



LTE Turbo UE Configuration Guide for EG8015Q-M11

Document Version: 01

About This Document

This document describes the configuration of the LteTurbo CPE for EG8015Q-M11. It is a guide that how to configure the device after its installation completes.

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1. Configuration Overview


The Baicells LteTurbo CPE is loaded with its own GUI for configuring its operating parameters. You can log in to the GUI either locally through the Local Maintenance Terminal (LMT), which is an Ethernet port, or remotely via IP address. You can also use the Baicells Operations Management Console (OMC) to configure the CPE; this document, however, focuses only on using the web GUI.

The Baicells LteTurbo Outdoor User Equipment (UE) is part of a broadband wireless access system that integrates with Long-Term Evolution (LTE) backhaul networks to provide subscribers with Internet access. The UE, also referred to as Customer Premise Equipment (CPE), communicates through a wireless connection to the operator's eNodeB's (eNB) at cell sites located in the region. The eNBs communicate with the backhaul network.

2. Installation

2.1 Part & Materials

Item	Qty	Picture
EG8015Q-M11 unit	1	

Power Cable	1	
PoE Power Adaptor	1	


You will need standard tools, Ethernet cable, ground wire, and RJ-45 connectors for installing and connecting the outdoor unit.

2.2 Led


The CPE has 10 lights, divided into 6 groups according to the function: wifi signal light, lte signal light, power light, sim light, lan light, miu light (see figure below).



- **Wifi signal light**

Arc logo , Three lights indicate wifi signal strength according to the number of lights, full light indicates strong signal; full out when not connected

- **Lte signal light**

Vertical logo , Three lights indicate lte signal intensity according to the number of lights, full light indicates strong signal; flash when not connected

- **Power light**

The power light is bright, indicating that the power supply is normal, otherwise the power supply is abnormal

- **Sim light**

Light on -> Insert the normal SIM card; otherwise no sim nor sim is bad.

- **Lan light**

Light on -> LAN port is connected

- **Miu light**

Reserved

Note: The status of the lamp is meaningless during the start-on process, and wait for the start-on (5 minutes) before checking the LED status.

3. Login Web Client

3.1 Web Client Environmental Requirements

Table 3-1 describes the requirements on computer of the client.

Table 3-1 Environmental Requirements of the Client

Item	Description
CPU	Above Intel Core 1GHz
Memory	Above 2G RAM
Hard disk	No less than 100 MB space available
Operating system	<ul style="list-style-type: none"> • Microsoft: Windows XP, Windows Vista or Windows7 • Mac: MacOSX10.5 or above
Screen resolution	Above 1024 x 768
Browser	Chrome 6 or higher

3.2 Connect Web Client to CPE

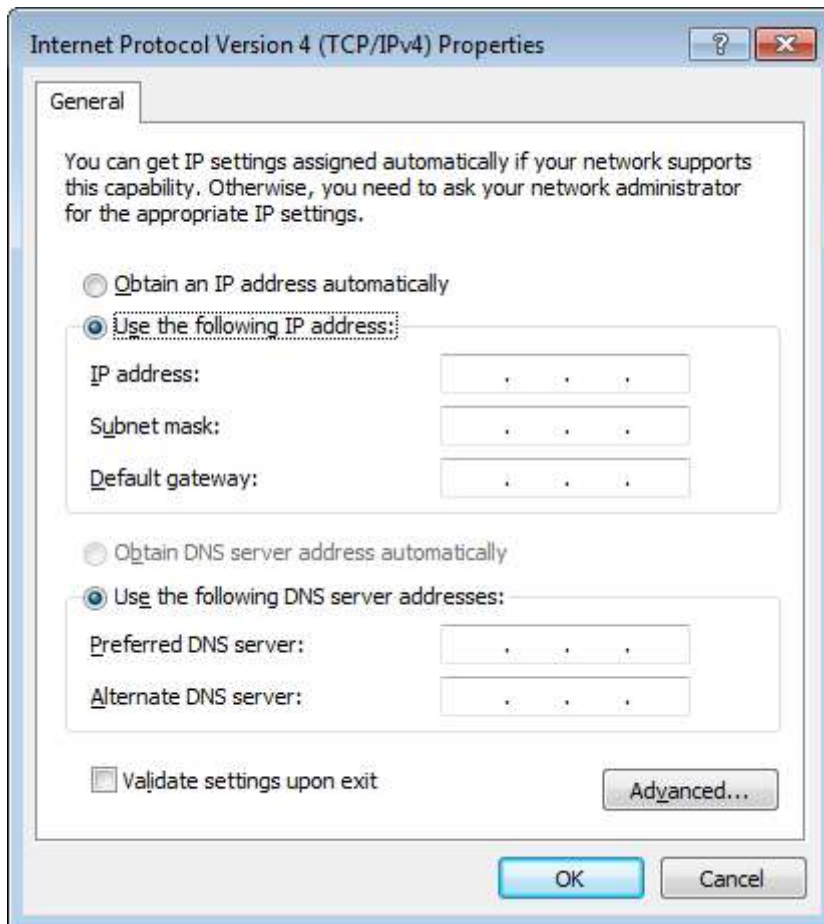
Connect the Ethernet interface of the computer to the **WAN** interface of the base station through the Ethernet cable.

3.3 Set Up Client Computer

Before logging into the Web client, the client computer's IP address needs to be set up first so that the connection between the client and the server is possible. Take Windows 7 as an example:

1. Click "**Start>Control Panel**" and later "**Network and Internet**" in the window that pops up.
2. Click "**View network status and tasks**" and later "**Local Connectivity**" in the window that pops up.
3. In "**Status of Local Connectivity**", click "**Properties**" to see the "**Properties of Local Connectivity**" pop-up window.
4. Select "**Internet Protocol Version (TCP/IPV4)**" and click "**Properties**" to see the pop-up window as Figure 3-.

Figure 3-1 Internet Protocol Version (TCP/IPV4)



Select either “**Obtain an IP address automatically**” or “**Use the following IP address**”:

- If “**Obtain an IP address automatically**” selected, go directly to step 7
- If “**Use the following IP address**” selected, follow step 5 ~ step 7

NOTE: In general, if the auto obtaining fails, one needs to set up the IP address manually.

5. Select “**Use the following IP address**”.
6. Input IP address, subnet mask, and default gateway, and then click “**OK**”.
 - IP address: 192.168.150. XXX: (recommended XXX: 100~254)

Because the LAN interface of the base station uses the IP address of 192.168.150.1, others should avoid using this address.

 - Subnet mask: 255.255.255.0
 - Default gateway: 192.168.150.1
7. In the command window, execute ping 192.168.150.1 and check whether the connection between the client computer and the server works or not.

3.4 Log In

1. Open a web browser, and enter <http://192.168.150.1>, as shown in Figure 3-1.

Figure 3-1 GUI Login

2. Input user name, password, and click **“Login”**. The homepage is given in Figure 3-2.

Default user/password : admin/admin

Figure 3-2 GUI Homepage

NOTE: The information may vary by product type or software version.

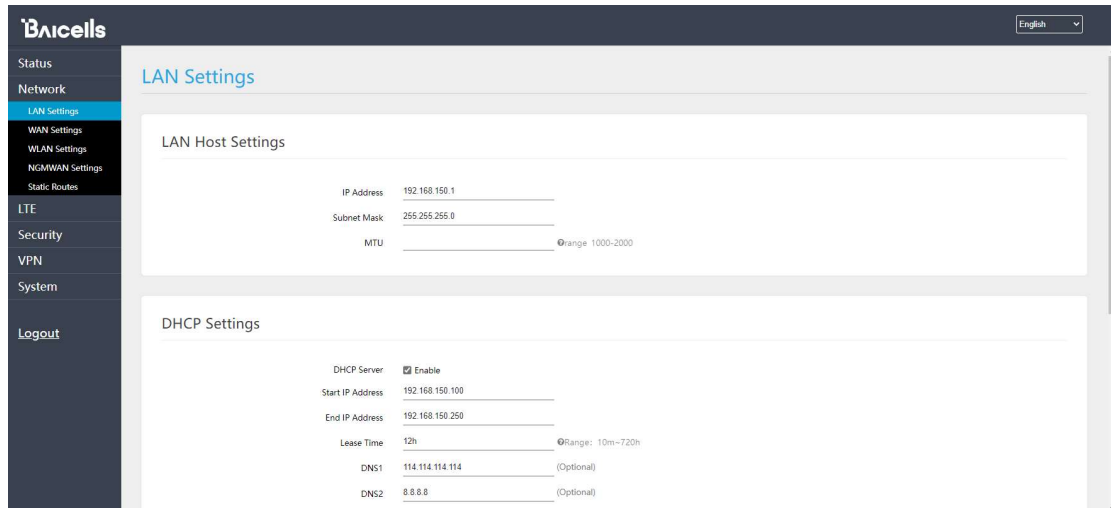
The front page shows the information as the basic information and status information of the LteTurbo CPE. The status information is dynamically refreshed, refreshed every 3 seconds.

On the left side of the home page is the navigation pane, showing the information as Status-> Overview. On the top of home page, showing the Basic information.

The status information area displays the WLAN connection status, rate statistics, LAN port connection status, and a list of connection devices.

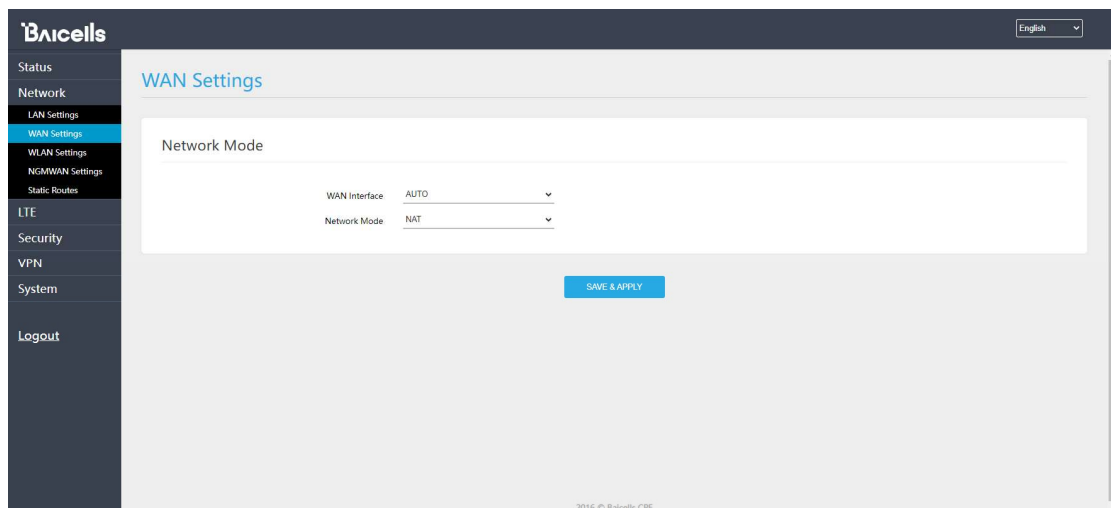
4. Network Setting

4.1 LAN Settings



Config Lan IP and DHCP params

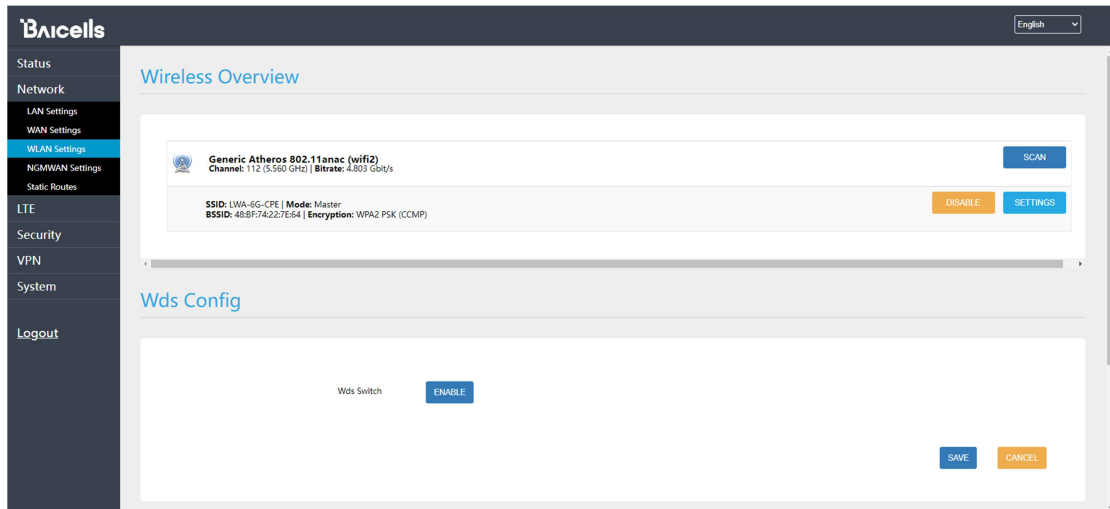
4.2 WAN Settings



Wan Interface : support AUTO, LTE, WIFI, and ngmwan

Network Mode : support NAT and L2

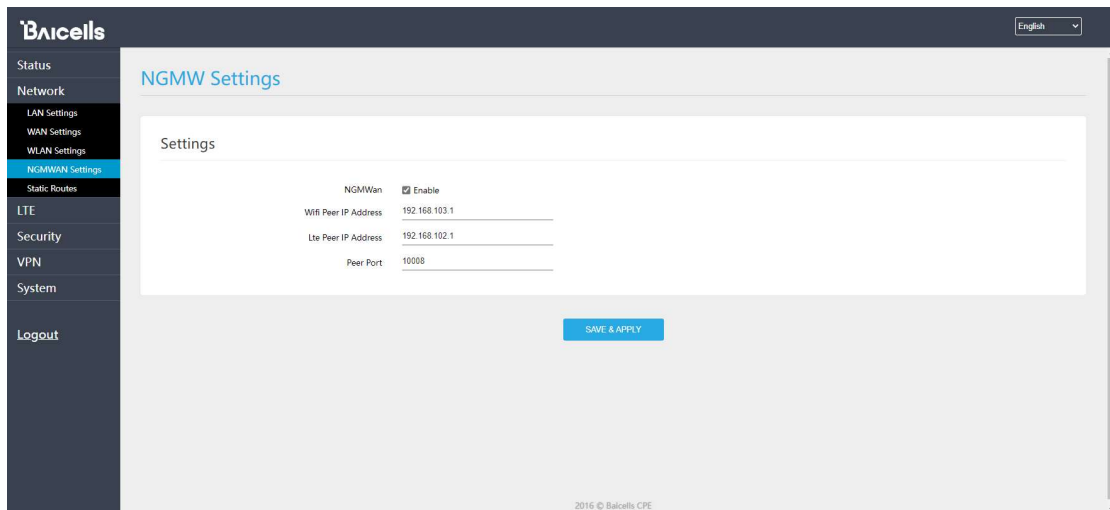
4.3 WLAN Settings



The screenshot shows the Balcells web interface. On the left is a navigation menu with options: Status, Network, LAN Settings, WAN Settings, WLAN Settings (highlighted), NGMWAN Settings, Static Routes, LTE, Security, VPN, System, and Logout. The main content area is titled "Wireless Overview" and contains a section for "Generic Atheros 802.11n ac (wifi2)" with details: Channel: 112 (5.560 GHz) | Bitrate: 4.803 Gbit/s. Below this, it shows "SSID: LWA-6G-CPE | Mode: Master" and "BSSID: 48BF74227E54 | Encryption: WPA2 PSK (CCMP)". There are buttons for "SCAN", "DISABLE", and "SETTINGS". Below this is a "Wds Config" section with a "Wds Switch" and an "ENABLE" button. At the bottom right of the Wds Config section are "SAVE" and "CANCEL" buttons.

Config wireless params, and wds switch.

4.4 NGMWAN Settings



The screenshot shows the Balcells web interface. On the left is a navigation menu with options: Status, Network, LAN Settings, WAN Settings, WLAN Settings, NGMWAN Settings (highlighted), Static Routes, LTE, Security, VPN, System, and Logout. The main content area is titled "NGMW Settings" and contains a "Settings" section with the following fields: "NGMWan" with a checked "Enable" checkbox, "Wifi Peer IP Address" with the value "192.168.103.1", "Lte Peer IP Address" with the value "192.168.102.1", and "Peer Port" with the value "10008". There is a "SAVE & APPLY" button at the bottom. At the bottom of the page, it says "2016 © Balcells CPE".

Config ngmwan params

4.5 Static Routes

Bicells English

Status

Network

- LAN Settings
- WAN Settings
- WLAN Settings
- NGMWAN Settings
- Static Routes**
- LTE
- Security
- VPN
- System

Logout

Routes

Routes specify over which interface and gateway a certain host or network can be reached.

Static IPv4 Routes

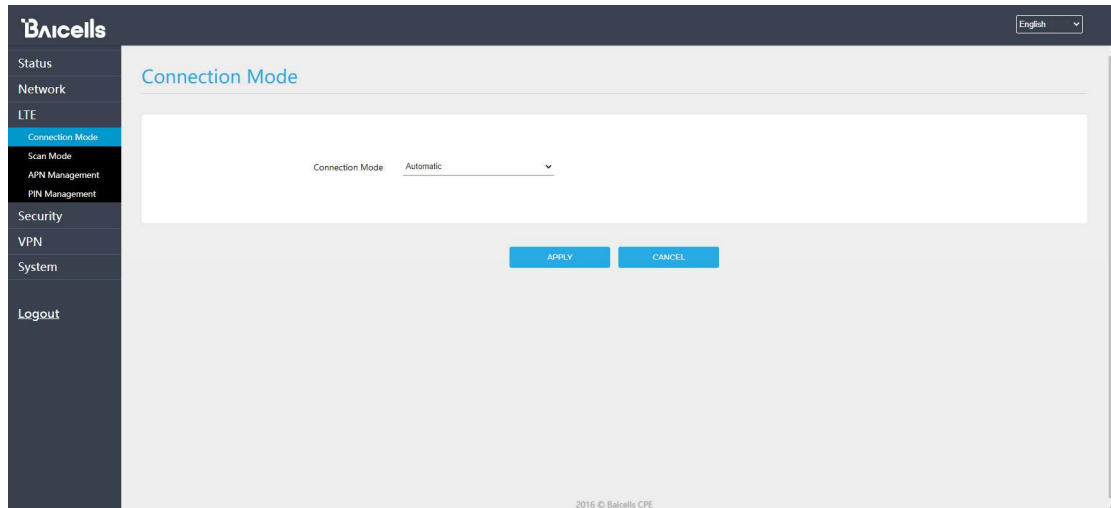
Target	IPid/Netmask	Interface	IPid/ Gateway	Metric
Host IP or Network	if target is a network			
<i>This section contains no values yet</i>				
ADD				

Static IPv6 Routes

Target	Interface	IPv6/ Gateway	Metric
IPv6 Address or Network (CIDR)			
<i>This section contains no values yet</i>			
ADD			

5. LTE Setting

5.1 Connection Mode

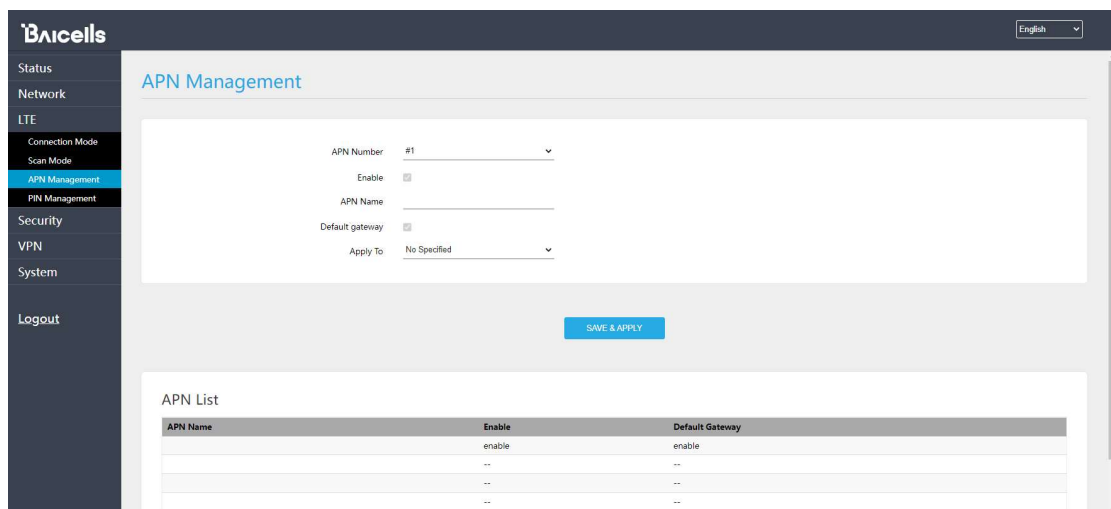


Support AUTO, Manual mode

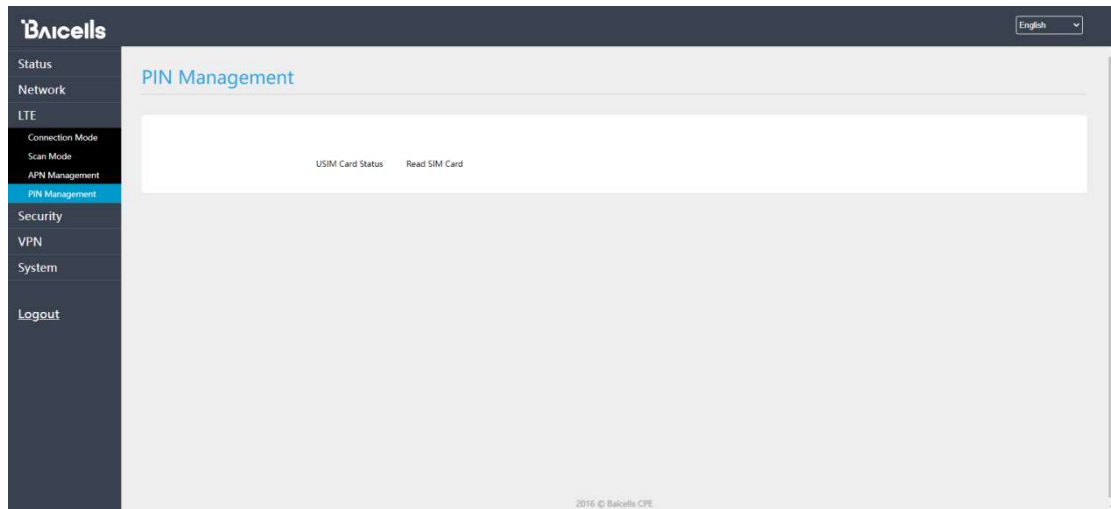
5.2 Scan Mode

Support full band, fix pci, fix channel for lte scan.

5.3 APN Management



5.4 PIN Management



6. Security Setting

6.1 Zones

The screenshot shows the 'Firewall - Zone Settings' page in the Baicells web interface. The left sidebar contains navigation options: Status, Network, LTE, Security (with sub-items Zones, Port Forwards, Traffic Rules, Custom Rules), VPN, System, and Logout. The main content area is titled 'Firewall - Zone Settings' and includes a sub-header 'General Settings' with the following options:

- Enable SYN-flood protection:
- Drop invalid packets:
- Input: accept
- Output: accept
- Forward: reject

Below the general settings is a 'Zones' section with a table of zone-to-zone forwardings:

Zone	Forwardings	Input	Output	Forward	Masquerading	MSS clamping	Actions
lan	lan	accept	accept	accept	<input type="checkbox"/>	<input type="checkbox"/>	[EDIT] [DELETE]
wan	vswan	reject	reject	reject	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	[EDIT] [DELETE]

6.2 Port Forwards

The screenshot shows the 'Firewall - Port Forwards' page in the Baicells web interface. The left sidebar is the same as in the previous screenshot. The main content area is titled 'Firewall - Port Forwards' and includes a sub-header 'Port Forwards' with the text: 'Port forwarding allows remote computers on the Internet to connect to a specific computer or service within the private LAN.'

The 'Port Forwards' section contains a table with columns: Name, Match, Forward to, Enable, and Sort. Below the table, it states: 'This section contains no values yet.'

There is a 'New port forward:' form with the following fields:

Name	Protocol	External zone	External port	Internal zone	Internal IP address	Internal port	ADD
New port forw	TCP+UDP	wan		lan			[ADD]

At the bottom of the page, there is a 'SAVE & APPLY' button and a footer: '2016 © Baicells CPE'.

6.3 Traffic Rules

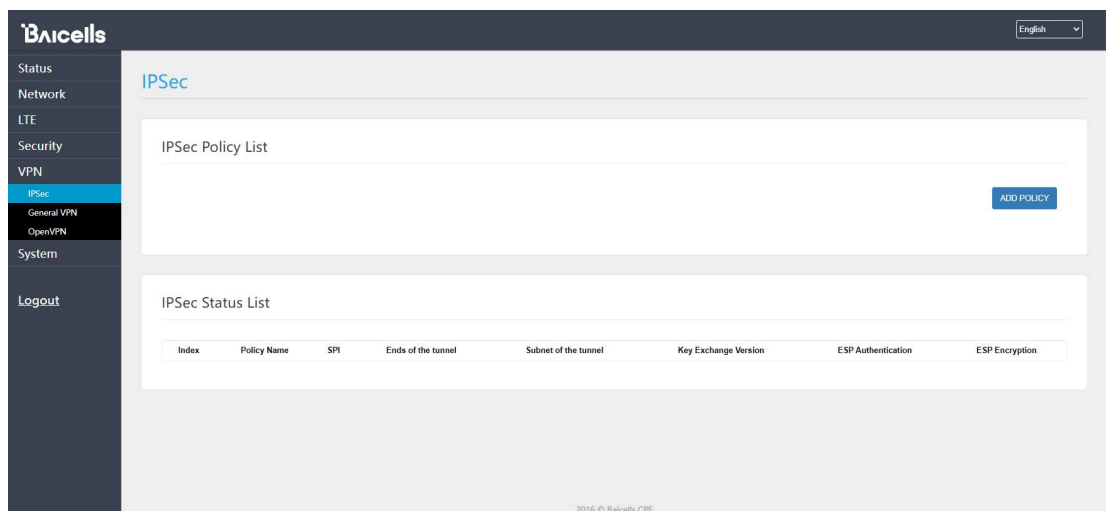
The screenshot shows the Balcells web interface for configuring Traffic Rules. The sidebar on the left includes options for Status, Network, LTE, Security, Custom Rules (highlighted), VPN, System, and Logout. The main content area is titled 'Traffic Rules' and shows a rule configuration for 'Any udp' traffic. The rule is set to 'Accept forward' and is enabled. Below the rule configuration, there are sections for 'Open ports on router' and 'New forward rule'. The 'Open ports on router' section has a table with columns for Name, Protocol, and External port, and an 'ADD' button. The 'New forward rule' section has a table with columns for Name, Source zone, and Destination zone, and an 'ADD AND EDIT...' button. Below these sections, there is a 'Source NAT' section with a table for Name, Match, Action, Enable, and Sort, and a 'New source NAT' section with a table for Name, Source zone, Destination zone, To source IP, and To source port.

6.4 Custom Rules

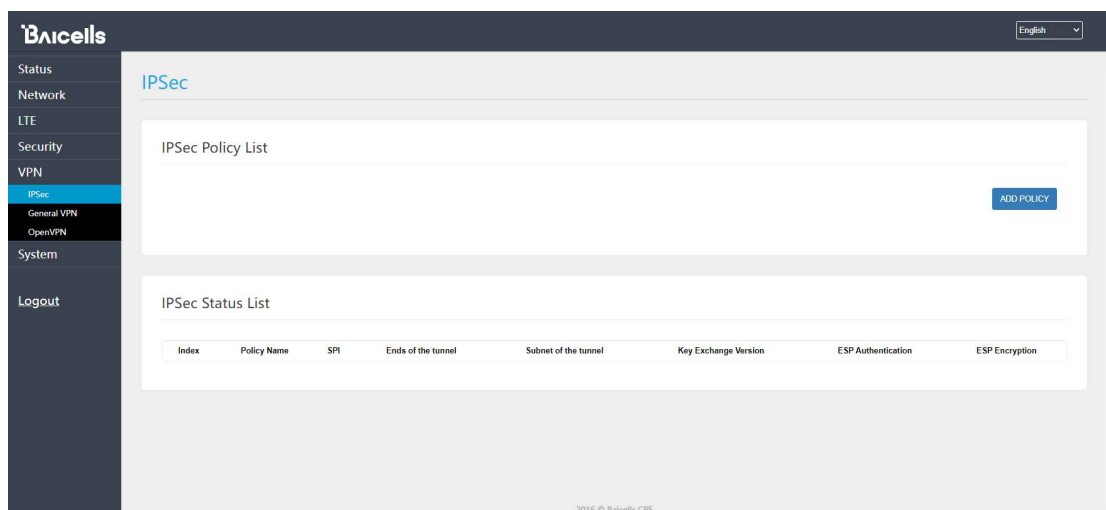
The screenshot shows the Balcells web interface for configuring Firewall - Custom Rules. The sidebar on the left includes options for Status, Network, LTE, Security, Custom Rules (highlighted), VPN, System, and Logout. The main content area is titled 'Firewall - Custom Rules' and contains a text editor for custom rules. The text in the editor includes comments about shell script interpretation, iptables rules, and firewall restarts. Below the text editor, there are 'SUBMIT' and 'RESET' buttons. The footer of the page indicates '2016 © Balcells CPE'.

7. VPN Setting

7.1 IPSec



7.2 General VPN



7.3 OpenVPN

Settings

VPN Enable

Protocol L2TP

Mode V2

Default GW Enable

Server IP *

User Name *

Password *

IPsec Encryption disable

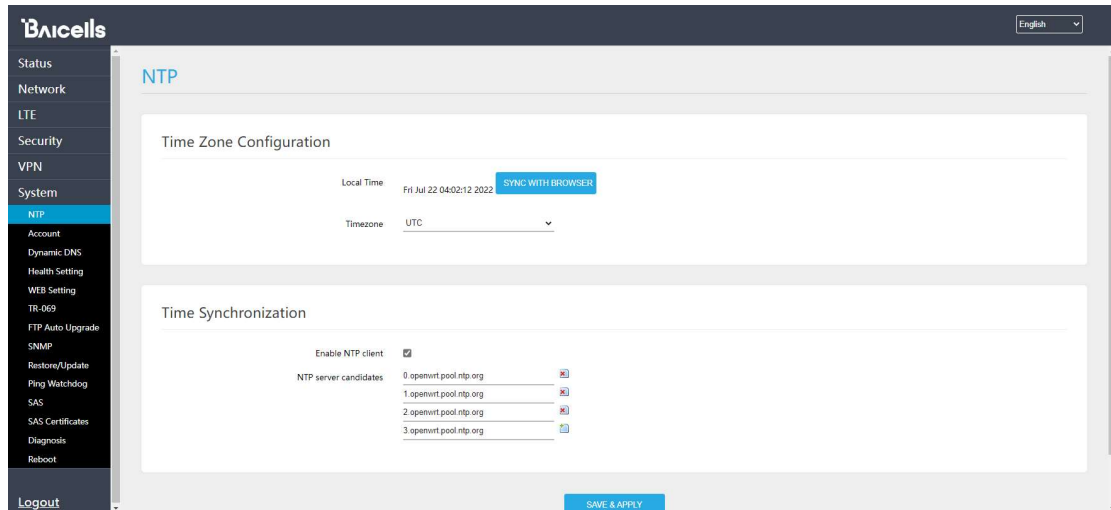
Pre-Shared Key 01 to 128 characters

Status

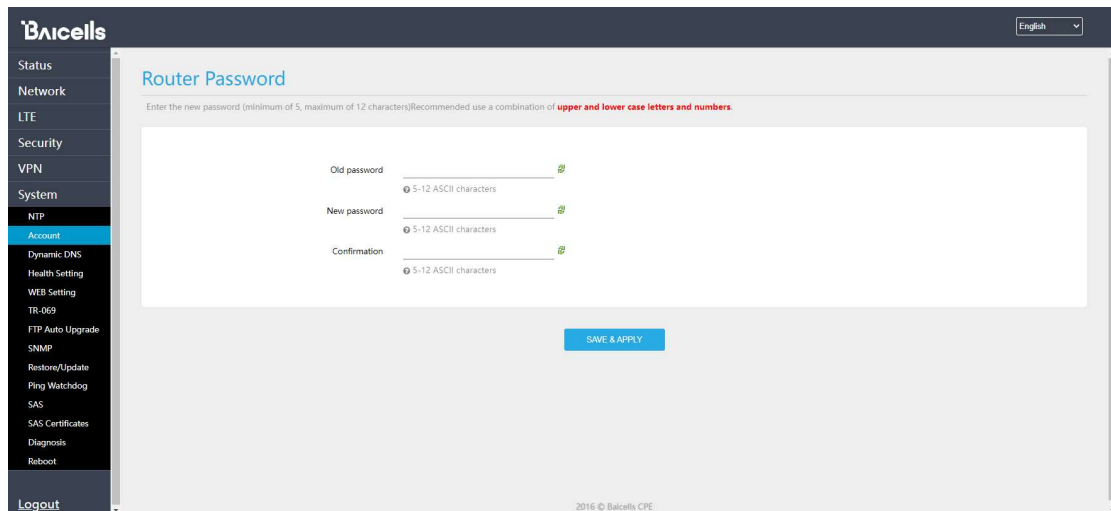
User Name	Local Address	Remote Address	Status
	0.0.0.0	0.0.0.0	Disconnected

8. System

8.1 NTP



8.2 Account



8.3 Dynamic DNS

The screenshot shows the 'Dynamic DNS' configuration page in the Balcells web interface. The left sidebar contains a navigation menu with options like Status, Network, LTE, Security, VPN, System, NTP, Account, Dynamic DNS (highlighted), Health Setting, WEB Setting, TR-069, FTP Auto Upgrade, SNMP, Restore/Update, Ping Watchdog, SAS, SAS Certificates, Diagnosis, Reboot, and Logout. The main content area is titled 'Dynamic DNS' and includes a 'Hints' section with a 'Show more' link and an 'Overview' section with a table of configurations.

Dynamic DNS

Dynamic DNS allows that your router can be reached with a fixed hostname while having a dynamically changing IP address.

Hints

[Show more](#) Follow this link
You will find more hints to optimize your system to run DDNS scripts with all options

Overview

Below is a list of configured DDNS configurations and their current state.
If you want to send updates for IPv4 and IPv6 you need to define two separate Configurations i.e. 'myddns_ipv4' and 'myddns_ipv6'
[To change global settings click here](#)

Configuration	Lookup Hostname Registered IP	Enabled	Last Update Next Update	Process ID Start / Stop	
myddns_ipv4	yourhost.example.com No data	<input type="checkbox"/>	Never Disabled	---	EDIT DELETE
myddns_ipv6	yourhost.example.com No data	<input type="checkbox"/>	Never Disabled	---	EDIT DELETE

[ADD](#)

8.4 WEB Setting

The screenshot shows the 'WEB Setting' configuration page in the Balcells web interface. The left sidebar is the same as in the previous screenshot, with 'WEB Setting' highlighted. The main content area is titled 'WEB Setting' and contains a 'Settings' section with various options and a 'SAVE & APPLY' button.

WEB Setting

Settings

HTTP

HTTPPort 80

HTTPS

Redirect HTTPS

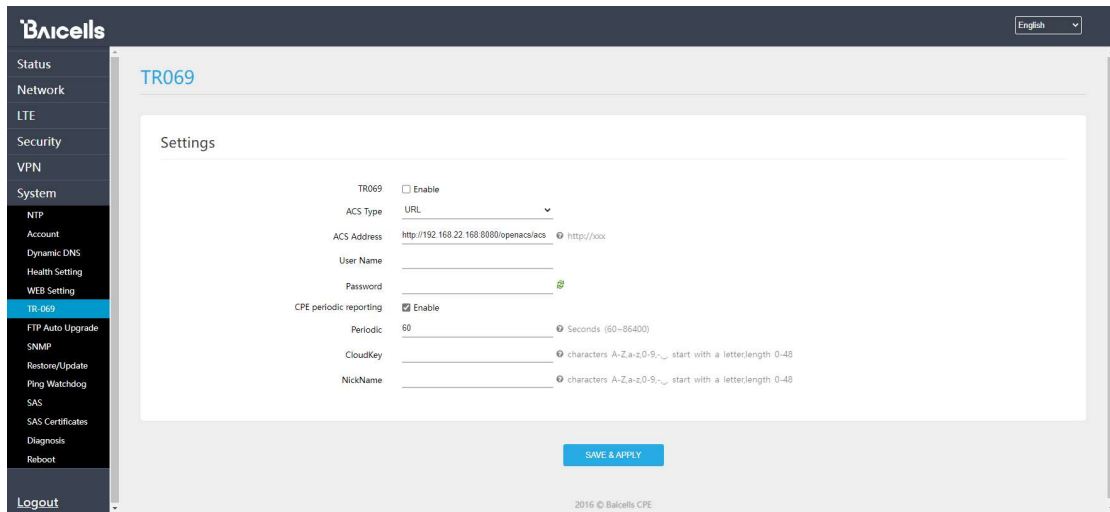
Allow HTTPS Login From WAN

HTTPSPort 443

[SAVE & APPLY](#)

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8.5 TR069

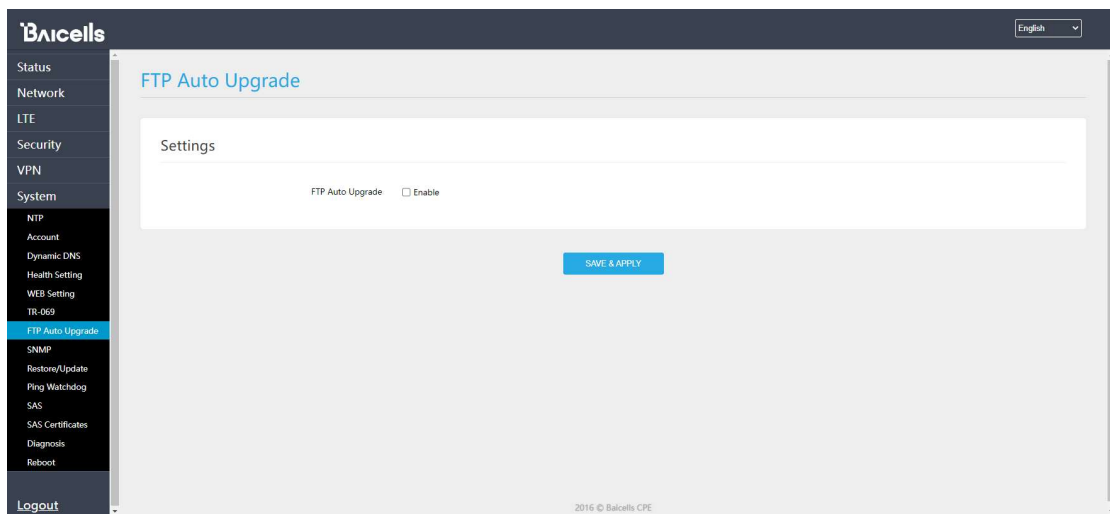


The screenshot displays the Balcells web interface for the TR069 settings page. The left sidebar contains a navigation menu with the following items: Status, Network, LTE, Security, VPN, System, NTP, Account, Dynamic DNS, Health Setting, WEB Setting, TR-069 (highlighted), FTP Auto Upgrade, SNMP, Restore/Update, Ping Watchdog, SAS, SAS Certificates, Diagnosis, Reboot, and Logout. The main content area is titled "TR069" and "Settings". The settings include:

- TR069: Enable
- ACS Type: URL (dropdown menu)
- ACS Address: http://192.168.22.168:8080/lopanacs/acs (with a help icon and "http://xxx" text)
- User Name: (text input field)
- Password: (password input field with a strength indicator)
- CPE periodic reporting: Enable
- Periodic: 60 (with a help icon and "Seconds (60-86400)" text)
- CloudKey: (text input field with a help icon and "characters A-Z,a-z,0-9,-_ start with a letter/length 0-48" text)
- NickName: (text input field with a help icon and "characters A-Z,a-z,0-9,-_ start with a letter/length 0-48" text)

A "SAVE & APPLY" button is located at the bottom right of the settings area. The footer of the page reads "2016 © Balcells CPE".

8.6 FTP Auto Upgrade



The screenshot displays the Balcells web interface for the FTP Auto Upgrade settings page. The left sidebar contains a navigation menu with the following items: Status, Network, LTE, Security, VPN, System, NTP, Account, Dynamic DNS, Health Setting, WEB Setting, TR-069, FTP Auto Upgrade (highlighted), SNMP, Restore/Update, Ping Watchdog, SAS, SAS Certificates, Diagnosis, Reboot, and Logout. The main content area is titled "FTP Auto Upgrade" and "Settings". The settings include:

- FTP Auto Upgrade: Enable

A "SAVE & APPLY" button is located at the bottom right of the settings area. The footer of the page reads "2016 © Balcells CPE".

8.7 SNMP

8.8 Restore/Update

8.9 Ping Watchdog

The screenshot shows the 'Ping Watchdog' settings page. The left sidebar contains a navigation menu with 'Ping Watchdog' highlighted. The main content area is titled 'Settings' and features a single toggle switch for 'Ping Watchdog', which is currently turned off. Below the toggle is a blue 'SAVE & APPLY' button. The footer of the page includes the text '2016 © Bicells CPE'.

8.10 SAS

The screenshot displays the 'SAS' configuration page. The left sidebar has 'SAS' highlighted. The page is divided into two main sections: 'SAS Info' and 'SAS Settings'.

SAS Info

SN :	1203000153224GB0001	Antenna Gain :	0 dBi
FCC ID :	unknown_fcclid	Cell High Frequency :	3571.0 MHz
Category :	B	Cell Low Frequency :	3551.0 MHz
Radio Technology :	E_UTRA	Bandwidth :	20 MHz
Antenna Model :	Internal	Granted EIRP(10MHz) :	N/A
Antenna Height Type :	AGL	SAS Status :	Disabled
Group Type :	INTERFERENCE_COORDINATION	Radio Status :	Disabled

SAS Settings

Automatic(B48) Off On

SAS Enable

Access Method

Registration Method Multi-Step Single-Step

ACS Server URL :

User ID

8.11 SAS Setting

SAS Settings

Automatic (B48) Off On

SAS Enable

Access Method Direct SAS

Registration Method Multi-Step Single-Step

SAS Server URL: https://example.sas.server:5000/v1.2

User ID: _____

Call Sign: _____

Latitude 0 (-90.0° ~ 90.0°)

Longitude 0 (-180.0° ~ 180.0°)

Indoor Deployment False

Antenna Height 0

Antenna Azimuth 0 (0° ~ 359°)

Antenna Downtilt 0 (-90° ~ 90°)

Antenna Beamwidth 65 (0° ~ 360°)

SAVE & APPLY

8.12 SAS Certificates

SAS Certificates

Upload Certificate

Upload Certificate 选择文件 未选择文件

Certificate Type _____

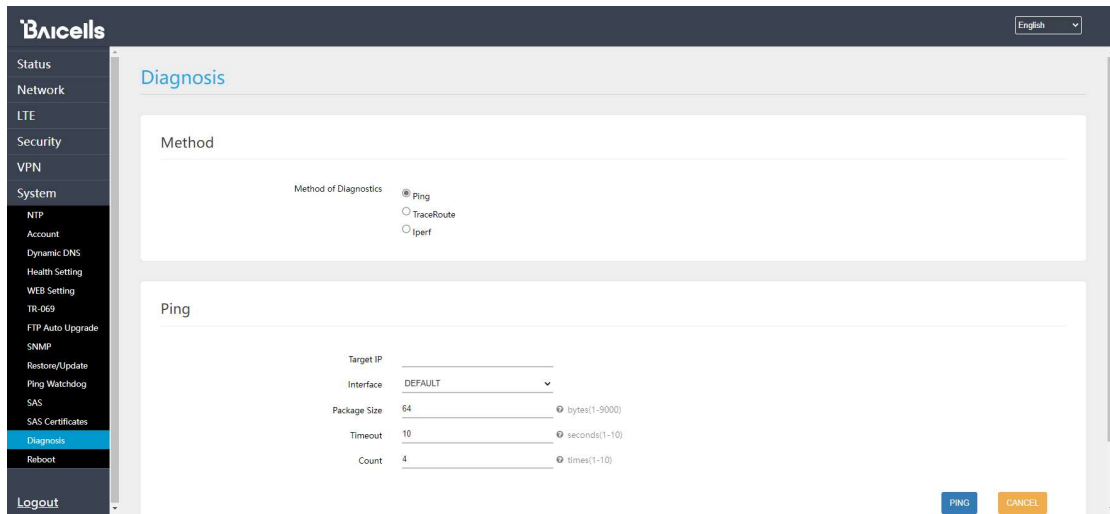
UPLOAD **CANCEL**

Certificate List

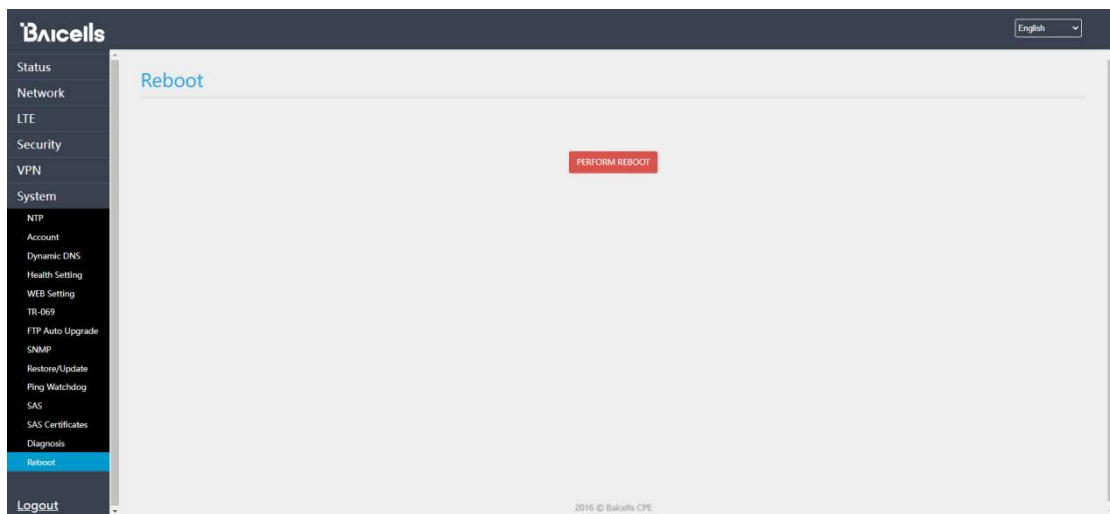
SAS Client Cert	_____	Remove
SAS Client Key	_____	Remove
SAS Server CA	_____	Remove

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8.13 Diagnosis



8.14 Reboot



9. Regulatory Compliance

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 50cm between the radiator & your body.