

Introduction to the Product

Thank you for choosing SLC-120T420GA, Outdoor CPE.

SLC-120T420GA offers better performance over Outdoor CPE given that LTE reception is not impeded.

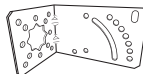
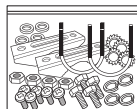
It offers easy installation, reliable network connection, advanced security & authentication features, and more.

Please read this User Manual carefully to learn about the SLC-120T420GA. 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-120T420GA
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

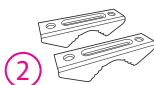
4. Mounting Configuration

Package List

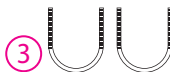
You need the following :



① One Bracket



② Mounting Bar(2ea)



③ Mounting U-Bolt(2ea)



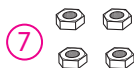
④ Bolts(4ea)



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

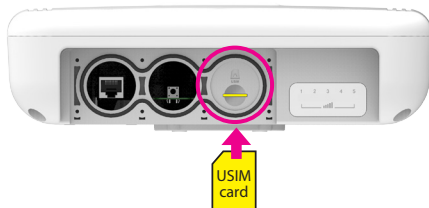
Remove the two Bolt M3 from the outdoor CPE.

* 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 :

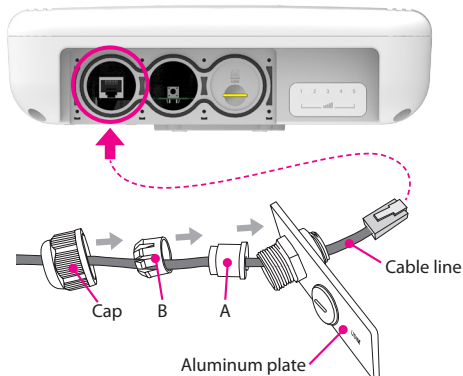
The surface of IC(metal) should be facing downward from the USIM card.



Step 3

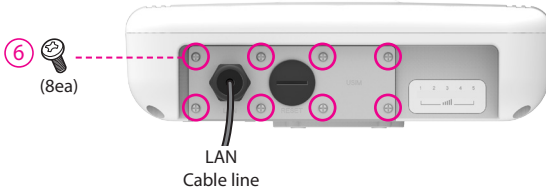
Remove the cap by turning. Then follow the next steps as shown below.

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.



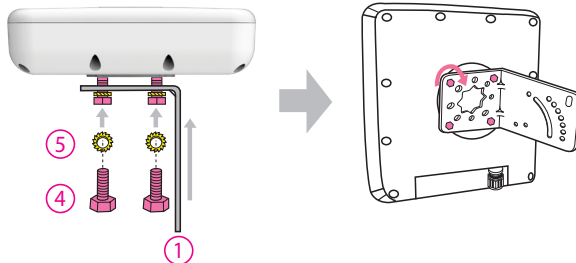
Step 4

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



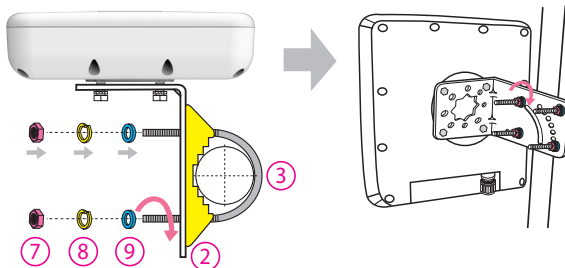
Step 5

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



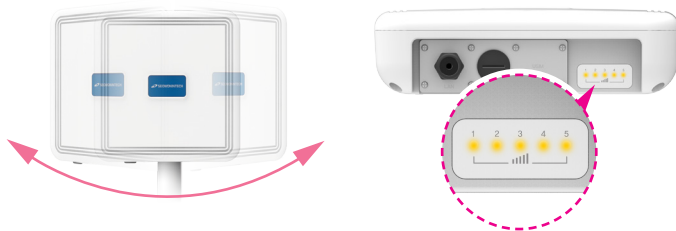
Step 6

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



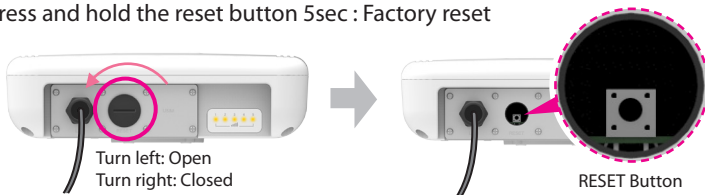
Step 7

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

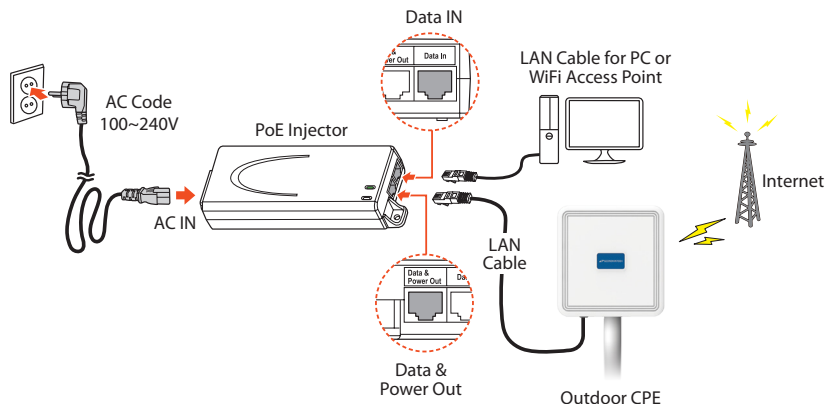


Note : If you forget the Login password for the Outdoor CPE or IP address after making changes, use the reset button to restore the Outdoor CPE to its original factory default settings.

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.

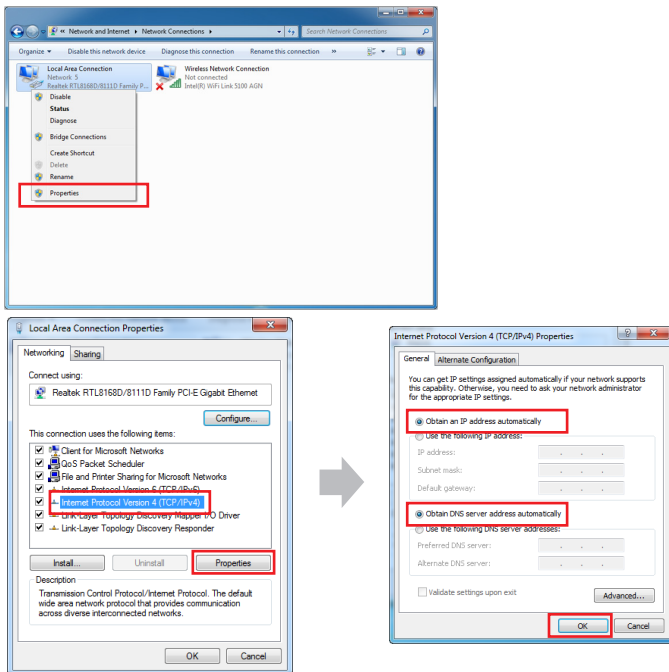
If normal connection between Outdoor CPE and PC is checked, you have to set up the PC and Outdoor CPE. The purpose of PC setup is to control network configuration for Windows Windows 7/8/10 or Mac OS X to use the Internet while the PC is connected to a Outdoor CPE.

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)

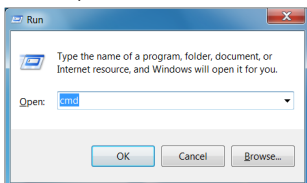
Most computers already have TCP/IP configuration enabled. For your computer to support CPE, please verify that the IP address and DNS settings are automatically generated in the Local Area connection of your Internet Protocol (TCP/IP) properties.

- 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\WSteve_Kin>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<1ms 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

The screenshot displays the SEOWON INTECH web dashboard. At the top, there is a header with the company logo, a search bar, a user profile dropdown, a language selector set to 'English', and a 'Logout' button. On the left, a 'Menu' sidebar lists 'Dashboard' (selected), 'Connection Mode', 'Status', and 'Settings'. The main content area is titled 'Dashboard' and contains several panels:

- Mobile Network:** Shows 'Mode' as 'LTE Only' and 'Operator' as 'SEOWON'.
- Monitoring:** Displays data rates (UL Data Rate, UL Max Data Rate, DL Data Rate, DL Max Data Rate) all at '0 Kbps', and 'Device Up Time' as '12:12:01 up 2 min'.
- About:** Shows 'Firmware Version' as '1.0.4' and 'Firmware Creation Date' as '2017.12.06-19:07'.
- LTE:** Shows 'UICC State' as 'UICC Ready', 'Connection State' as 'Not connected', and 'PDN Type'.
- Network:** Displays 'LAN IP Address' as '192.168.1.1', 'LAN IP Subnet Mask' as '255.255.255.0', 'WAN IP Address', 'WAN IP Subnet Mask', and 'Operation Mode' as 'NAT'.
- Firewall:** Shows 'Status' as 'Enable'.

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

2. Connection Mode

The screenshot shows a web interface for SEOWON INTECH. At the top, there is a header bar with the company logo, a user profile icon labeled 'user', a language dropdown set to 'English', and a 'Logout' button. On the left side, there is a vertical menu with options: 'Menu', 'Dashboard', 'Connection Mode' (which is highlighted), 'Status', and 'Settings'. The main content area is titled 'Connection Mode' and contains two sections. The 'Operation' section has a label 'Auto-connect' and a dropdown menu currently set to 'Auto', with an 'Apply' button to its right. The 'Connect Manager' section shows the 'Status' as 'Connecting' and the 'Action' with two buttons: 'Connect' (in blue) and 'Disconnect' (in grey).

- 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

SEOWON INTECH

Tx

user

English

Logout

Menu

Dashboard

Connection Mode

Status

LTE

Network

Device Details

Device Performance

Settings

LTE Status

LTE Information

LTE Status

LTE Statistics

LTE Status

UICC State	UICC Ready	Connection	Connecting
PDN Type		Band	42
IP v4 Address		IP v6 Address	
PLMN Search	Success	MCC	001
PLMN Selected	00101	MNC	01
Cell Global ID	0x201 (513)	EMM State	Deregistered [EMM-DERE GISTERED]
eNodeB ID	0x2 (2)	Cell ID	0x1 (1)
UL EARFCN	42890	UL Freq.	3530 MHz
Current UL T/P	0 Kbps	Current DL T/P	0 Kbps
UL MCS	0(0)	TX power	-7 dB
Service Cell State	RRC IDLE		
CQI	0		
Transfer Mode	TM [2]	Auto Refresh	<input type="checkbox"/>
Current CA	Non - CA		
Primary Cell			
Physical CELL ID	0x23 (35)		
DL Frequency	3530 MHz	DL EARFCN	42890

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

3.2 Network

SEOWON INTECH

user English Logout

Menu

- Dashboard
- Connection Mode
- Status**
 - LTE
 - Network**
 - Device Details
 - Device Performance
- Settings

Network Information

WAN LAN

LAN

DHCP Server	Enable	MAC Address	00:21:07:12:34:62
Gateway IP Address	192.168.1.1	Gateway Subnet Mask	255.255.255.0
Rx packets	1251	Tx packets	1722
Rx bytes	297523	Tx bytes	1985285

Lease Status Table

No.	Client Host Name	MAC Address	IP Address
1	oskwon-PC	C8:08:E9:6F:CF:57	192.168.1.2

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

3.3 Device Details

SEOWON INTECH

Tx user English Logout

Menu

- Dashboard
- Connection Mode
- Status**
 - LTE
 - Network
 - Device Details**
 - Device Performance
- Settings

Device Details

Device Time

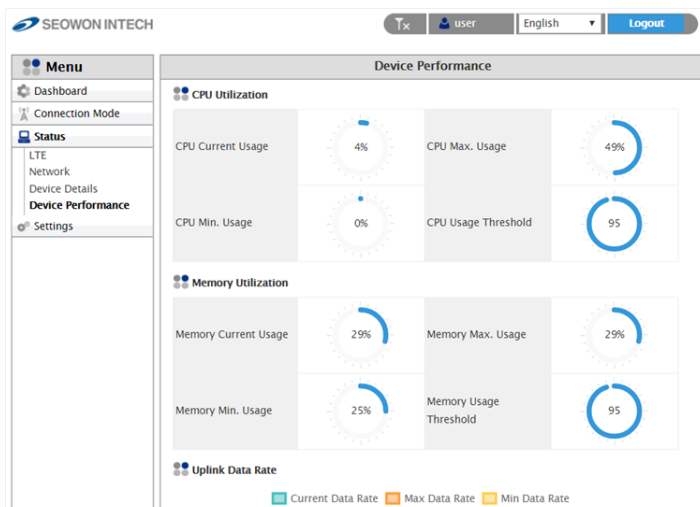
Current Local Time	2017-12-22 12:15:09	Time Server	my.pool.ntp.org
Synchronize With PC	Sync	Time Zone	Seoul
Daylight Saving Time	Disable		

Device Information

ODM	Seowonintech co., LTD.	Product Name	SLC-120T420GA
OUI	00:21:07	Serial Number	SEOWONXX130T03-0000001
Firmware Version	1.0.4	Firmware Creation Date	2017.12.06-19:07
Hardware Version	1.1		

- 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the company logo, a language dropdown set to 'English', and a 'Logout' button. On the left, a 'Menu' sidebar lists various system functions: Dashboard, Connection Mode, Status, Settings (highlighted), LTE (expanded), Cell Selection (highlighted), Cell Lock, SIM Management, Default PDN, Multiple PDN, Internet MTU, IPv6 Settings, Network, Firewall, User Management, Firmware Management, and Monitoring. The main content area is titled 'Cell Selection' and contains a 'Band Selection' section. This section includes a 'Mode' dropdown set to 'Full Band', a 'Status' field showing '42,43,48', and a 'Band Selection' row with three checked checkboxes for 'Band-42', 'Band-43', and 'Band-48'. An 'Apply' button is located at the bottom right of the settings area.

Cell Selection	
Band Selection	
Mode	Full Band
Status	42,43,48
Band Selection	<input checked="" type="checkbox"/> Band-42 <input checked="" type="checkbox"/> Band-43 <input checked="" type="checkbox"/> Band-48
Apply	

- 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

The screenshot displays the SEOWON INTECH web interface. At the top, there is a header with the company logo, a user profile icon labeled 'user', a language dropdown set to 'English', and a 'Logout' button. On the left, a sidebar menu is visible with options: Menu, Dashboard, Connection Mode, Status, Settings, and a sub-menu for LTE including Cell Selection, Cell Lock (which is highlighted), SIM Management, Default PDN, Multiple PDN, Internet MTU, IPv6 Settings, Network, Firewall, User Management, Firmware Management, and Monitoring.

The main content area is titled 'Cell Lock'. It contains a 'Search Cell' section with a table showing search results. The table has columns: Check, Index, DL-EARFCN, PCI, RSRP(dBm), RSRQ(dB), and SINR(dB). One result is shown with Index 1, DL-EARFCN 42890, PCI 0x23 (35), RSRP -106.4/-107.9, RSRQ -7.0/-7.1, and SINR 20.0/21.3. There are 'Add' and 'Search' buttons below the table.

Below the search section is a 'Cell Lock List' section. It has a table with columns: Check, DL-EARFCN, and PCI. There are 'Delete', 'Delete All', and 'Apply' buttons below the table. An 'Add +' button is located at the top right of this section.

- 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the company logo, a language dropdown set to 'English', and a 'Logout' button. On the left, a 'Menu' sidebar lists various options: Dashboard, Connection Mode, Status, Settings, LTE, Cell Selection, Cell Lock, SIM Management (highlighted), Default PDN, Multiple PDN, Internet MTU, IPv6 Settings, Network, Firewall, User Management, Firmware Management, and Monitoring. The main content area is titled 'SIM Management' and contains three sections: 1. PIN Information: A table showing 'PIN Status' as 'PIN DISABLED', 'RETRIES PIN' as '3', and 'RETRIES PUK' as '10'. A 'Refresh' button is to the right. 2. PIN Management: A form with a 'PIN Code' input field, a 'Verify' button, and 'Enable' and 'Disable' buttons. 3. PIN Change: A form with 'PIN Code', 'New PIN Code', and 'Confirm New PIN Code' input fields, and a 'Change' button. 4. PIN Unblock: A form with 'PUK Code' and 'New PIN Code' input fields, and an 'Unblock' button.

SIM Management	
PIN Information	
PIN Status	PIN DISABLED
RETRIES PIN	3
RETRIES PUK	10
Refresh	
PIN Management	
PIN Code	<input type="text"/>
Verify Enable Disable	
PIN Change	
PIN Code	<input type="text"/>
New PIN Code	<input type="text"/>
Confirm New PIN Code	<input type="text"/>
Change	
PIN Unblock	
PUK Code	<input type="text"/>
New PIN Code	<input type="text"/>
Unblock	

- 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

The screenshot displays the SEOWON INTECH web interface. At the top, there is a header with the company logo, a user profile section showing 'user' and a 'Logout' button, and a language dropdown set to 'English'. On the left, a 'Menu' sidebar lists various options: Dashboard, Connection Mode, Status, Settings (highlighted), LTE (expanded), Cell Selection, Cell Lock, SIM Management, Default PDN (highlighted), Multiple PDN, Internet MTU, IPv6 Settings, Network, Firewall, User Management, Firmware Management, and Monitoring. The main content area is titled 'Default PDN' and contains a 'Default PDN Connection' section. This section has three input fields: 'APN Name' (a text box), 'Authentication Type' (a dropdown menu currently showing 'NONE'), and 'PDN Type' (a dropdown menu currently showing 'IPv4v6'). An 'Apply' button is located at the bottom right of the configuration area.

- 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

SEOWON INTECH

Tx user English Logout

Menu

Dashboard

Connection Mode

Status

Settings

LTE

Cell Selection

Cell Lock

SIM Management

Default PDN

Multiple PDN

Internet MTU

IPv6 Settings

Network

Firewall

User Management

Firmware Management

Monitoring

Multiple PDN

PDN Configure

PDN cid2

PDN Labelims

APN Name

Authentication TypeNONE

PDN TypeIPv4v6

Enable☐

ApplyCancel

PDN list

Cid	PDN Label	PDN Type	APN Name	Auth Type	Username	Enable
<input checked="" type="radio"/>	2	ims	IPv4v6		NONE	Off
<input type="radio"/>	3	admin	IPv4		NONE	Off
<input type="radio"/>	4	app	IPv4		NONE	Off

- 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the company logo, a user profile section showing 'user', a language dropdown set to 'English', and a 'Logout' button. On the left is a vertical menu with options: Menu, Dashboard, Connection Mode, Status, Settings, LTE, Cell Selection, Cell Lock, SIM Management, Default PDN, Multiple PDN, Internet MTU, IPv6 Settings, Network, Firewall, User Management, Firmware Management, and Monitoring. The 'Internet MTU' option is highlighted. The main content area is titled 'Internet MTU' and contains the text: 'This page display the maximum number of bytes in the packets transmitted over the internet port.' Below this is a section for 'Internet MTU Settings' with a text input field labeled 'Internet MTU' containing the value '1500'. To the right of the input field is a note: '(The default is 1500, do not change unless necessary.)'. An 'Apply' button is located to the right of the input field.

- 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.

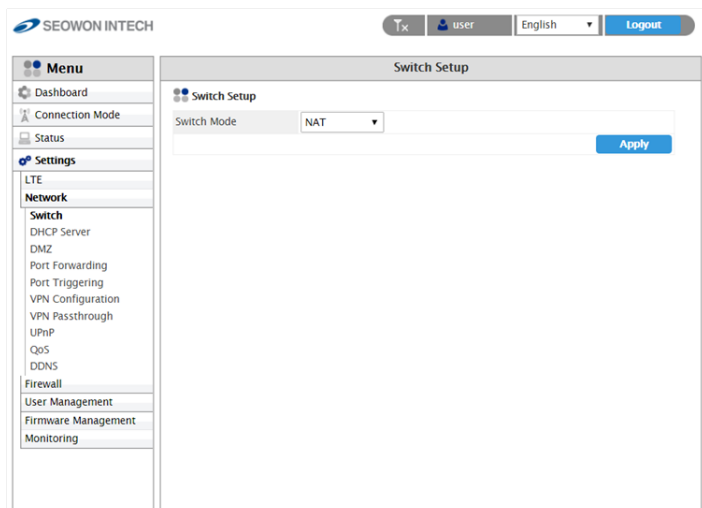
4.1.7 IPv6 Settings

The screenshot displays the SEOWON INTECH web interface. At the top, there is a header bar with the company logo, a language dropdown set to 'English', and a 'Logout' button. On the left, a 'Menu' sidebar lists various system functions: Dashboard, Connection Mode, Status, Settings, LTE (with sub-items: Cell Selection, Cell Lock, SIM Management, Default PDN, Multiple PDN, Internet MTU), IPv6 Settings (highlighted), Network, Firewall, User Management, Firmware Management, and Monitoring. The main content area is titled 'IPv6 Settings' and contains two sections. The 'IPv6 Setup' section has a single dropdown menu labeled 'IPv6 Enable' set to 'Enable'. The 'DHCPv6 Address Settings' section contains two dropdown menus: 'DHCPv6 Autoconfiguration Mode' set to 'Stateless' and 'DNS Server Address Mode' set to 'Auto'. An 'Apply' button is located at the bottom right of the settings area.

- 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

SEOWON INTECH

Tx user English Logout

Menu

Dashboard

Connection Mode

Status

Settings

LTE

Network

Switch

DHCP Server

DMZ

Port Forwarding

Port Triggering

VPN Configuration

VPN Passthrough

UPnP

QoS

DDNS

Firewall

User Management

Firmware Management

Monitoring

DHCP Server

DHCP Server Settings

Enable DHCP Server

On

Gateway IP Address

192 . 168 . 1 . 1

Gateway Subnet Mask

255 . 255 . 255 . 0

Starting IP Address

192 . 168 . 1 . 2

Number of users

253

From ISP

☒

Primary DNS

. . .

Secondary DNS

. . . Optional

Tertiary DNS

. . . Optional

DHCP Lease Time

3600

seconds

Lease Reservation Table

Add Del

Select Host Name MAC Address IP Address Enable

Select IP/MAC Address

192.168.1.2 / C8:08:E9:6F:CF:57

Up to 10 rules can be set

Apply

- 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the logo, a language dropdown set to 'English', and a 'Logout' button. On the left is a 'Menu' sidebar with options: Dashboard, Connection Mode, Status, Settings, LTE, Network, Firewall, User Management, Firmware Management, and Monitoring. The 'Settings' section is expanded, showing 'Network' and 'DMZ'. The 'DMZ' configuration area on the right contains the following settings:

DMZ	
Enable DMZ	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Redirect ICMP To The Host	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Exclude Web Server Port	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Private LAN IP Address	192 . 168 . 1 . 2

An 'Apply' button is located at the bottom right of the DMZ configuration area.

- 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.

SEOWON INTECH

Tx
user
English
Logout

Menu

- Dashboard
- Connection Mode
- Status
- Settings**
 - LTE
 - Network**
 - Switch
 - DHCP Server
 - DMZ
 - Port Forwarding**
 - Port Triggering
 - VPN Configuration
 - VPN Passthrough
 - UPnP
 - QoS
 - DDNS
 - Firewall
 - User Management
 - Firmware Management
 - Monitoring

Port Forwarding

Port Forwarding

Name
[View Existing Application](#)

Protocol
 BOTH

Start Port

End Port
(Blank or Start Port-65535)

Destination IP
 . . .

Destination Port
(Blank or 1-65535)

[Add](#)
[Cancel](#)

Port Forwarding List

No.	Name	Start Port	End Port	Protocol	IP Address	Destination Port
Up to 10 rules can be set						

- 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.

Tx
user
English
Logout

Menu

- Dashboard
- Connection Mode
- Status
- Settings**
 - LTE
 - Network**
 - Switch
 - DHCP Server
 - DMZ
 - Port Forwarding
 - Port Triggering**
 - VPN Configuration
 - VPN Passthrough
 - UPnP
 - QoS
 - DDNS
 - Firewall
 - User Management
 - Firmware Management
 - Monitoring

Port Triggering

Port Trigger Settings Table

Name	<input type="text"/>	Port Type	RANGE
Trigger Protocol	ALL	Trigger Port	<input type="text"/> - <input type="text"/>
Open Protocol	ALL	Open Port	<input type="text"/> - <input type="text"/>

Add
Cancel

Port Trigger List

No.	Name	Trigger Protocol	Trigger Port(s) StartPort EndPort	Open Protocol	Open Port(s) StartPort EndPort	Edit	Del
Up to 10 rules can be set							

- 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

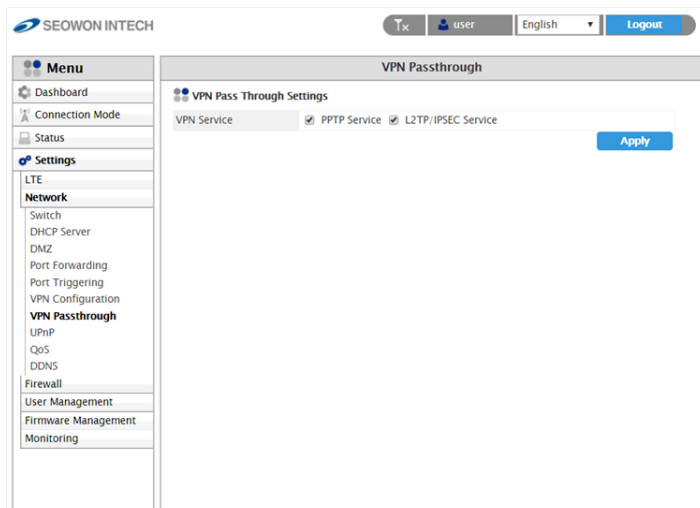
The screenshot shows the SEOWON INTECH web interface for VPN Configuration. The top navigation bar includes the logo, a language dropdown set to 'English', and a 'Logout' button. The left sidebar menu is expanded to 'Settings' > 'Network', with 'VPN Configuration' highlighted. The main content area is titled 'VPN Configuration' and contains the following settings:

- VPN Configuration Settings**
 - VPN: L2TP (dropdown)
- L2TP Mode**
 - Server Address: [text input]
 - Server Address(Private): Disable (dropdown)
 - Username: [text input]
 - Password: [text input]
 - Pre Shared Key: [text input]
 - Connect Mode: Keep Alive (dropdown)
 - Redial Period: [text input] Seconds

At the bottom right of the settings area are 'Apply' and 'Cancel' buttons.

- 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the logo, a language dropdown set to 'English', and a 'Logout' button. On the left is a 'Menu' sidebar with options: Dashboard, Connection Mode, Status, Settings, LTE, Network, Firewall, User Management, Firmware Management, and Monitoring. The 'Settings' section is expanded, and 'UPnP' is selected under the 'Network' category. The main content area is titled 'Universal Plug & Play'. It contains a toggle for 'UPnP Enable/Disable' with 'Enable' selected, and an 'Apply' button. Below this is a 'Client List' section with a table header: No., Client Program, Protocol, External Port, IP Address, and Internal Port. A 'Refresh' button is located below the table.

SEOWON INTECH

Tx user English Logout

Menu

- Dashboard
- Connection Mode
- Status
- Settings**
- LTE
- Network**
- Switch
- DHCP Server
- DMZ
- Port Forwarding
- Port Triggering
- VPN Configuration
- VPN Passthrough
- UPnP**
- QoS
- DDNS
- Firewall
- User Management
- Firmware Management
- Monitoring

Universal Plug & Play

UPnP Enable/Disable ☒ Enable ☐ Disable **Apply**

Client List

No.	Client Program	Protocol	External Port	IP Address	Internal Port
-----	----------------	----------	---------------	------------	---------------

Refresh

- 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

SEOWON INTECH

user English Logout

Menu

- Dashboard
- Connection Mode
- Status
- Settings**
 - LTE
 - Network**
 - Switch
 - DHCP Server
 - DMZ
 - Port Forwarding
 - Port Triggering
 - VPN Configuration
 - VPN Passthrough
 - UPnP
 - QoS**
 - DDNS
 - Firewall
 - User Management
 - Firmware Management
 - Monitoring

QoS

QoS Setup

QoS Enable/Disable ☐ Disable ☒ Enable

Download(kbps) 10000

Setting QoS on device might be mandatory for access control and usage tracking, but suffering a performance hit is strictly optional.

QoS Rule Setup

QoS Mode Down

IP Address/Mask 192.168.1.1

Protocol ALL

Start Port

End Port

Rate(Kbps) to

Priority HIGH

Save Cancel

QoS List

Download(WAN -> LAN)

No.	IP Address/Mask	Protocol	Port	Rate(Kbps)	Priority
1	192.168.1.1	ALL		10000	HIGH

Up to 10 rules can be set

- 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

SEOWON INTECH

Tx user English Logout

Menu

- Dashboard
- Connection Mode
- Status
- Settings**
 - LTE
 - Network**
 - Switch
 - DHCP Server
 - DMZ
 - Port Forwarding
 - Port Triggering
 - VPN Configuration
 - VPN Passthrough
 - UPnP
 - QoS
 - DDNS**
 - Firewall
 - User Management
 - Firmware Management
 - Monitoring

DDNS

Dynamic DNS

DDNS Enable ☒ Enable ☐ Disable

DDNS Setting

Service	dyndns.org
Hostname	hostname
Username	username
Password	password
Check for change IP every	300
Check-time unit	seconds
Force update every	80
Force-Time unit	minutes

Apply

- 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

SEOWON INTECH

user English Logout

Menu

- Dashboard
- Connection Mode
- Status
- Settings**
- LTE
- Network
- Firewall**
- Basic
- Filter Setup
- Access Control
- IP-MAC Binding
- User Management
- Firmware Management
- Monitoring

Firewall

Firewall Setup

Firewall Enable/Disable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Allow Ping From WAN	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Allow HTTP login from WAN	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Allow HTTPS login from WAN	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Multicast Filter	<input checked="" type="radio"/> Enable <input type="radio"/> Disable

Apply

SIP ALG Settings

The modem supports the SIP ALG function. The SIP application can run and communicate with other internet application.

Enable SIP ALG ☒

SIP port

Apply

- 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.

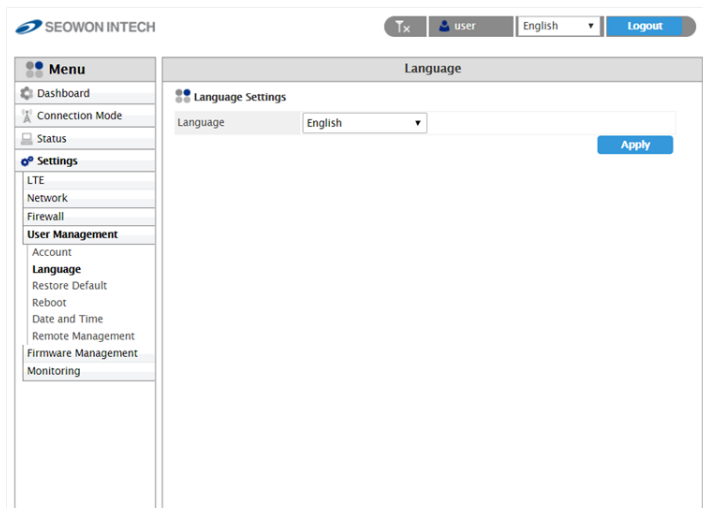
4.4 User Management

4.4.1 Account

The screenshot displays the SEOWON INTECH web interface. At the top, there is a header bar with the company logo, a language dropdown set to 'English', and a 'Logout' button. Below the header, a left-hand menu is visible with categories: 'Menu' (containing Dashboard, Connection Mode, Status), 'Settings' (containing LTE, Network, Firewall), 'User Management' (containing Account, Language, Restore Default, Reboot, Date and Time, Remote Management), 'Firmware Management', and 'Monitoring'. The 'Account' option under 'User Management' is selected. The main content area is titled 'Account' and contains the 'Account Management' section. This section includes a 'Privilege' dropdown menu set to 'user', and input fields for 'Username' (pre-filled with 'user'), 'Current Password', 'New Password', and 'Confirm Password'. An 'Apply' button is located at the bottom right of the form.

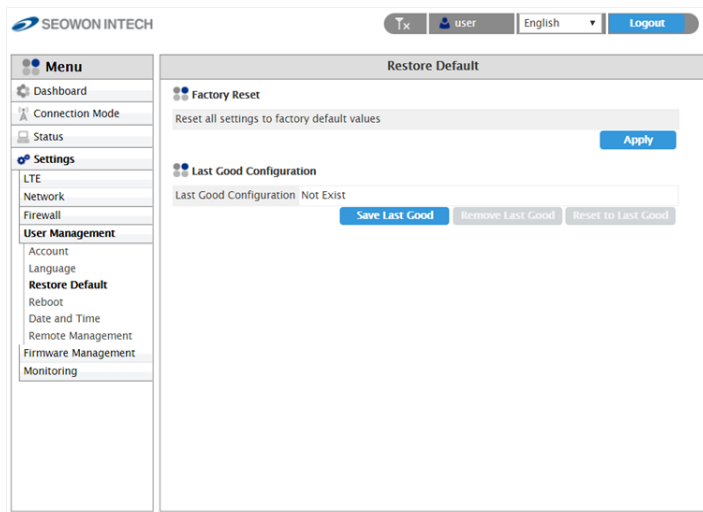
- Select **“Settings”** → **“User Management”** → **“Account”** from the left menu.
- Set the password to be given to the administrator who manages the device.
- Enter the new password.
- Finish setup by clicking the **“Apply”** button.

4.4.2 Language



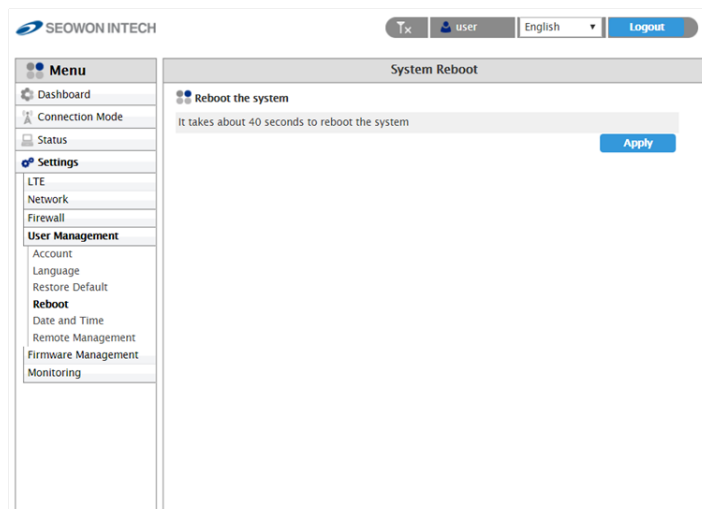
- Select “Settings” → “User Management” → “Language” from the left menu.
- Select the Language.
- Finish setup by clicking the “Apply” button.

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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the logo, a user profile icon labeled 'user', a language dropdown set to 'English', and a 'Logout' button. On the left is a 'Menu' sidebar with options: Dashboard, Connection Mode, Status, Settings (highlighted), LTE, Network, Firewall, User Management (with sub-items: Account, Language, Restore Default, Reboot), Date and Time (highlighted), Remote Management, Firmware Management, and Monitoring. The main content area is titled 'Date and Time' and contains a 'Time Zone Setup' section. This section includes: 'NTP Client' with radio buttons for 'Enable' (selected) and 'Disable'; 'Local Time' showing '2017-12-22 12:30:41'; 'Time Server' with a text input field containing 'my.pool.ntp.org'; 'Time Zone Select' with a dropdown menu showing 'Seoul'; 'Enable Daylight Saving' with an unchecked checkbox; 'Start Date' with a date selector set to 'First Sunday of April at 2 o'clock'; and 'End Date' with a date selector set to 'Last Sunday of October at 2 o'clock'. An 'Apply' button is located at the bottom right of the configuration area.

- 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the company logo, a user profile icon labeled 'user', a language dropdown set to 'English', and a 'Logout' button. On the left is a 'Menu' sidebar with options: Dashboard, Connection Mode, Status, Settings, LTE, Network, Firewall, User Management (highlighted), Remote Management (highlighted), Firmware Management, and Monitoring. The main content area is titled 'Remote Management' and contains two sections: 'HTTP Server' and 'HTTPS Server'. The 'HTTP Server' section has fields for 'Remote IP Address' (empty) and 'Port Number' (set to 80, with a note '(The default is 80)'). The 'HTTPS Server' section has an 'Enable' checkbox (checked) and a 'Port Number' field (set to 443, with a note '(The default is 443)'). An 'Apply' button is located at the bottom right of the settings area.

- 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the logo, a user profile icon labeled 'user', a language dropdown set to 'English', and a 'Logout' button. On the left is a 'Menu' sidebar with options: Dashboard, Connection Mode, Status, Settings, LTE, Network, Firewall, User Management, Firmware Management (highlighted), Software, and Monitoring. The main content area is titled 'Software' and contains a 'Software Upgrade' section. This section has a table with four rows for 'Filename 1' through 'Filename 4', each with a 'Choose File' button and the text 'No file chosen'. Below the table, the 'Status' is 'Please select the update package file'. The 'Device Software Version' is '1.0.4'. An 'Update' button is located at the bottom right of the upgrade section.

Software Upgrade	
Filename 1	<input type="button" value="Choose File"/> No file chosen
Filename 2	<input type="button" value="Choose File"/> No file chosen
Filename 3	<input type="button" value="Choose File"/> No file chosen
Filename 4	<input type="button" value="Choose File"/> No file chosen
Status	Please select the update package file
Device Software Version	1.0.4
<input type="button" value="Update"/>	

- 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

The screenshot displays the Seowon Intech Performance Measurement Tool web interface. At the top, there is a header with the Seowon Intech logo, a language dropdown set to 'English', and a 'Logout' button. A user profile 'user' is also visible. On the left, a 'Menu' sidebar lists various options: Dashboard, Connection Mode, Status, Settings (highlighted), LTE, Network, Firewall, User Management, Firmware Management, and Monitoring (highlighted). Under 'Monitoring', 'Iperf' is selected, with sub-options for Diagnostic and Log. The main content area is titled 'Performance Measurement Tool' and contains the 'Iperf Settings' form. This form includes a 'Status' toggle set to 'Enable', a 'Last Measurement Date/Time' field, and input fields for 'Server Address', 'Server Port' (5001), 'Management Port' (5001), 'Measurement Time' (60), 'Protocol Type' (TCP), and 'TCP Client Number' (1). A large empty box is provided for results. At the bottom right of the form are 'Refresh' and 'Apply' buttons.

- 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the company logo, a user profile icon labeled 'user', a language dropdown set to 'English', and a 'Logout' button. On the left is a 'Menu' sidebar with categories: 'Menu' (containing Dashboard, Connection Mode, Status), 'Settings' (containing LTE, Network, Firewall, User Management, Firmware Management), 'Monitoring' (containing Iperf, **Diagnostic**, Log), and 'Log'. The main content area is titled 'Diagnostic' and has two tabs: 'Ping' (selected) and 'Trace router'. Under the 'Ping' tab, there is a 'Ping' section with a header icon. Below the header are four configuration fields: 'IP Address (URL)' (a text input field), 'Ping Packet Size (Bytes)' (a numeric input field with '56'), 'Ping Timeout (sec)' (a numeric input field with '30'), and 'Ping Count' (a dropdown menu with '4'). Below these fields is a large, empty rectangular area for results. An 'Apply' button is located at the bottom right of the configuration area.

- 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.

SEOWON INTECH

Tx
 user
 English
 Logout

Menu

- Dashboard
- Connection Mode
- Status
- Settings**
 - LTE
 - Network
 - Firewall
 - User Management
 - Firmware Management
- Monitoring**
 - Iperf
 - Diagnostic**
 - Log

Diagnostic

Ping
 Trace router

Trace router

IP Address (URL)

Set Maximum TTL(Max Hops) (Max Hops)

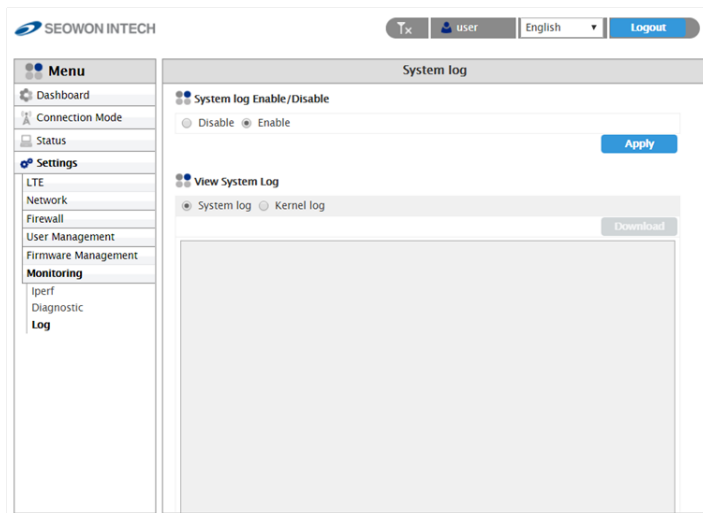
Set the number of queries at each TTL

Report IP Address Only
 ☐

Apply

- 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.

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the company logo, a user profile icon labeled 'user', a language dropdown set to 'English', and a 'Logout' button. On the left is a 'Menu' sidebar with options: Dashboard, Connection Mode, Status, Settings (selected), LTE, Network, Firewall, User Management, Firmware Management, Monitoring, Iperf, Diagnostic, and Log. The main content area is titled 'System log' and contains two sections. The first section, 'System log Enable/Disable', has radio buttons for 'Disable' and 'Enable' (selected), with an 'Apply' button. The second section, 'View System Log', has radio buttons for 'System log' and 'Kernel log' (selected), with a 'Download' button. Below these are radio buttons for 'Detailed' and 'Simple' (selected). A note states: 'Note: It could take a longer time to display detailed log'. A log viewer shows the following content: 'Log lines (Display/Total) = 288/424', 'Log level = Simple', and a list of log entries starting with '0001 -----', '0002 KERNEL LOGGING', and '0003 -----', followed by system boot logs from '0007' to '0016'.

- 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.

Restrictions on the operation of base and fixed stations.

This equipment is subject to the registration rules of Section 90.1331 for restrictions on the operation of base and fixed stations. It can only be sold marketed to licenses and cannot be sold to the general public. The license holder is responsible, prior to operation, to register the device in the database and only operate the equipment at the registered fixed location and not at any other location.



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