

**JATONTECH JT8500D JT8500H  
LTE-A Pro CAT15 Outdoor CPE  
Administrator User Manual V1.0**



## **PLEASE READ THESE SAFETY PRECAUTIONS!**

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This device complies with part 96 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.

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 96 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.

### RF Exposure Information (MPE)

This device has been tested and meets applicable limits for Radio Frequency (RF) exposure.

This equipment should be installed and operated with minimum distance 32 cm between the radiator & your body.

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## 1. Overview

JATONTECH 8500D/H(JT8500D/H) is highly advanced TDD LTE-A Pro CAT15 outdoor data unit specially designed to meet the most challenging demands of today’s high speed wireless backhaul and fixed wireless access deployments by the CBRS 4G service operators. The unit can support multiple TDD band operations. Multiple operator network support can also be provisioned on the unit to allow the deployment across entire country with different operators.

### ■ User Interface Specification

Model	Description & User Interface
JT8500D JT8500H	<ul style="list-style-type: none"> <li>- Panel antenna:                             <ul style="list-style-type: none"> <li>- JT8500D 14dBi</li> <li>- JT8500H 17dBi</li> </ul> </li> <li>- 1 RJ45 10/100/1000M LAN Port</li> <li>- PWR, SYS, SIM, LINK, ACT, and LTE (1-5) LEDs</li> <li>- 48V/0.5A PoE supply, ODU Power &lt;15 Watts</li> <li>- Dimensions: 250 mm (L) × 250 mm (W) × 75 mm (D)</li> <li>- Weight: &lt;2.5 Kg</li> </ul>

## 2. Getting Started

### 1) Packing list

Upon receiving the product, please unpack the product package carefully. Each product is shipped with the following items:

**Table 2-1 Packing List**

Outdoor CPE Products	Quantity
ODU unit	1
PoE adapter	1
Power cord	1
Mounting brackets	1
PC Ethernet Cable	1

If you find any of the items is missing, please contact our local distributor immediately.

### 2) Unpacking the Equipment

Table 2-1 lists all the standard parts that are supplied in your LTE CPE Unit Installation Package. Please take the time to unpack the package and check its contents against this list.



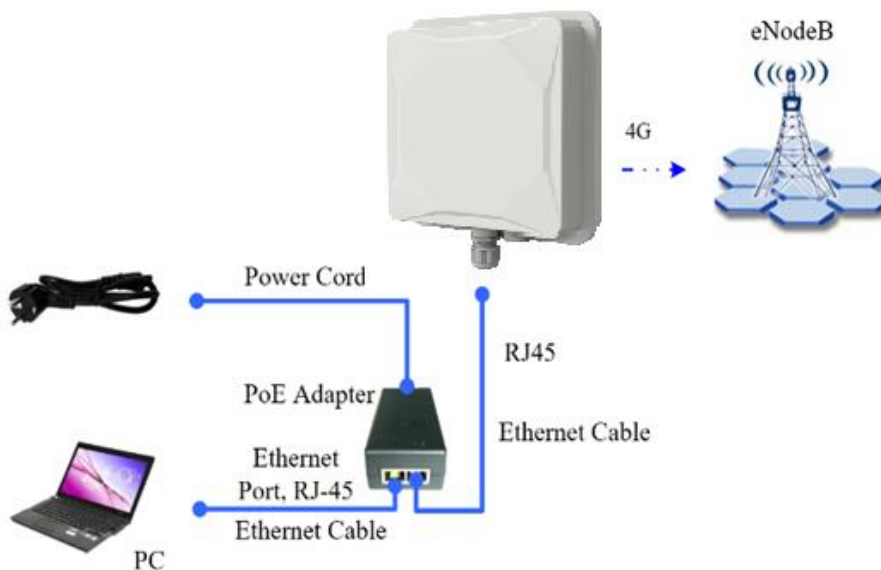
### 3) Installing the Equipment

#### ■ Device Logic connection

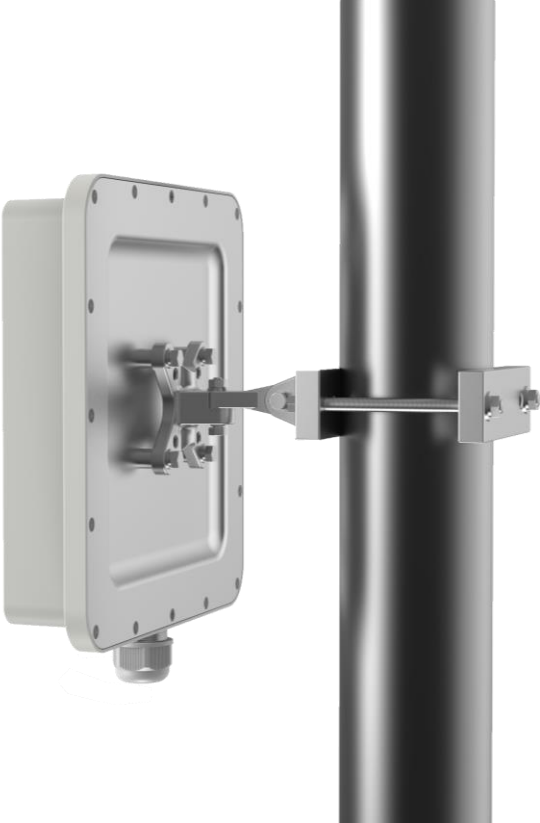
For outdoor CPE product, it is suggested that the CPE device be installed in a shaded area to avoid direct sun light exposure which may cause over heat in certain extreme weather condition.

To power on the device, the outdoor CPE must use a 48V PoE integrated DC power supply adapter. The power adapters can operate in 100-240V AC range and therefore can be used in different country. Once the device is powered up, the user should wait for about 1 minutes before the device becomes operational. When the RF1 LED becomes blinking green, it indicates the system has completed the startup procedure.

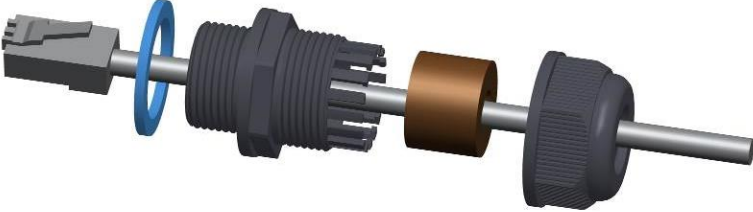
To connect PC, LAN switch or other type of IP device to the CPE product, the user should use SFTP CAT5E Ethernet cable and connect to the appropriate LAN port. Once connected, the ETH LED indicator should come on.



■ **Installing Mounting brackets**



■ **Header Connection**



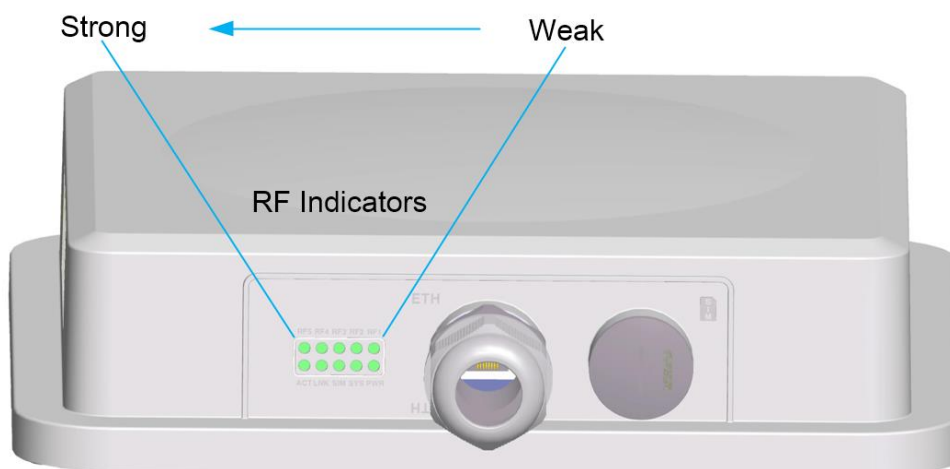
## 2 LED Display

Type	LED	Function	Description
ODU	PWR	Power indicator	Solid Blue – Device is power on.
	SYS	System run indicator	Solid Blue – Device is in normal operation.
	SIM	SIM card indicator	Light is on – SIM card state is ready, Blinking Blue – SIM card is error.
	LINK	LAN port status	Solid Blue – LAN port is up.
	ACT	LAN port status	Blinking Blue – LAN data transmission.
	RF (5LEDs)	RF Signal Strength	5 level signal strengths indication by 5 Blue LEDs. 1st Blue LED: $-115\text{dBm} < \text{RSRP}$ 2nd Blue LED: $-115\text{dBm} \leq \text{RSRP} < -105\text{dBm}$ 3rd Blue LED: $-105\text{dBm} \leq \text{RSRP} < -95\text{dBm}$ 4th Blue LED: $-95\text{dBm} \leq \text{RSRP} < -85\text{dBm}$ 5th Blue LED: $-85 \leq \text{RSRP}$

### ■ RF Signal Adjustment

After the CPE outdoor unit has installed, the direction of antenna’s azimuth and pitch angle needs to adjust for the best signal strength. In near line of sight condition, the CPE will have the best signal when the antenna is directly pointing the base station.

User can adjust the holder to change the direction and angle of the antenna while observing the RF LED on the outdoor unit which indicates the signal strength.





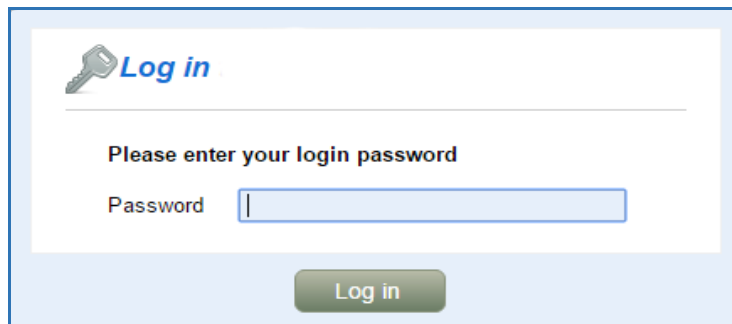
## 3 Managing CPE Device

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JT8500D/H is a user-friendly LTE CPE, and very easy to configure and setup. Subscribers can just connect the device to their computer or home switch/router and the device is ready to provide Internet Services.

### ■ WEB Login

It is preferred to setup the CPE using a Web browser from a local PC connected to device LAN port. The user should ensure that the connected PC has acquired IP address via DHCP from the device. After IP connectivity is established between the PC and CPE device, the user may launch a Web browser and specify <http://10.1.1.1> in the address bar. A window will pop up requesting password. Input the user or administrator login password and then click the “Log in” button. After successful log on, the default home page will appear. Note the default user & administrator passwords are “user123” and “admin123” respectively.



## 4 LTE Configuration

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### ■ Overview

Once the user is logged in, the following window device status window will be prompted for viewing. It contains both the system information, networking and device information configured for the device.

LTE

[Logout](#) [Reboot](#)

Overview
NDS
PLMN Settings
Cell Selection
PDN Settings
SIM Card
Advanced
Command Shell
admin

**LTE Information**

**System Information**

Manufacturer	
Model Name	
Chip Model	GDM7243A
Serial Number	
IMEI	
IMSI	
Supported Band	48
Firmware Version	0.3.3.9

**Radio Information**

RSRP	-102.9 / -104 / -105.3 / -103.1 dBm
	-139.2 / -126.6 / -130.5 / -136.8 dBm
RSSI	-77.2 / -78.3 / -79.6 / -77.5 dBm
	-103.1 / -99.2 / -100.8 / -103.2 dBm
RSRQ	-5.9 / -6 / -6.1 / -6 dB
	-16.6 / -7.8 / -10.1 / -13.8 dB
SINR	24 dB
CINR	24.2 dB
CQI	0
Rank Indication	2
Transmit Mode	TM2
Band ID	48
UL/DL Bandwidth	20000 / 20000 KHz
UL/DL Earfcn	55340 / 55340
UL/DL MCS	QAM16(14) / QAM16(5)
RRC State	active
EMM State	registered home
C-RNTI	0
PCI	222
eNB ID	3911
Cell ID	42
ECI	00F472A
Total TxPower	-8.6 dBm
UL/DL Throughput	2.07 kbps / 680 bps
UL/DL Max Throughput	3.97 kbps / 680 bps

**Connection**

Media State	ATTACHED
Connection Time	23 sec
SIM Card State	Ready
Network Description	internet.mnc088.mcc460.gprs
PDN type	IPv4
Registered PLMN	46088
IPv4 Address	10.14.100.205
IPv4 DNS	8.8.8.8
IPv6 Address	
IPv6 DNS	

**Activity**

Sent	305 bytes / 5 packets
Received	0 bytes / 0 packets

**Help**

**System Information:**  
This section shows the basic device 4G Radio hardware and firmware information.

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**Radio Information:**  
This section provides 4G LTE air interface related information.

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**Connection:**  
This section shows the status of radio and connection for 4G LTE.

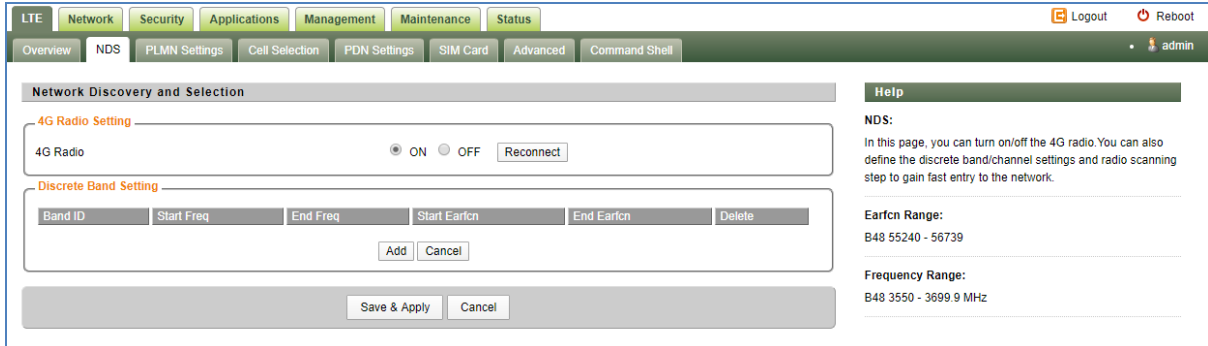
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**Activity:**  
Shows received and sent packet/byte statistics on WAN interface.

Page 10

## ■ ND&S Configuration

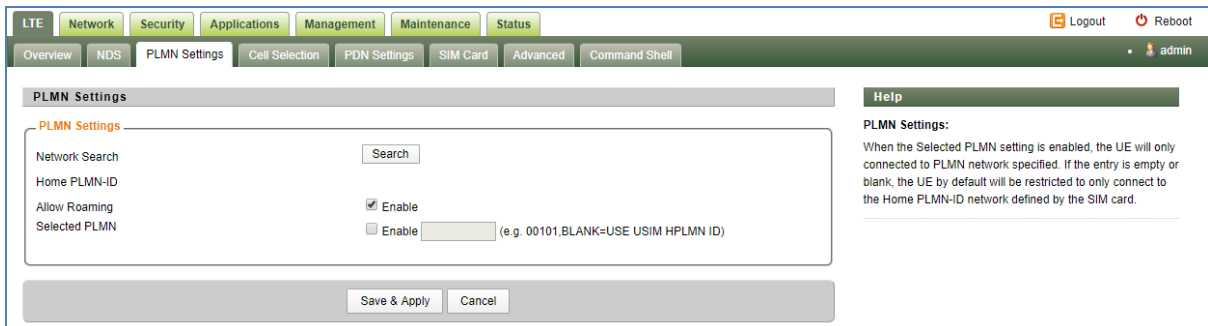
The LTE radio can be enabled or disabled via 4G Radio setting. The radio can also be reset via Reconnect.



**Note:** After configure any parameters of the device, you must click the “Save & Apply” button to save the configuration. Otherwise the configuration will not take effect.

## ■ PLMN Selection

The user can add and configure the PLMN list to restrict the CPE to attach. The CPE will attach to network according to the PLMN priority assigned.



## ■ Cell Selection

The cell selection menu is used to configure how CPE will select the best cell. User can configure the “Auto Select” mode to select cell based 3GPP standard. When configured with “preferred Listing”, user add the desired cell ID to the list and the CPE will attach to the appropriate cell after a full scan.

The screenshot shows the 'Cell Selection' configuration page. At the top, there are navigation tabs: LTE, Network, Security, Applications, Management, Maintenance, and Status. Below these are sub-tabs: Overview, NDS, PLMN Settings, Cell Selection, PDN Settings, SIM Card, Advanced, and Command Shell. The main content area is titled 'Cell Selection' and contains a 'Cell Selection' dropdown menu with options 'Auto Select', 'Auto Select', and 'Preferred Listing'. Below the dropdown are 'Save & Apply' and 'Cancel' buttons. A 'Sorted Cell List' section includes a 'Clear Last Found Channels' button and a table with columns: Index, Earfcn, PLMN, PCI, RSRP(dBm), RSRO(dB), RSSI(dBm), and SINR(dB). A 'Refresh Cell List' button is located at the bottom of this section. On the right side, there is a 'Help' section with the text: 'Cell Selection: Preferred Listing - UE will first scan the entire network and then decide to connect the most suitable cell according to the preference defined in the list'. Below the help text is the 'Earfcn Range: B48 55240 - 56739'.

## ■ PDN Setting

This menu is used to configure the operator APN profile. You can configure single or multiple APNs for the operator network. The below shows an example of two APN configuration.

The screenshot shows the 'PDN Settings' configuration page. It features the same navigation structure as the previous page. The main content area is titled 'PDN Settings' and contains a 'PDN List' table with columns: Index, APN Name, Class ID, IP Type, Auth, Username, Password, Priority, and Delete. Below the table are 'Add' and 'Cancel' buttons. At the bottom of the main area are 'Save & Apply' and 'Cancel' buttons. On the right side, there is a 'Help' section with the text: 'PDN Settings: In this page, you can define up to 4 PDN settings for bearer. Length of APN name should not exceed 64 bytes.'

You can view the APN status info in the Status menu.

## ■ SIM Card

The SIM card menu is used to view the SIM card status and perform PIN code management for SIM card. You disable or enable the SIM card PIN check on the CPE to bind the SIM card inserted.

The screenshot shows the 'SIM Card' configuration page. It features the same navigation structure. The main content area is titled 'SIM Card' and is divided into three sections: 'SIM Card Information', 'PIN Management', and 'SIM PLMN'. The 'SIM Card Information' section shows 'SIM Card State: Ready', 'RETRIES PIN: 3', and 'PIN Check Enabled: OFF'. The 'PIN Management' section has an 'Enable PIN' dropdown menu and a 'PIN Code' input field with a red warning 'Remaining PIN 3 RETRIES'. The 'SIM PLMN' section has an 'Enable' checkbox and a table with columns: Index, MCC, MNC, and Delete. Below the table are 'Add' and 'Cancel' buttons. At the bottom of the main area are 'Save & Apply' and 'Cancel' buttons. On the right side, there is a 'Help' section with the text: 'SIM Card Information: This section shows the current SIM card status information. PIN/PUK Management: For SIM card with disabled PIN, you can enable the SIM card PIN function by entering the current PIN code and set a new PIN code. The PIN code length is 4-6 digits. If a new SIM card (with PIN code enabled) is placed for use, the CPE will require user to manually enter the PIN code via WEB GUI to get CPE connected to the network first time. But as long as the SIM card is not changed, the CPE will not ask for PIN code again even the unit reboots. User is allowed to enter the correct PIN code up to three times. After three attempts, the SIM will be locked out of use. The user is required to enter the PUK code manually via WEB GUI to unlock the SIM card. The PUK code length is 8-12 digits. SIM PLMN Restriction: In this section, you can enable the PLMN restriction check on the SIM card. If the SIM card Home PLMN is not defined in the list provisioned, the SIM card will not be authorized to use by the CPE and wireless connection will be defined.'

## ■ Advanced

In this menu, you can configure advanced options for the CPE operation.

Fast scan will allow you to quickly connect to good cell when they are first found instead of search the best cell. The ZUC encryption support is only required when your core network (EPC) force to use the ZUC encryption for access authentication. The operation mode allows you to select the UE capability for receiving and transmitting.

In addition, the PSM timer and location service UE settings can also be configured for advanced users. Default settings should be used for normal operation.

The screenshot displays the 'Advanced' configuration page in the JATON TECH LTE management interface. The navigation bar at the top includes tabs for LTE, Network, Security, Applications, Management, Maintenance, and Status. The 'Advanced' tab is selected, and the 'Command Shell' option is visible. The main content area is divided into several sections:

- Fast Scan Settings:** A checkbox for 'Fast Scan' is currently disabled.
- QAM64 Settings:** A checkbox for 'Uplink QAM64' is checked and enabled.
- ZUC Support:** A checkbox for '128-EEA3/EIA3' is currently disabled.
- Operation Mode:** Two checkboxes are present: 'Uplink CDD' (checked and enabled) and 'UE Max TX' (disabled).
- PSM Timer:** A checkbox for 'Mode' is disabled. Below it, two rows of settings are shown:
 

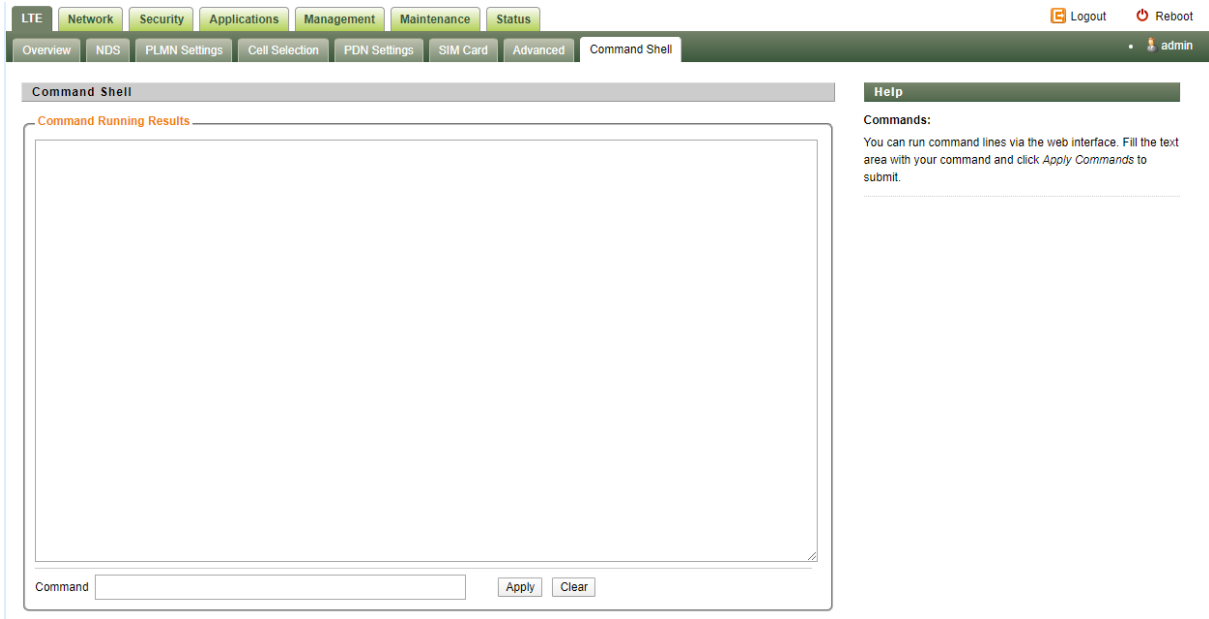
T3324	20	2 seconds
T3412	1	10 hours

At the bottom of the settings area are 'Save & Apply' and 'Cancel' buttons. On the right side, a 'Help' section provides additional information:

- ZUC Support:** Optional setting to support ZUC 128-EEA3/EIA3 encryption.
- PSM Timer:** Power Save Management Timer.
- T3324:** Once expired, the UE goes power saving mode and will not listen to paging but remain registered in the network. The default setting is 2 seconds.
- T3412:** Once expired, the UE will perform Tracking Area Update. The default setting is 10 hours.

## ■ Command Shell

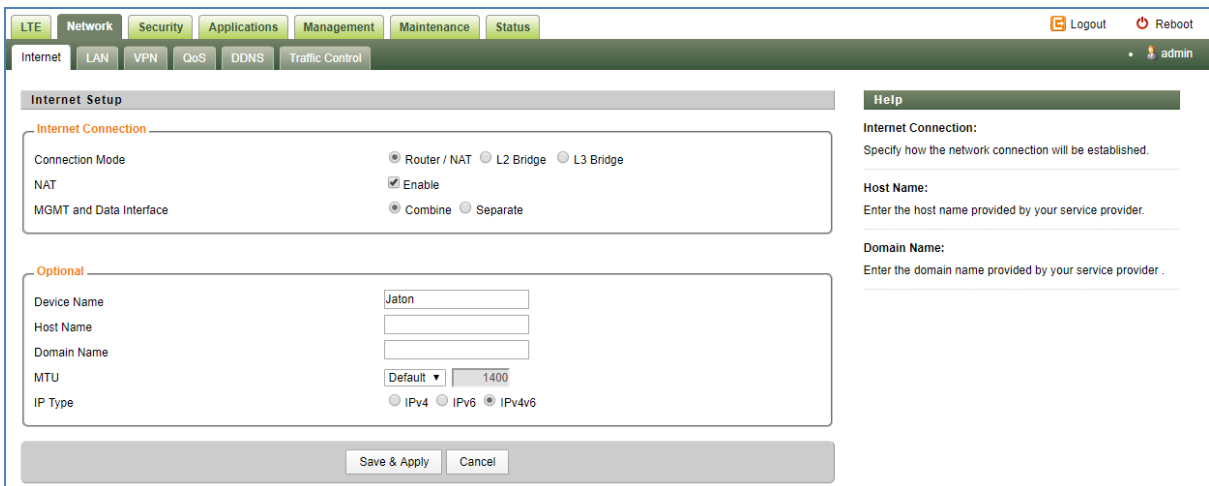
The Command Shell is used to run LTE command via the WEB GUI interface. You can type the command and click the APPLY button to execute.



## 5 Network Configuration

### ■ Internet

This section allows user to configure the CPE operation mode, device name, MTU and etc. The CPE default Operation Mode is Router, and the LAN PC connected to device LAN port will obtain IP address via DHCP server of the device. The default MTU Size is 1500, user can modify the MTU Size if necessary.



Note when setting the connection mode as L2 Bridge or L3 Bridge, there will be a warning window pops up. Remember the management IP address 192.168.0.1 and click the “ok” button.

When the user wants to manage the home page again, the PC should be configured a static IP address as 10.1.1.X manual in order to visit the CPE managing page <http://10.1.1.1>.

## ■ LAN Setting

The LAN setting allows user to specify the device LAN IP, DHCP server setting, Local DNS and etc. When Router mode is selected, the DHCP server should be enabled by default.

User is advised to leave the default setting unchanged for quick configuration and smooth device operation.

The screenshot shows a web-based configuration interface for LAN settings. At the top, there are navigation tabs for LTE, Network, Security, Applications, Management, Maintenance, and Status. Below these are sub-tabs for Internet, LAN, VPN, QoS, DDNS, and Traffic Control. The main content area is titled 'LAN Setup' and contains several sections:

- Link MaxBitRate & Duplex:** Includes a 'Reset' button, a 'LAN Reset' label, a 'Duplex' dropdown menu set to 'Auto', and a 'Max Bit Rate' dropdown menu set to 'Auto'.
- Device IP:** Contains input fields for 'Local IP Address' (192, 168, 0, 1), 'Subnet Mask' (255, 255, 255, 0), and 'Local DNS'.
- Network Address Server Settings (DHCP):** Includes checkboxes for 'DHCP Server' and 'DNS Proxy' (both checked), and input fields for 'Min IP Address' (192.168.0, 100), 'Max IP Address' (192.168.0, 254), 'Client Lease Time' (86400 seconds), and 'WINS Server' (0, 0, 0, 0).
- DHCP Static Leases Map:** A table with columns for Index, IP Address, and MAC Address. It shows five rows, each with an index from 1 to 5 and a default IP address of 192.168.0.
- Deny IP Address:** A table with columns for Index, IP Address, and Delete. It includes 'Add' and 'Cancel' buttons.
- Router Settings:** A table with columns for Index, Destination IP, Route Subnet Mask, Gateway, and Delete. It also includes 'Add' and 'Cancel' buttons.

At the bottom of the page, there are 'Save & Apply' and 'Cancel' buttons. On the right side, there is a 'Help' sidebar with the following text:

- Link MaxBitRate & Duplex:** In this page, you can configure Max Bit Rate and Duplex Negotiation.
- Local IP Address:** This is the address of the device.
- Subnet Mask:** This is the subnet mask of the device.
- DHCP Server:** Allows the device to manage your IP addresses.
- Start IP Address:** The address you would like to start with.
- Deny IP Address:** IP address that device will refuse to grant access.

## ■ VPN Setting Under Router Mode

This section allows user to configure VPN service for selected connection mode. In router mode, PPTP, L2TP and GRE can be selected. In L2 Bridge mode, only L2 GRE can be configured.

The router mode VPN configuration is shown below.

The PPTP configuration under router mode is shown below.



The L2TP configuration under router mode is shown as follows.

The screenshot shows the 'VPN Setup' configuration page. The 'VPN Protocol' is set to 'L2TP'. The 'L2TP' section contains the following fields and values:

- L2TP State: Disconnected
- L2TP IP Address: [Empty]
- Host Name: [Empty]
- User Name: [Empty]
- Password: [Empty]  Unmask
- L2TP Server: [Empty]
- L2TP MTU: 1310
- L2TP MRU: 1310
- Require CHAP:  Yes
- Refuse PAP:  Yes
- Require Authentication:  Yes
- Connection Strategy: Keep Alive
- Redial Period: 60 Second.

Buttons at the bottom: Save & Apply, Cancel.

The L2 GRE configuration under router mode is shown below.

The screenshot shows the 'VPN Setup' configuration page with 'GRE' selected as the protocol type. The 'GRE' section contains the following fields and values:

- GRE Destination IP Address: [Empty]
- Host IP Address: [Empty]
- Remote IP Address: [Empty]
- Remote Private IP Address: [Empty] / 24

Buttons at the bottom: Save & Apply, Cancel.

■ **VPN Setting Under L2 Bridge Mode**

Under the L2 Bridge connection mode, only L2 GRE can be configured as follows.

The screenshot shows the 'VPN Setup' configuration page. The 'VPN Protocol' is set to 'GRE'. The 'GRE Destination IP Address' field is empty. The 'Help' section states: 'Protocol Type: In this page, you can configure the VPN services for PPTP, L2TP and GRE.' The page includes 'Save & Apply' and 'Cancel' buttons at the bottom.

■ **L2 Service Under L2 Bridge Mode**

Under the L2 Bridge connection mode, the user can use L2 Service configuration to manage and tag 802.1p or DSCP for different VLAN packets.

The screenshot shows the 'L2 Service Configuration' page. Under 'ETH User VLAN Setting', both 'Enable untagged L2 user traffic' and 'Enable tagged L2 user traffic' are checked. The 'Encapsulation DSCP' is set to 0. The 'Classification criterias list' table is empty. The 'Help' section states: 'VLAN Configuration: In this page, you can configure tagged and untagged VLAN data passthrough settings. Meanwhile you can define classification criterias' priority, VLAN ID, 802.1P or DSCP, and encapsulation DSCP corresponding to VLAN ID.' The page includes 'Save & Apply' and 'Cancel' buttons at the bottom.

■ **QoS Setting**

This configuration menu allows user to tag DSCP or TOS value for CPE local data (Management) and LAN port data (Data).

**Quality Of Service (QoS)**

**DSCP Configuration**

MGMT DSCP  Enable ID 0 (0~63)

Data DSCP  Enable ID 0 (0~63)

**TOS Configuration**

MGMT TOS  Enable ID 0 (0~255)

Data TOS  Enable ID 0 (0~255)

**Help**

**DSCP Configuration:**  
In this page, you can configure data classification for DSCP and TOS.

Save & Apply Cancel

■ **DDNS Setting Under Router Mode**

This configuration menu allows user to configure use of different DDNS service for router mode operation.

**Dynamic Domain Name System (DDNS)**

**DDNS**

DDNS Service

User Name

Password

Host Name

Type

Wildcard

**DDNS Status**

Status ddnsm.all\_disabled

Internet IP Address 10.11.102.35

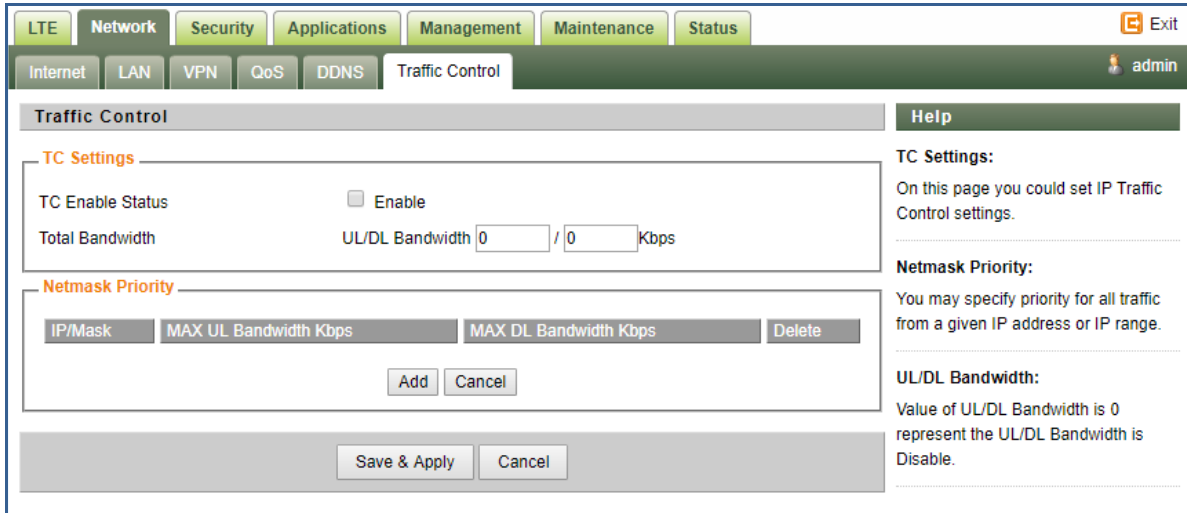
**Help**

**DDNS Service:**  
DDNS allows you to access your network using domain names instead of IP addresses. The service manages changing IP address and updates your domain information dynamically. You must sign up for service through TZO.com or DynDNS.org.

Save & Apply Cancel

■ **Traffic Control Setting Under Router Mode**

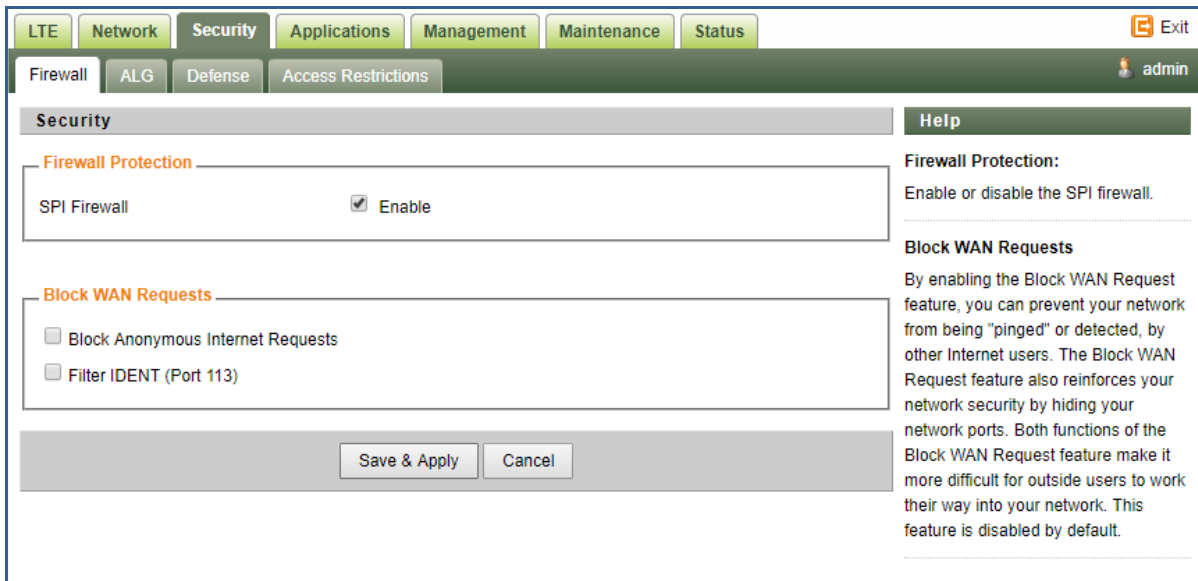
This configuration menu allows user to configure the data priority and allowed bandwidth for LAN data traffic.



## 6 Security Configuration

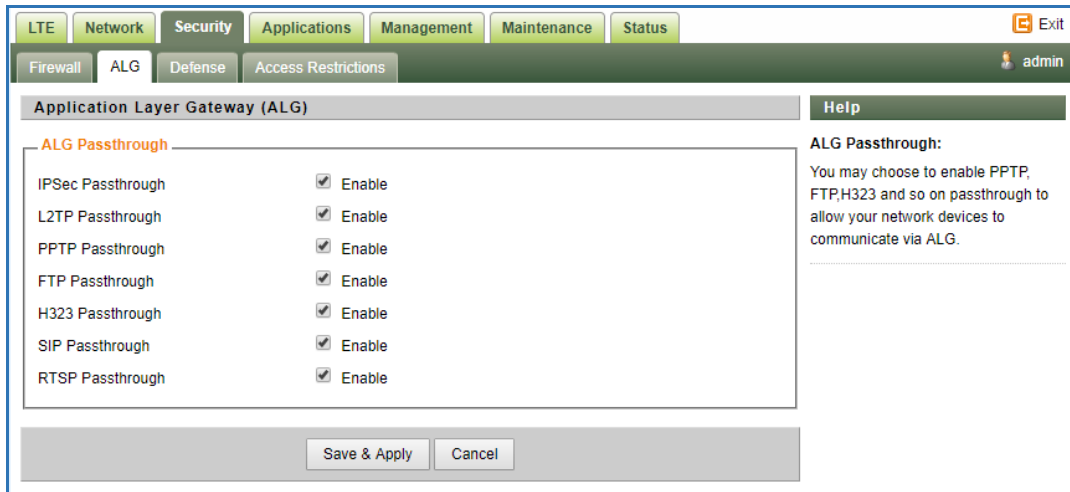
■ **Firewall**

This allows user to configure CPE firewall.



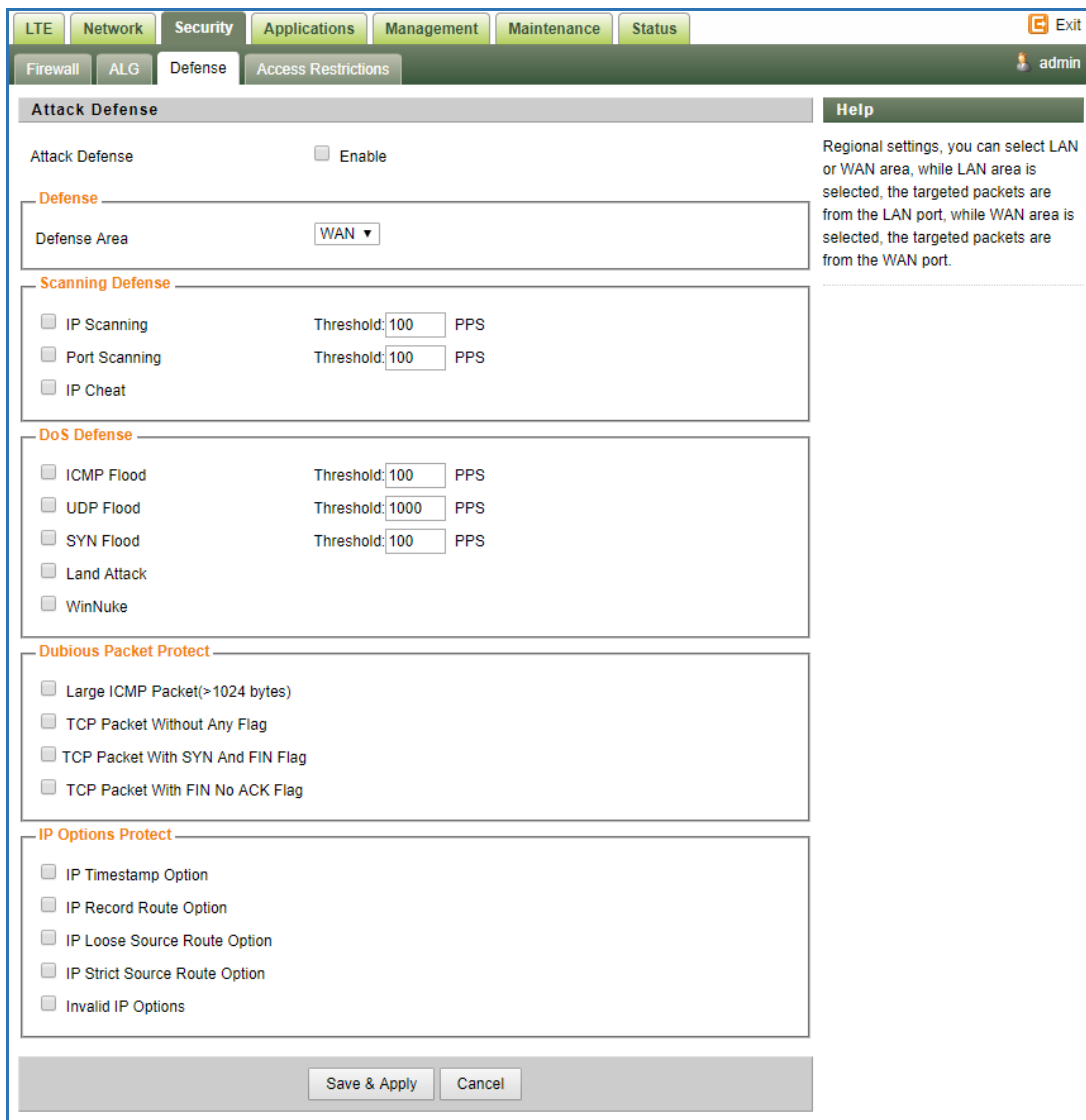
■ **ALG**

This allows user to configure the application level gateways for many common applications.



## ■ Defense

This allows user to configure defense policy for the LTE and local LAN interface to prevent hostile attack.



## ■ Access Restrictions

This allows user to define access policy for LAN devices. It can support URL blocking as well.

LTE
Network
Security
Applications
Management
Maintenance
Status
Exit

Firewall
ALG
Defense
Access Restrictions
admin

**Access Restrictions**

Filter Access  Enable

**Access Policy**

Policy: 1 ▼ Delete Summary

Status:  Enable  Disable

Policy Name:

PCs: Edit List of PCs

Deny Internet access during selected days and hours.

Allow

**Days:**

Everyday

Week:  Sun  Mon  Tue  Wed  Thu  Fri  Sat

**Times:**

24 Hours

From:  12:00 AM To: 12:00 AM

**Blocked Services**

Catch all P2P Protocols

P2P Protocol1: None ▼  ~

P2P Protocol2: None ▼  ~

P2P Protocol3: None ▼  ~

P2P Protocol4: None ▼  ~

Add/Edit Service

**Website Blocking by URL Address**

**Help**

**Access Restrictions Policy:**  
You may define up to 10 access policies. Click *Delete* to delete a policy or *Summary* to see a summary of the policy.

---

**Status:**  
Enable or disable a policy.

---

**Policy Name:**  
You may assign a name to your policy.

---

**Days:**  
Choose the day of the week you would like your policy to be applied.

---

**Times:**  
Enter the time of the day you would like your policy to apply.

---

**Blocked Services:**  
You may choose to block access to certain services. Click *Add/Edit Service* to modify these settings.

---

**Website Blocking by URL:**  
You can block access to certain websites by entering their URL.

---

**Website Blocking by Keyword:**  
You can block access to certain website by the keywords contained in their webpage.

Save & Apply
Cancel

## 7 Applications Configuration

### ■ Port Range Forwarding

This allows user to configure the port range forwarding rules for the CPE in router mode.

The screenshot shows the 'Port Range Forwarding' configuration page. At the top, there are navigation tabs: LTE, Network, Security, Applications (selected), Management, Maintenance, and Status. Below these are sub-tabs: Port Range Forwarding (selected), Port Forwarding, DMZ, UPnP, and Port Triggering. The page title is 'Port Range Forwarding'. On the right, there is a 'Help' section with the following text: 'Port Range Forwarding: Certain applications may require to open specific ports in order for it to function correctly. Examples of these applications include servers and certain online games. When a request for a certain port comes in from the Internet, the device will route the data to the computer you specify. Due to security concerns, you may want to limit port forwarding to only those ports you are using, and uncheck the *Enable* checkbox after you are finished.'

The main configuration area is titled 'Forwards' and contains a table with the following columns: Application, Start, End, Protocol, IP Address, Enable, and Delete. Below the table are 'Add' and 'Cancel' buttons. At the bottom of the configuration area are 'Save & Apply' and 'Cancel' buttons.

### ■ Port Forwarding

This menu allows user to configure the port forwarding rules for the CPE in router mode.

The screenshot shows the 'Port Forwarding' configuration page. At the top, there are navigation tabs: LTE, Network, Security, Applications (selected), Management, Maintenance, and Status. Below these are sub-tabs: Port Range Forwarding, Port Forwarding (selected), DMZ, UPnP, and Port Triggering. The page title is 'Port Forwarding'. On the right, there is a 'Help' section with the following text: 'Port Forwarding: Certain applications may require to open specific ports in order for it to function correctly. Examples of these applications include servers and certain online games. When a request for a certain port comes in from the Internet, the device will route the data to the computer you specify. Due to security concerns, you may want to limit port forwarding to only those ports you are using, and uncheck the *Enable* checkbox after you are finished.'

The main configuration area is titled 'Forwards' and contains a table with the following columns: Application, Port from, Protocol, IP Address, Port to, Enable, and Delete. Below the table are 'Add' and 'Cancel' buttons. At the bottom of the configuration area are 'Save & Apply' and 'Cancel' buttons.

## ■ DMZ

This menu allows user to configure the DMZ setting for CPE in router mode. Web server, Telnet/SSH and Ping Service port can be exempted from DMZ mapping if required. By enabling DMZ option will make the specified local LAN host (DMZ IP) exposed to Internet.

The screenshot shows the 'Demilitarized Zone (DMZ)' configuration page. The navigation menu includes LTE, Network, Security, Applications, Management, Maintenance, and Status. The sub-menu includes Port Range Forwarding, Port Forwarding, DMZ, UPnP, and Port Triggering. The main content area is titled 'Demilitarized Zone (DMZ)' and contains a 'DMZ' section with the following settings:

- DMZ Enable Status:  Enable
- DMZ Host IP Address: 192.168.0.
- Exclude Web Server Port:  Enable
- Exclude Telnet/SSH Port:  Enable
- Exclude Ping Service:  Enable

At the bottom of the form are 'Save & Apply' and 'Cancel' buttons. A 'Help' section on the right explains: 'DMZ: Enabling this option will expose the specified host to the Internet. All ports will be accessible from the Internet.'

## ■ UPnP

This menu allows user to configure the uPnP application for on-demand "DMZ" support. The current forwarding rules created can be viewed and cleared if required.

The screenshot shows the 'Universal Plug and Play (UPnP)' configuration page. The navigation menu is the same as in the DMZ page. The sub-menu includes Port Range Forwarding, Port Forwarding, DMZ, UPnP, and Port Triggering. The main content area is titled 'Universal Plug and Play (UPnP)' and contains two sections:

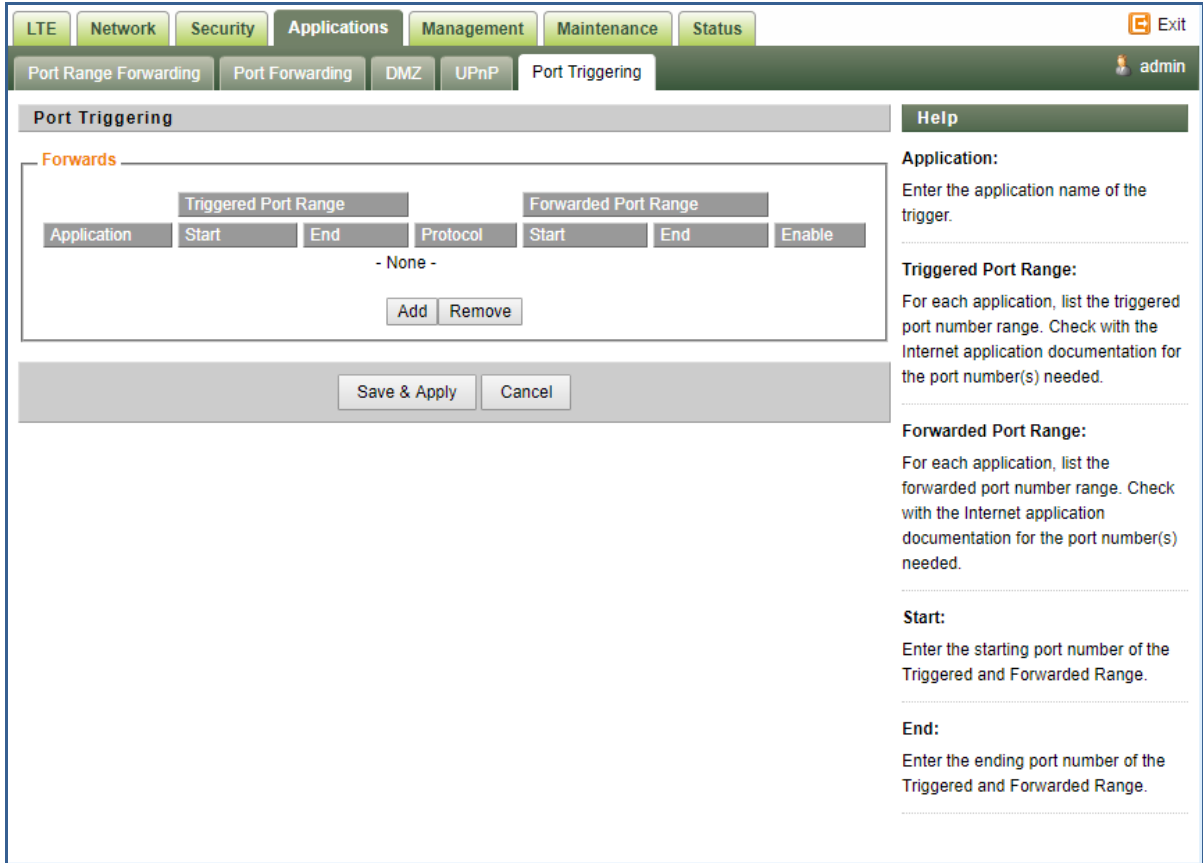
- Forwards:** A table with columns: Description, From (WAN), To (LAN), IP Address, Protocol, and Delete. The table is currently empty, showing '- None -'. Below the table are 'Delete All' and 'Auto-Refresh is On' buttons.
- UPnP Configuration:**
  - UPnP Service:  Enable
  - UPnP Notification Interval:  (30~600s)

At the bottom of the form are 'Save & Apply' and 'Cancel' buttons. A 'Help' section on the right explains: 'Forwards: Configure Port forwarding for UPnP. Click the delete to delete individual entry.' and 'UPnP Service: Allows applications to automatically setup port forwardings.'



■ **Port Triggering**

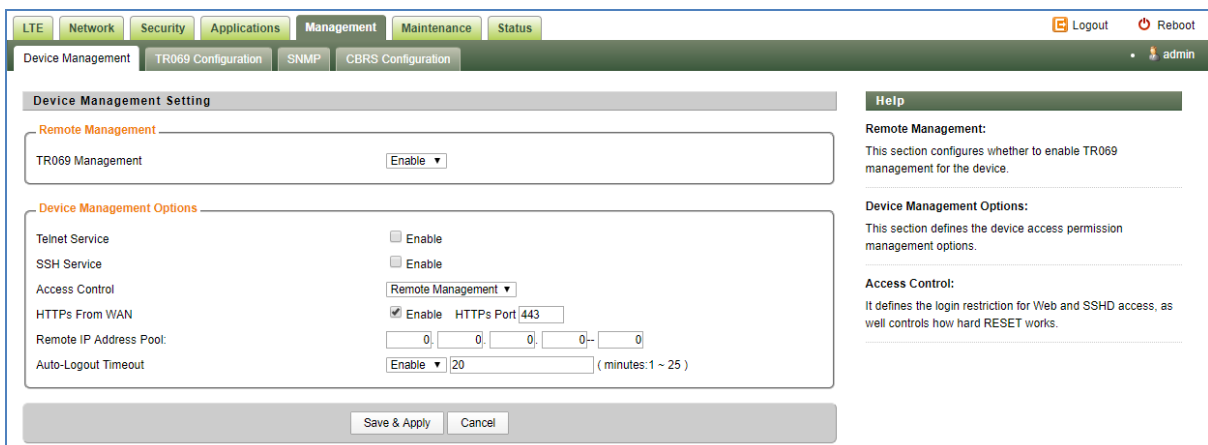
This menu allows user to configure forward certain port range to different port range for specific protocol.



## 8 Management

■ **Device Management**

The menu allows user to configure device management mode and various control. Telnet, SSH, and HTTPs can be enabled or disabled via configuration. Auto WEB GUI logout can also be configured.



When Telnet is enabled, user can telnet to CPE according to the below steps:

- cmd shell and run command:
- telnet 10.1.1.1
- Login: root
- Password: root123

## ■ TR069

The menu allows user to configure the necessary setting for TR069 management of the CPE device.

The screenshot shows the 'TR069 Management Setting' page. The top navigation bar includes tabs for LTE, Network, Security, Applications, Management (selected), Maintenance, and Status. Below this are sub-tabs for Device Management, TR069 Configuration (selected), SNMP, and CBRS Configuration. The page is divided into two main sections: 'TR069 Configuration' and 'ACS STUN Configuration'. The 'TR069 Configuration' section includes fields for ACS URL, ACS Username, ACS Password, Re-enter Password, Periodic Inform Enable (checked), Periodic Inform Interval (3600 seconds), Periodic Inform Time (2001-01-01T00:00:00), Connection Request Username, Connection Request Password, and Re-enter Password. The 'ACS STUN Configuration' section includes fields for STUN Enable Status (unchecked), Server Address, Server Port (3478), Username, Password, Re-enter Password, Minimum Keep Alive Period (10 seconds), and Maximum Keep Alive Period (90 seconds). At the bottom, there are buttons for 'Save & Apply', 'Cancel', and 'Connect ACS'. A 'Help' section on the right provides additional information about the TR069 Configuration.

## ■ CBRS Configuration

The menu allows user to configure the necessary setting for CBRS SAS registration of the CPE device.

**CBRS Management Setting**

**CBRS Info**

CBSID SerialNumber: K6500DFA3FA  
 CBSID Category: CLASS B

**CBRS Configuration**

Test Mode:  Enable  
 CPI Registered:  Enable  
 Single Registered:  Enable  
 SAS URL:

**CBRS CPI Data**

Protected Header:   
 Encoded CPI Signed Data:   
 Digital Signature:

Save & Apply    Cancel

**Load CBRS Certificate**

CBSID Certificate:  No file chosen  
 CBSID Certificate already exists

CBSID Key:  No file chosen  
 CBSID Key already exists

SAS CA Certificate:  No file chosen  
 CBSID SAS CA Certificate already exists

Status:

Load

**Help**

**CBRS Configuration**

This part contains CBRS Class B device related configurations for SAS registration.

## ■ SNMP

The menu allows user to configure the SNMP setting.

**SNMP**

SNMP Agent:  Enable  
 Read-Only Community:   
 Read-Write Community:   
 Agent Port:

Save & Apply    Cancel

**Help**

**SNMP:**  
 Simple Network Management Protocol.

**Read-Only Community:**  
 Enables a remote host to retrieve 'read-only' information from this device.

**Read-Write Community:**  
 Used in requests for information from a remote host and to modify settings on this device.

**Agent Port**  
 The listening UDP port number on this device.

## 9 Maintenance

### ■ General

The menu allows user to configure the WEB GUI login password, time and language setting.

### ■ Firmware Upgrade

This menu allows user to perform firmware upgrade via WEG GUI with option to reset to factory setting. It can also configure the remote upgrade using FTP, TFTP or HTTP.

### ■ Config Management

This menu allows user to backup or restore device configuration file.

The screenshot shows the 'Backup Configuration' page. At the top, there are navigation tabs: LTE, Network, Security, Applications, Management, Maintenance, and Status. Below these are sub-tabs: General, Firmware Upgrade, Config Management, Ping, TraceRoute, Iperf, and System Reset. The main content area is divided into two sections: 'Backup Configuration' and 'Restore Configuration'. The 'Backup Configuration' section has a 'Backup Settings' box with the instruction 'Click the "Backup" button to download the configuration backup file to your computer.' and a 'Backup' button. The 'Restore Configuration' section has a 'Restore Settings' box with the instruction 'Please select a file to restore' and a 'Choose File' button. Below this is a 'WARNING' box with the text: 'Only upload files backed up using this firmware and from the same model of device. Do not upload any files that were not created by this interface!' and a 'Restore' button. On the right side, there is a 'Help' section with 'Backup Settings' and 'Restore Settings' instructions.

## ■ Ping

This menu allows user to perform PING tests using WEB GUI interface. Both IPv4 and IPv6 can be supported.

The screenshot shows the 'Ping Test' page. It features the same navigation structure as the previous page. The main content area has a 'Ping Test' section with a form. The form includes an 'IP Protocol' section with radio buttons for 'IPv4' (selected) and 'IPv6'. Below this is a 'Ping' input field and a 'Start' button. A large empty box is provided for the test results. On the right side, there is a 'Help' section with 'Ping Test' instructions: 'The Ping test tool is used to check the network connectivity and latency. Enter the destination address and click on the start button to begin the Ping test.'

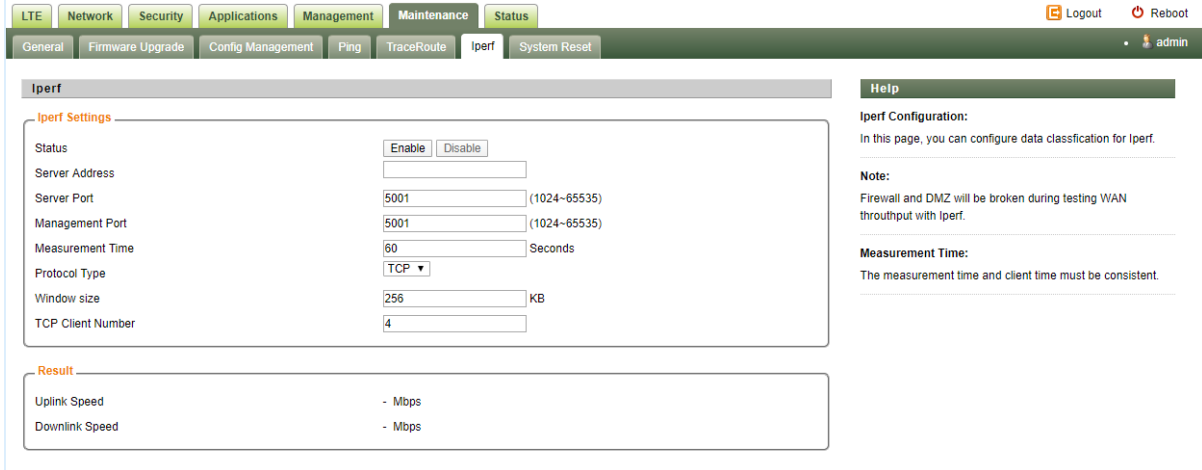
## ■ TraceRoute

This menu allows user to configure traceroute testing

The screenshot shows the 'TraceRoute Test' page. It features the same navigation structure. The main content area has a 'TraceRoute Test' section with a form. The form includes an 'IP Protocol' section with radio buttons for 'IPv4' (selected) and 'IPv6'. Below this are 'MaxHopCount' and 'IP Address or Domain Name' input fields, and a 'Start' button. A large empty box is provided for the test results. On the right side, there is a 'Help' section with 'TraceRoute' instructions: 'Traceroute is an important tool to detect the routing between the host and the destination host. Enter the ip address or domain name; and click on the start button to begin the traceroute test.'

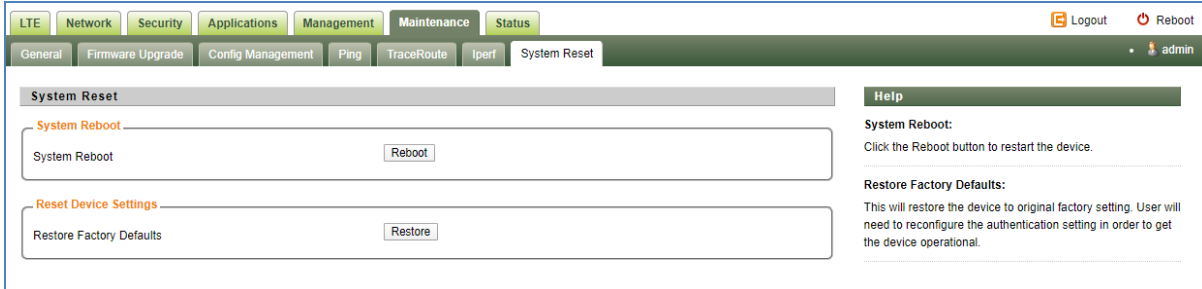
■ **Iperf**

This menu allows user to configure iPerf testing using WEB GUI interface. Both TCP and UDP tests can be supported. Remote iPerf server is required to conduct the tests.



■ **System Reset**

This menu allows user to reboot the device or restore the device to factory defaults. Special care needs to be taken when restoring factory defaults.



## 10 Status

■ **System**

The menu shows the general system info of the CPE device. It includes connection, system, CPE and memory usage information.

The screenshot displays the 'System' and 'Device Info' sections of the Jaton Tech web interface. The top navigation bar includes tabs for LTE, Network, Security, Applications, Management, Maintenance, and Status. The 'System' tab is active, showing various system parameters.

**Internet**

**Connection Info**

Login Type	LTE PDN
IP Address	10.14.100.205
Subnet Mask	255.255.255.255
DNS	8.8.8.8
IPv6 Address	
IPv6 DNS	

**Device Info**

**System**

Manufacturer	
Product Class	
Board Name	GDM7243A-ODU-C-B48
Hardware Version	
Firmware Version	
BootRom Version	-
MAC Address	
Host Name	
Domain Name	
Current Time	Tue 28 Apr 2020 09:16:08
Up Time	40 min
Load Average	0.01, 0.05, 0.10

**CPU**

CPU Model	GDM7243A R0A [0x72430400]
CPU Clock	400 MHz

**Memory**

Total Available	188084 kB / 262144 kB	
Free	133488 kB / 188084 kB	
Used	54596 kB / 188084 kB	
Buffers	0 kB / 54596 kB	
Cached	10788 kB / 54596 kB	
Active	9284 kB / 54596 kB	
Inactive	7200 kB / 54596 kB	

**Help**

**Connection Info:**  
This shows the information required by your ISP for connection to the Internet.

**Device Info:**  
This is the specific name for the device, which you set on the Setup tab.

**MAC Address:**  
This is the device's MAC Address, as seen by your ISP.

**Firmware Version:**  
This is the device's current firmware.

**Current Time:**  
This is the time, as you set on the Setup Tab.

**Up Time:**  
This is a measure of the time the device has been "up" and running.

**Load Average:**  
This is given as three numbers that represent the system load during the last one, five, and fifteen minute periods.

## ■ Network

The menu shows the general network status that includes PDN interface info, device routing info, and ARP table.

The screenshot displays the 'Network Status' section of the Jaton Tech web interface. The top navigation bar is the same as in the previous screenshot. The 'Network' tab is active, showing network-related information.

**Network Status**

**PDN Info**

APN	internet.mnc088.m
IP Address	10.14.100.205
DNS	8.8.8.8
IPv6 Address	
IPv6 DNS	

**Route**

Destination	Default Gateway	Genmask	Flags	Metric	Ref	Use	Iface
0.0.0.0	0.0.0.0	0.0.0.0	U	0	0	0	lte0pdn0
10.0.0.0	0.0.0.0	255.255.255.255	UH	0	0	0	lte0pdn0
10.1.1.0	0.0.0.0	255.255.255.0	U	0	0	0	br0
127.0.0.0	0.0.0.0	255.0.0.0	U	0	0	0	lo
192.168.0.0	0.0.0.0	255.255.255.0	U	0	0	0	br0

**ARP**

IP Address	HW type	Flags	HW Address	Mask	Device
192.168.0.71	0x1	0x2	ac:a2:13:6a:12:09	*	br0
10.1.1.71	0x1	0x2	ac:a2:13:6a:12:09	*	br0

**Help**

**PDN info:**  
When the wanprotol is PDN show PDN IP Map.

**Route:**  
The routing table information.

**ARP:**  
The ARP table information.

■ **LAN**

The menu shows the local LAN network status including the LAN interface and DHCP Server setting and current DHCP clients connected.

The screenshot shows the LAN configuration page. The navigation bar includes tabs for LTE, Network, Security, Applications, Management, Maintenance, and Status. The sub-navigation bar includes System, Network, LAN, and CBRS. The main content area is divided into three sections: Local Network, Dynamic Host Configuration Protocol, and DHCP Clients. A Help section is also present on the right side.

**Local Network**

**LAN Status**

MAC Address	
IP Address	192.168.0.1
Subnet Mask	255.255.255.0
Local DNS	
Port Status	Up
Speed / Duplex	100Mbps / Full
Sent(Errors/Dropped)	0 packets / 0 packets
Received(Errors/Dropped)	0 packets / 0 packets
RX CRC Errors	0 packets
Collisions	0 packets
Sent	2,681,535 bytes / 6,319 packets
Received	490,098 bytes / 5,938 packets

**Dynamic Host Configuration Protocol**

**DHCP Status**

DHCP Server	Enabled
Min IP Address	192.168.0.100
Max IP Address	192.168.0.254
Client Lease Time	86400 seconds

**DHCP Clients**

Host Name	IP Address	MAC Address	Expires
- None -			

**Help**

**MAC Address:**  
This is the device's MAC Address, as seen on your local, Ethernet network.

**IP Address:**  
This shows the device's IP Address, as it appears on your local, Ethernet network.

**Subnet Mask:**  
When the device is using a Subnet Mask, it is shown here.

**DHCP Server:**  
If you are using the device as a DHCP server, that will be displayed here.

**DHCP Clients:**  
It displays all the LAN devices that currently connected to the unit.

■ **CBRS**

The menu shows the CBRS status info.

The screenshot shows the CBRS status info page. The navigation bar includes tabs for LTE, Network, Security, Applications, Management, Maintenance, and Status. The sub-navigation bar includes System, Network, LAN, and CBRS. The main content area is divided into two sections: CBRS Status Info and Running Information. A Help section is also present on the right side.

**CBRS Status Info**

**CBSD status**

Registration State	Unregistered
Grant State	Idle
Report Time	2020-04-28 09:19:20 UTC
Protocol Running	Config Parameter Error
Grant Expire Time	
Transmit Expire Time	
Low Frequency Limit	
High Frequency Limit	
Max EIRP Limit	

**Running Information**

**Help**

**CBRS Status Info**  
This page contains CBRS registration and authorization info.



## 11 FAQ and Troubleshooting

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### 1) My PC cannot connect to the CPE.

- Re-plug the PC Ethernet cable and check if the PC LAN connection is up or showing activity.
- Check if the PoE power adapter LED is on. If it is not, check the power cord and make sure it is connected properly. Also verify that the AC power supply is available.
- If the PC LAN shows no activity and PoE adapter LED is off but the power cord is connected properly and there is AC supply, then it is likely the PoE adapter is damaged. Please contact distributor to obtain replacement part.

### 2) My PC cannot acquire IP from the CPE.

- First check if the PC NIC interface is up and working properly. Then check the PC NIC configuration. If the device is running in router mode, then make sure the PC DHCP is enabled. Open the MS-DOS or CMD window, enter “ipconfig /release” and “ipconfig /renew” commands and see if PC can obtain IP correctly.
- If the device is configured to operate in bridge mode, the PC NIC IP should be manually configured to be 10.1.1.X / 255.255.255.0 in order to gain access to the device WEB GUI. When you are done with the device configuration, the PC NIC IP should be reconfigured to use DHCP for proper LTE networking.
- If the problem persists, please contact the operator or distributor for further diagnose.

### 3) My CPE networking is not working properly.

- You may want to check if the LTE connection is up and running properly. You can do this by login the WEB GUI and check the Interface Info page.
- You may want to perform a factory reset and see if the problem is being corrected. You can do this by log into the WEB GUI using the “admin123” administrator password and perform restore the unit to default factory setting.
- If the problem cannot be corrected by factory reset, please contact the operator or distributor for further diagnose.

### 4) I forget the login password and like to reset the unit to factory default.

- Please look up the IMEI number in the CPE unit label. The unit can be reset to factory default setting by entering the IMEI number in the WEB login window.
- After the unit is reset to factory default, you can login using the default password.