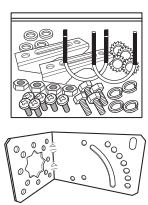
Introduction to the Product

Thank you for choosing SLC-120T42OGA, Outdoor CPE.
SLC-120T42OGA is offers better performance over Outdoor CPE given that LTE reception is not impeded.
It offers easy installation, reliable network connection, advanced security & authentication features, and more.
Please read this User Manual carefully to learn about the SLC-120T42OGA. It will help you to meet your diverse communication needs, at home and at the office.

1. Package Contents


Main Unit


Mounting Kits


User Manual


PoE


LAN Cable


AC Code
(100~240V)

Note :

- Please note that it performs the best with the accessories which are contained in the package, and the manufacturer will not be responsible for defects/ damage or shortened product life resulting from the use of product in conjunction or connection with accessories, products, or ancillary/peripheral equipment not approved by the manufacturer.
- Please use the product with accessories which are contained in the package.
- The components, appearance of the product, specifications and etc. are subject to change without prior notice for performance improvement.

2. Functional Features

Function			Features
Model Name			SLC-120T42OGA
LTE	Technical Standard		LTE 3GPP Release 12, Category 15, TDD Configuration 2 DL : 580Mbps (4x4 MIMO-2Layer, 4CA, 256QAM), UL : 30Mbps (2CA, 64QAM)
	Frequency Band		43(3650 ~3700MHz)
	Max. Transmit Power		23dBm (+3, -4dB)
	Antenna		Internal Patch Antenna, 4x4 MIMO, 10.59dBi Gain
	HPBW (3dB Beam Width)		+/- 45 degree Dual Linear / Directional
External Interface			1 x Gigabit Ethernet RJ45 LAN port
			1 x Mini USIM Card Slot
			1 x Reset button
LED Indicators		Power	Sharing with Signal Strength
		Signal Strength	5 LEDs with 1 color (5 Level display)
Operating Temperature			-40° to +70°C
Power Supply			IEEE 802.3af, Giga PoE Injector (Input : 100~240VAC, Output : 48V/0.45A)
Dimension			275(W) x 285(D) x 78(H)mm

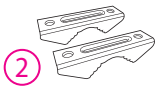
3. LED Presentation

Status icon & LED indicator	
Boot in progress	Blinking Yellow LED (1), Blinking period = 1sec
Network connection	Number of LED depending on signal strength - Most Strong Signal : Five yellow LED - Strong Signal : Four yellow LED - Middle Signal : Three yellow LED - Weak Signal : Two yellow LED - Very Weak Signal : One yellow LED

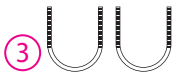
4. Mounting Configuration

Package List
You need the following :

① One Bracket



② Mounting Bar(2ea)



③ Mounting U-Bolt(2ea)

④ Bolts(4ea)

⑤ Toothed lock washer(4ea)

⑥ Bolt M3(6ea)

⑦ Nuts(4ea)

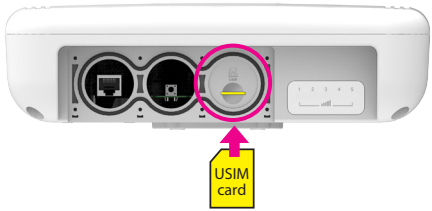
⑧ Spring Washers(4ea)

⑨ Washer(4ea)

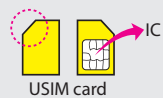
5. Assembly sequence optimization

Step 1
Remove the two Bolt M3 from the outdoor CPE.
* Remaining 6 screws are enclosed in the mounting kits as ⑥

Step 2 (Installing USIM Card)
Carefully insert the USIM Card into USIM slot.

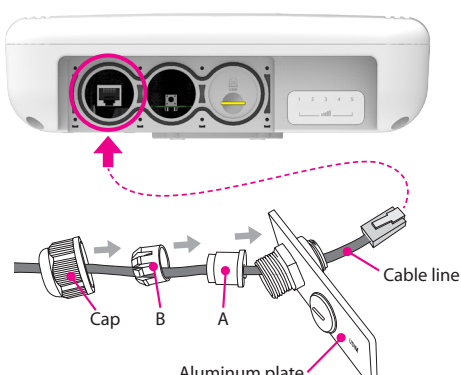


CAUTION :
The surface of IC(metal) should be facing downward from the USIM card.



Step 3
Remove the cap by turning. Then follow the next steps as shown below.

1. Remove the cap.
2. Put A, B, Cap and Aluminum plate to cable line in order.
3. Plug the cable line into the LAN hole of outdoor CPE.
4. Connect A and B in order.
5. Lastly, connect Cap to Aluminum plate by turning.

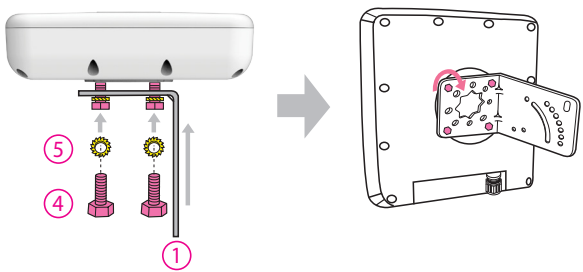


Step 4

Assemble the Aluminum plate and outdoor CPE using the screws Bolt M3(8ea).

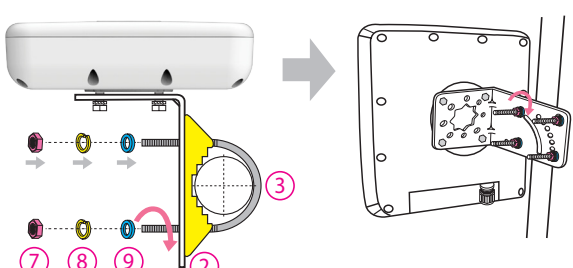
Step 5

Attach item 1 to the back side of the device using item 4 as shown.
(Insert item 5 into item 4 before installing)



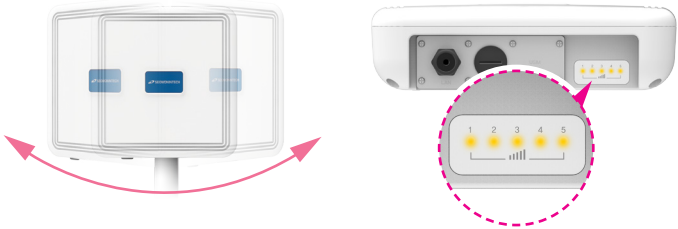
Step 6

Install the device to pole using item 2 and 3, tighten the bracket by using item 7, 8 and 9.



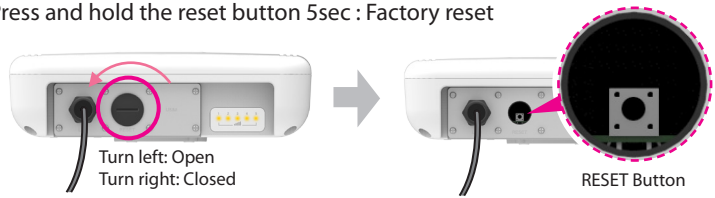
Step 7

Adjust the device, using the different position on the bracket.
Check the LED light (1~5).



RESET Button(When the device turned On)

- Press the reset button once : Device reboot
- Press and hold the reset button 5sec : Factory reset

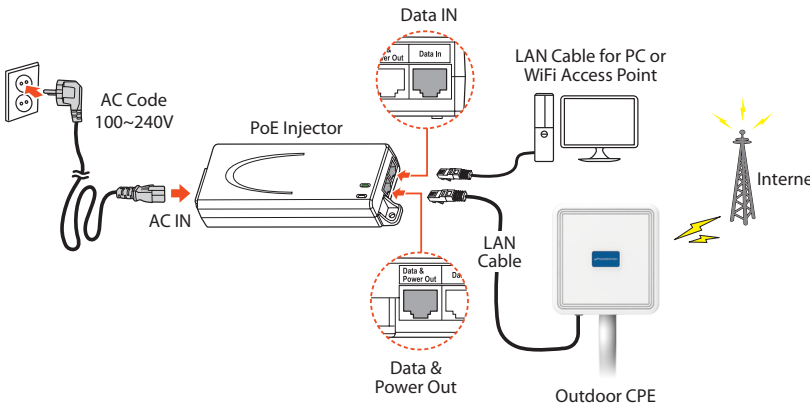


Note : If you forget the Login password for the Outdoor CPE or IP address after making changes, use the reset button to restore the Outdoor CPE to its original factory default settings.

Configuration

1. Network Configuration

External Network



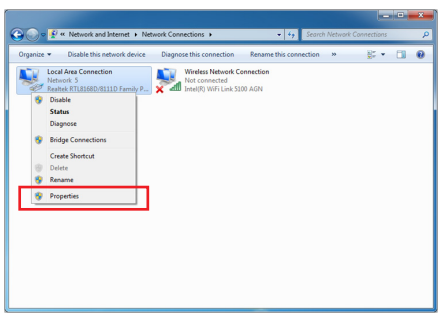
Safety precaution : Do not allow the PSE adapter to get wet. Keep it inside of the building. Liquid could damage your device or cause you injuries. Water damage can void your warranty. It is recommended to use the accessory provided.

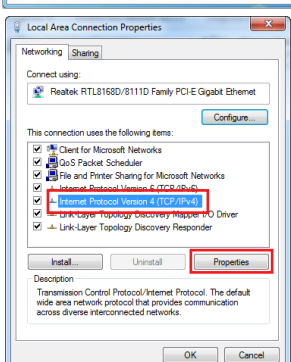
Install a Outdoor CPE after connecting to the network.
If normal connection between Outdoor CPE and PC is checked, you have to set up the PC and Outdoor CPE. The purpose of PC setup is to control network configuration for Windows Windows 7/8/10 or Mac OS X to use the Internet while the PC is connected to a Outdoor CPE.
The purpose of Outdoor CPE setup is to connect the Outdoor CPE to the Internet. Please refer to the Outdoor CPE Setup chapter.

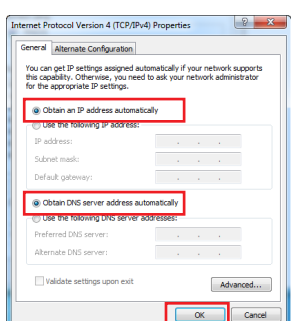
2. PC Configuration(Windows 7)

Most computers already have TCP/IP configuration enabled. For your computer to support CPE, please verify that the IP address and DNS settings are automatically generated in the Local Area connection of your Internet Protocol (TCP/IP) properties.

- In a Windows environment :
- Click "**Start**" button >> Click "**Control Panel**" >> Click "**Network and Internet Connection**" >> Click "**Network Connection**" >> Right-click "**Local Area Connection**" and Select "**Properties**" >> Select "**Internet Protocol 4 (TCP/IPv4)**" and click "**Properties**" >> Select "**obtain an IP address automatically**" and "**obtain DNS server address automatically**" >> Click "**OK**" .

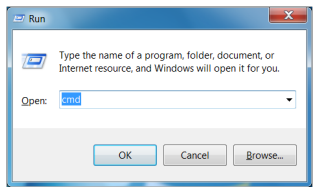






3. How to check your IP address

- Open the Command Prompt window by clicking the "**Start**" button and selecting "**Run**". Enter "**cmd**", and click the "**OK**" button.



<Run cmd>

- When the Command Prompt window opens, enter the "**ipconfig**" command to verify the IP address, Subnet mask, and Gateway, which are automatically assigned to your PC.

Note : PCs connected to Device will receive own assigned IP address.

```
C:\>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

   Connection-specific DNS Suffix  . :
   IP Address. . . . . . . . . . . . : 192.168.1.100
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.1.1

C:\>_
```

<Verify IP address>

```
C:\Users\Steve_Kim>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time=8ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 8ms, Average = 2ms
```

- If the host can reach the device using the ping command, the device has successfully attached.

Note : If an IP address is not assigned, check the following. and Then restart the PC and check whether an IP address is assigned.
- LAN cable connection between PC and CPE
- Check TCP/IP setup details

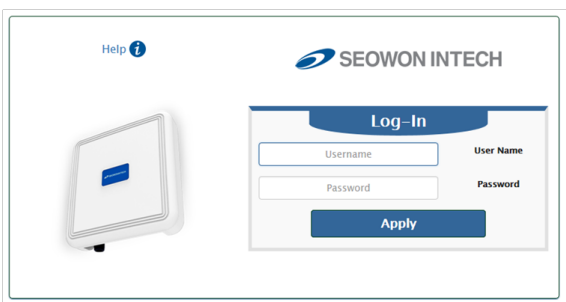
Log-in to Web Interface

The Web Browser allows you to manage the Device and to view.

In the Address Bar :

- Go to WEB "**http://192.168.1.1**" then press ENTER to access the login screen.
- The default one is "**user**" for both User Name and Password.
- You can change the Password after logging in
  (User Name and Password are case-sensitive).

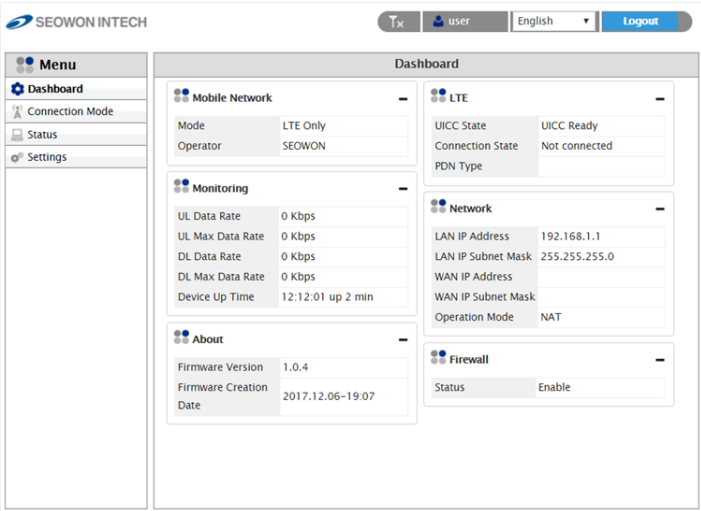
Username = **user**
Password = **user**



Note : The Web Interface can be accessed by entering **http://192.168.1.1** in the Address Bar, regardless of the network connection status.
When there is no input for 1 hour after your login to the Web Interface, you will be automatically logged out.

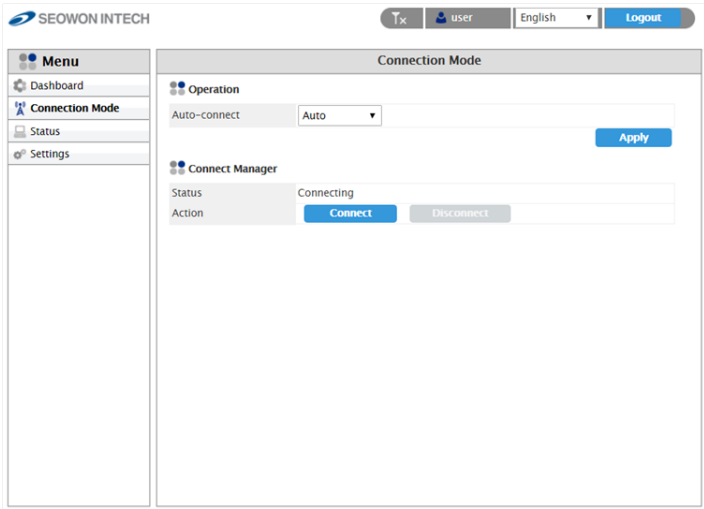
Setup on the web page

1. Dashboard



- Select "**Dashboard**" from the left menu.
- You can see the Mobile Network, LTE, Network, Firewall, Monitoring and Firmware Information.

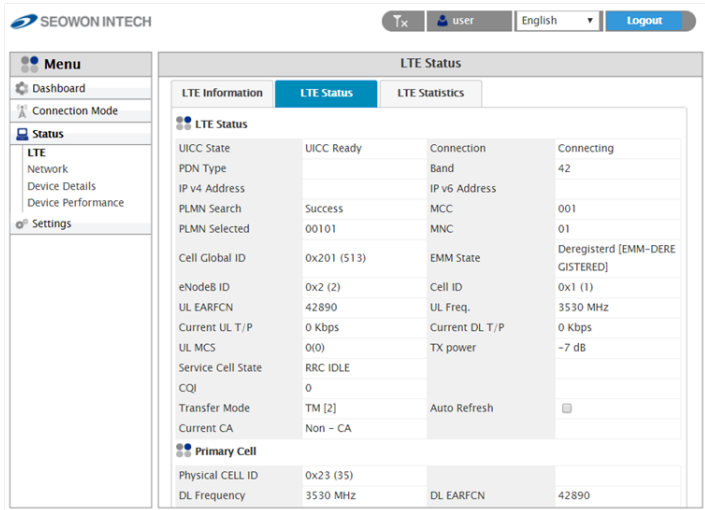
2. Connection Mode



- Select "**Connection Mode**" from the left menu.
- You can select operation mode Auto or Manual.
- You can see the status of Connect Manager.
- Start LTE Connection by clicking "**Connect**" or stop by clicking "**Disconnect**" button.

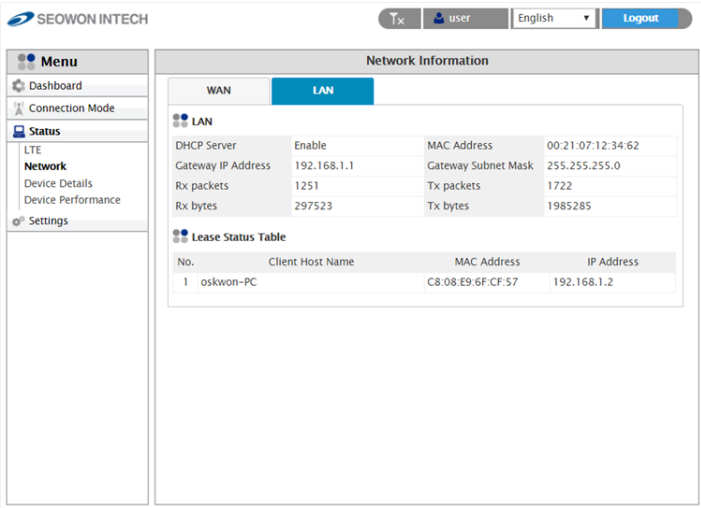
3. Status

3.1 LTE



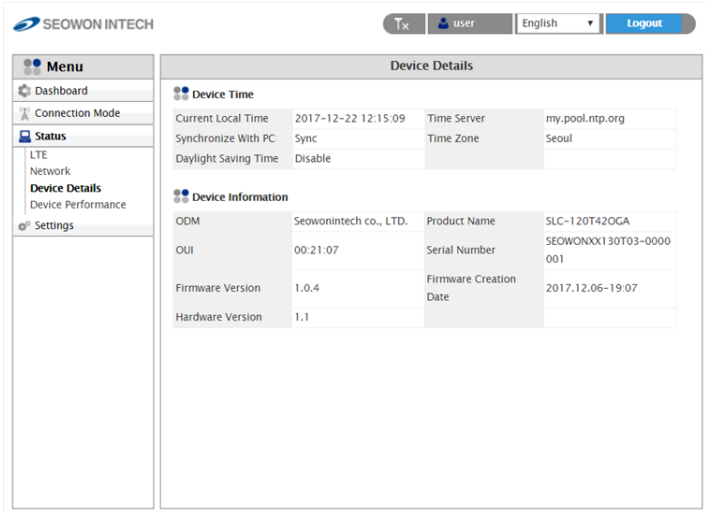
- Select "**Status**" → "**LTE**" from the left menu.
- You can see the LTE Information, Status and Statistics by clicking each tab.

3.2 Network



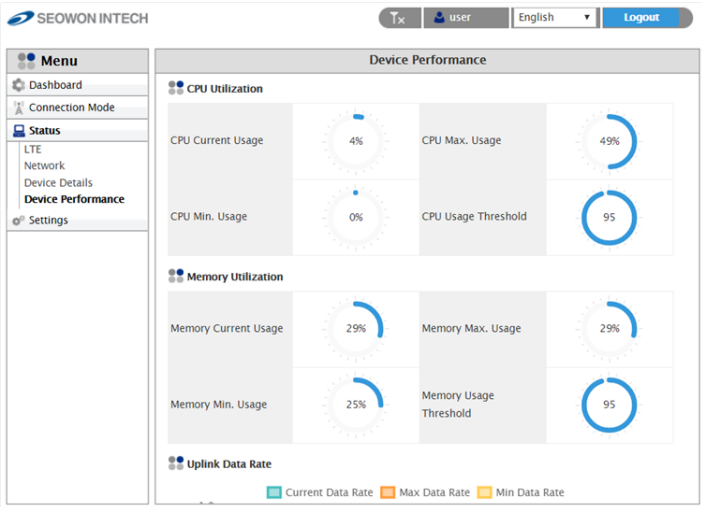
- Select "**Status**" → "**Network**" from the left menu.
- You can see the WAN, LAN status and Lease Status Table.

3.3 Device Details



- Select "**Status**" → "**Device Details**" from the left menu.
- You can see the device time and device information.

3.4 Device Performance

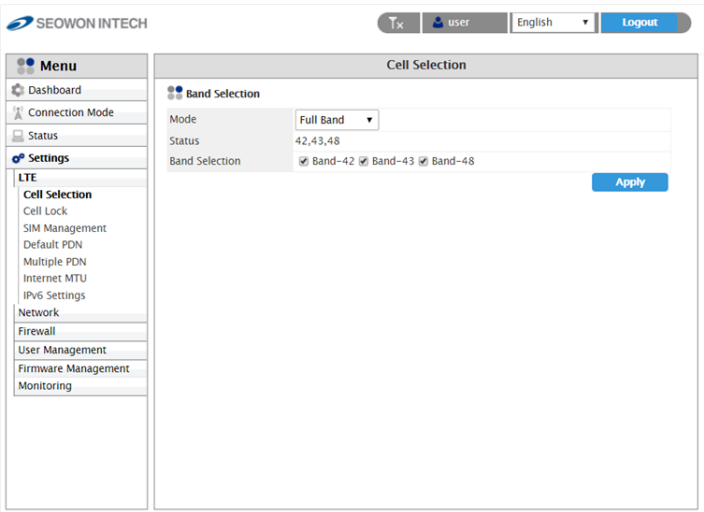


- Select "**Status**" → "**Device Performance**" from the left menu.
- You can see the system performance such as CPU, memory, UL/DL data rate and firewall status.

4. Settings

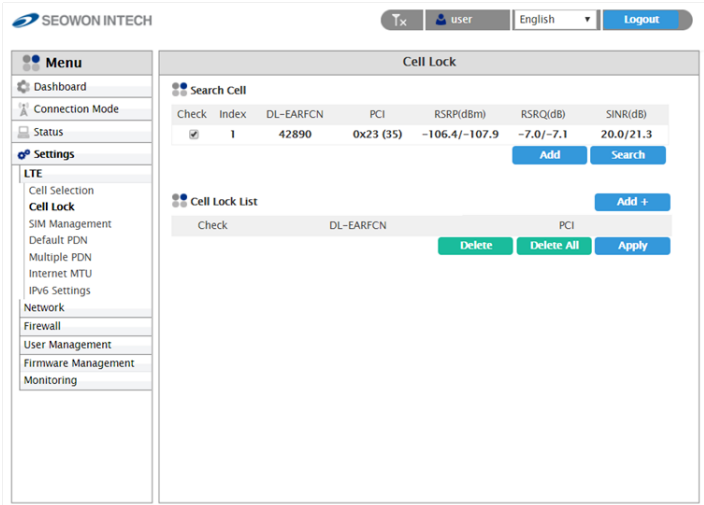
4.1 LTE

4.1.1 Cell Selection



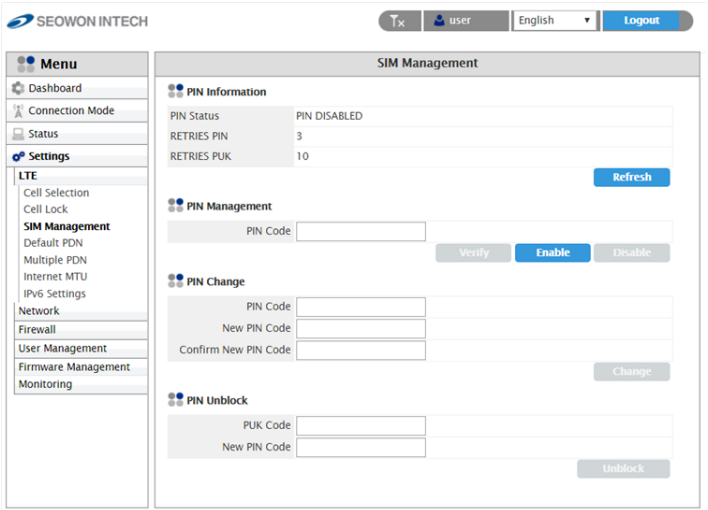
- Select "**Settings**" → "**LTE**" → "**Cell Selection**" from the left menu.
- You can change the mode "**Full Band**" or "**Frequency**".
- You can see the status of band and you can change the band.
- Check the box and click the "**Apply**" button.

4.1.2 Cell Lock



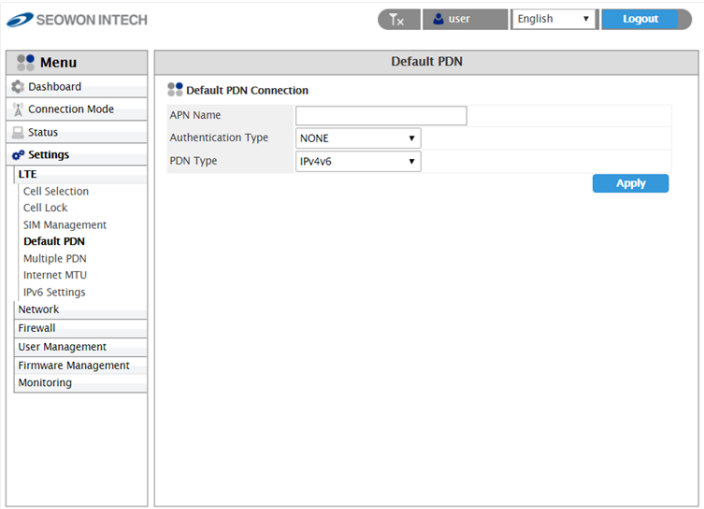
- Select "**Settings**" → "**LTE**" → "**Cell Lock**" from the left menu.
- You can add current cell to lock or delete cell to unlock in the list.
- You can manually add cell by clicking "**Add+**" button.
- Finish setup by clicking the "**Apply**" button.

4.1.3 SIM Management



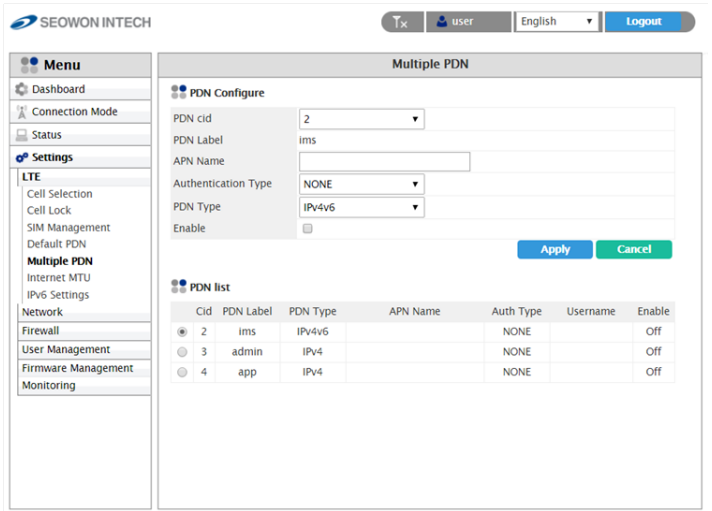
- Select "**Settings**" → "**LTE**" → "**SIM Management**" from the left menu.
- You can see the current status of SIM.
- Only the button operation is enabled to match the current status.
  - If you SIM card is locked, PIN Status shows "**PIN ENABLED NOT VERIFIED**".
  - Then you should enter the PIN code and click the "**Verify**" button.
  - After success unlock PIN then you can attached the LTE network.
  - You can set new PIN code by unblocking with PUK code.
  - If you failed to unblock PIN, you never use this SIM card.

4.1.4 Default PDN



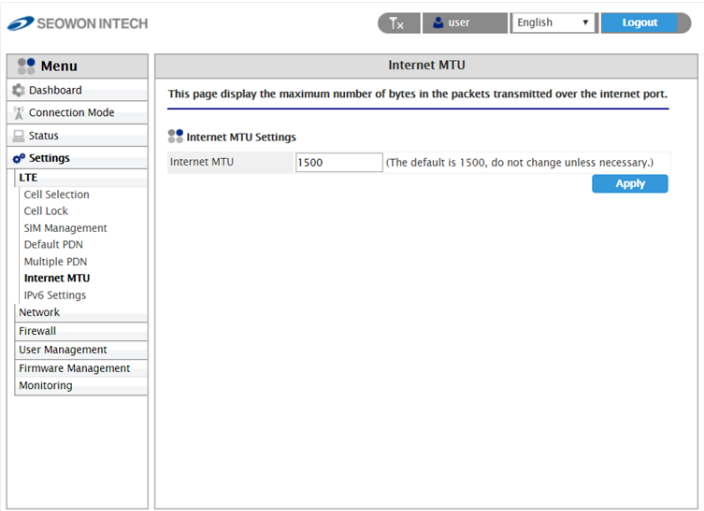
- Select "**Settings**" → "**LTE**" → "**Default PDN**" from the left menu.
- You can set the PDN data such as APN, Authentication Type and PDN type(IPv4, IPv6).
- Put in the data to box then click "**Apply**" button.
- If you set wrong data, the device doesn't attach the LTE network.

4.1.5 Multiple PDN



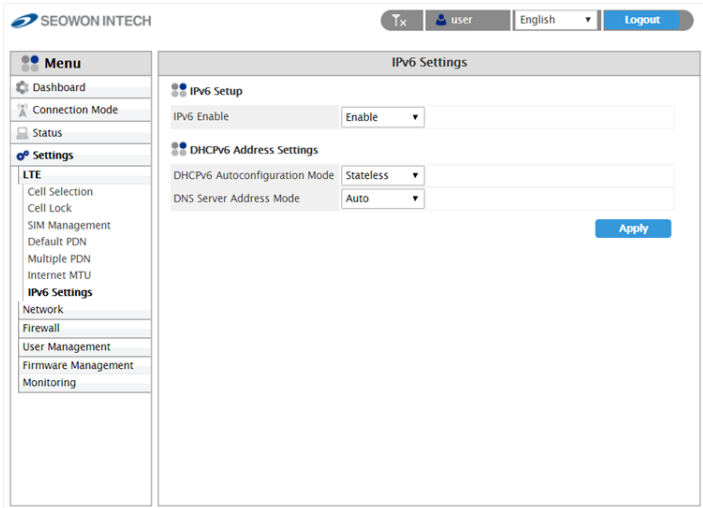
- Select "**Settings**" → "**LTE**" → "**Multiple PDN**" from the left menu.
- You can set the multiple PDN data for IMS, admin, App service.
- Select "**Cid**", check "**Enable**", put in the data to box then click "**Apply**" button.

4.1.6 Internet MTU



- Select "**Settings**" → "**LTE**" → "**Internet MTU**" from the left menu.
- You can change the internet MTU size.
- Put in the data to box then click "**Apply**" button.

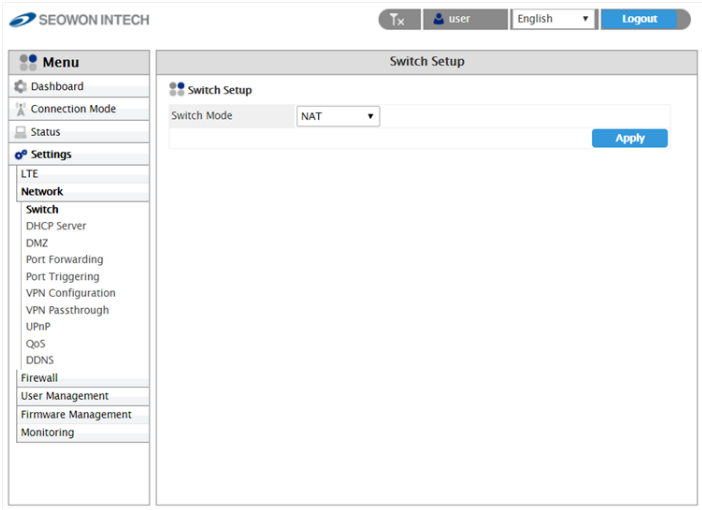
4.1.7 IPv6 Settings



- Select "**Settings**" → "**LTE**" → "**IPv6 Setup**" from the left menu.
- You can Enable or Disable IPv6 function by selecting the list.
- You can set DHCPv6 Auto-configuration mode by selecting the list.
- You can set DNS Server Address Mode to "**Auto**" or "**Manual**".
- After selecting the each mode, put in the data to all boxes.
- Finish setup by clicking the "**Apply**" button.

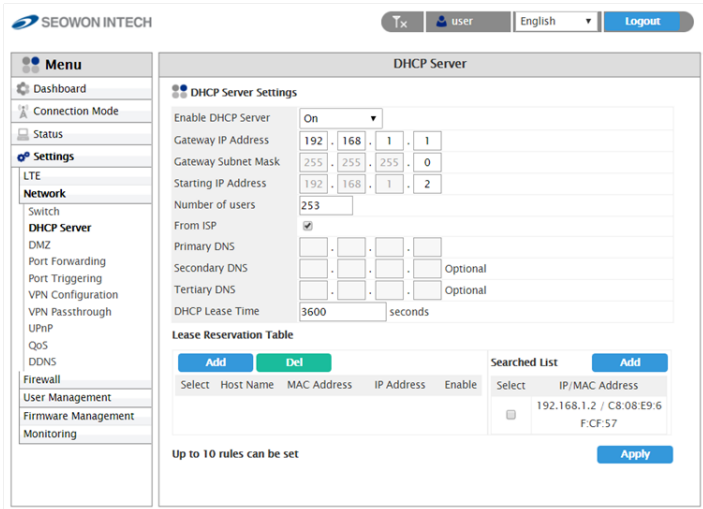
4.2 Network

4.2.1 Switch



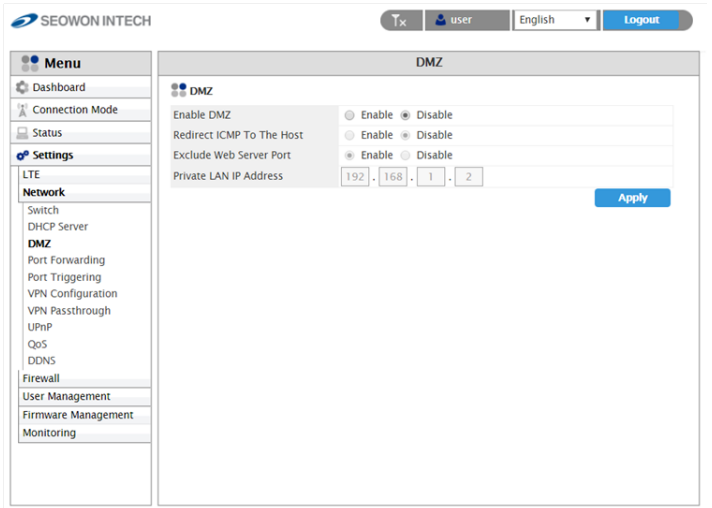
- Select "**Settings**" → "**Network**" → "**Switch**" from the left menu.
- You can select Switch Mode to "**NAT**" or "**BRIDGE**".
- Finish setup by clicking the "**Apply**" button.

4.2.2 DHCP Server

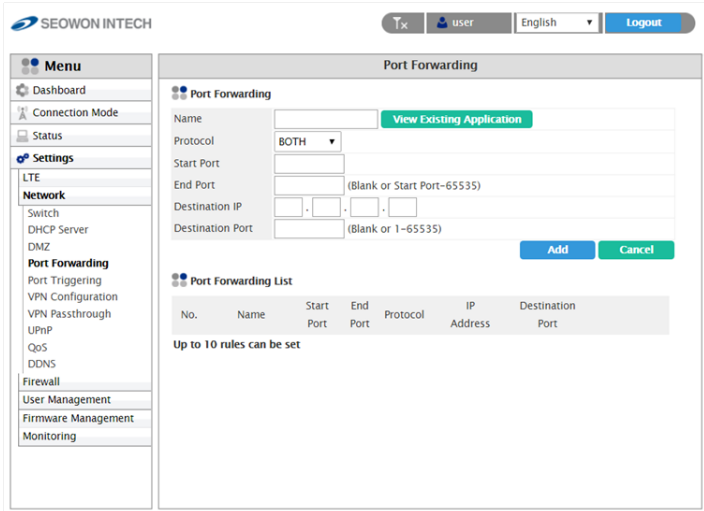


- Select "**Settings**" → "**Network**" → "**DHCP Server**" from the left menu.
- Configure DHCP Server Setting.
  - IP address is used in the LAN cable that the device manages.
  - Setup IP address in "**Gateway IP Address/ Gateway Subnet Mask**" text boxes.
  - Initial Value is "**192.168.1.1/255.255.255.0**" and only the last byte in "**Gateway Subnet Mask**" box can be modified.
  - Finish setup by clicking the "**Apply**" button.

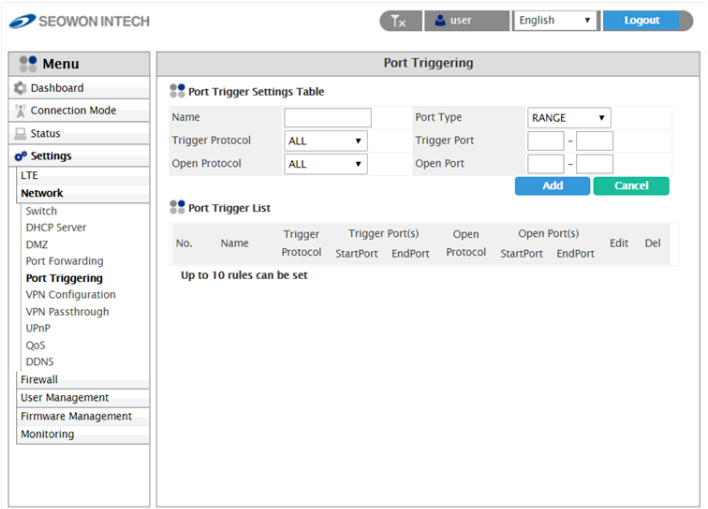
4.2.3 Port Management : DMZ/Port Forwarding/Port Triggering



- Select "**Settings**" → "**Network**" → "**DMZ**" from the left menu.
- Configure DMZ(Demilitarized Zone)
  - Select whether or not to enable the DMZ function.
  - You can set "**Redirect ICMP To The Host**" and "**Exclude Web Server Port**".
  - Set the IP address to have all ports opened in "**Private LAN IP Address**" content.
  - Finish setup by clicking the "**Apply**" button.

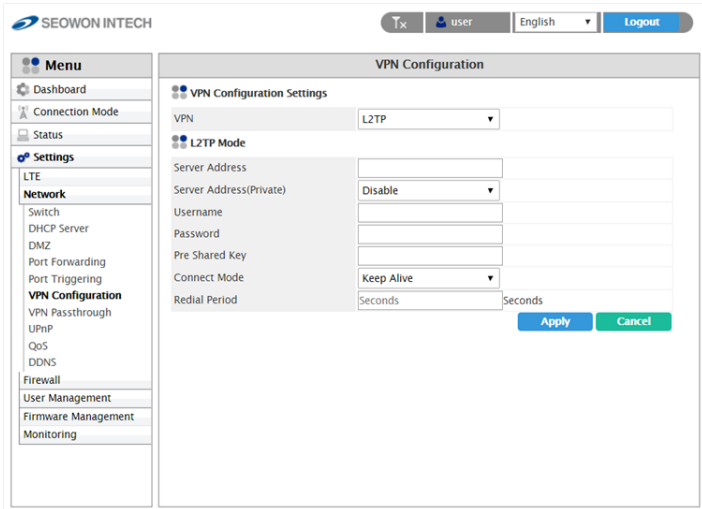


- Select "**Settings**" → "**Network**" → "**Port Forwarding**" from the left menu.
- Configure Port Forwarding
  - Enter the Name.
  - Select one of the listed Protocols (BOTH, TCP, UDP).
  - Enter Start Port, End Port, Destination IP and Destination Port.
  - Click the "**Add**" button when you finished.
  - You can change the data by clicking "**Edit**" or "**Del**" button in the list.



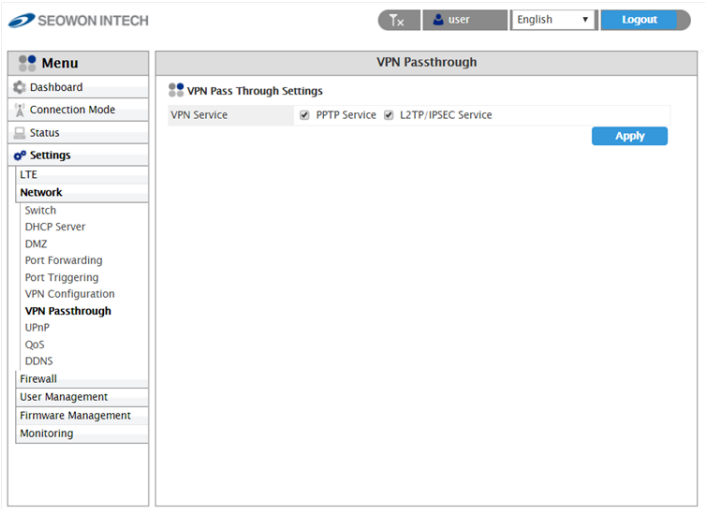
- Select "**Settings**" → "**Network**" → "**Port Triggering**" from the left menu.
- Configure Port Triggering
  - Enter the Name.
  - Select one of the Port Type(RANGE or SINGLE).
  - Select Trigger Protocol and Open Protocol(ALL, TCP, UDP)
  - Enter Trigger Port Range and Open Port Range.
  - Click the "**Add**" button when you finished.
  - You can change the data by clicking "**Edit**" or "**Del**" button in the list.

4.2.4 VPN Configuration



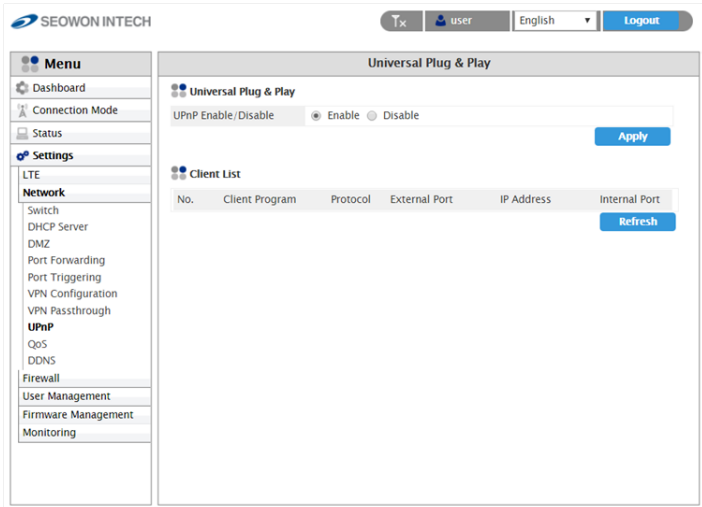
- Select "**Settings**" → "**Network**" → "**VPN Configuration**" from the left menu.
- You can set VPN mode by selecting "**GRE**", "**L2TP**" or "**PPTP**".
- After selecting the mode, put in the data to all boxes.
- Then click "**Add**" button.
- Finish setup by clicking the "**Apply**" button.

4.2.5 VPN Passthrough



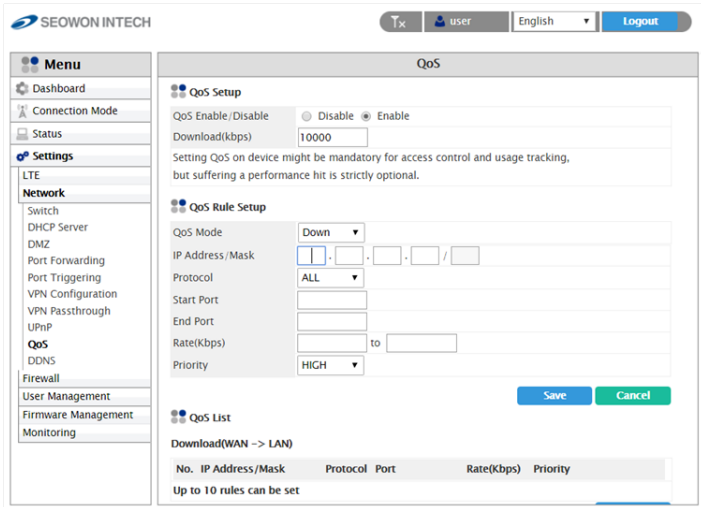
- Select "**Settings**" → "**Network**" → "**VPN Passthrough**" from the left menu.
- The device support 2 types of service : PPTP Service, L2TP/IPSEC Service.
- Select the type(s) of VPN pass-through to use with the checkboxes.
- Finish setup by clicking the "**Apply**" button.

4.2.6 UPnP



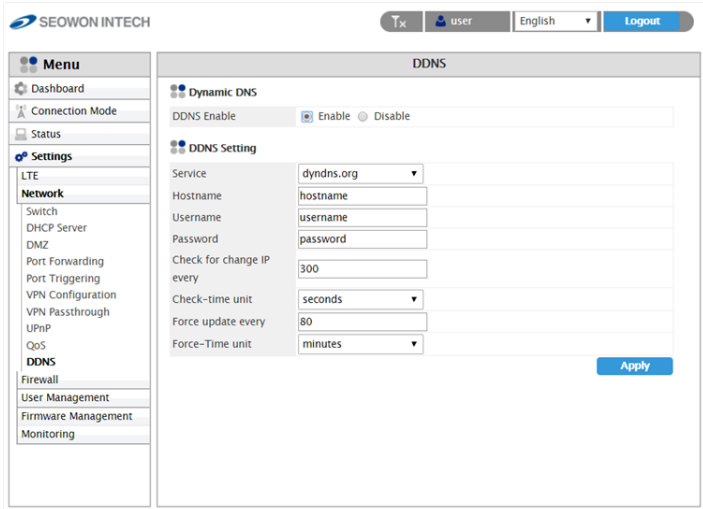
- Select "**Settings**" → "**Network**" → "**UPnP**" from the left menu.
- Select whether or not to Enable the Universal Plug & Play function.
- Finish setup by clicking the "**Apply**" button.
- When UPnP Client is connecting, it will appear on the Client List.

4.2.7 QoS



- Select "**Settings**" → "**Network**" → "**QoS**" from the left menu.
- To set the QOS, check "**Shaping**".
  The desirable service quality class can be set.
  - Setup download speed in "**Download(kbps)**" text box.
  - By selecting "**Upload**" and "**Download**" in the list, you can adjust each speed.
  - Setup IP address/mask, protocol, port and rate.
  - Click the "**Add**" button after setting all items.
  - Finish setup by clicking the "**Apply**" button.

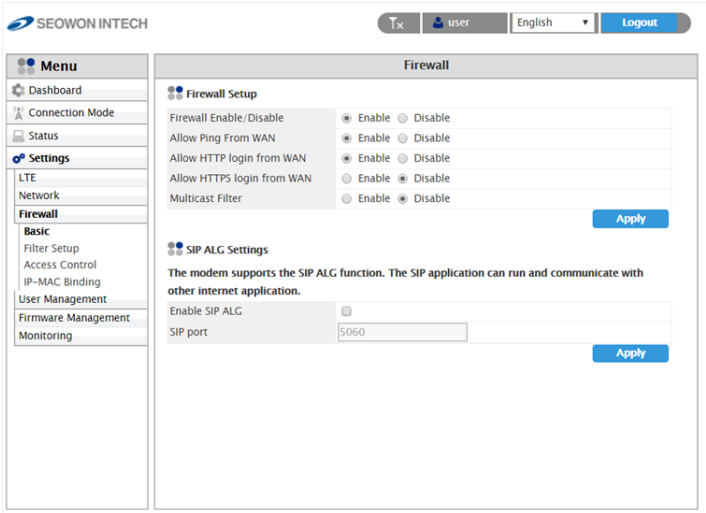
4.2.8 DDNS



- Select "**Settings**" → "**Network**" → "**DDNS**" from the left menu.
- Set the DDNS environment
  - If you want to set the DDNS, check "**Enable**" in the checkbox to enter necessary inputs.
  - After entering all the necessary information for DDNS Setting, finally, click the "**Apply**" button to finish setting.

4.3 Firewall

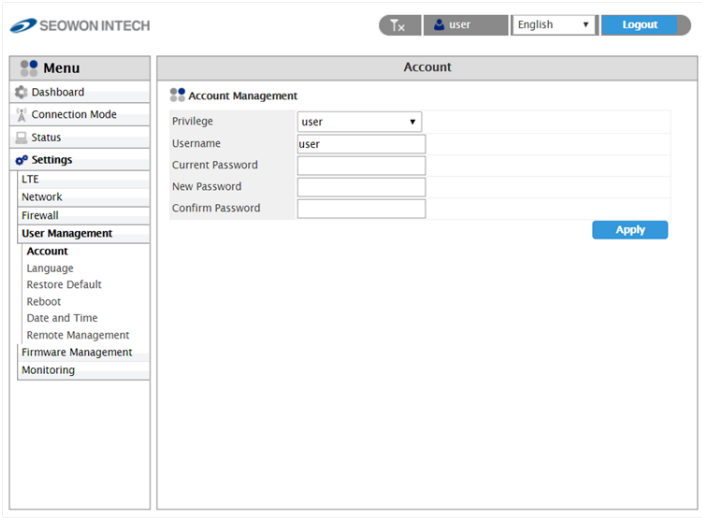
4.3.1 Basic



- Select "**Settings**" → "**Firewall**" → "**Basic**" from the left menu.
- If you want to use the default Firewall function, check the "**Enable**" checkbox.
- You can set other firewall rules as Ping, HTTP, HTTPS login and Multicast Filter.
- If you want to use SIP ALG function, check enable and type port number in the box.
- For filter set up, select the filter item (IP, MAC, ACCEPT, DROP, BOTH, etc) and fill the blank.
- Finish setup by clicking the "**Add**" button.
- You can also delete the filter rule by clicking "**remove**" button in the Filter List.

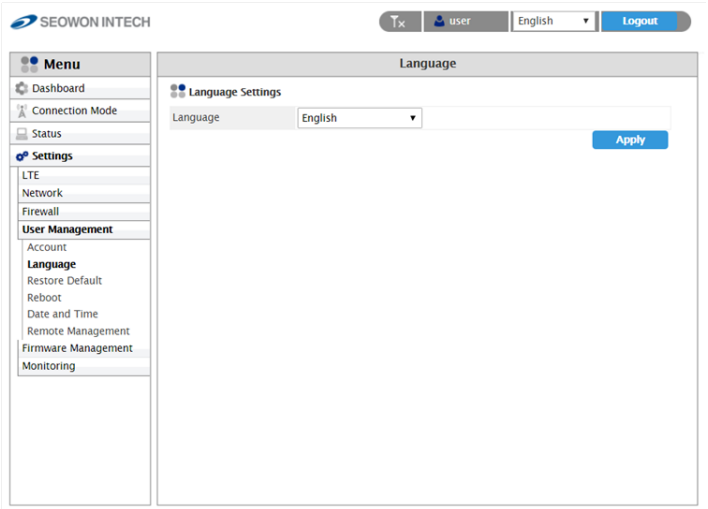
4.4 User Management

4.4.1 Account



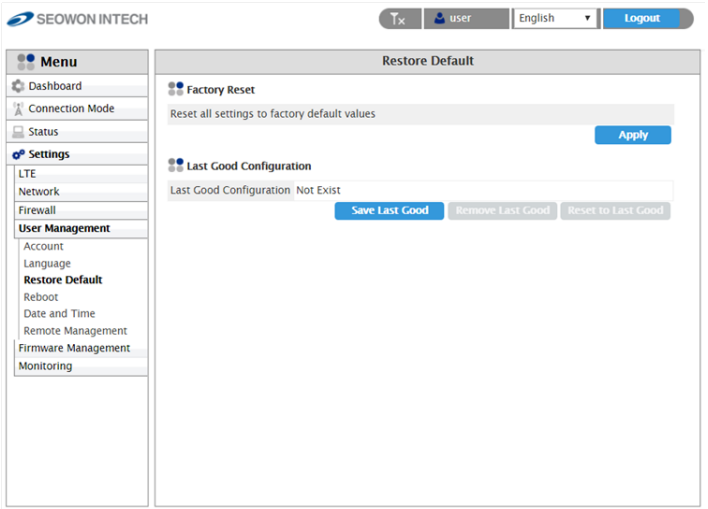
- Select "**Settings**" → "**User Management**" → "**Account**" from the left menu.
- Set the password to be given to the administrator who manages the device.
- Enter the new password.
- Finish setup by clicking the "**Apply**" button.

4.4.2 Language



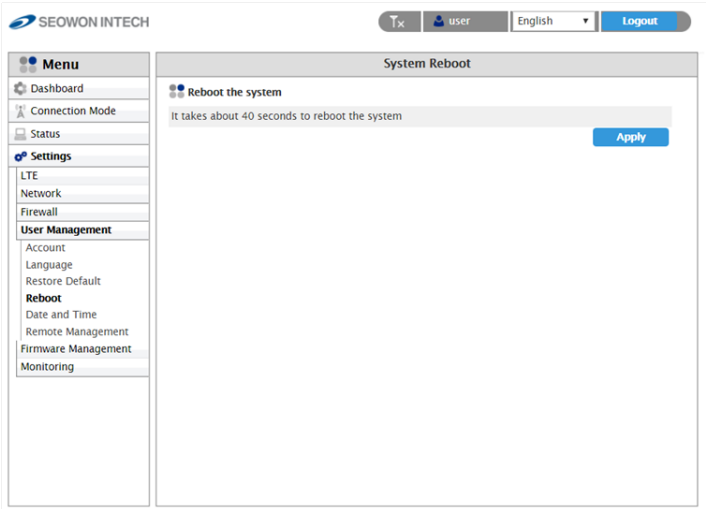
- Select "**Settings**" → "**User Management**" → "**Language**" from the left menu.
- Select the Language.
- Finish setup by clicking the "**Apply**" button.

4.4.3 Restore Default



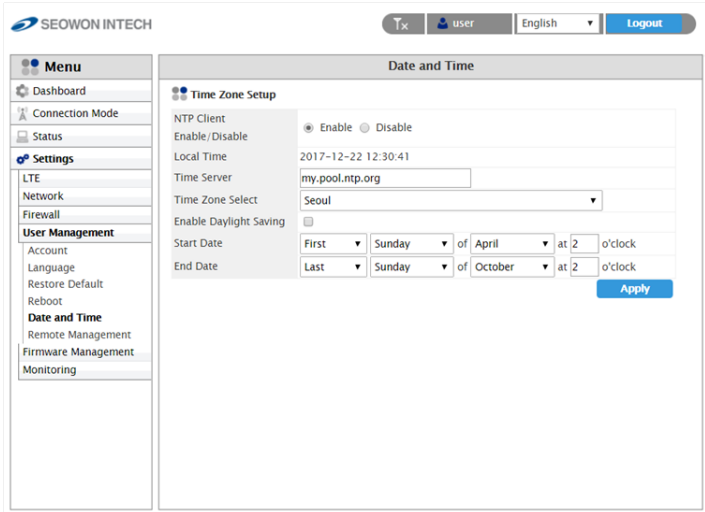
- Select "**Settings**" → "**User Management**" → "**Restore Default**" from the left menu.
- To initialize all configurations the device, click "**Apply**" button.
- If you want to save, remove or reset this configuration click the button.
- The device will reboot automatically and it takes about 70 seconds.

4.4.4 Reboot



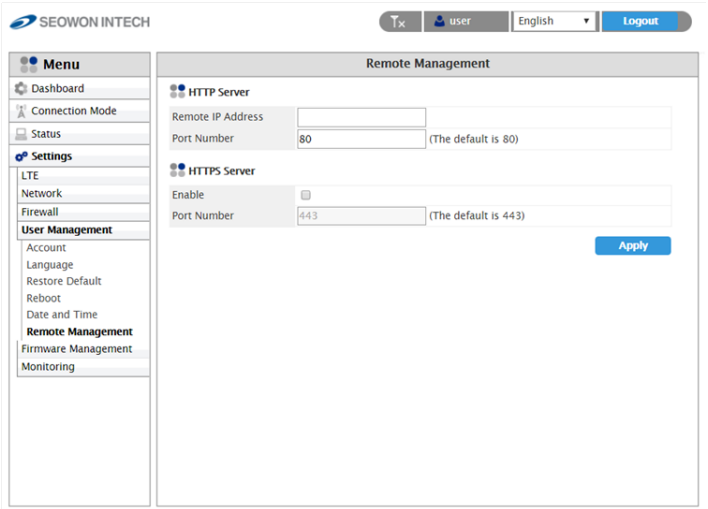
- Select "**Settings**" → "**User Management**" → "**Reboot**" from the left menu.
- To reboot by software, click "**Apply**" button.
- The device will reboot automatically and it takes about 60 seconds.

4.4.5 Date and Time



- Select "**Settings**" → "**User Management**" → "**Date and Time**" from the left menu.
- Configure Time Zone.
  - If you want to set the NTP Client, select "**Enable**".
  - Set the "**Time Server**".
  - Select the "**Time Zone Select**".
  - If you want to set the "**Daylight Saving**", check "**Enable Daylight Saving**".
  - If you want to set the duration of "**Daylight Saving**", set the below.
  - Finish setup by clicking the "**Apply**" button.
  - Changed configuration is applied immediately.

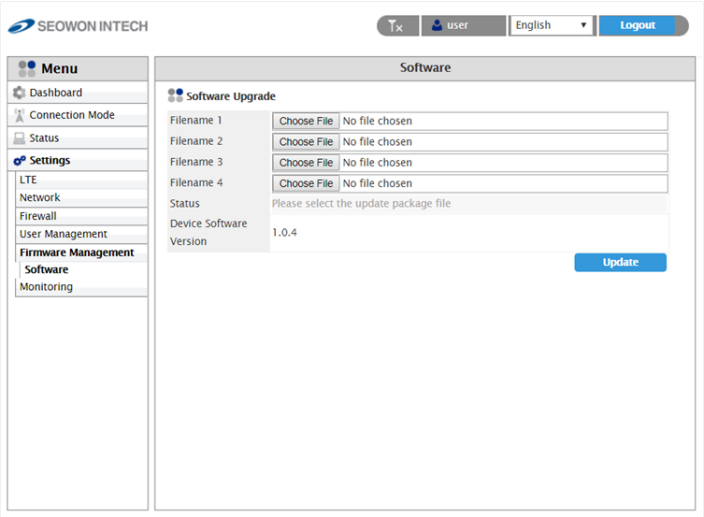
4.4.6 Remote Management



- Select "**Settings**" → "**User Management**" → "**Remote Management**" from the left menu.
- You can set HTTP Server port and HTTPS Server port.
- If you want to set https server, check "**Enable**" and type Port Number.
- Finish setup by clicking the "**Apply**" button.

4.5 Firmware Management

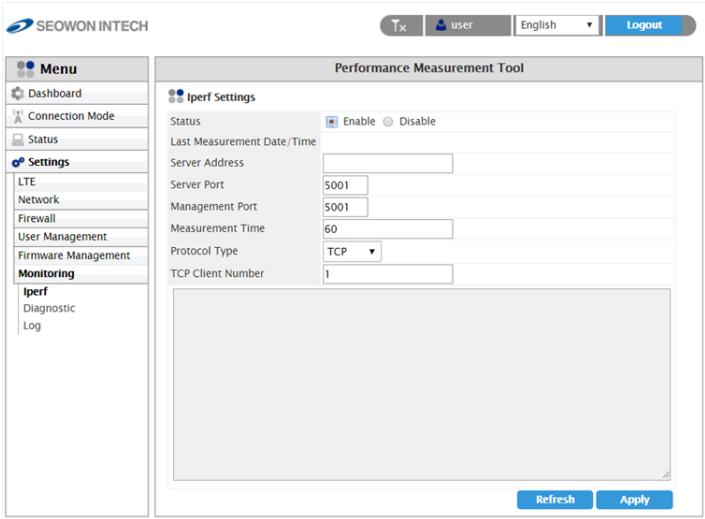
4.5.1 Software



- Select "**Settings**" → "**Firmware Management**" → "**Software**" from the left menu.
- Select the firmware file by clicking the "**Browse…**" button.
- To start the firmware update, click "**Update**" button.
- The device will be restart automatically.

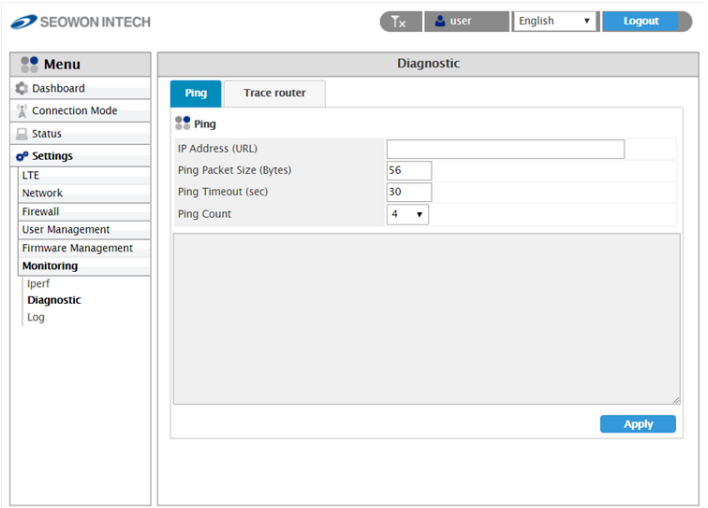
4.6 Monitoring

4.6.1 Iperf

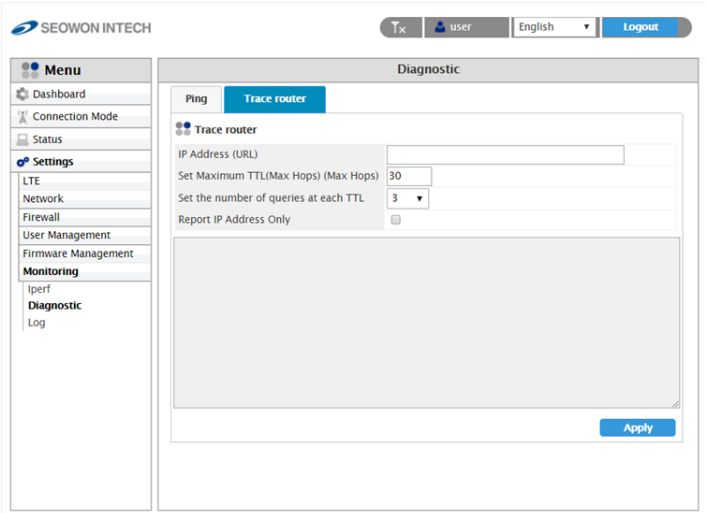


- Select "**Settings**" → "**Monitoring**" → "**Iperf**" from the left menu.
- You can use iperf by clicking the "**Enable**" button.
- Set the all data in the field.
- Finish setup by clicking the "**Apply**" button.
- Whenever you want to see the result, click "**Refresh**" button.

4.6.2 Diagnostic

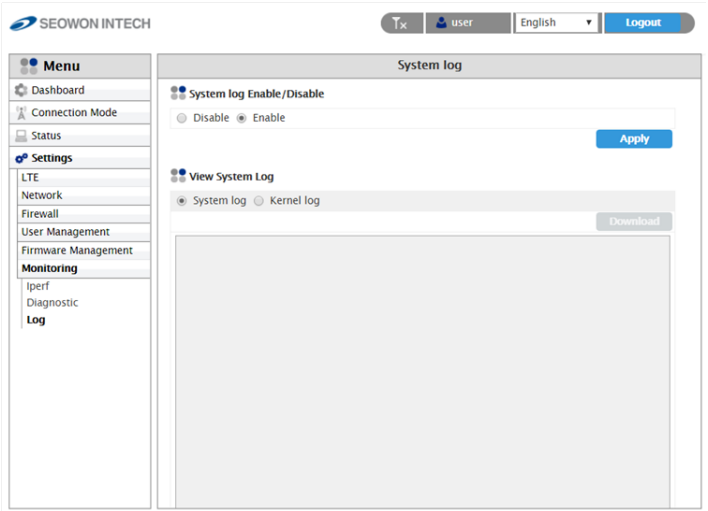


- Select "**Settings**" → "**Monitoring**" → "**Diagnostic**" from the left menu.
- Configure the Ping.
  - If you want to test ping, enter IP Address to "**IP Address (URL)**".
  - Set the all data in the field.
  - Click the "**Apply**" button to test.
  - The results come out below.

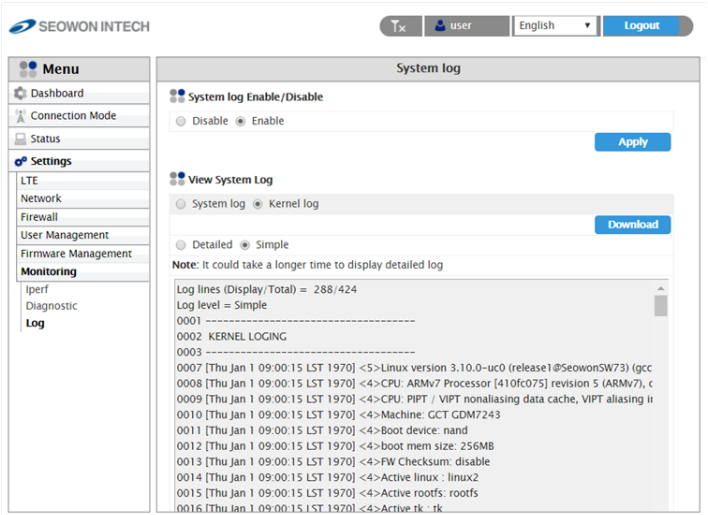


- Configure the Trace route.
  - If you want to test trace route, enter IP Address to "**IP Address (URL)**".
  - Select the "**Set Maximum TTL**" and "**Set the number of queries at each TTL**".
  - If you want to see report consisting of IP Address, check the "**Report IP Address Only**".
  - Click the "**Apply**" button to test.
  - The results come out below.

4.6.3 Log



- Select "**Settings**" → "**Monitoring**" → "**Log**" from the left menu.
- The device support 2 types of log : System log and Kernel log.
- Configure System log.
  - Check "**Enable**" in "**System log Enable/Disable**".
  - Check "**System log**" in "**View System Log**".
  - Click "**Refresh**" button or "**Clear**" button for each action.
  - If you want to download the log to your PC, click "**Download**" button.



- Configure Kernel log.
  - Check "**Kernel log**" in "**View System Log**".
  - Check "**Detailed**" or "**Simple**" in below.
  - Click "**Refresh**" button or "**Clear**" button for each action.
  - If you want to download the log to your PC, click "**Download**" button.

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