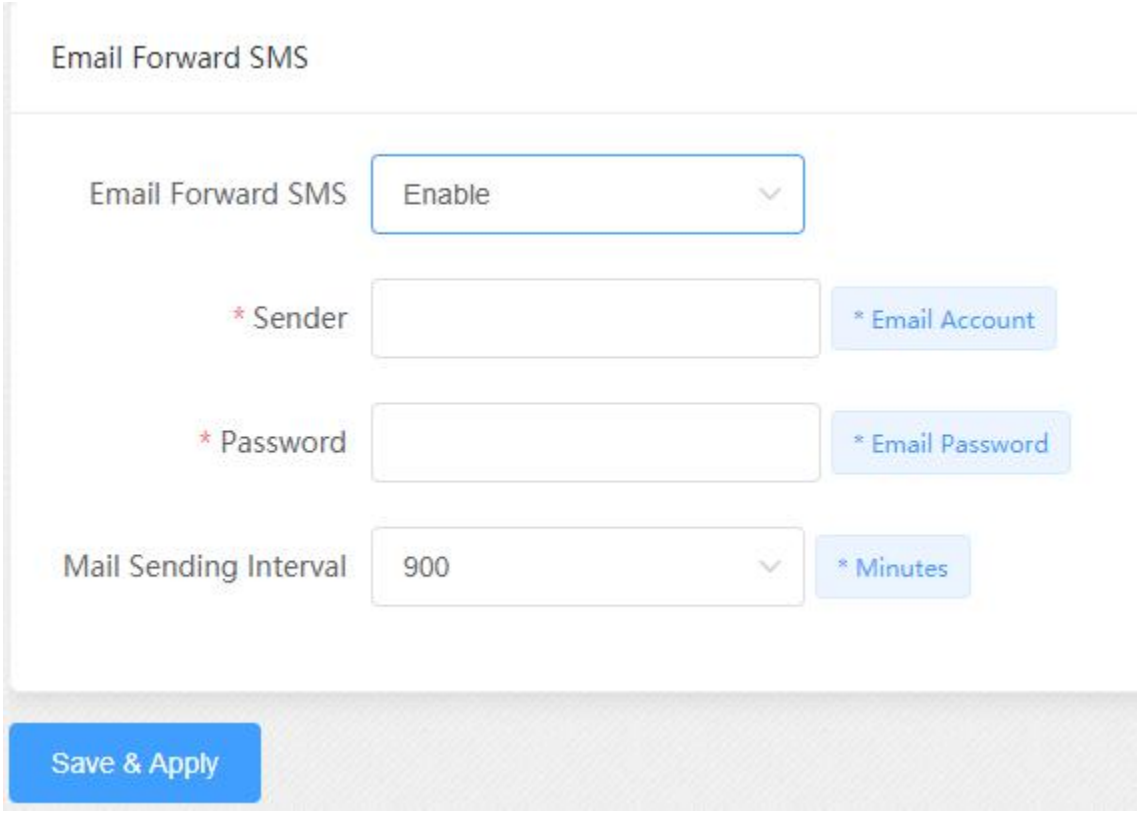

Figure 3.4.3-1 Email to message

Items	Description
Email to messages	Enabled, use email send to the email address which configured, the content will send by device sim card to destination mobile
Sender	Email address which device receive email
Password	Email password
Mail sending Interval	The device read email period.

Table 3.4.3-1 Email to message

SMS forward HTTP

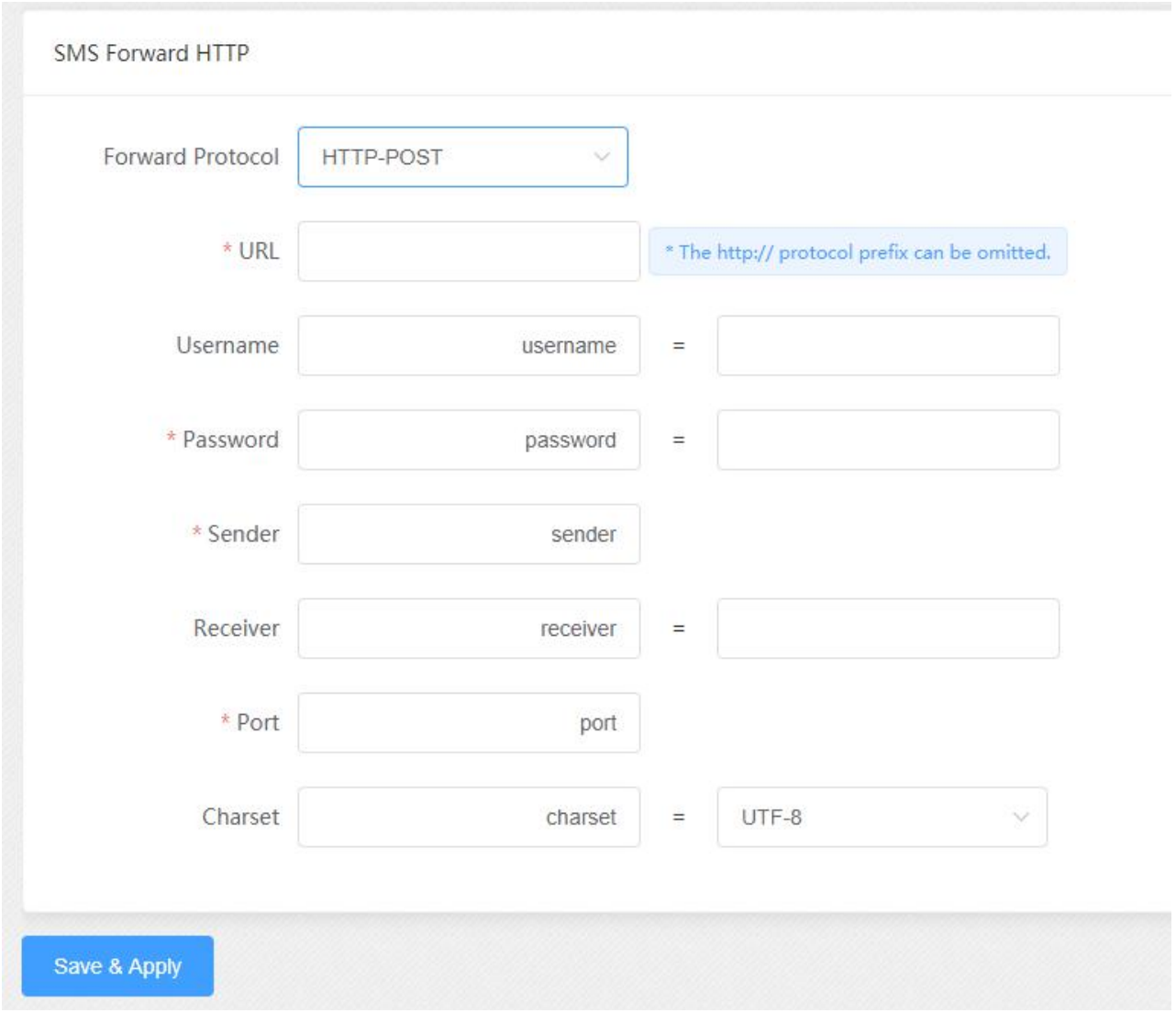

Figure 3.4.3-2 forward by HTTP

Items	Description
Forward protocol	GET: the sms content will be in request line POST: the sms content will be in request body
URL	The URL which the sms forward to.
User name	If destination url need username, can set here.
Password	If destination url need password, can set here.
Sender	The mobile number which send sms to sim card in gateway.
Receiver	If set value, the receiver will be this value, if leave blank and number settings has number, receiver will be sim card number, if leave blank and number settings no number, will don't have parameter receiver
Device Port	The device port
Charset	UTF-8 or BASE64

Table 3.4.3-2 forward by HTTP

SMS forward GSM

When sim card receive sms, will forward the sms to the destination mobile which is set in “forward number”

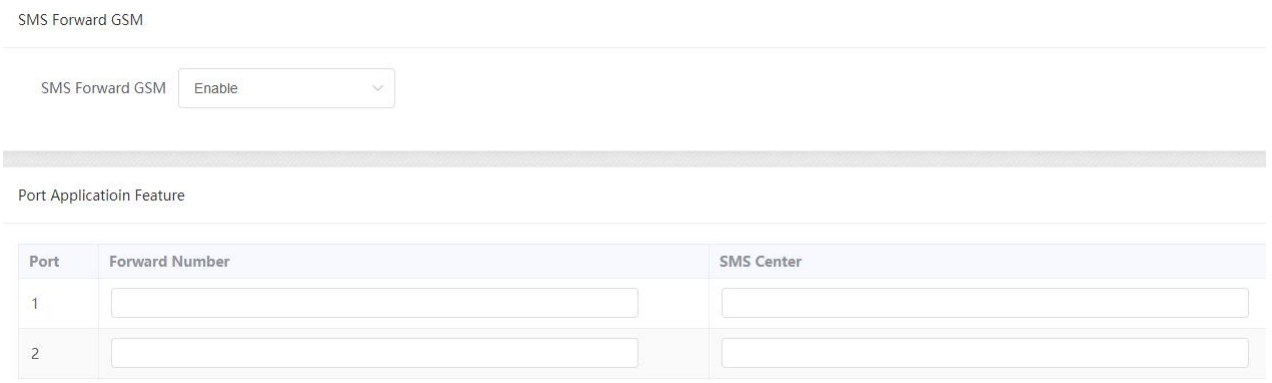

Figure 3.4.3-3 forward by GSM

SMS forward SIP

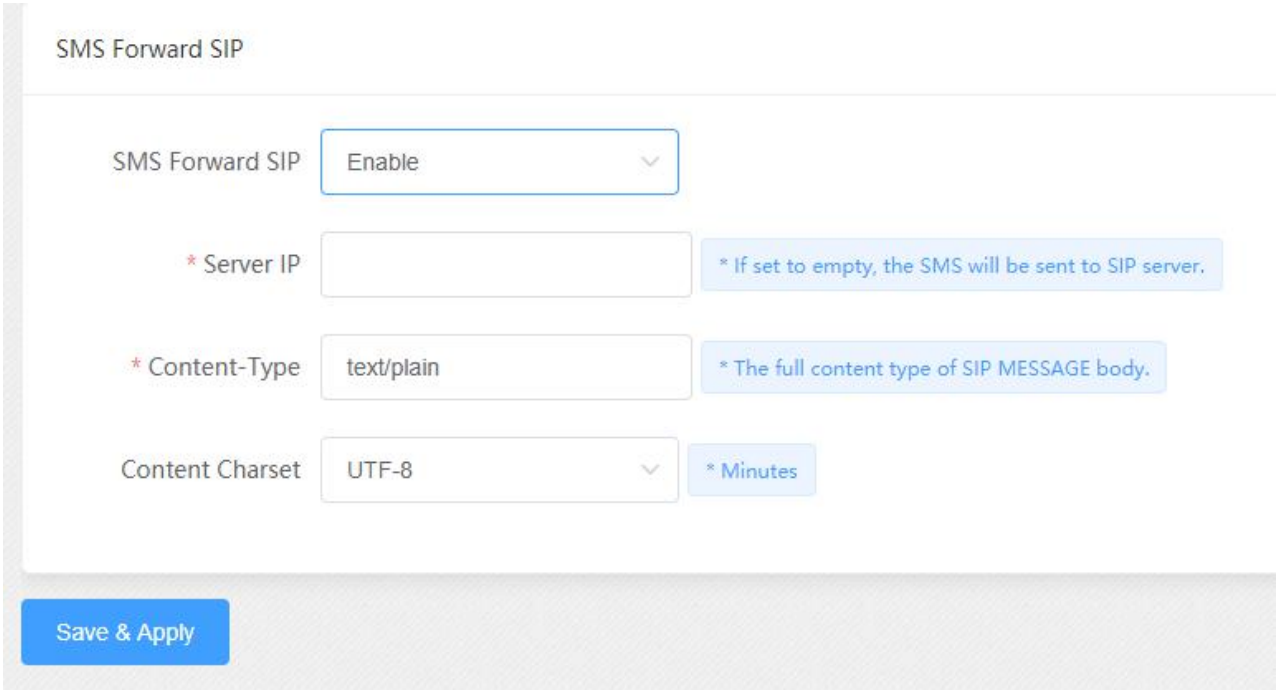

Figure 3.4.3-4 forward by SIP

Items	Description
Server ip	Sip server ip.
Content-type	sip header, default is text/plain
Content Charset	utf-8 or Base64

Table 3.4.3-3 forward by SIP

SMS forward email

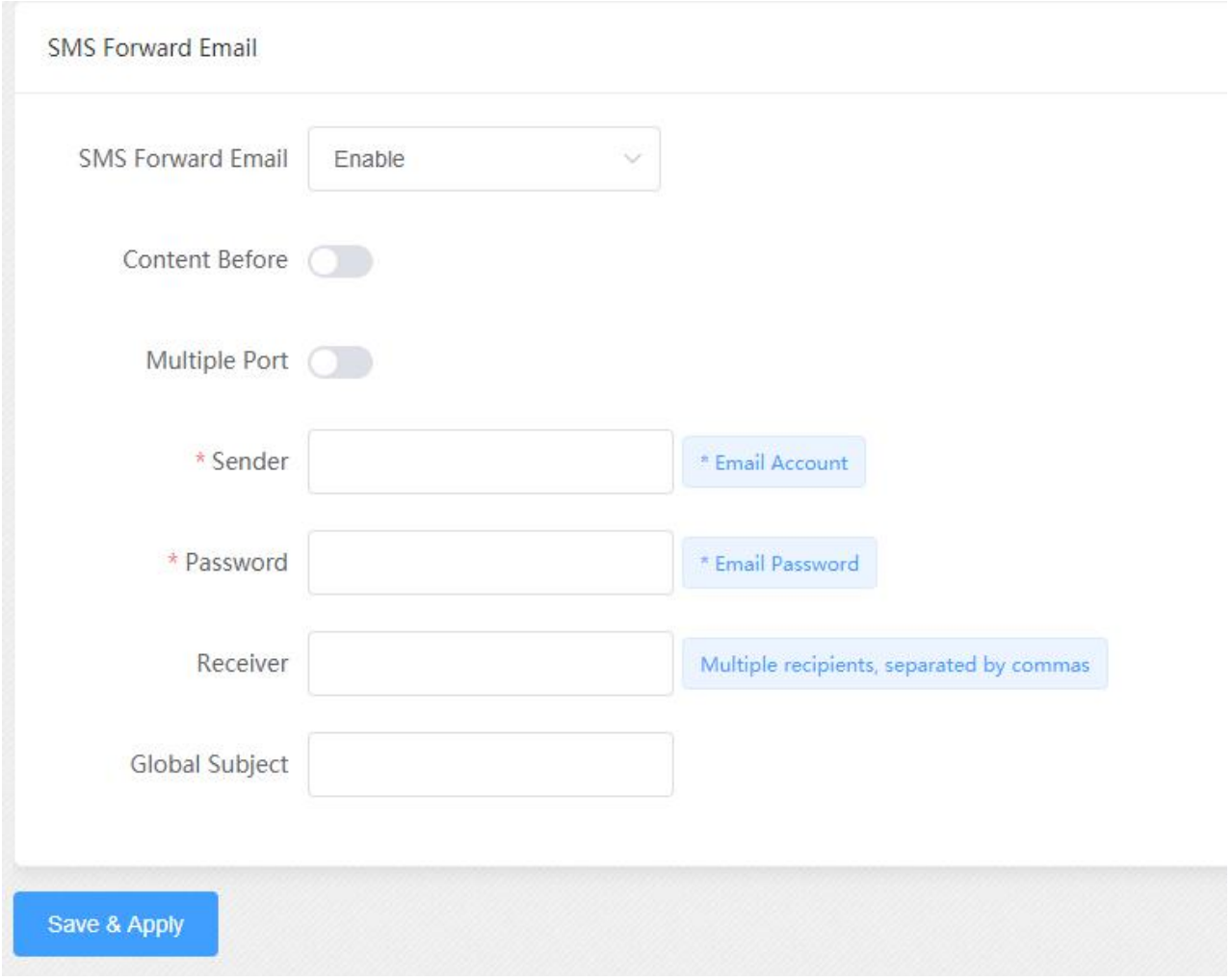

Figure 3.4.3-5 forward by Email

Items	Description
Forward protocol	Email: when sim card receive sms, device will use sender email address send email to recipient.
Multiple Port	Disable: all sms send to one email address. Enabled: different port send to different email address.
Sender	Device use this email address send email.
Password	Email password
Recipient	The destination email address

Table 3.4.3-4 forward by Email

3.4.4 SMS Control

SMS control is for users to control the SIM card SMS counts. And the data will not flush even

you restart the device or pull off the SIM.

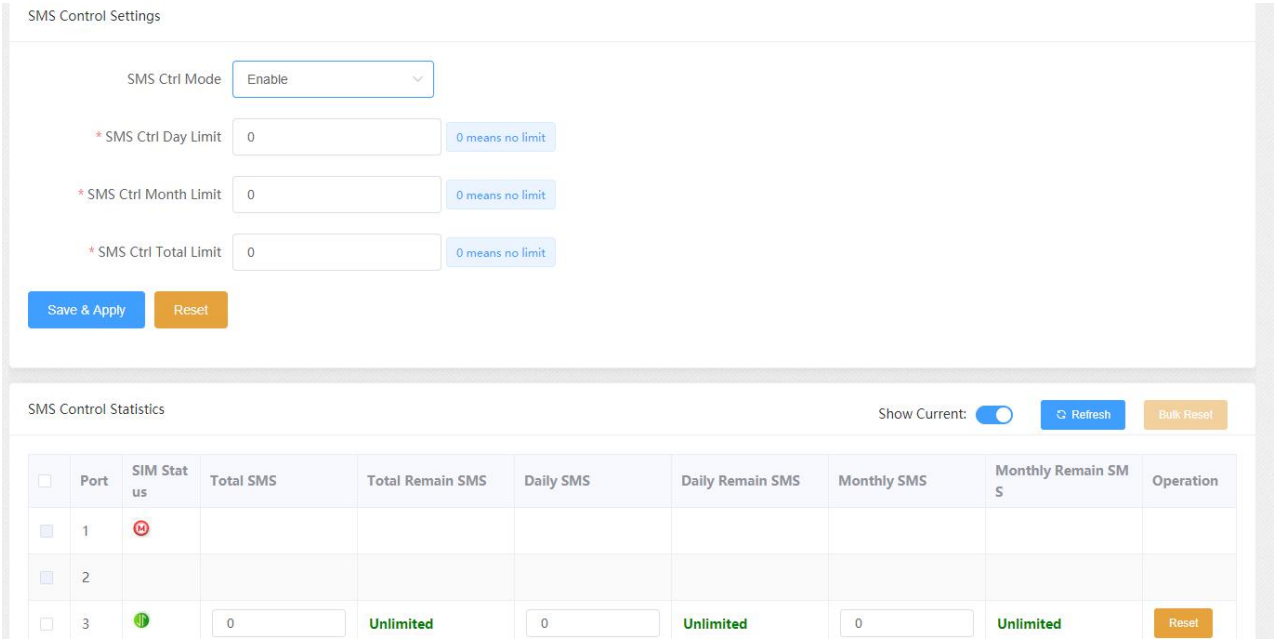

Figure 3.4.4-1 SMS control

Items	Description
SMS ctrl Mode	Enable or disable SMS control
SMS Ctrl Day limit	The maximum sms which sim card can send every day.
SMS Ctrl Month limit	The maximum sms which sim card can send every month.
SMS Ctrl Total limit	The maximum sms which simcard can send.

Table 3.4.4-1 SMS control

3.4.5 SMPP Settings

The Short Message Peer-to-Peer (SMPP) is a protocol used by the telecommunications industry for exchanging SMS messages between Short Message Service Centers (SMSC) and/or External Short Messaging Entities (ESME). The protocol is a level-7 TCP/IP protocol, which allows fast delivery of SMS messages.

device support SMPP V3.4, it can works as SMPP client and server, but we usually used it as a SMPP server

BASIC settings

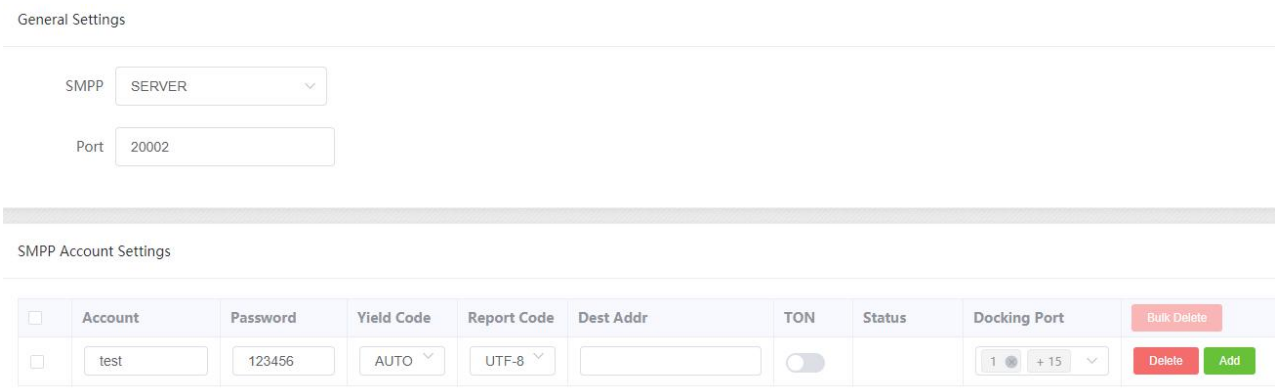

Figure 3.4.5-1 Basic Settings

Items	Description
SMPP	client: device work as smpp client server: device work as smpp server, if device is in NAT, need to forward the device smpp port first.
Port	Device smpp port
Account	Smpp account for smpp client register.
Password	Smpp account password
Yield Code	Device receive sms, will encoding by the code.
Report code	The code of delivery report.
Dest Addr	Destination address, when device receive sms, will send the sms to smpp client and the recipient address will be the dest addr.
TON	NPI and TON set to 0X01 if enabled.
Status	Smpp client registered in device, will show transceiver
Select ports	Select all ports means all ports with one smpp account.

Figure 3.4.5-1 Basic Settings

Advanced settings

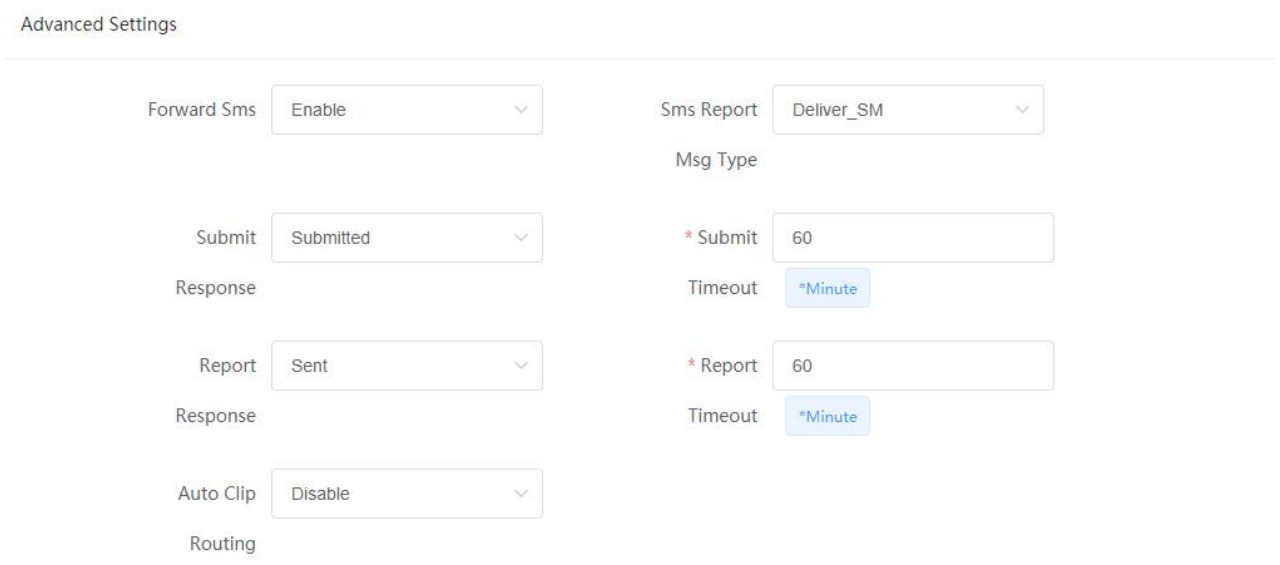

Figure 3.4.5-2 Advanced Settings

Items	Description
Forward sms	Enabled: forward sms to smpp client. Disabled: don't forward sms to smpp client.
Sms Report Msg Type	Sms report message type, default is Deliver_SM.
Submit response	Submitted: when device receive request, send back submit ok. Sent: when device send sms to smsc successfully, send back submit ok. Delivered: when destination mobile receive sms, send back submit ok
Submit timeout	Submit ok timeout value, after 60mins, will timeout.
Report response	Sent: when device send sms to smsc successfully, send back delivery report. Delivered: when destination mobile receive sms, send back delivery report. No respond: don't send delivery report
Report Timeout	Report timeout value, default is 60mins.
Auto Clip routing	Send: the sms send from one port, next time, the same recipient number will also use that port Receive: smpp send a sms from device port, next time, this port receive the sms will forward to the destination address use the original address at the first time
Cache time	The auto clip routing cache time

Table 3.4.5-2 Advanced Settings

Translation list

This settings is used for remove country code, some country, sending sms with country will be failed

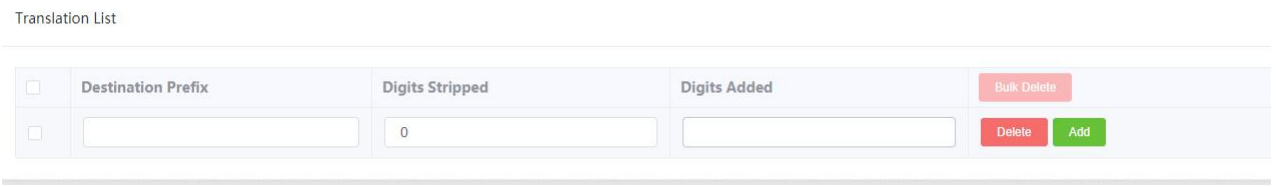

Figure 3.4.5-3 Translation List

3.4.6 EIMS Settings

EIMS is a SMS server which connect with device by private protocol. It also support HTTP, SMPP to connect the third-party SMS system to send and receive SMS.

Basic Settings

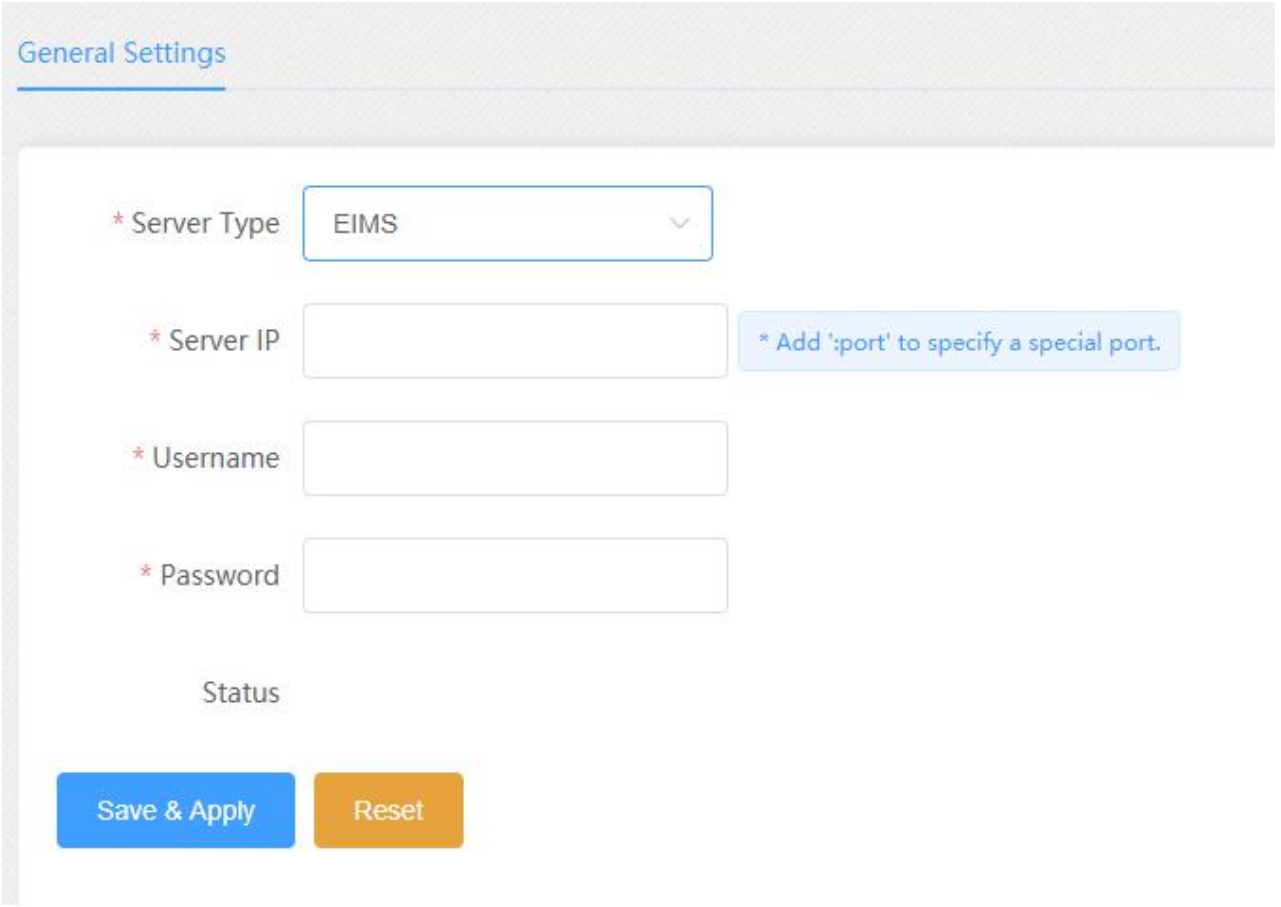

Figure 3.4.6-1 Basic Settings

Items	Description
Server Type	Enable or disable eims setting.
Server address	EIMS server ip, default port 20002.
User Name	The device account in EIMS
Password	Account's password
Registeration status	OK means register successfully

Table 3.4.6-1 Basic Settings

3.4.7 Prefix route

The SMS will be routed to the ports which match the prefix specified here. It's used for saving communication expense. There are two modes for prefix settings. One is operator prefix, the other one is port prefix.

The screenshot below shows operator prefix, one device insert different operator sim cards, just configure the operator prefix, when sms traffic send to this device, device will use same operator to send the sms.

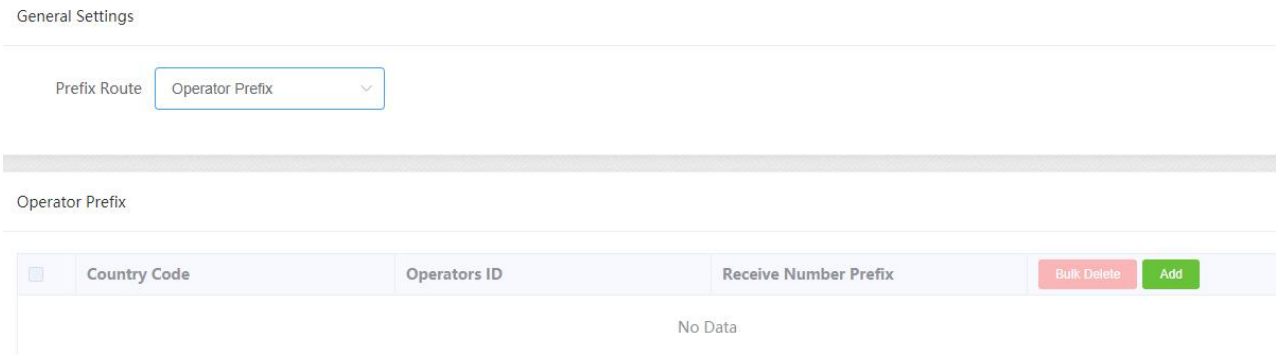

Figure 3.4.7-1 operator prefix

The screenshot below shows port prefix, when sms traffic send to this device, device will route the sms by port prefix.

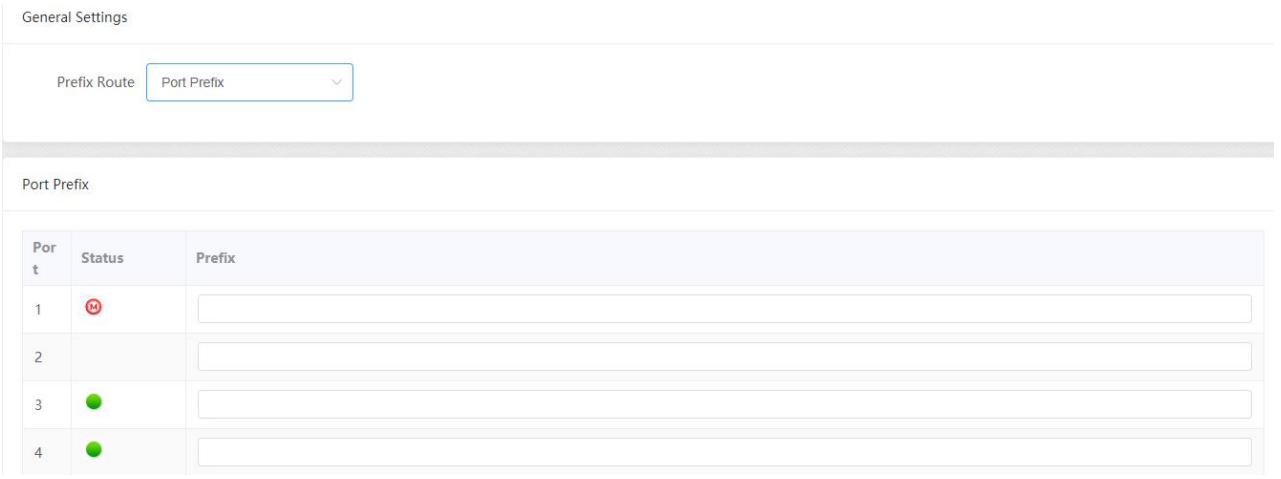

Figure 3.4.7-2 port prefix

3.4.8 SMS Filter

SMS filter is used for filtering the spam message, configure the sender number or sensitive word. When the receive sms match with sender or sensitive word, the receive sms will not show in page “SMS receive”, it will shows in SMS Trash Box, and also these sms will not forward to third-party system.

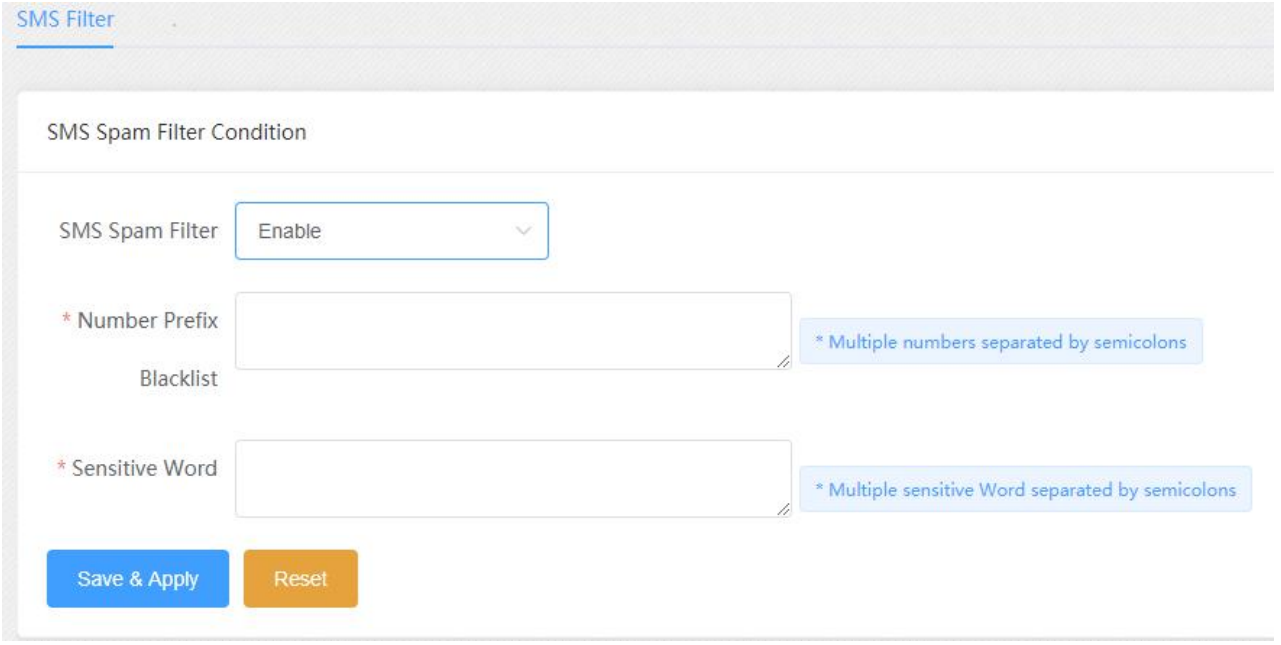

Figure 3.4.8-1 SMS spam filter

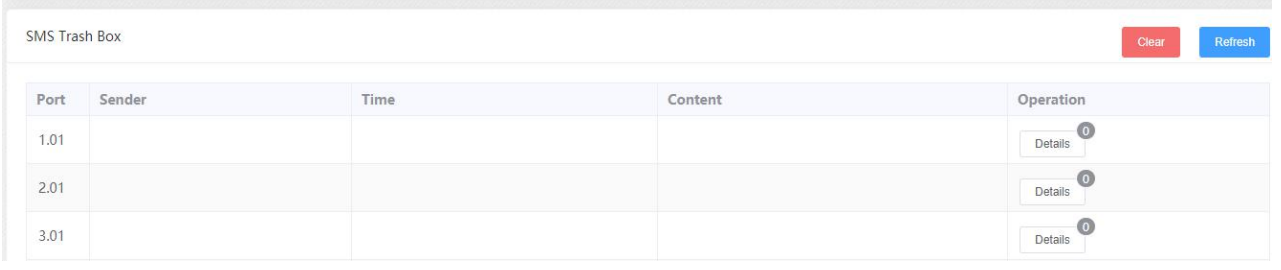

Figure 3.4.8-2 SMS trash box

3.5 Network Setting

3.5.1 VPN settings

A virtual private network (VPN) extends a private network across a public network, such as the Internet. It enables a computer or network-enabled device to send and receive data across shared or public networks as if it were directly connected to the private network, while benefiting from the functionality, security and management policies of the private network. This device works as VPN(PPTP and openvpn) client mode only, if you want to use VPN function, please input the VPN parameter on the VPN settings page.

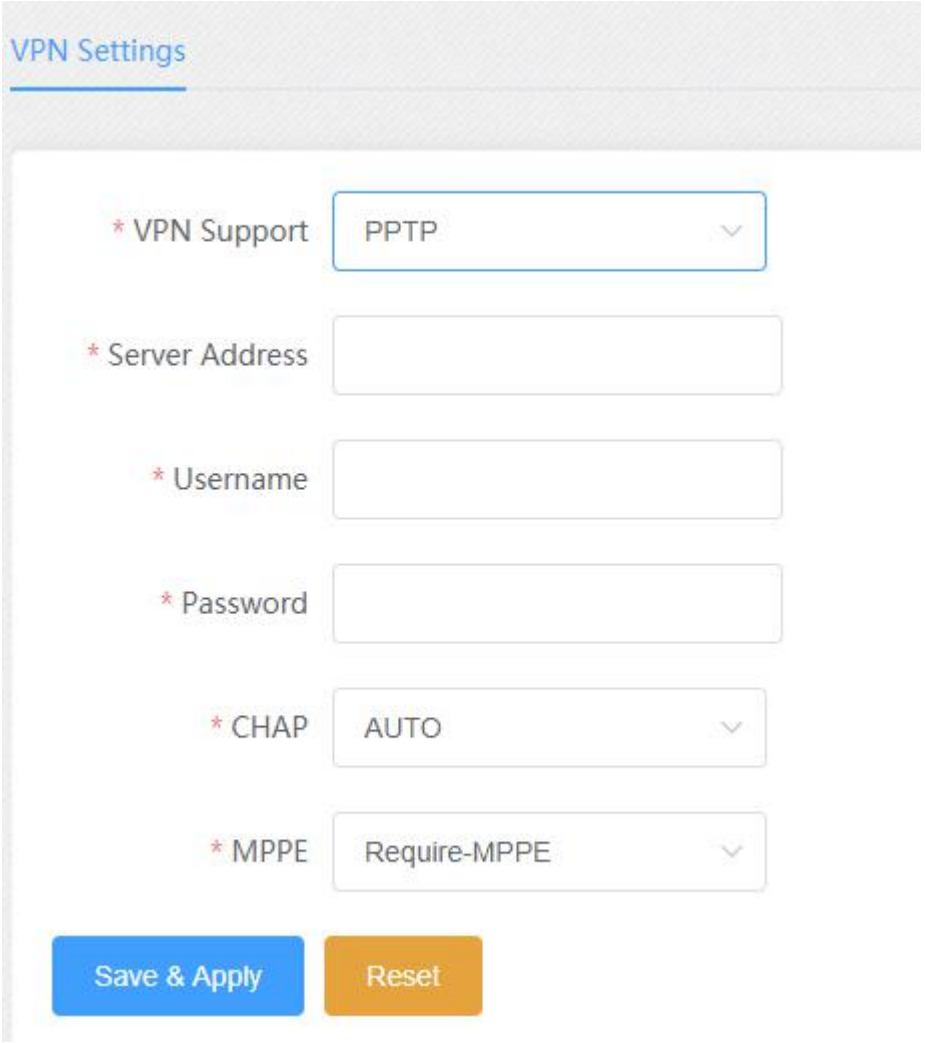

Figure 3.5.1-1 VPN Settings

3.5.2 Interface Settings

This page can view the current network interface status information of the device, and also you can edit wan port ip and redial 4G interface in this page.

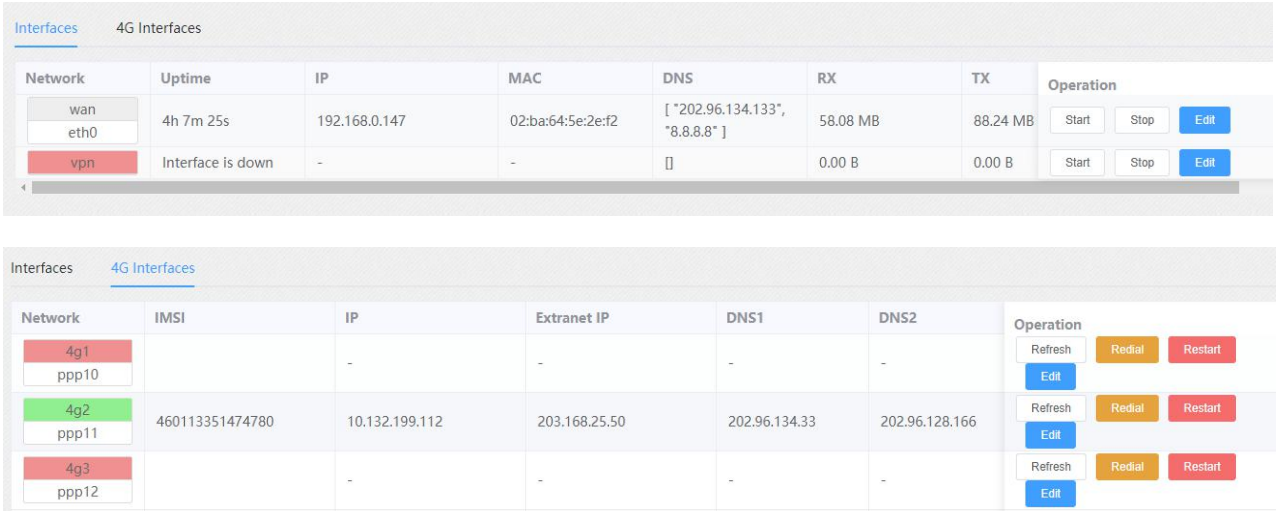

Figure 3.5.2-1 Interface Settings

3.5.3 Routes

This page is mainly used to display the current routing information of the device.

Figure 3.5.3-1 Routes

3.5.4 Firewall

This page can be used to edit device firewall, port forwarding and etc.

General settings: choose whether to enable firewall or not

Zones: divide the network interface into different areas of management

Port forwarding: allows remote computers (for example, computers on the Internet) to connect to a specific computer or service within a private local-area network (LAN). But sim card need public ip.

Traffic rules: traffic transfer between different areas is defined.

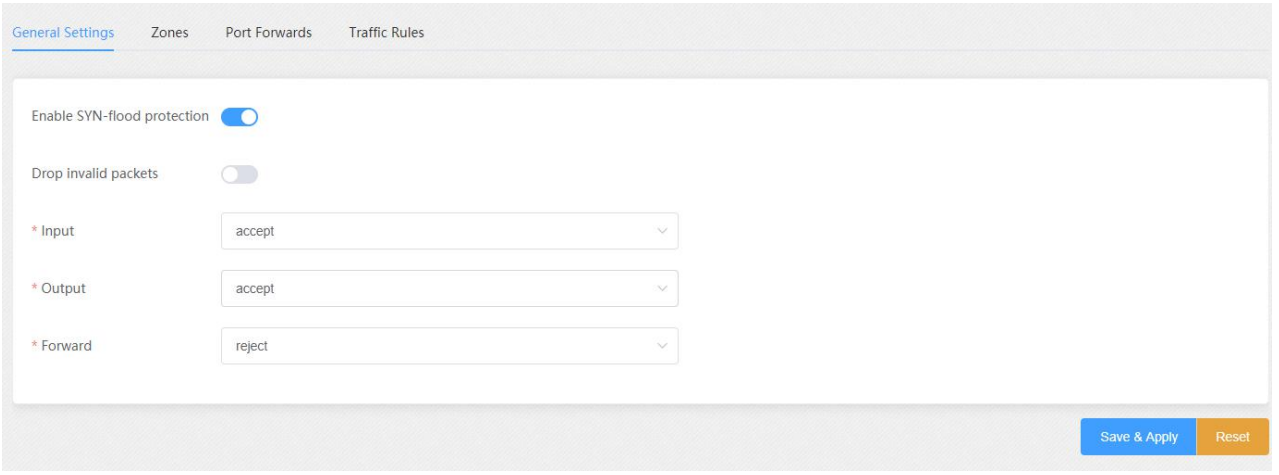

Figure 3.5.4-1 Firewall

3.6 Application Settings

3.6.1 Socks5 Proxy

This page is used to configure socks5 proxy.

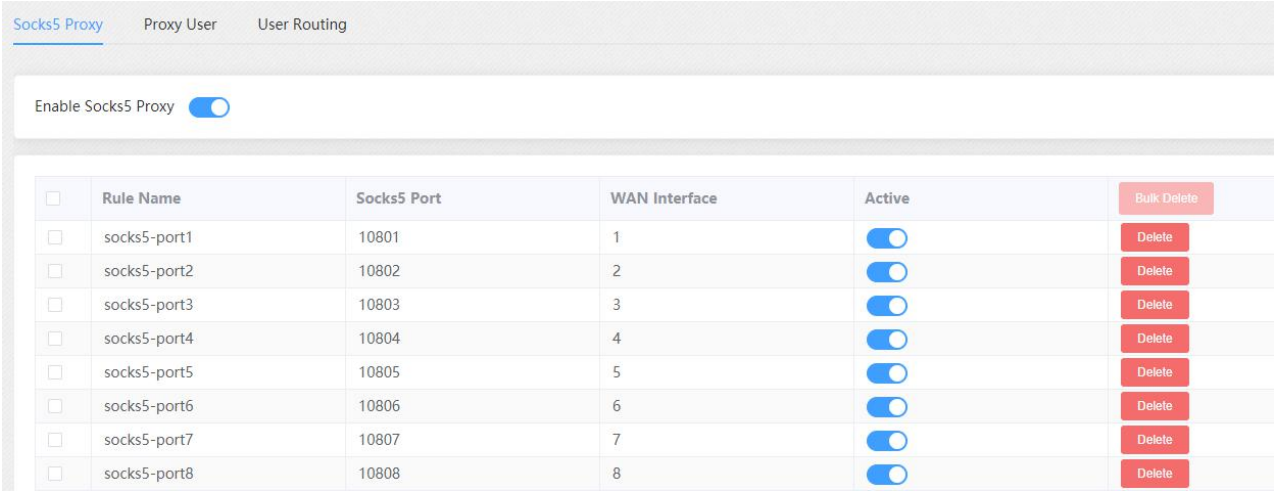

Figure 3.6.1-1 Socks5 Proxy

3.6.2 HTTP Proxy

This page is used to configure http and https proxy.

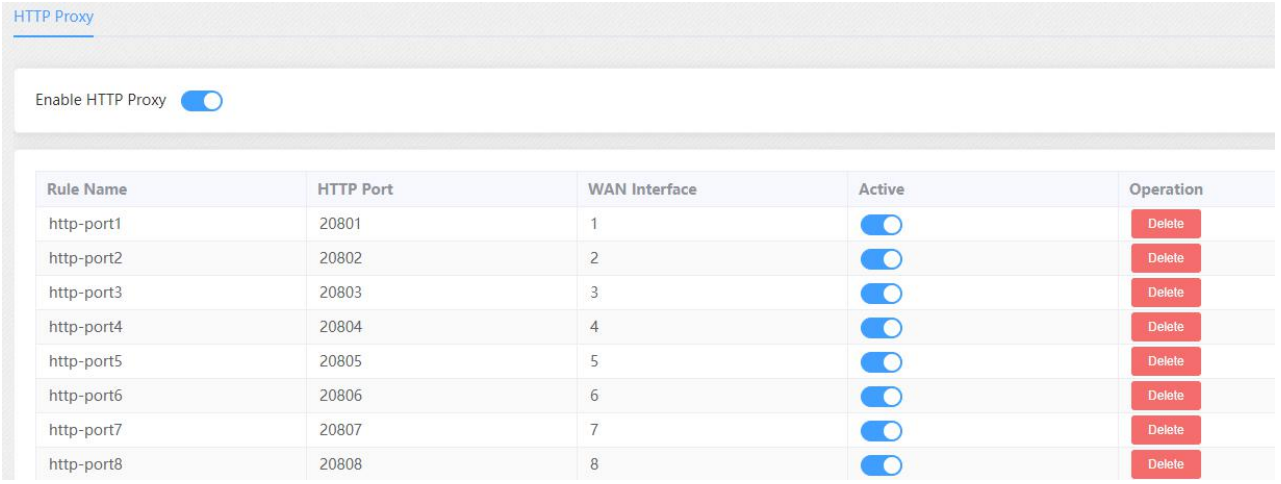

Figure 3.6.2-1 HTTP Proxy

3.6.3 SSH Tunnel

This page is used to configure SSH tunnel, SSH tunnel is used to forward the device tcp port.

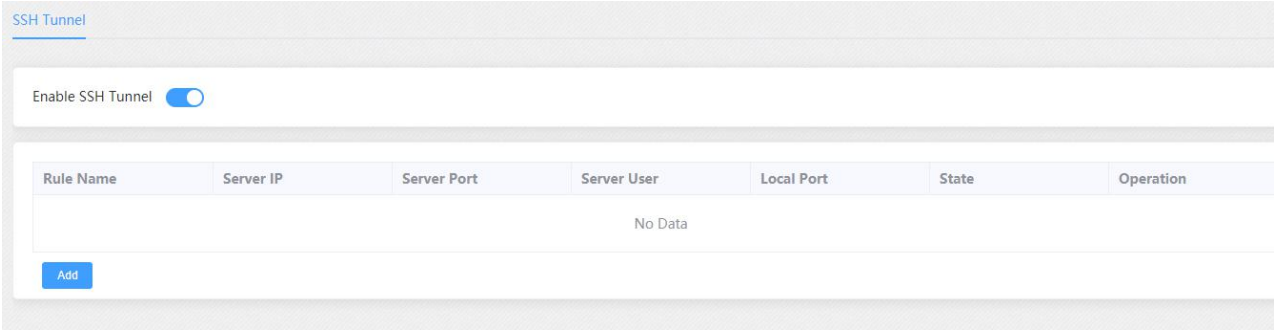

Figure 3.6.3-1 SSH Tunnel

3.7 Log Management

3.7.1 System log

This page is used to download system log.

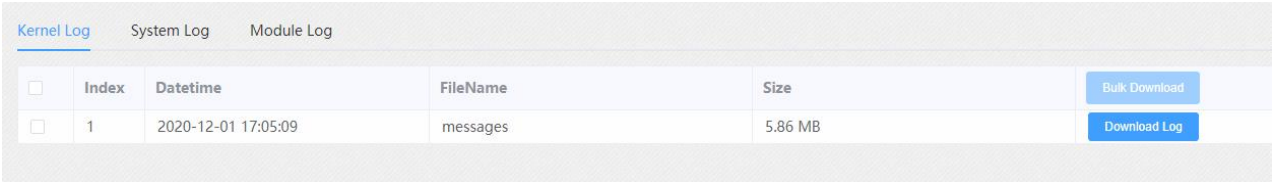

Figure 3.7.1-1 System log

3.7.2 software log

This page is used to download software log.

Figure 3.7.2-1 Software log

3.7.3 Log Settings

You can enable the specific progress module running logs to monitor the device working status, and set the log file counts. Device will save 5 logs as default. You can back to software log page to download these log files.

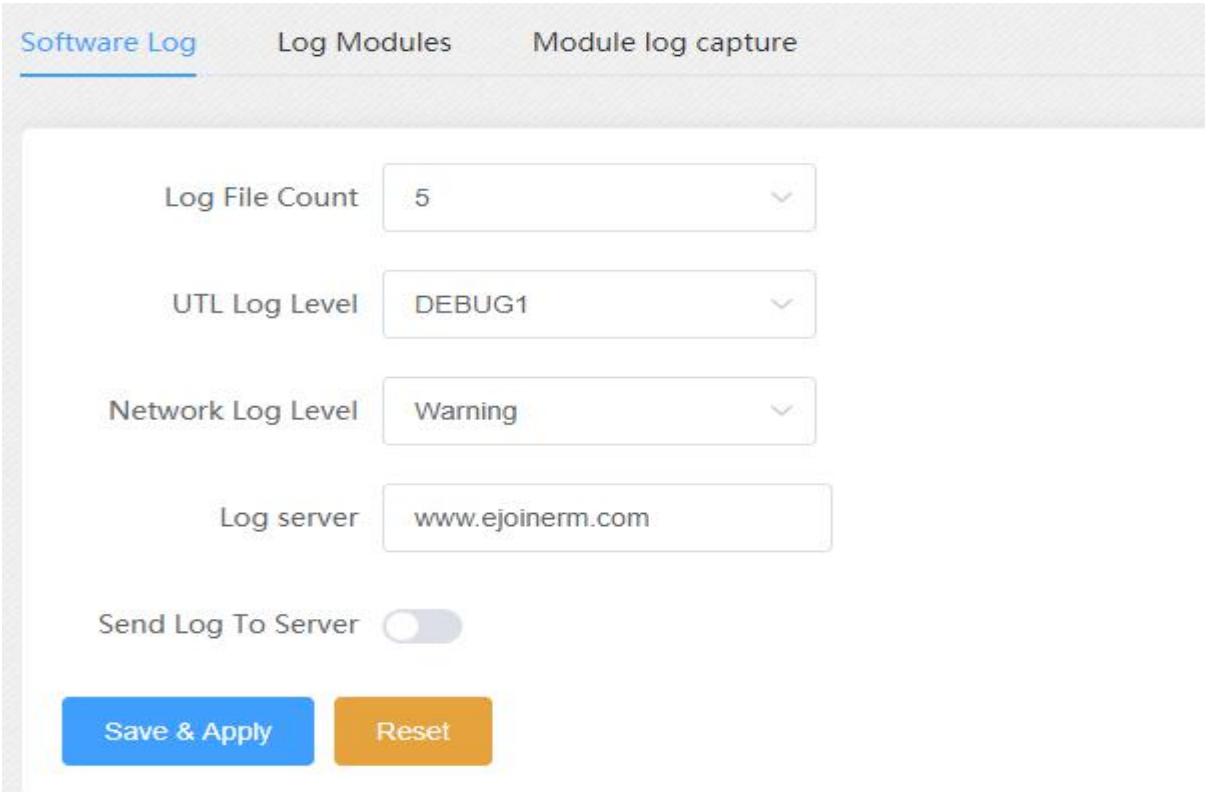

Figure 3.7.3-1 Log settings

3.8 Statistics

3.8.1 Data statistics

This page can view sim card data statistics.

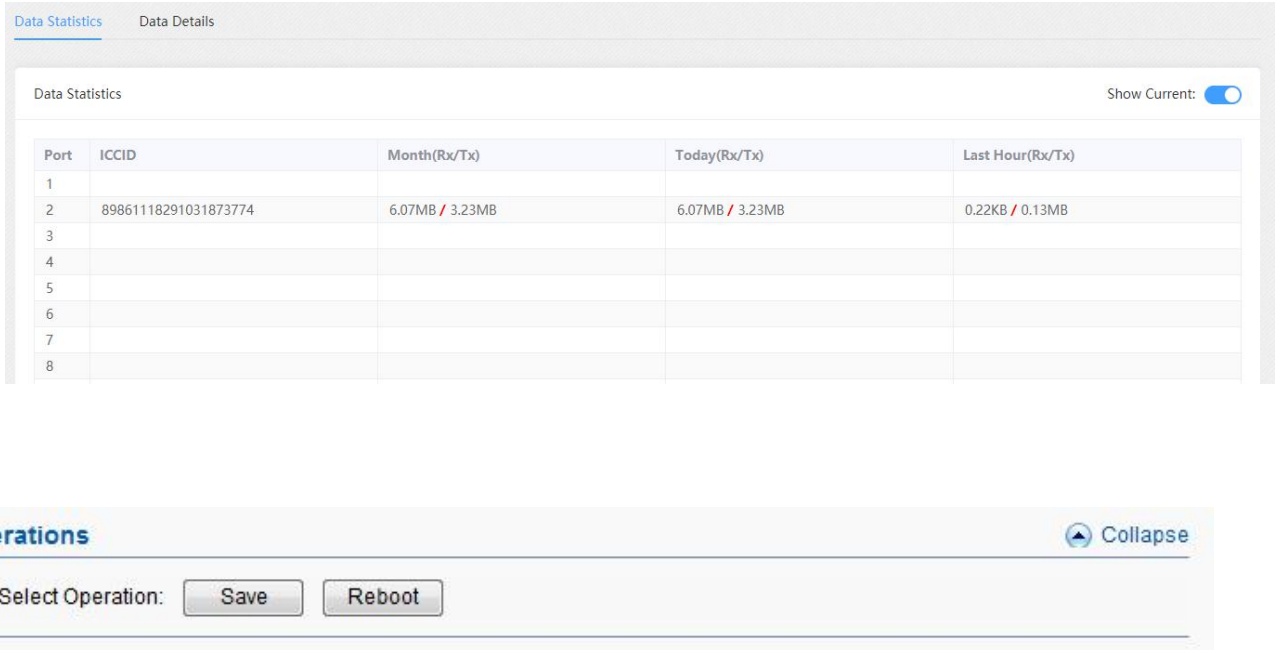

Figure 3.8.1-1 Data statistics

3.9 System Status

3.9.1 Port Status

There are two ways to show port status, panel mode and list mode, click the menu to select the mode.

Panel mode

Port LED display every SIM card status on device. if the sim card is locked, can reset in this page.

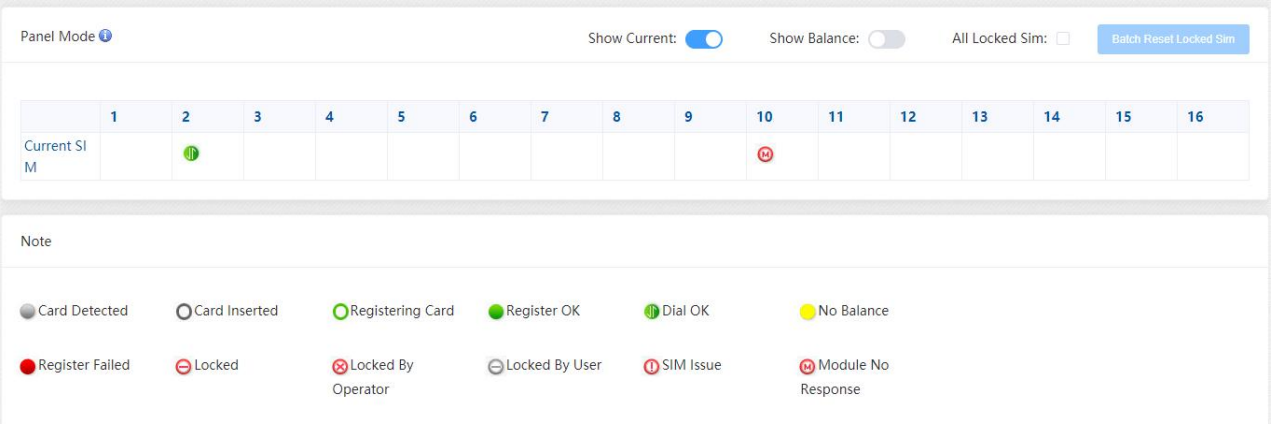

Figure 3.9.1-1 Panel mode

Items	Description
	SIM card is detected, but it is not active.
	SIM card inserted, but the module not read the card.
	SIM card inserted, and module already read the card.
	SIM card is registered.
	SIM card dial successfully.
	Low balance(lower than the invalid balance when enable billing system)
	SIM card register failed
	SIM card is lock by device.
	SIM card is locked by operator.
	SIM card is locked by user

Table 3.9.1-1 Panel mode

Port Status

Port status display every wireless module IMEI, SIM iccid, imsi, ip and so on.

List Mode

Port	SIM	Status	Online Dur.	IP	Extranet IP	ICCID	IMSI	IMEI	NetWork
1	A		-	-	-		-	898696252974803	-
2	A		03:25:01	10.132.199.112	203.168.25.50	89861118291031873774	460113351474780	898605270392401	4G
3	A		-	-	-		-	898606213465643	-
4	A		-	-	-		-	866780497590984	-

Figure 3.9.1-2 List mode

Items	Description
Port	Number of device ports.
SIM	The SIM slot number
SIM Status	Indicates whether SIM dial ok or not
Online Dur.	The online duration of sim card
IP	The sim card ip when dial successfully
Extranet IP	The sim card public ip
ICCID	The sim card ICCID
IMSI	The sim card IMSI
IMEI	The module IMEI
Network	Network type, 2g/3g/4g

Table 3.9.1-2 List mode