



Baicells EG7010A User Manual

V100R001C00



About This Document

This document introduces the specifications of Baicells EG7010A CPE and guides users to install and configure it.

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1. Product Overview

1.1 Introduction

Baicells is a private, high-tech company providing innovative LTE wireless broadband access solutions. The Baicells solutions support fixed wireless access and mobile scenarios. With the vision to connect the unconnected, Baicells has introduced breakthrough technologies to LTE, like moving a complete LTE system to unlicensed spectrum and building it with an IT based architecture.

With the Baicells turnkey end-to-end solutions, it becomes much easier to provide wireless internet within everyone's reach at a very low cost. These innovative solutions can be used by mobile operators, broadband access operators, Internet Service Providers (ISP), Mobile Virtual Network Operators (MVNO), governments, and enterprise private networks.

The Baicells EG7010A Outdoor Customer Premise Equipment (CPE) provides superior wireless access performance and comprehensive routing capabilities to bring wireless broadband data and voice services to end-users.

1.2 Features

The EG7010A is designed according to the simplicity principle, which can evolve in a short period and realize fast customization, delivery and deployment as well. The main features of the EG7010A is as follows:

- Supports LTE-TDD frequency bands 43.
- Complies with 3GPP Release 10 CAT6/7 standards.
- 1000 Mbps Ethernet interface.
- Convenient, simple, GUI-based local and remote Web management.
- Built-in LTE bipolar directional high-gain antenna.
- TR069 network management protocol.
- Cell lock, SIM lock, and Pin lock.
- User-friendly LED indicators.
- Power supply with PoE.
- Pole mounted or wall mounted.

1.3 Appearance

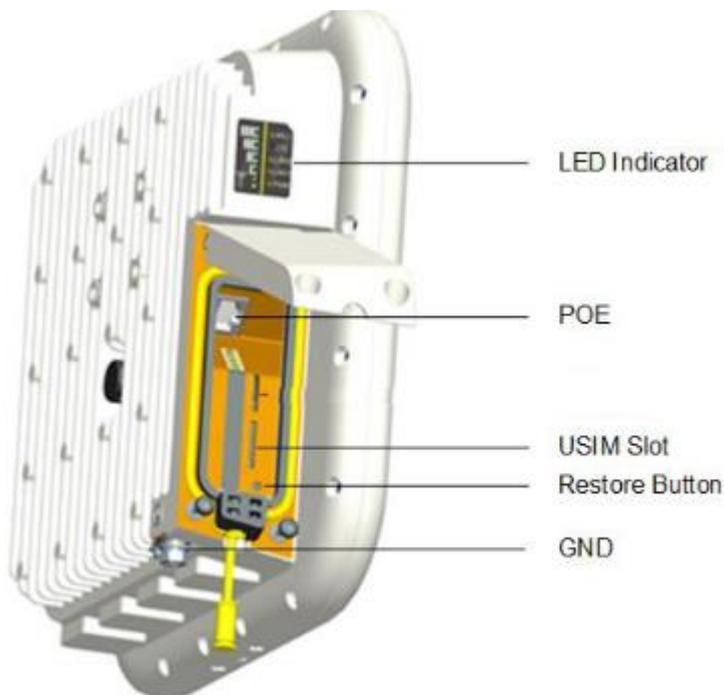
The EG7010A appearance is shown in Figure 1-1.

Figure 1-1 EG7010A Appearance



The EG7010A interfaces and buttons are shown in Figure 1-2.

Figure 1-2 Interface and Button of EG7010A



The EG7010A interface and button description is given in Table 1-1.

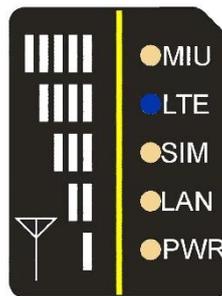
Table 1-1 Description of EG7010A Interface and Button

| Interface & Button | Description |
|--------------------|-------------|
|--------------------|-------------|

| Interface & Button | Description |
|--------------------|------------------------------------------------------------|
| PoE | Connected to the PoE power adapter |
| USIM Slot | Support 1.8V/3.0V USIM 2FF |
| Restore Button | Long press over 10 seconds to restore the factory settings |
| LED Indicator | LTE signal strength Indicator& status indicator |
| GND | Connected to Earth by conductor |

The LED indicators are shown in Figure 1-3.

Figure 1-3 LED Indicators of EG7010A



The description of LED indicators are given in Table 1-2.

Table 1-2 LED Indicator Description

| Identity | Description | Color | Status | Description |
|----------|---------------------------|--------|-----------|-------------------------------------------|
| MIU | - | Yellow | OFF | Reserved. |
| | | | Steady On | Reserved. |
| | | | Blanking | Reserved. |
| LTE | Network state Indicator | Blue | OFF | LTE disconnected. |
| | | | Steady On | LTE connected. |
| SIM | SIM card status indicator | Yellow | Steady On | The SIM card is normal. |
| | | | Blanking | The SIM card is abnormal or not inserted. |
| LAN | 100Mbps Eth Indication | Yellow | OFF | Ethernet connection does not established. |
| | | | Steady On | Ethernet connection is normal. |
| | | | Blanking | Data is transmitting. |

| Identity | Description | Color | Status | Description |
|------------|-------------------------------------------------------|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------|
| PWR | Power Indicator | Yellow | OFF | No Power Supply |
| | | | Steady On | Power On |
| LTE Signal | 5 LTEs, Indicate connection state and signal strength | Green | All OFF | Signal is too weak to attach. |
| | | | Steady On | According to signal strength in turn light up |
| | | | Blanking |  Scanning the LTE network |
| | | | |  The CPE is authenticating. |
| | | | |  CPE is getting IP address from the LTE network. |

2. Technical Specifications

2.1 Basic Specification

Table 2-1 Basic Specification

| Item | Description |
|-------------------|--------------------------------------------------------------------|
| LTE Standard | 3GPP Release 10/11 |
| Ethernet LAN Port | One RJ-45 port 10/100/1000 auto-sensing, auto-MDX, PoE |
| LED Indicators | Power/LET Signal/LAN Indicator |
| USIM | Support 1.8V/3V 2FF |
| Restore Button | Tact Button Long press over 10s to restore the factory settings |
| Power Supply | Input: Universal range 100V~240V AC |
| Dimension | About 248mm * 248mm * 80mm |
| Weight | About 1800g |
| Color | Pantone white C |

2.2 RF Specification

Table 2-2 RF Specification

| Item | Description |
|-------------------|-------------------------------|
| LTE Mode | TDD LTE |
| Channel Bandwidth | 5 MHz /10 MHz /15 MHz /20 MHz |
| MAX Output Power | 16 dBm |
| LTE Standard | 3GPP R10/11 |
| Frequency | 3650 MHz ~ 3700 MHz |
| Antenna Gain | 14 dBi |

2.3 SW Specification

Table 2-3 SW Specification

| Item | Description |
|-------------------|------------------------------------------------------------------|
| Language Settings | English |
| Network Mode | Bridge / NAT |
| SIM | <ul style="list-style-type: none"> PIN Management |

| Item | Description |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none"> • SIM Lock |
| Network Connection setup | <ul style="list-style-type: none"> • Create, delete, and edit APNs • Set up dial-up connection automatically • Set up dial-up connection manual |
| LTE Scan Mode | <ul style="list-style-type: none"> • Full Band • Cell Lock • Band / Frequency Preferred |
| VPN | <ul style="list-style-type: none"> • Support VPN pass through • Support PPTP tunnel mode |
| NAT | <ul style="list-style-type: none"> • Port forwarding • Port trigger • DMZ • UPnP |
| Statistics | <ul style="list-style-type: none"> • LAN Link Status • Transmit / Receive traffic • Running Time |

2.4 Device Management

Table 2-4 Device Management

| Item | Description |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maintenance | <ul style="list-style-type: none"> • Date & Time setting • Reset • Restore factory settings • Restore/Backup Configuration File • Local upgrade • FOTA upgrade |
| TR069 | Can enable or disable TR069 Management |
| Port mirror | Can enable or disable the port mirror function |
| Syslog | Support the syslog function can send the log to the PC via LAN |
| Diagnostics | Support the Ping and trace route |

2.5 Environment Specification

Table 2-5 Environment Specification

| Item | Description |
|------|-------------|
|------|-------------|

| Item | Description |
|-----------------------|--------------|
| Operating Temperature | -40°C ~ 55°C |
| Storage Temperature | -40°C ~ 70°C |
| Operating Humidity | 5% ~ 95% |
| Drop | 0.8m |

3. Installation Guide

3.1 Support Materials

Before installation, prepare the following support materials accordingly, as given in Table 3-1.

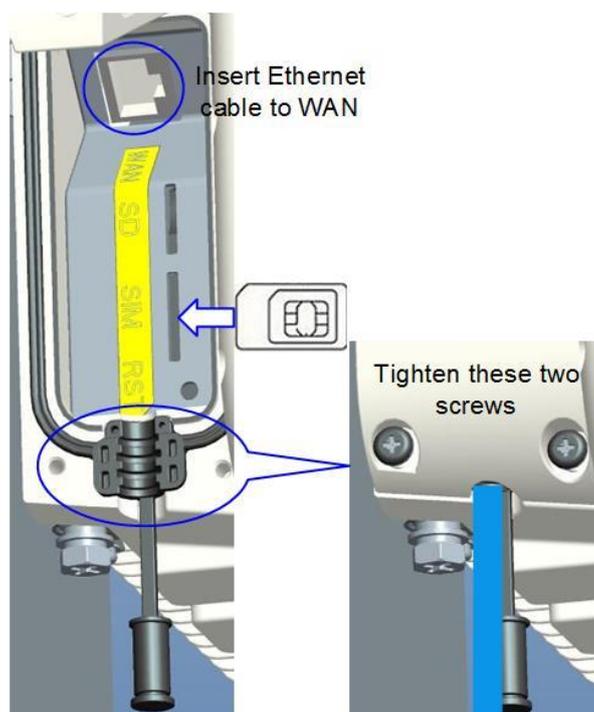
Table 3-1 Support Materials for Installing

| Item | Description |
|----------------|-----------------------------------------------|
| Ethernet cable | Outdoor Shield CAT5E Shorter than 330 feet |
| Ground wire | 16mm ² yellow-green wire |

3.2 Install USIM Card and Ethernet Cable

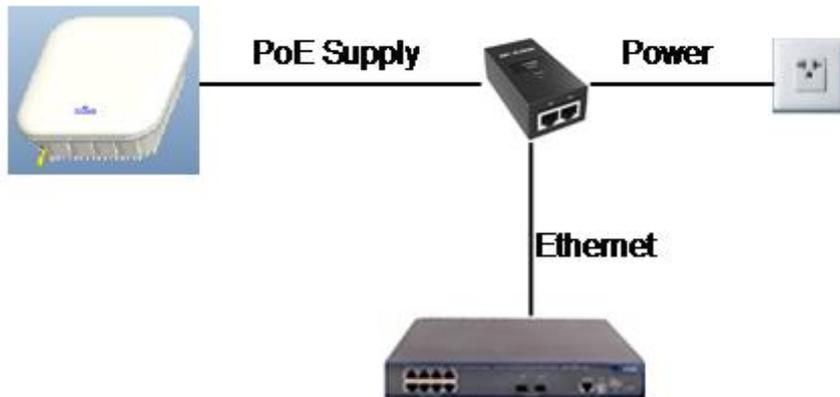
1. Screw the two screws on the waterproof cover.
2. Open the waterproof cover, and connect the Ethernet cable to the Ethernet interface.
3. Insert the USIM card to the USIM slot. Note following the directions.
4. Close the waterproof cover and tighten the two screws on the cover, as shown in Figure 3-1.

Figure 3-1 Install Ethernet Cable and USIM Card



5. Connected Ethernet cable to the power adapter, as shown Figure 3-2.
Pay attention to the power adapter interface directions.

Figure 3-2 Connection Diagram

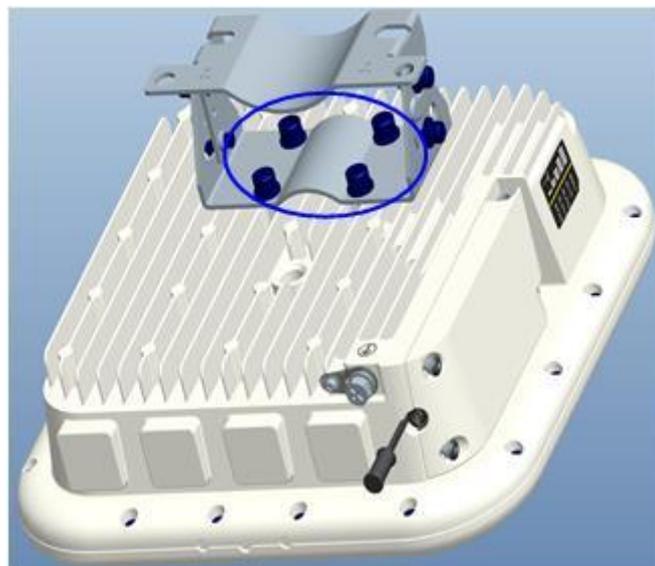


6. Power on, the LED indicator will light up.

3.3 Install on Pole

1. Tighten the screws at the bottom of the bracket, as shown in Figure 3-3.

Figure 3-3 Install the Bracket



2. Install the bracket on pole as shown as Figure 3-4.

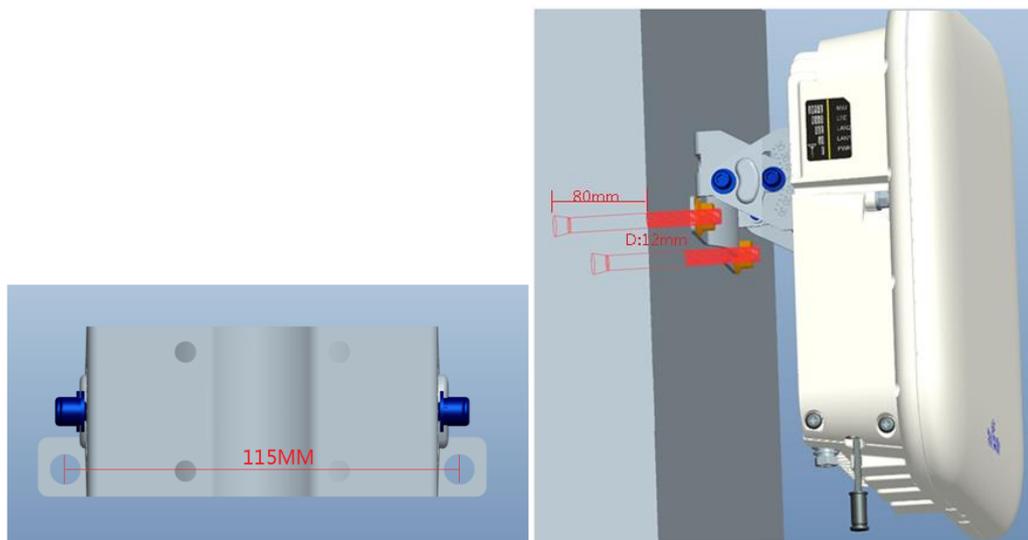
Figure 3-4 Install on Pole



3.4 Install on Wall

Install bracket on wall as show as Figure 3-5.

Figure 3-5 Install on Wall

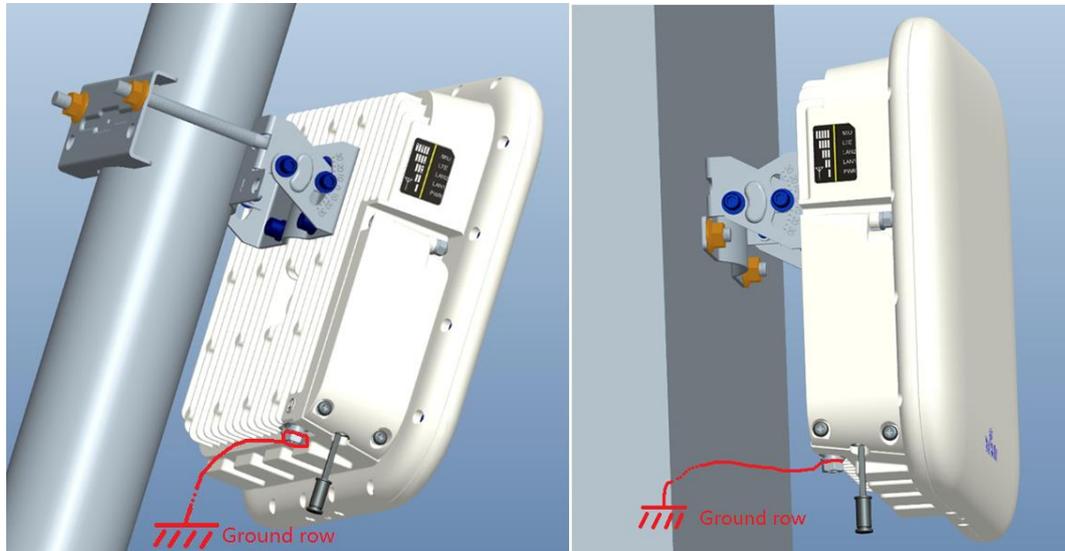


3.5 Grounding

The EG7010A must be grounding, please contact professional person to operation.

Using grounding cable, connect the grounding screw to the ground row, as shown in Figure 3-6.

Figure 3-6 Grounding



3.6 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 A 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:

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 20cm between the radiator & your body.

ISED 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 20cm 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.

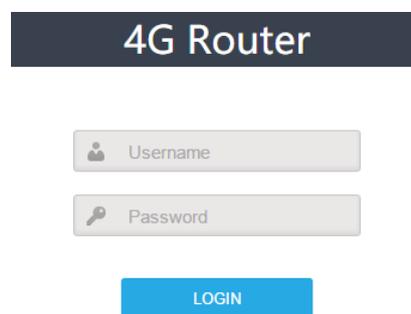
4. Configuration Guide

4.1 Log in

The EG7010A manages, configures, and maintains the device by web management page. The steps to log in are as follows:

1. In the address column of browser, type in **http://192.168.150.1**, then press “**Enter**”, login in page is shown in Figure 4-1.

Figure 4-1 Login Page



2. Enter the user name and password, click "**LOGIN**". After password authentication, you can log on to the web management page.

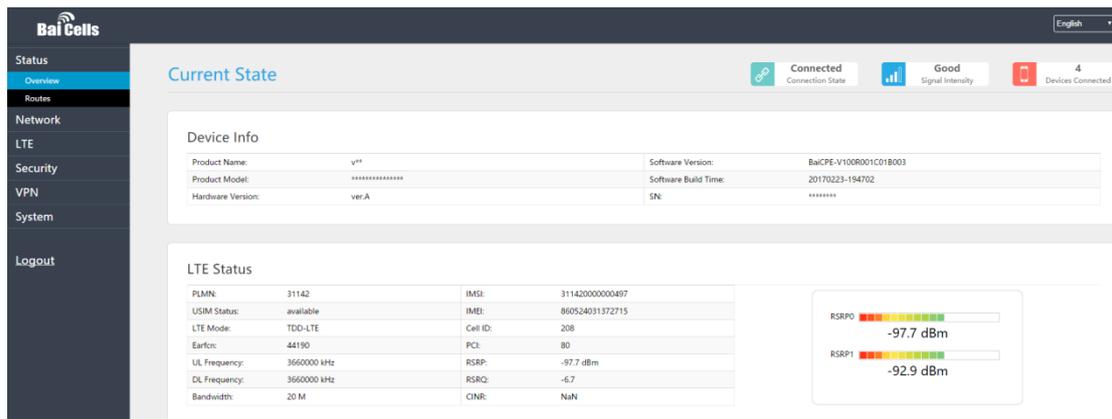
The default user name and password is admin.

For security, it is recommended that you open the firewall, and keep your login password, WLAN FTP passwords and password well.

4.2 View Status

In the overview area, you can view the device information and LTE status, such as Product name, Software version, PLMN, IMSI, RSRP, RSRQ, CINR, SINR, Tx Power, Cell ID, PCI, and so on, as shown in Figure 4-2.

Figure 4-2 View Status



4.3 Basic Configuration

4.3.1 LTE Setting

To set the LTE Network, perform the following steps:

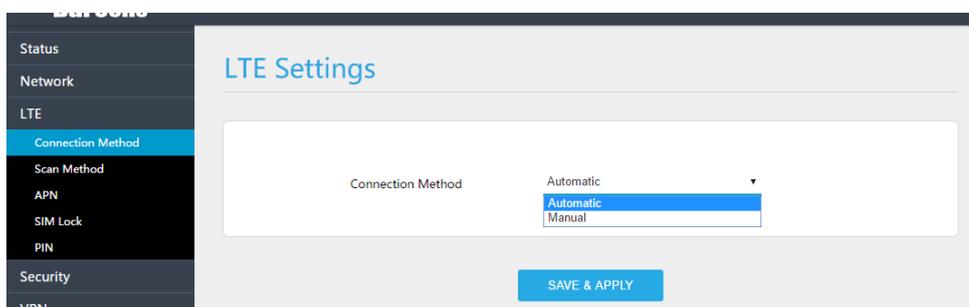
1. Choose **LTE**.
2. In the LTE Setting area, configure the LTE network.

4.3.2 Set Connection Method

To set the LTE network connection method, perform the following steps:

1. Choose "**LTE>connection Method**", enter the setting connection method page, as shown in Figure 4-3.

Figure 4-3 Set Connection Method



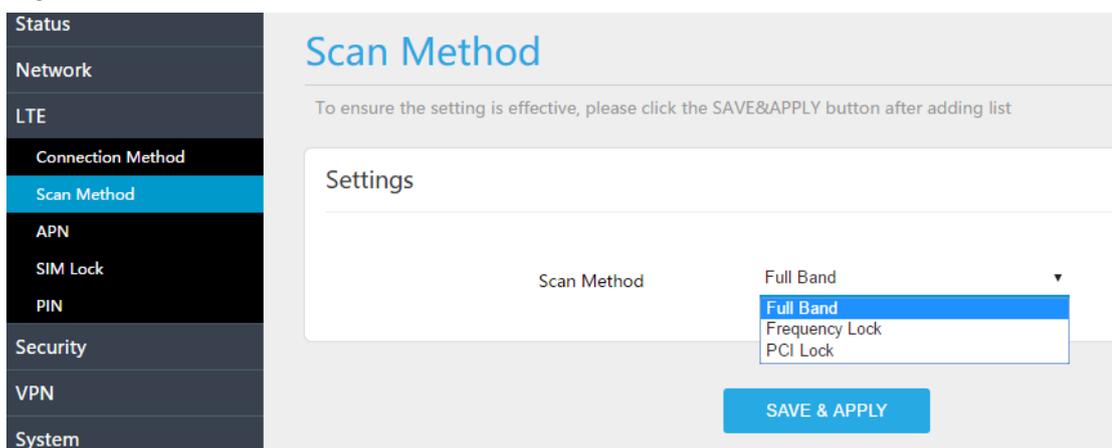
2. In the connection Method area, set the connection method
3. There are two methods to connect the LTE network, it is needed to choose a method between Auto and Manual, if you want to auto connect to the LET network you should choose the Auto, otherwise you should choose Manual.
4. Click **“SAVE & APPLY”**.

4.3.3 Set Scan Mode

To set the LTE network scan mode, perform the following steps:

1. Choose **“LTE>Scan Method”**, enter the setting scan method page, as shown in Figure 4-4.

Figure 4-4 Set Scan Mode



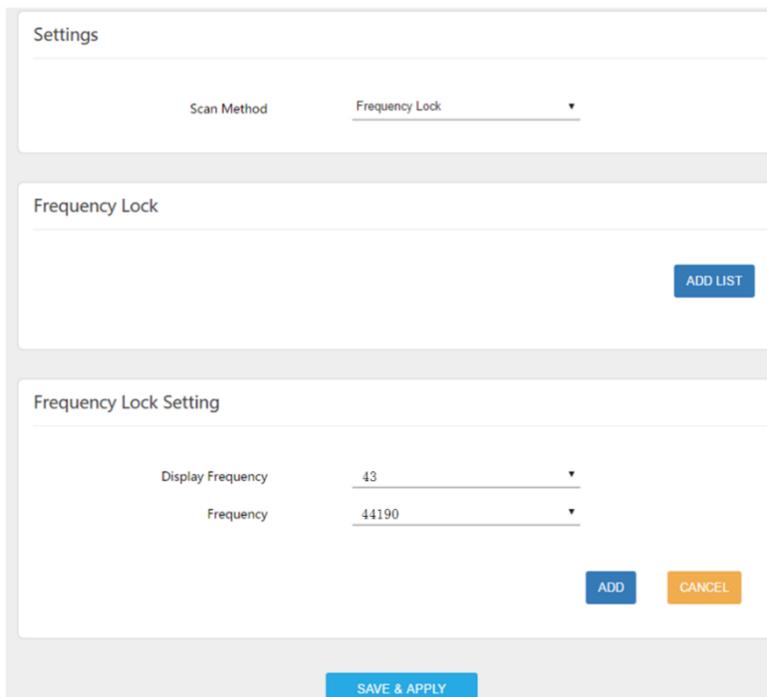
2. In the Scan Method area, set the scan mode
3. You can choose full Band, **Frequency Lock**, or **PCI Lock**.

4.3.4 Lock Frequency (Earfcn)

To clock the frequency, perform the following steps:

1. Choose **“LTE>Scan Method”**.
2. In the LTE Scan Method area, click Frequency Lock to lock the frequency.
3. Click **ADD LIST**, choose a band and frequency, and then click **Add** to add the band and frequency to the list, as shown in Figure 4-5.

Figure 4-5 Lock Frequency



The screenshot shows a mobile application interface for configuring 'Frequency Lock'. It is divided into three main sections:

- Settings:** Contains a 'Scan Method' label and a 'Frequency Lock' dropdown menu.
- Frequency Lock:** A large empty list area with an 'ADD LIST' button in the bottom right corner.
- Frequency Lock Setting:** A form with two dropdown menus: 'Display Frequency' (set to 43) and 'Frequency' (set to 44190). Below these are 'ADD' and 'CANCEL' buttons.

At the bottom of the entire interface is a 'SAVE & APPLY' button.

4. Click **“SAVE & APPLY”**.

4.3.5 Lock PCI

To lock the PCI, perform the following steps:

1. Choose **“LTE>Scan Method”**.
2. In the LTE Scan Method area, click PCI Lock to lock the PCI.
3. Click ADD LIST you can choose a band, frequency and PCI, then click Add to add the frequency and PCI to the list, as shown in Figure 4-6.

Figure 4-6 Lock Frequency

Scan Method

To ensure the setting is effective, please click the SAVE&APPLY button after adding list

Settings

Scan Method PCI Lock ▼

PCI Lock

ADD LIST

PCI Lock Setting

Display Frequency 43 ▼

Frequency 44190 ▼

PCI

ADD CANCEL

SAVE & APPLY

4. Click **“SAVE & APPLY”**.

Appendix A **FAQs**

The POWER indicator does not turn on.

- Make sure that the power cable is connected properly and the CPE is powered on.
- Make sure that the power adapter is compatible with the CPE.

Fails to Login to the web management page.

- Make sure that the CPE is started.
- Verify that the CPE is correctly connected to the computer through a network cable. If the problem persists, contact authorized local service suppliers.

The CPE fails to search for the wireless network.

- Check that the power adapter is connected properly.
- Check that the CPE is placed in an open area that is far away from obstructions, such as concrete or wooden walls.
- Check that the CPE is placed far away from household electrical appliances that generate strong electromagnetic field, such as microwave ovens, refrigerators, and satellite dishes.

If the problem persists, contact authorized local service suppliers.

The power adapter of the CPE is overheated.

- The CPE will be overheated after being used for a long time. Therefore, power off the CPE when you are not using it.
- Check that the CPE is properly ventilated and shielded from direct sunlight.

The parameters are restored to default values.

- If the CPE powers off unexpectedly while being configured, the parameters may be restored to the default settings.

After configuring the parameters, download the configuration file to quickly restore the CPE to the desired settings.

Appendix B Shipping List

The product outward appearance, the color take the material object as, the picture only supply reference.

| Index | Content | Picture | Amount |
|-------|------------------|--------------------------------------------------------------------------------------|--------|
| 1 | EG7010A CPE |  | 1 |
| 2 | Power cord |  | 1 |
| 3 | PoE adapter |  | 1 |
| 4 | Mounting bracket |  | 1 |
| 5 | User Manual |  | 1 |