



LTE-Turbo BS Configuration Guide for BS6430E

Document Version: 01

About This Document

This document describes the configuration of the LteTurbo BaseStation for software version BaiAP_LT_1.2.x. It is a guide that how to configure the device after its installation completes.

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1. Configuration Overview

The Baicells LteTurbo BS 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 eNB; this document, however, focuses only on using the eNB GUI.


After the LteTurbo base station is powered on, it is necessary to configure the base station to access the user and provide data service.

NOTE: Before configuring the BS's data, data planning needs to be done first. The data to configure includes local parameters and connecting parameters. These parameters are either provided by the user or determined after negotiation with the customers. The data to prepare include IP address, wifi parameters, ngmwan parameters, software version, and so on.

The LteTurbo base station needs to configure at least the wifi name, password, and working frequency.

2. Installation

2.1 Part & Materials

Item	Qty	Picture
Nova430T 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.

The Port with lable “WAN” is the PoE port,Picture as follows:



2.2 Led

The LED lamp indicated the current base station status with 4 lights: PWR, RUN, ACT, BHL (see figure below)



- **PWR**
 - Green light on Power Supply is normal
 - Green light off Power Supply is wrong
- **RUN**
 - Red light flashes, Green light off Upgrading...
 - Red light on, Green light off wifi not work
 - Red light off, Green light on wifi work, no station connected
 - Red light off, Green light flashes wifi work, some stations connected
- **ACT**
 - Green light off enodeb is abnormal
 - Green light flashes enodeb is normal
- **BHL**
 - Green light off WAN port (Fiber or Copper) has no IP

Green light on WAN port (Fiber or Copper) has IP and Communication is good.

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 Base Station

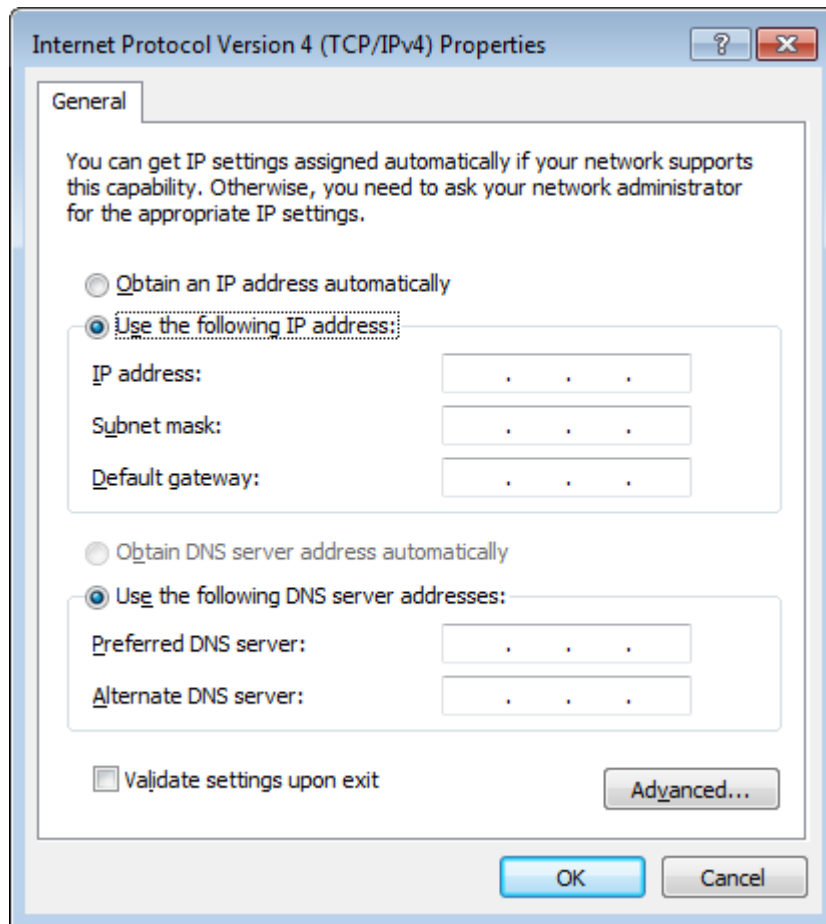
Connect the Ethernet interface of the computer to the LAN interface of the base station through the Ethernet cable.

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)

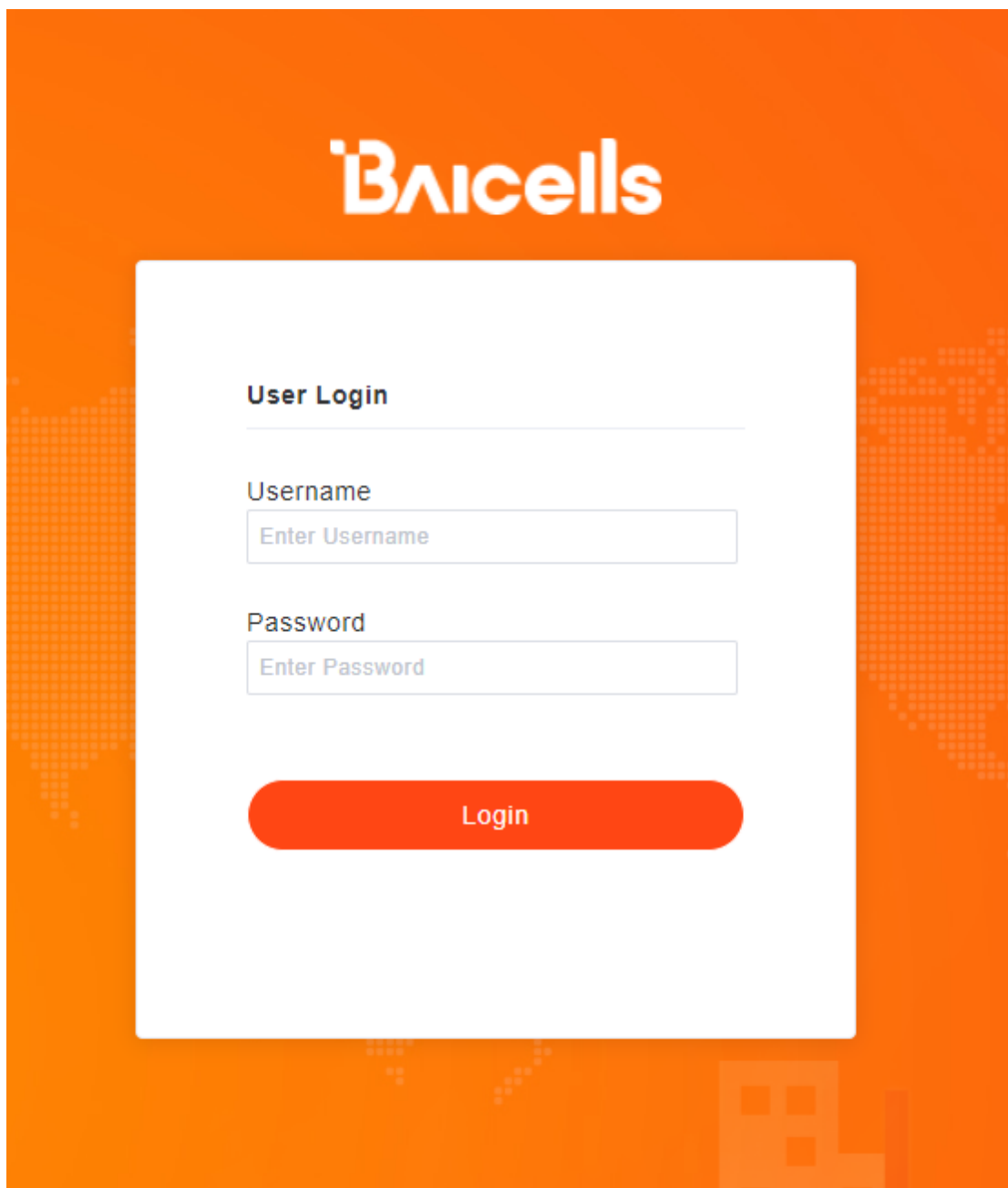
Because the LAN interface of the base station uses the IP address of 192.168.150.1, others should avoid using this address.

 - 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.

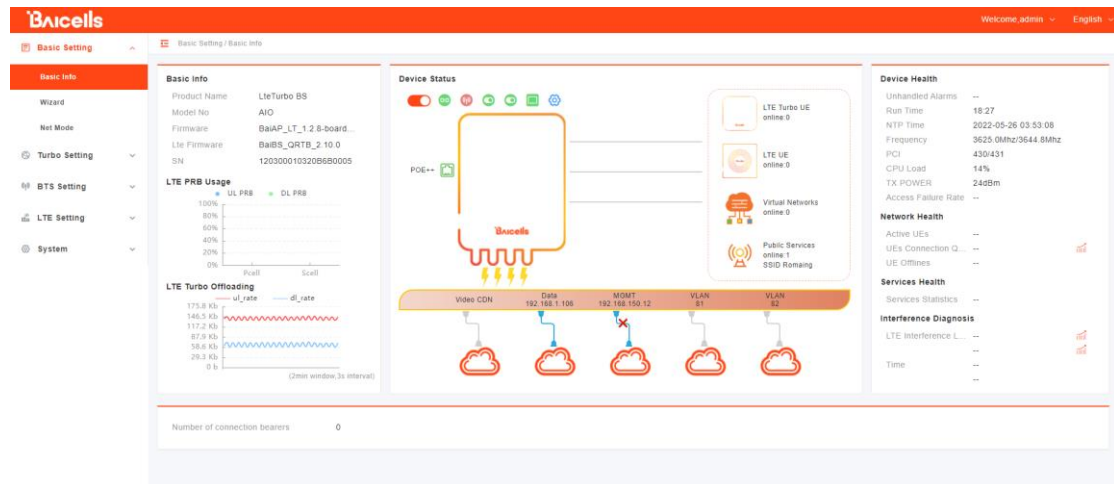
Figure 3-1 GUI Login



The screenshot shows a web browser window displaying the Blcells login interface. The background is a solid orange color with a faint, dotted pattern. At the top center, the 'Blcells' logo is displayed in white. Below the logo, a white rectangular box contains the login form. The form is titled 'User Login' in bold black text. Underneath the title, there are two input fields: one for 'Username' with the placeholder text 'Enter Username' and one for 'Password' with the placeholder text 'Enter Password'. At the bottom of the form, there is a prominent red button with rounded corners and the text 'Login' in white.

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

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 base station. 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 of the base station, such as device model, hardware version, software version, SN model.

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

4. Wizard

The first login will automatically pop up the wizard page, and you can also manually click the "Basic Settings" -> "Wizard" menu to pop up the wizard page. The wizard contains two parts:

4.1 First Page

In this page, you can set the network management address and other information, and then you can choose the auto or manual button, as shown in the figure below:

Wizard
✕

Management Server

* Nick Name

* Cloud Key

* Acs Server

Auto

Manual

4.2 Second Page

Auto setting is not supported by current version.

Manual setting page is show as follows:

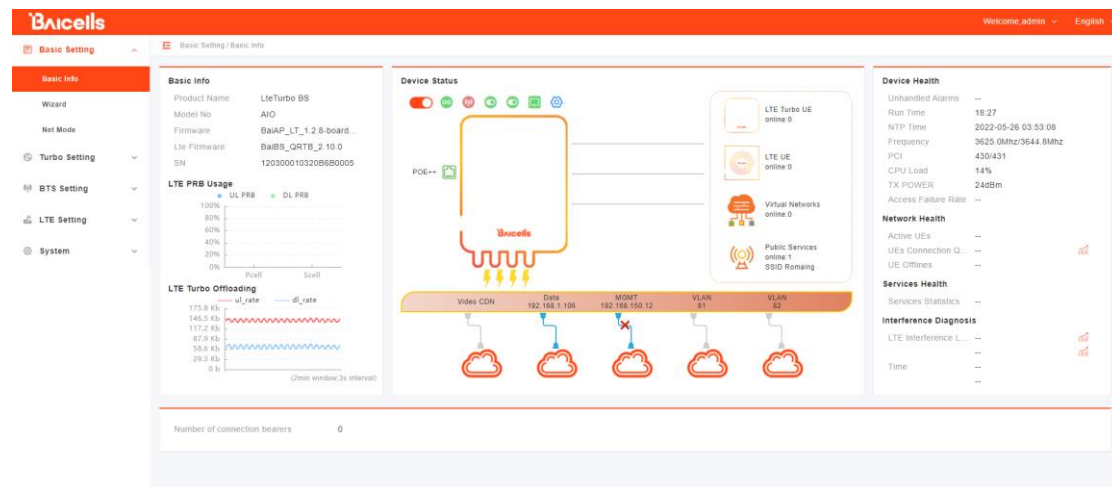
Wizard ✕

Quick Setting

Base Setting

* SSID <input type="text" value="LWA-6G-04"/>	* Password <input type="text" value="12345678"/>	* Channel <input type="text" value="auto"/>
Duplex Mode <input type="text" value="TDDMode"/>	Carrier Mode <input type="text" value="Carrier Aggregation"/>	Quick Interface Binding <input type="text" value="WAN"/>
HaloB <input type="text" value="ON"/>	* TAC <input type="text" value="1"/> <small>Range: 0-65535</small>	S1 Connection Mode <input type="text" value="All"/>
S1 Link Port <input type="text" value="36412"/> <small>Range: 0-65535</small>	CBRS Country Code <input type="text" value="Other"/>	
PLMN <input type="text"/>	<input type="button" value="+"/>	

5. Overview Info

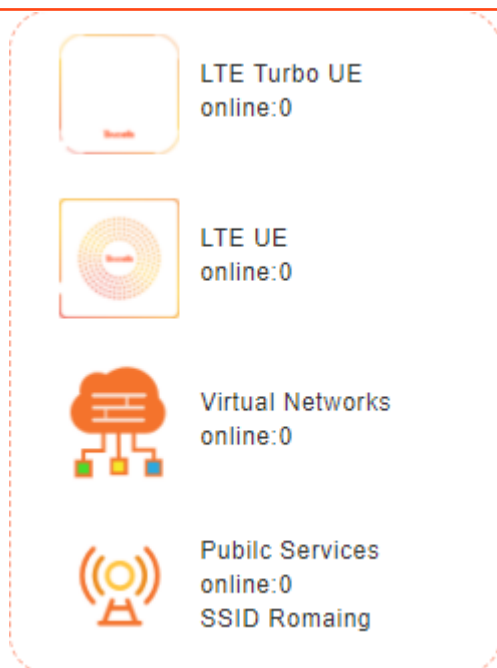


The overview page include such information:

1. Basic Information -- Include SW/HW Version, SN
2. Lte PRB Usage
3. Turbo Rate Curve
4. Device Status:



Turbo switch,OMC Status,Cell Status,CA Status,Halob Status,Turbo Connection,Turbo Setting



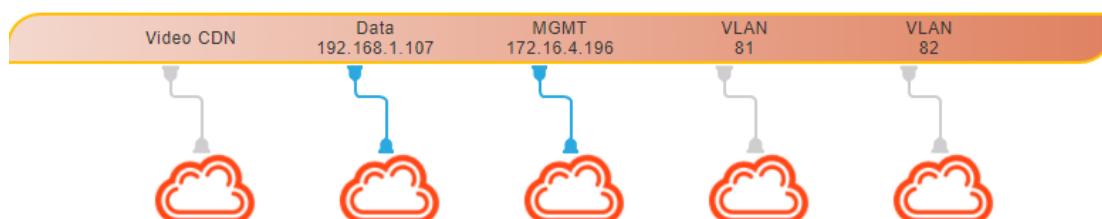
Numbers of online devices of various types

LTE Turbo UE: support Turbo and LTE

LTE UE: only support LTE

Virtual Networks: virtual devices, not support now

Public Services: only support WiFi



Status of services

Gray line: not open

Blue tape fork: opened but not connected

Blue line: opened and connected

5. Device Health

Contains four parts: equipment health, network health, business health, interference detection

Device health includes running time, CPU load and other information is not supported

6. WAN/VLAN Setting

WAN/VLAN Config

Connect Type

Copper

WAN Config

Index	WAN Name	IP Access Mode	IP Address	Netmask/Prefix	Gateway	VLAN ID	Operate
1	wanConfig1	DHCP	192.168.1.106	255.255.255.0	192.168.1.1	0	↕

DNS Config The maximum number of configuration is 2

Index	DNS Address	Operate
1	8.8.8.8	↕
2	114.114.114.114	↕

MTU Config

Support for dynamic / static IP configuration, VLAN configuration, dns configuration, mtu configuration

7. Network Management Setting

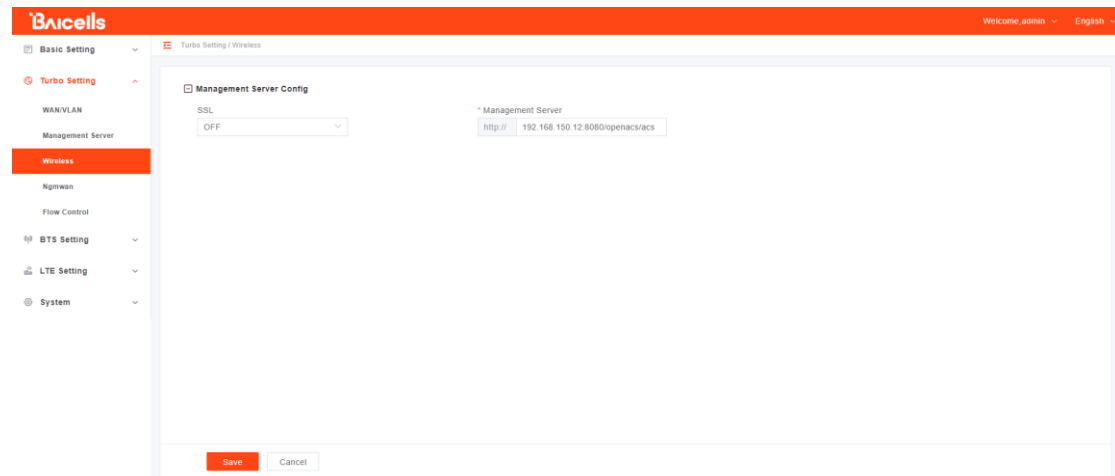
Management Server Config

SSL: OFF

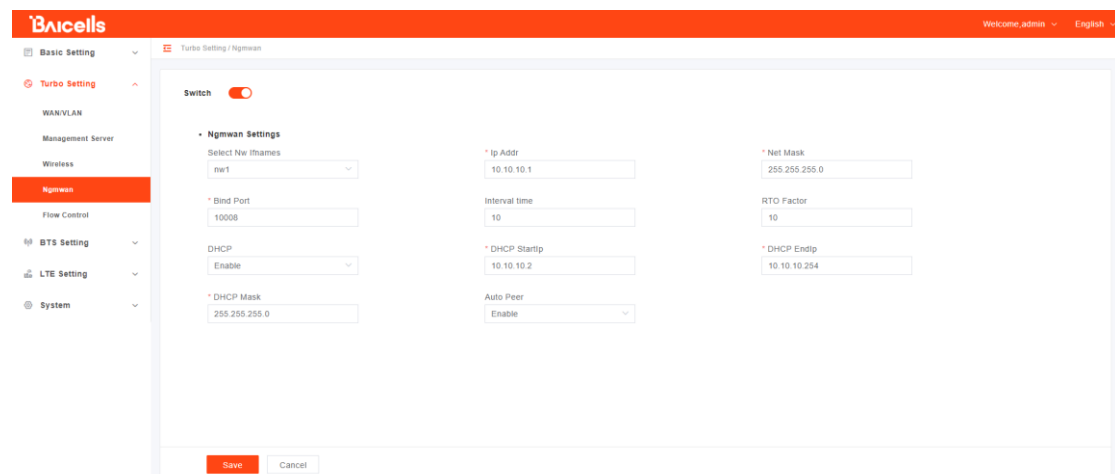
* Management Server:

Support Config Network Management URL

8. Turbo Wireless Setting



9. Ngmwan Setting

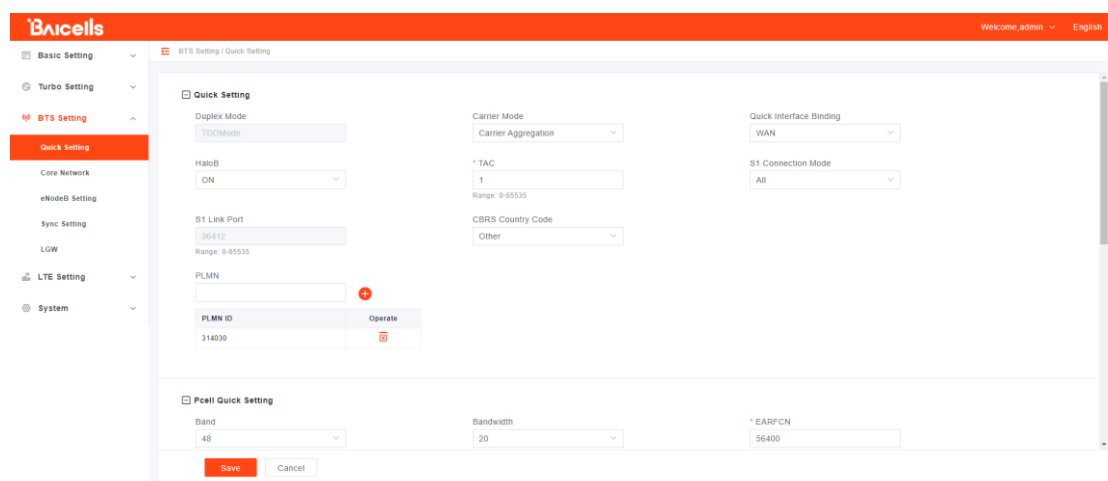


ngmwan setting items:

select nw ifnames	select ngmwan interface
ip addr	config server ip
net mask	subnet mask
mode	server
one client	only support one client
bind port	bind port
log	enable/disable log

auto peer	auto setting peer
dhcp	enable dhcp server
dhcp startip	dhcp start ip
dhcp endip	dhcp end ip
dhcp mask	dhcp mask

10. Lte Basic Setting



10.1 SAS Setting

CBRS Country Code

USA-FCC(CBRS)

Select "USA-FCC(CBRS)" in box SAS Setting will be shown below.

Baicells | Welcome_admin | English

BTS Setting / Quick Setting

SAS

SAS Registration Type: Single-step | Legacy Mode: Disable | Frequency Selection Logic: Power, Bandwidth, Frequency

Preferred Bandwidth: 20MHz | Preferred Power: 2 X 24dBm

Preferred Frequency: Pcell: 3560 | SCell: 3560

Install Param Config

CBSO Category: B | User ID: | FCC ID: | Height: 0 Meters | Antenna Gain: 0

Latitude: 0 | Longitude: 0 | Deployment: Outdoor

Height Type: AGL

11. Lte Core Network Setting

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BTS Setting / Core Network

HaloB Mode

HaloB Mode: Standalone Mode

APN

APN NAME	APN Type	VLAN ID	Operate
APNNAME1	L3	-	↶ ↷

Import SIM Information

Select Card File: [Select File](#)

[Import Card File](#) [Template Download](#)

Subscription Data List

<input type="checkbox"/>	IMSI	UE UL AMBR(Mbps)	UE DL AMBR(Mbps)	APN NAME	Operate
<input type="checkbox"/>	46060000710003	500.00	1000.00	APNNAME1	↶ ↷
<input type="checkbox"/>	410560003401025	50.00	100.00	APNNAME1	↶ ↷
<input type="checkbox"/>	410560003401055	50.00	100.00	APNNAME1	↶ ↷

[Save](#) [Cancel](#)

12. Lte Sync Setting

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BTS Setting / Sync Setting

Sync Management Config

Sync Mode: FREE_RUNNING

GNSS Information

Number of Satellites: 0 | Longitude(*): | Latitude(*):

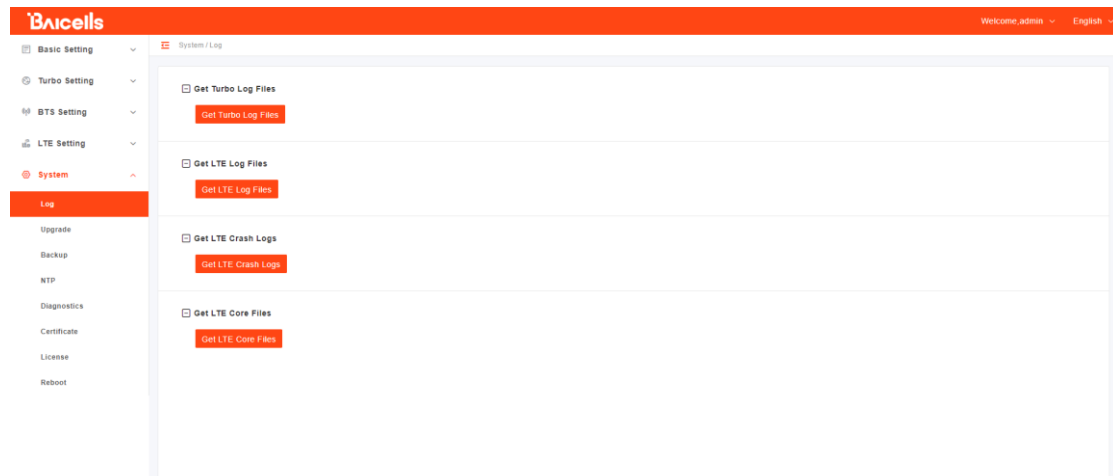
NL Config Regular Mode Full Channel Number Mode

NL Sync List

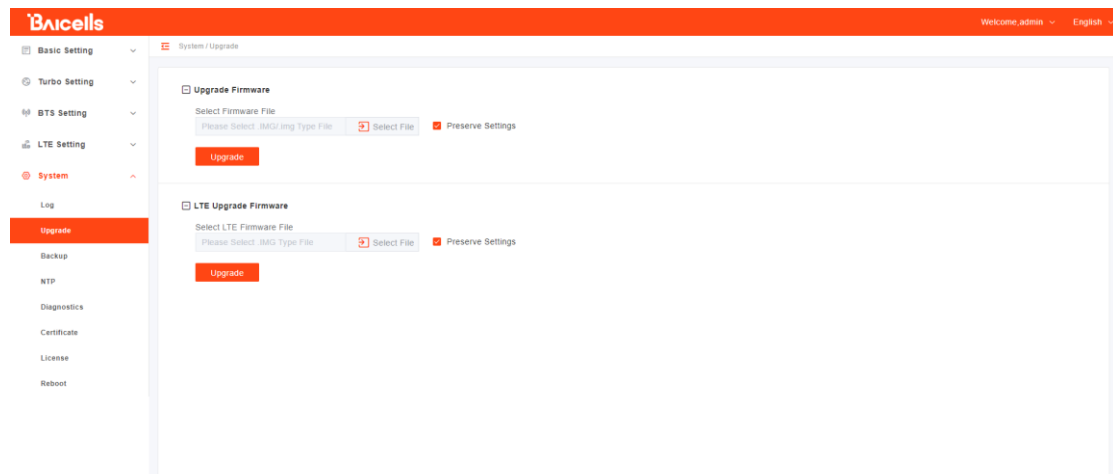
Index	Priority	Technology	Band	Channel Number	PCI	Frequency Threshold	Sync Interval	Phase Offset	Operate
1	1	LTE	0	0	0	250	4	0	↶ ↷
2	1	LTE	0	0	0	250	4	0	↶ ↷

[Save](#) [Cancel](#)

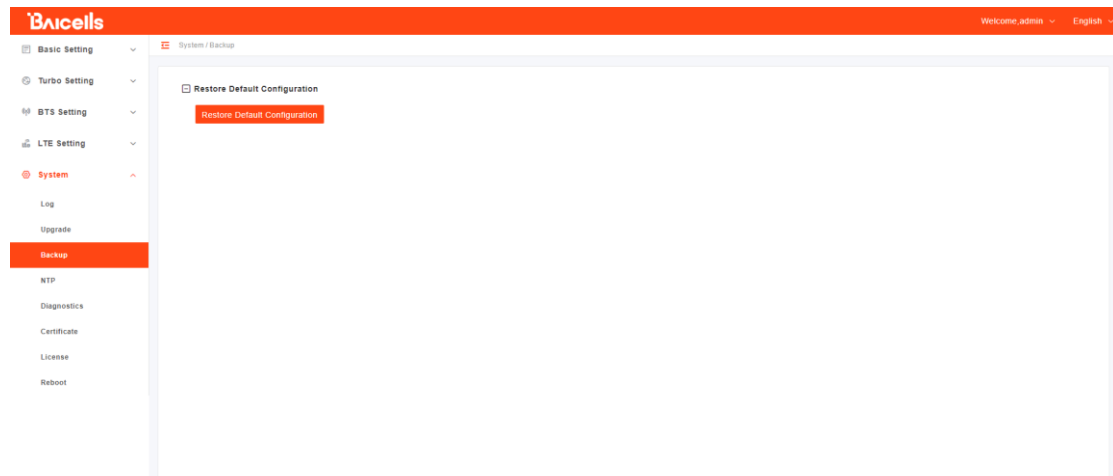
13. Log Setting



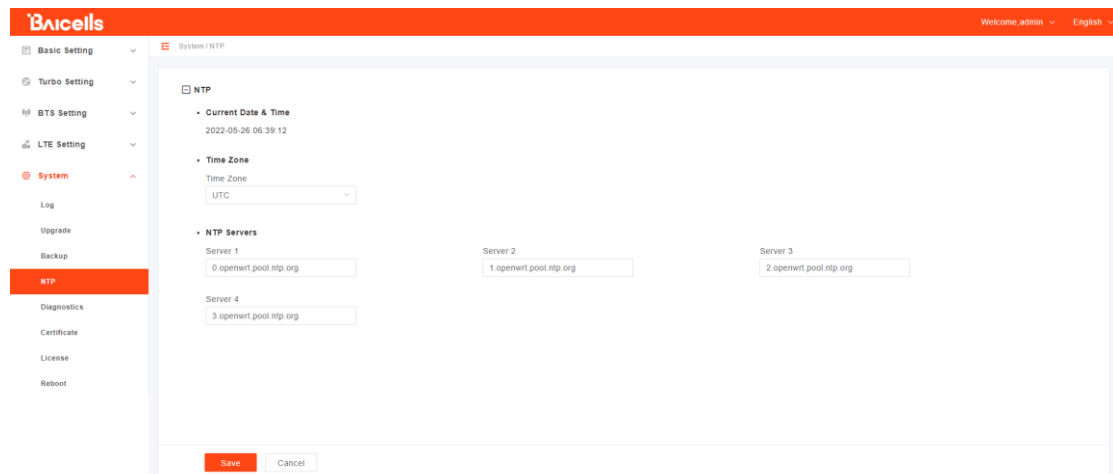
14. Upgrade



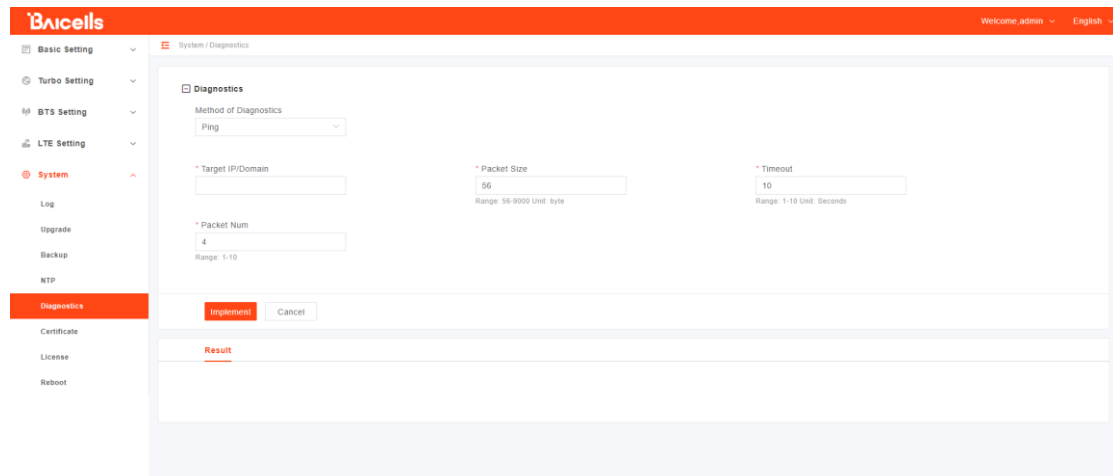
15. Restore Factory Setting



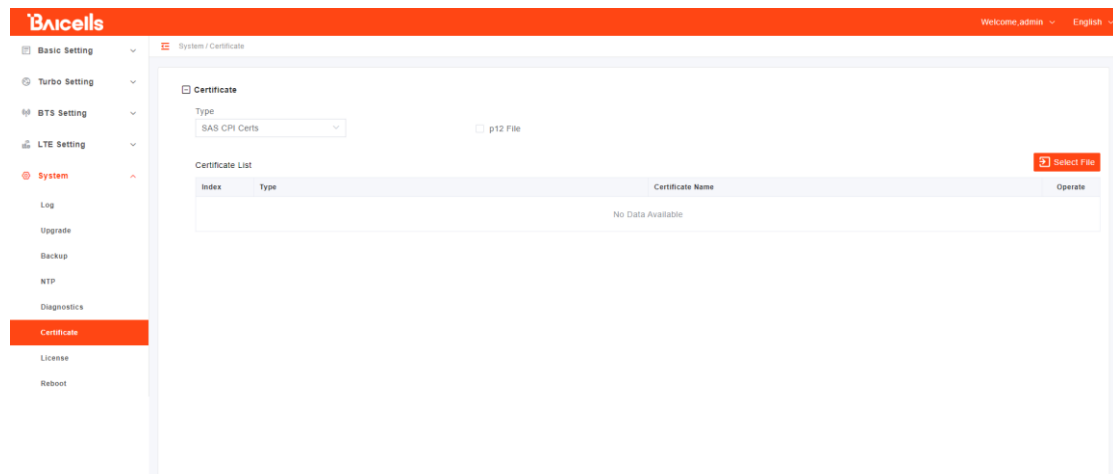
16. NTP Config



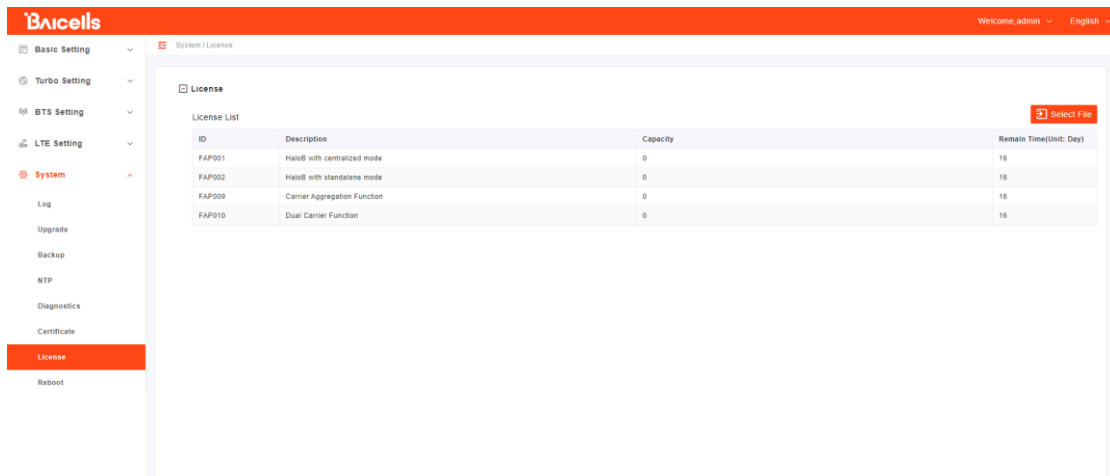
17. Diagnostics



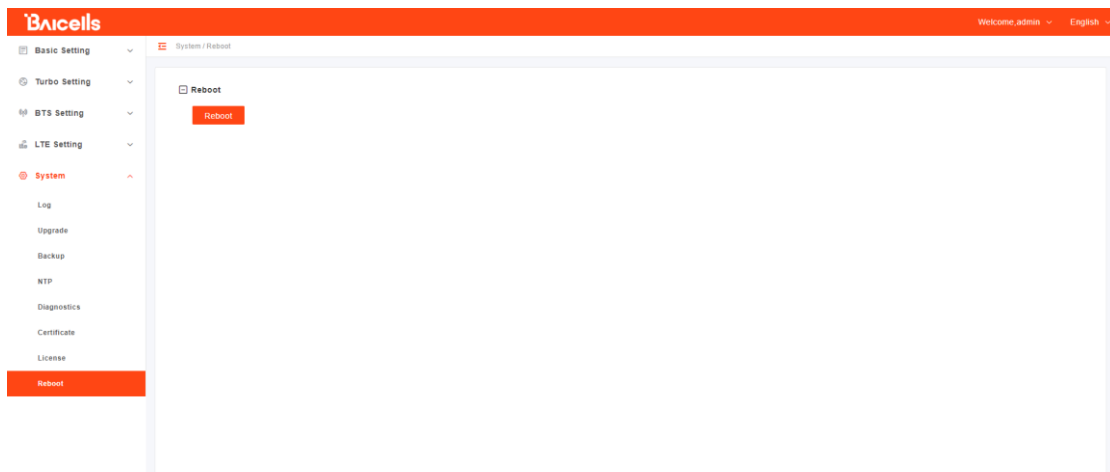
18. Certificate



19. License



20. Reboot



21. Regulatory Compliance

21.1 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 70cm between the radiator & your body.

21.2 ISEDC Compliance

This device complies with Innovation, Science, and Economic Development Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d' Innovation, Science et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est

susceptible d'en compromettre le fonctionnement.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 80cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter, End-Users must be provided with transmitter operation conditions for satisfying RF exposure compliance.

Les antennes utilisées pour cet émetteur doivent être installées de façon à offrir une distance de séparation d'au moins 80cm entre toutes les personnes et ne doivent pas être colocalisées ou fonctionner conjointement avec d'autres antennes ou transmetteurs. pour satisfaire la conformité à l'exposition RF.