

CP880+CR650 User Manual



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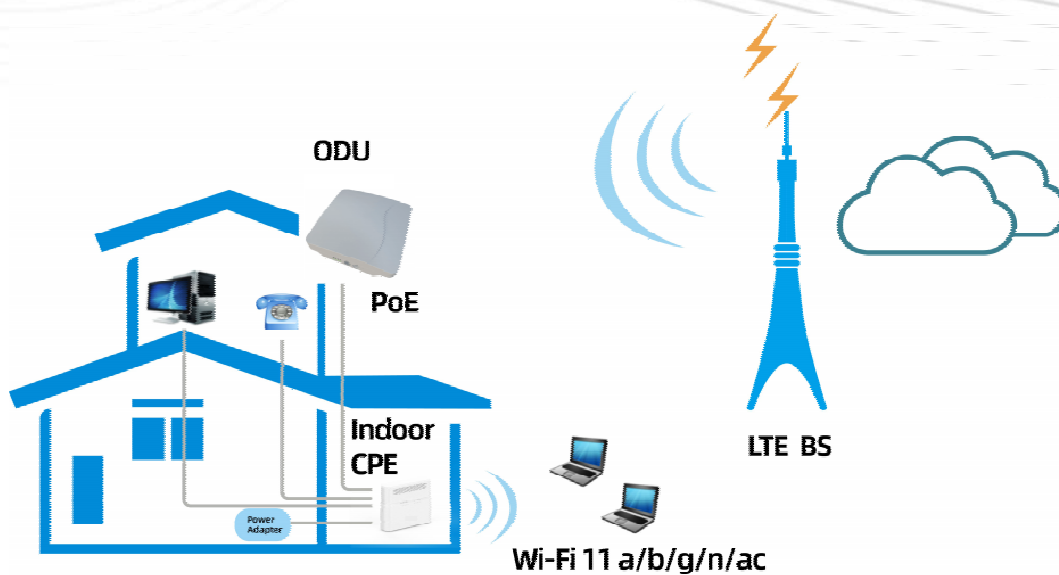
CHAPTER 1: Introduction

1 Introduction to Outdoor CPE with Router

Congratulations on your purchase of the CP880+CR650 (Outdoor 4G/LTE Router). It includes two parts, an indoor unit and an outdoor unit. ODU can provide strong accessibility to the LTE network, and has been designed to meet industrial-grade IP67 dustproof and waterproof standard. Router is a wireless device which can provide ODU power supply. ODU with Router in combination is the ideal solution for residential LTE network.

In addition to outdoor, it can be installed in environments such as: manufacturing plants, industrial automation, stadiums, convention halls, stadium facilities, school campuses or virtually any venue requiring a robust wireless solution.

2 Application Diagram










CHAPTER 2: Product Overview

1 Important Note for Using This Router



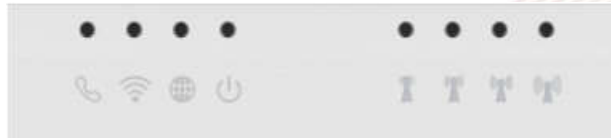
- 1, Do not remove, open or repair the case yourself. Contact with your Internet Service Provider or have it repaired at a qualified service center.
- 2, Do not plug and unplug SIM card when device is power on.
- 3, It is mandatory to earth ground the CP880+CR650. Improper grounding not only could damage the unit but also all equipments connected to it.

2 Packing List






			
ODU	Router	Power supply	Ethernet cable
			
Stainless steel clamp	Cable glands	Slotted end cap	

3 Device Description

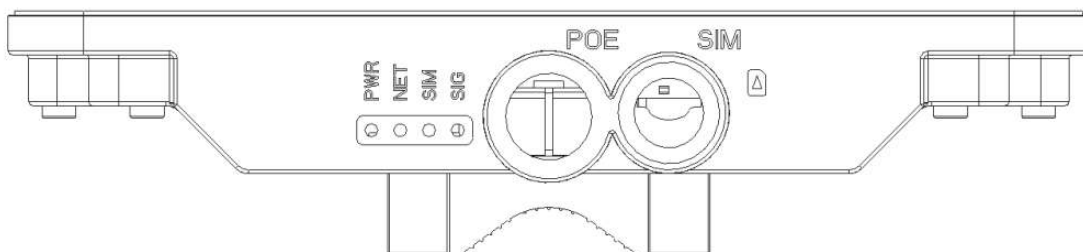
3.1 Panel of router







Router LED indicator operation

Indicator	Status	Description
 POWER	Steady on	Power On
	Off	No Power Supply
 INTERNET	Steady on	Internet Available
	Off	Internet Unavailable
	Blinking (500ms interval)	Searching Internet
 WiFi	Steady on	WiFi Available
	Off	WiFi unavailable
 TEL	Steady on	Registered to SIP Server
	Off	No establishment with SIP Server
 SIGNAL	Steady on	Display the current LTE network signal, the stronger signal, the more bars on
	Off	No Signal
	Blinking one by one	Firmware upgrade

3.2 Panel of ODU



ODU LED indicator operation

Indicator	Status	Description
 POWER	Steady on	Power On
	Off	No Power Supply
 NET	Steady on	Internet Available
	Off	Internet Unavailable
	Blinking (500ms interval)	Searching Internet
 SIM	Steady on	SIM ready
	Off	No SIM detected
 SIGNAL	Green	Signal strong
	Yellow	Signal good
	Red	Signal weak
	Blinking Green and Red	Firmware upgrade

CHAPTER 3: Hardware Installation



Please make sure that you are familiar with all accident prevention and Safety procedures necessary for working at height and with electricity before start to install the device.

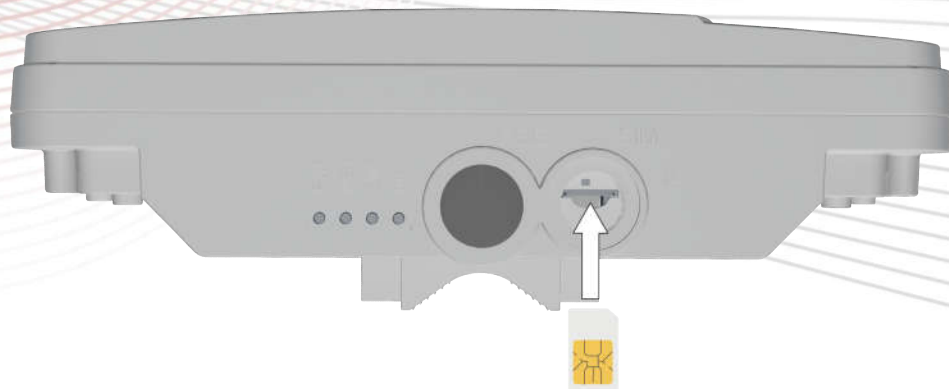
DO NOT install the ODU during a lightning storm.

1 Install SIM Cards

Step1 Use a cross screwdriver to remove the SIM card cover.

Step2 Slide the SIM cards into the SIM card slots until they click into place. When the device is powered on or reboots, it automatically connects to the network.

Step3 Re-attach the cover.



i



Make sure the ODU is turned off before you insert your SIM card. It is recommended to NOT connect the PoE cable when you do this step. Otherwise, the SIM card may be damaged.

2 Connect the Router to ODU

Place a CAT5e Ethernet cable from the location of your intended Router to the desired ODU location.

The maximum distance of the CAT5e cable is limited to 50 meters. If you use cable extenders to cover a greater distance, signal attenuation may occur.

If you intend to use cable clamps or other methods to secure the cable, do not tighten them until you finish installing the Router and ODU.

Step 1 CAT5e cable to thread through the cable glands.

Step 2 Connect the end of the CAT5e Ethernet cable to the PoE port of the ODU.

Step 3 Wring the cable glands into ODU and seal tightly.

 *Make sure you have inserted the SIM card into the ODU.*

3 Mount the ODU

See the installation instructions to mount the ODU correctly

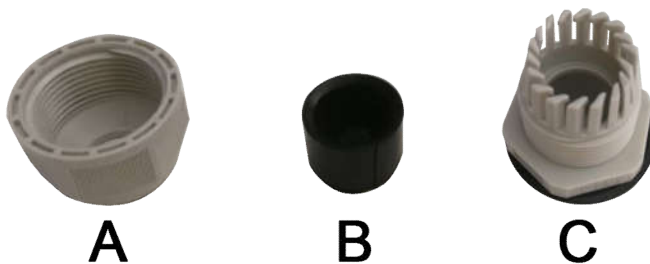
3.1 Cable glands Connection

Cable glands are tools which are vital when terminating cables in harsh or hazardous settings. Its role is to safely pass a tube, wire, or cable through an enclosure.

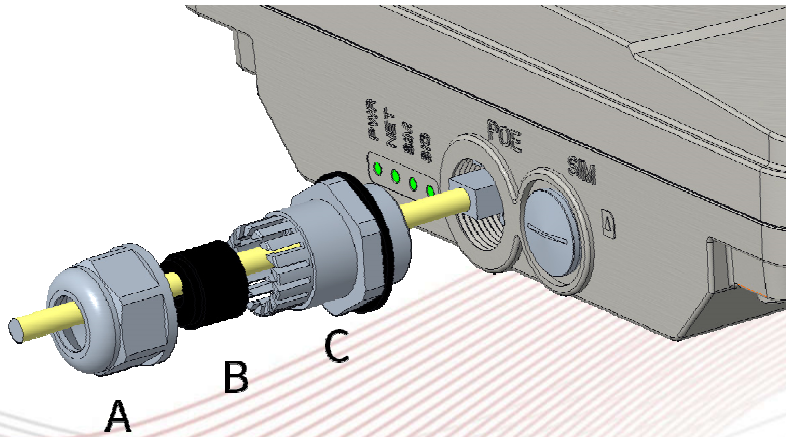
They also act as a seal, stopping exterior impurities from causing any damage to the electrical system and the cable.

Below will help you make sure that the installation of your cable gland guarantees a reliable and safe connection.

Step 1 Assemble M25 cable gland

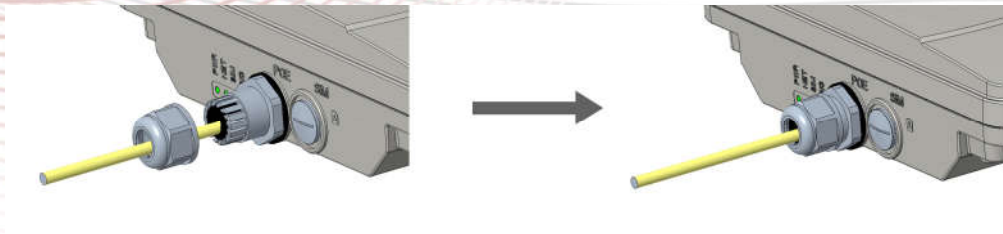


Step 2 Unscrew the LAN (PoE) port and insert the supplied outdoor Ethernet cable (RJ-45) through material A-C, and then connect the RJ-45 Ethernet cable into the LAN (PoE) port.



Step 3:

- 3.1: Insert B at the back end of C
- 3.2: keep B close to C
- 3.3: then tighten A



- 1, Care must be taken to prevent damage to the entry threads when organizing and installing cable glands
- 2, Don't install cable glands while the circuits are live.
- 3, Cable gland parts aren't well-matched with those of any other manufacturer of cable gland.
- 4, Take note that a cable gland isn't a user-serviceable item.
- 5, Cable gland sealing rings are added in the cable gland if dispatched from the factory.



3.2 Attach the Stainless-steel clamp to the Enclosure

Using a screwdriver to loosen the metal hose clamps, through the terminal equipment mounting hole, the metal hose clamps and the pole is fixed;



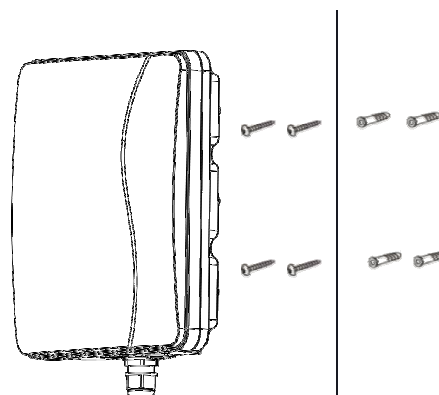
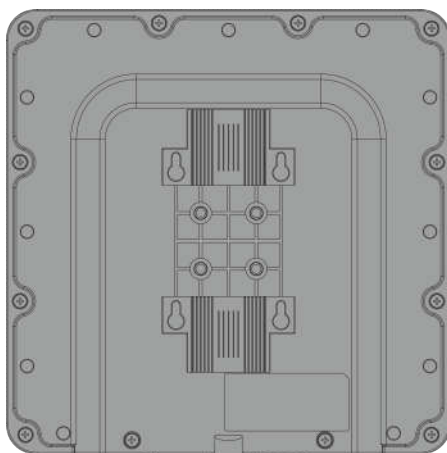
3.3 Wall or Pole Mounting

Mounting on Wall

(The built-in antenna is not recommended for wall hanging type, preferred to use Pole mounting method, it can be convenient to adjust the direction of the antenna.)

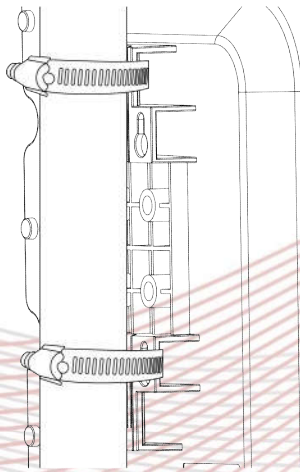
When the ODU terminal is hanging on the wall, the specific mounting as follows:

When install ODU on the wall, fixed four screws spacing is **68mm** on wall, then the terminal equipment aligns the screws. Hang up and complete the installation.



Mounting on a Pole

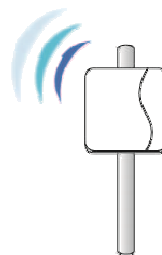
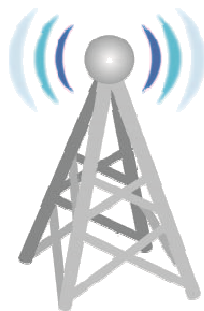
Attach the Stainless-steel clamp to the pole which is smaller than 57mm.



4 Choose Location

The ODU can be mounted on an antenna pole or mast or on a wall using the supplied mounting bracket.

- Choose a mounting point that is sturdy enough to hold the ODU, even during high winds.
- When choosing a location to install the ODU, please be noted that the ODU's front panel should point towards your service provider's nearest base station. You do not need to be able to see the base station from the ODU's position. However, if you experience difficulties with signal reception, a Line of Sight (LoS) connection may produce better results.
- It is suggested that you transport the ODU to its intended installation location in its original protective package.

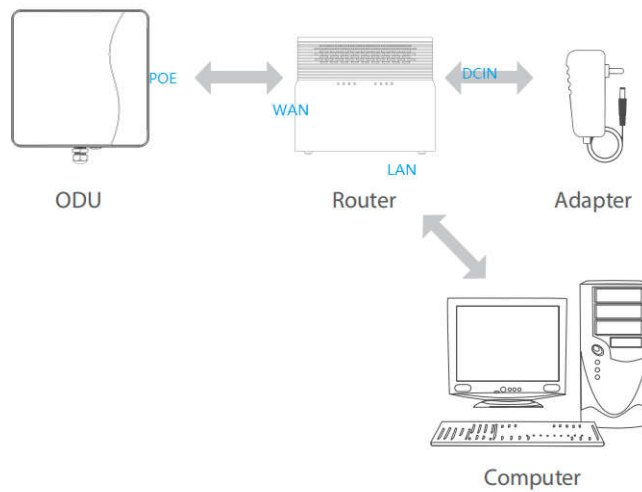


To obtain the best radio signal level and connection quality, the CPE antenna should be aimed towards the best eNB or BS directly. To search for the best eNB direction, the user can rotate the CPE slowly and tilt CPE slightly to the best signal direction. The CPE radio signal strength level can be observed from the RF LEDs mounted on the lower panel as shown below. The more LEDs on, the better the signal strength.

5 Connect the Router

Place a CAT5e Ethernet cable (not included) from the location of your intended Router to the desired PC location.

If you intend to use cable clamps or other methods to secure the cable, do not tighten them until you finish installing the Router and ODU.



CHAPTER 4: Software Features

1 Getting Started

1.1 Welcome to the CPE

In this document, the LTE (Long Term Evolution) CPE (customer premises equipment) will be replaced by the CPE. Carefully read the following safety symbols to help you use your CPE safely and correctly:



Additional information



Optional methods or shortcuts for an action



Potential problems or conventions that need to be specified

1.2 Computer Configuration Requirements

For optimum performance, make sure your computer meets the following requirements.

Item	Requirement
CPU	Pentium 500 MHz or higher
Memory	128 MB RAM or higher
Hard disk	50 MB available space
Operating system	<ul style="list-style-type: none"> • Microsoft: Windows XP, Windows Vista, or Windows 7 • Mac: Mac OS X 10.5 or higher
Display resolution	1024 x 768 pixels or higher
Browser	<ul style="list-style-type: none"> • Internet Explorer 7.0 or later • Firefox 3.6 or later • Opera 10 or later • Safari 5 or later • Chrome 9 or later

1.3 Login the Web Management Page

Launch web browser to login the web management page to configure and manage the CPE.

The following procedure describes how to use a computer running Windows XP and Internet Explorer 7.0 to log in to the web management page of the CPE.

1. Connect the CPE properly.
2. Launch Internet Explorer, enter <http://192.168.1.1> in the address bar, and press Enter. As shown in Figure 1-1.

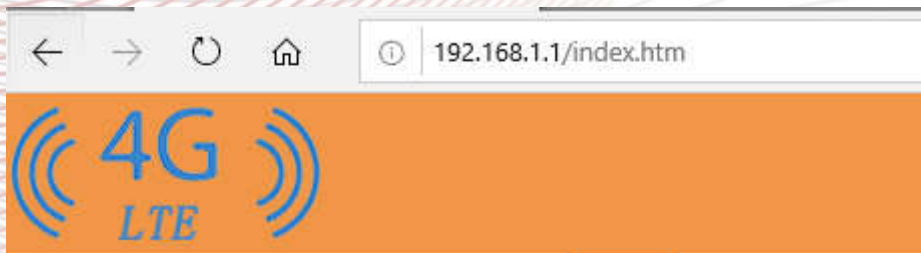


Figure 0-1

3. Enter the user name and password, and click Log In.
4. You can log in to the web management page after the password is verified. As shown in Figure 1-2.

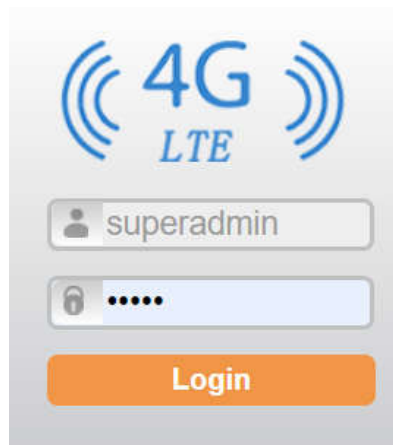



Figure 0-2

 The default user name and password are both **admin**. If you want to view or configure the CPE more, you should use the super account to log in to the web management page. The default super user name is **superadmin**, and the password is **admin**.

To protect your CPE from unauthorized access, change the password after your first login.

The CPE supports diagnostic function. If you encounter problems, please contact customer service for the specific using method.

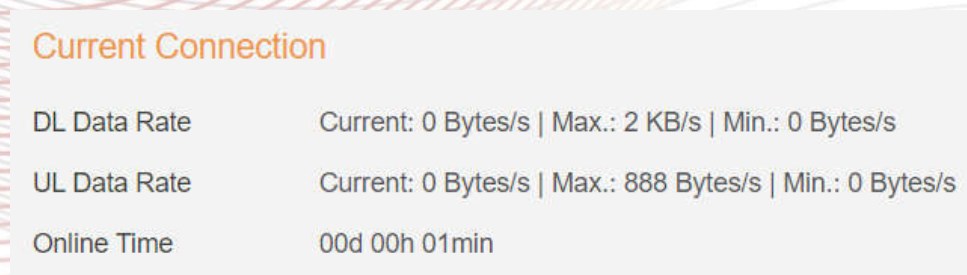
To ensure your data safety, it is recommended that you turn on the firewall, and conserve your login and FTP password carefully.

2 Overview

2.1 Viewing Current Connection

To view the current connection, perform the following steps:

1. Choose **Overview**;
2. In the **Current Connection** area, view the connection status, such as DL/UL Data Rate and Online time. As shown in Figure 2-1.



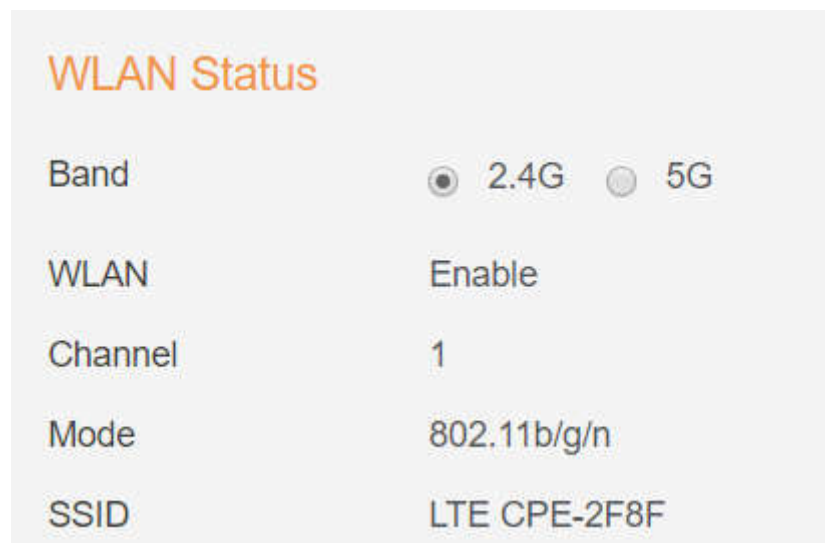
Current Connection	
DL Data Rate	Current: 0 Bytes/s Max.: 2 KB/s Min.: 0 Bytes/s
UL Data Rate	Current: 0 Bytes/s Max.: 888 Bytes/s Min.: 0 Bytes/s
Online Time	00d 00h 01min

Figure 0-3

2.2 Viewing WLAN Status

To view the WLAN status, perform the following steps:

1. Choose **Overview**;
2. In the **WLAN Status** area, view the information about WLAN status, Band, Chanel NO. and Mode. As shown in Figure 2-2.



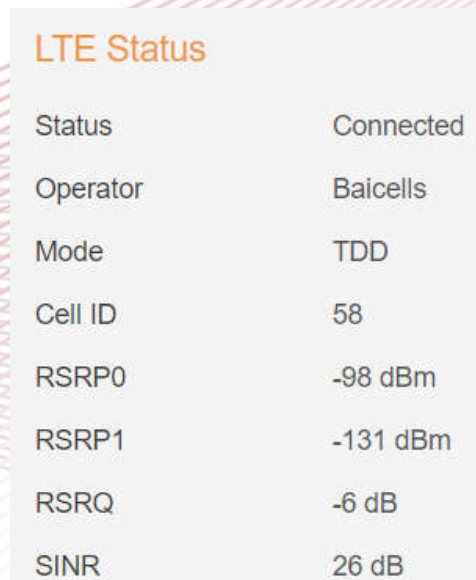
WLAN Status	
Band	<input checked="" type="radio"/> 2.4G <input type="radio"/> 5G
WLAN	Enable
Channel	1
Mode	802.11b/g/n
SSID	LTE CPE-2F8F

Figure 0-2

2.3 Viewing LTE Status

To view the LTE network status, perform the following steps:

1. Choose **Overview**;
2. In the **LTE Status** area, view the information about Connect status, Mode, Cell ID, Signal quality and so on. As shown in Figure 2-3.



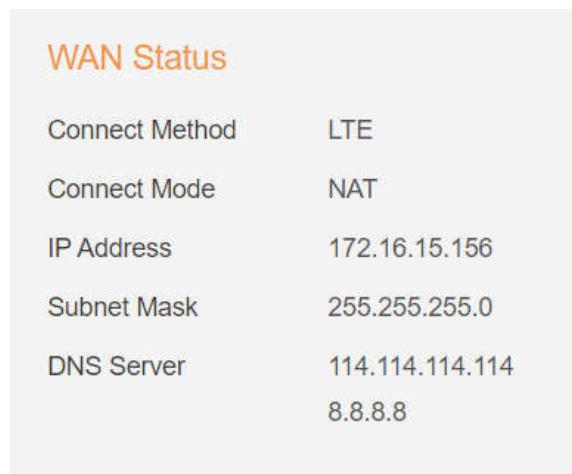
LTE Status	
Status	Connected
Operator	Baicells
Mode	TDD
Cell ID	58
RSRP0	-98 dBm
RSRP1	-131 dBm
RSRQ	-6 dB
SINR	26 dB

Figure 0-3

2.4 Viewing WAN Status

To view the WAN status, perform the following steps:

1. Choose **Overview**;
2. In the **WAN Status** area, view the information about Connect Mode, IP, Subnet Mask, DNS Server and so on. As shown in Figure 2-4.



WAN Status	
Connect Method	LTE
Connect Mode	NAT
IP Address	172.16.15.156
Subnet Mask	255.255.255.0
DNS Server	114.114.114.114 8.8.8.8

Figure 2-4

3 Statistics

3.1 Viewing CPU Usage

To view the CPU usage, perform the following steps:

1. Choose **Statistics**;
2. In the **CPU Usage** area, view the CPU usage information, such as Current CPU usage, Max CPU usage, Min CPU usage. As shown in Figure 3-1.

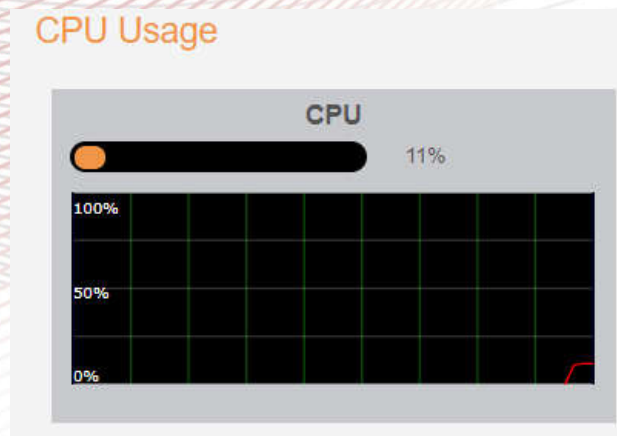


Figure 3-1

3.2 Viewing Memory Usage

To view the memory usage, perform the following steps:

1. Choose **Statistics**;
2. In the **Memory Usage** area, view the memory usage information, such as Total memory, Current memory usage, Max memory usage and Min memory usage. As shown in Figure 3-2.

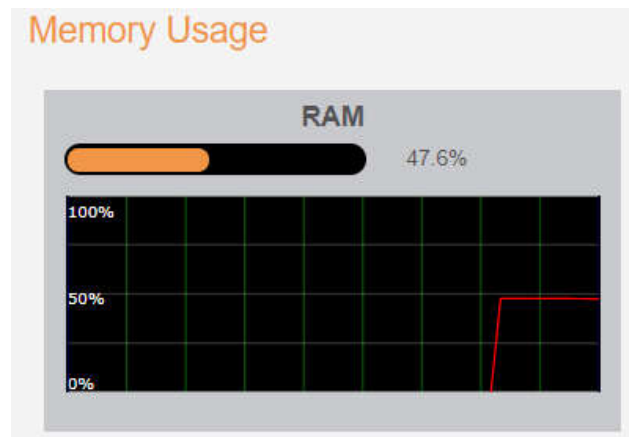


Figure 3-2