

# 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.

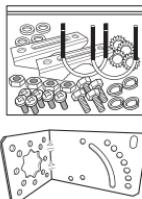
It offers easy installation, reliable network connection, advanced security & authentication features, and more.

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 Cord  
(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 <ul style="list-style-type: none"> <li>- Most Strong Signal : Five yellow LED</li> <li>- Strong Signal : Four yellow LED</li> <li>- Middle Signal : Three yellow LED</li> <li>- Weak Signal : Two yellow LED</li> <li>- Very Weak Signal : One yellow LED</li> </ul>

## 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

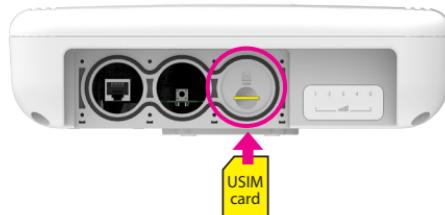
Remove the two Bolt M3 from the outdoor CPE.

\* 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 :

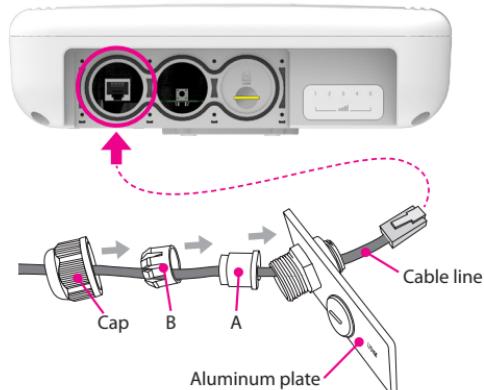
The surface of IC(metal) should be facing downward from the USIM card.



## Step 3

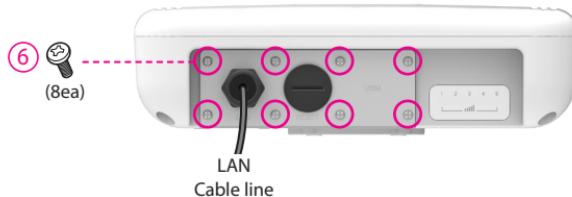
Remove the cap by turning. Then follow the next steps as shown below.

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

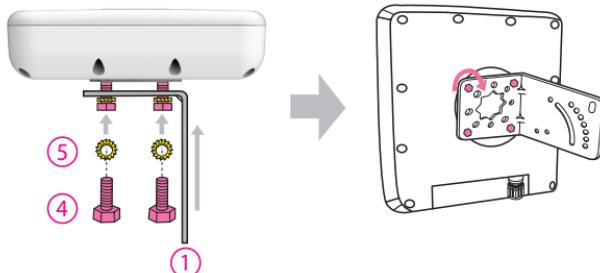
Assemble the Aluminum plate and outdoor CPE using the screws Bolt M3(8ea).



## Step 5

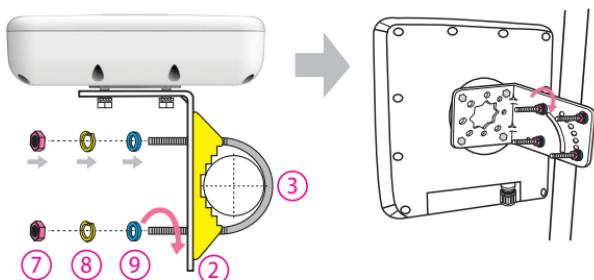
Attach item 1 to the back side of the device using item 4 as shown.

(Insert item 5 into item 4 before installing)



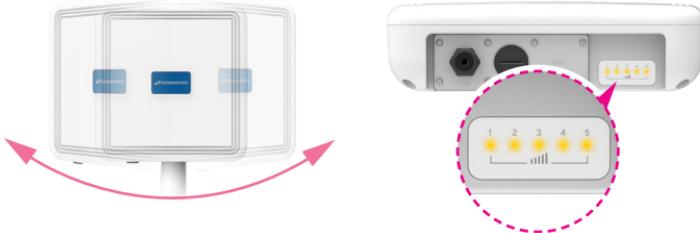
## Step 6

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

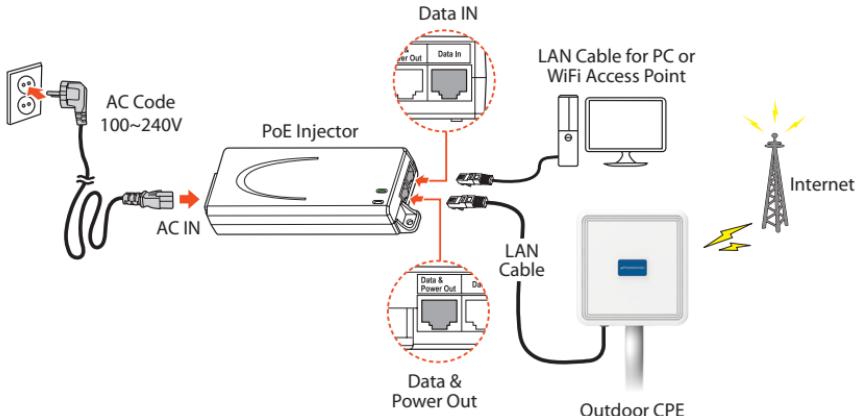


**Note :** If you forget the Login password for the Outdoor CPE or IP address after making changes, use the reset button to restore the Outdoor CPE to its original factory default settings.

# 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.

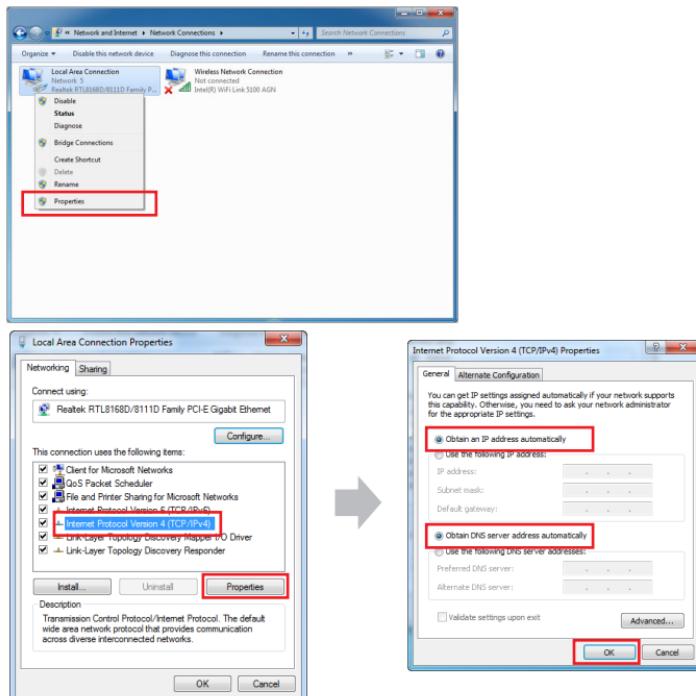
If normal connection between Outdoor CPE and PC is checked, you have to set up the PC and Outdoor CPE. The purpose of PC setup is to control network configuration for Windows Windows 7/8/10 or Mac OS X to use the Internet while the PC is connected to a Outdoor CPE.

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)

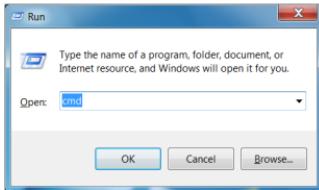
Most computers already have TCP/IP configuration enabled. For your computer to support CPE, please verify that the IP address and DNS settings are automatically generated in the Local Area connection of your Internet Protocol (TCP/IP) properties.

- 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_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=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.

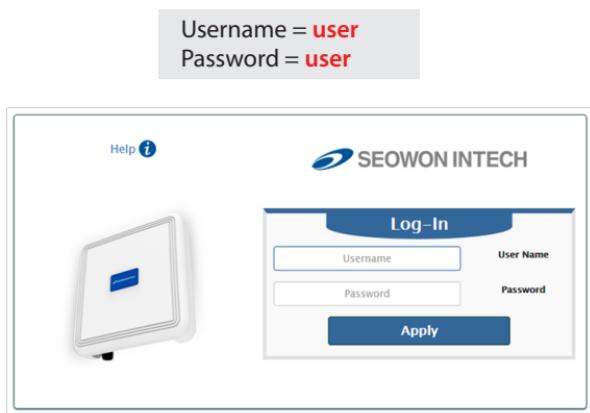
- LAN cable connection between PC and CPE
- Check TCP/IP setup details

# 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).



**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 shows the SEOWON INTECH web interface. At the top, there is a header with the logo, user information (Tx, user, English, Logout), and a search bar. On the left, a vertical menu bar titled "Menu" lists "Dashboard", "Connection Mode", "Status", and "Settings". The main area is titled "Dashboard" and contains several sections: "Mobile Network" (Mode: LTE Only, Operator: SEOWON), "LTE" (UICC State: UICC Ready, Connection State: Not connected, PDN Type), "Monitoring" (UL Data Rate: 0 Kbps, UL Max Data Rate: 0 Kbps, DL Data Rate: 0 kbps, DL Max Data Rate: 0 kbps, Device Up Time: 12:12:01 up 2 min), "Network" (LAN IP Address: 192.168.1.1, LAN IP Subnet Mask: 255.255.255.0, WAN IP Address, WAN IP Subnet Mask, Operation Mode: NAT), "About" (Firmware Version: 1.0.4, Firmware Creation Date: 2017.12.06-19:07), and "Firewall" (Status: 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 the SEOWON INTECH web interface. At the top, there is a header with the logo, user information (Tx, user, English dropdown, Logout), and a search bar. On the left, a sidebar menu titled "Menu" includes "Dashboard", "Connection Mode" (which is selected and highlighted in blue), "Status", and "Settings". The main content area is titled "Connection Mode". It contains two sections: "Operation" and "Connect Manager". In the "Operation" section, there is a dropdown menu set to "Auto". In the "Connect Manager" section, the status is shown as "Connecting", and there are "Connect" and "Disconnect" buttons.

- 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

The screenshot shows a web-based management interface for a SEOWON INTECH device. At the top, there is a header with the brand name "SEOWON INTECH" and various navigation links: Tx, user, English (dropdown), and Logout. On the left, a sidebar menu titled "Menu" includes "Dashboard", "Connection Mode", "Status" (which is currently selected), "LTE", "Network", "Device Details", "Device Performance", and "Settings". The main content area is titled "LTE Status" and contains three tabs: "LTE Information", "LTE Status" (which is active and highlighted in blue), and "LTE Statistics". The "LTE Status" tab displays detailed information in a table format:

LTE Status			
LTE Information		LTE Status	
<b>LTE Status</b>			
UIICC State	UIICC 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 (S13)	EMM State	Deregisterd [EMM-DEREISTERED]
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		
<b>Primary Cell</b>			
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

The screenshot shows the SEOWON INTECH network management interface. On the left, there is a sidebar with a logo and a navigation menu:

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

The main content area is titled "Network Information". It has two tabs: "WAN" and "LAN", with "LAN" selected. Below the tabs is a section titled "LAN" with the following table:

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

Below this is a section titled "Lease Status Table" with the following 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

The screenshot shows the SEO WON INTECH device management interface. On the left, there is a vertical navigation menu with the following items:

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

The main content area is titled "Device Details". It contains two sections: "Device Time" and "Device Information".

**Device Time**

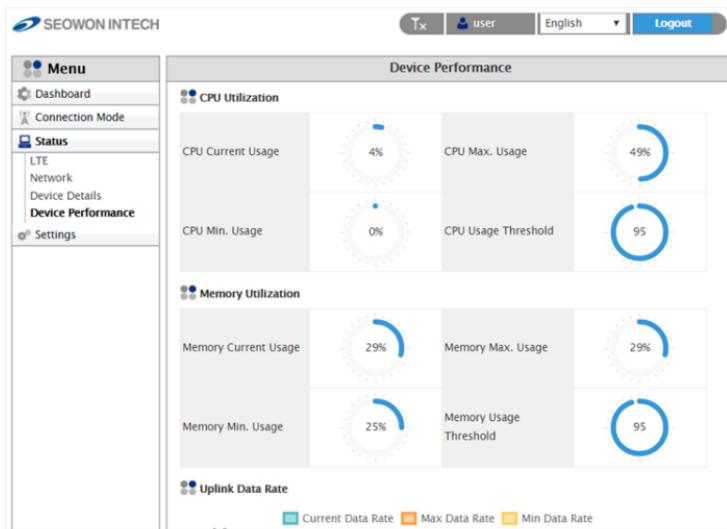
Current Local Time	2017-12-22 12:15:09	Time Server	my.pool.ntp.org
Synchronize With PC	Sync	Time Zone	Seoul
Daylight Saving Time	Disable		

**Device Information**

ODM	Seowonintech co., LTD.	Product Name	SLC-120T420GA
OUI	00:21:07	Serial Number	SEOWONXX130T03-0000 001
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 a web-based management interface for a SEOWON INTECH device. At the top, there is a header bar with the brand logo, the text "SEOWON INTECH", and user authentication information ("Tx", "user", "English", and "Logout"). Below the header is a left sidebar menu titled "Menu". The "Settings" section is expanded, showing options like "LTE", "Cell Selection", "Cell Lock", etc. The "LTE" section is currently selected and expanded, showing "Cell Selection" as the active sub-option. The main content area is titled "Cell Selection" and contains a "Band Selection" section. This section includes a dropdown menu for "Mode" set to "Full Band", a status field showing "42,43,48", and a "Band Selection" checkbox group where "Band-42", "Band-43", and "Band-48" are checked. A blue "Apply" button is located at the bottom right of this section. The rest of the main content area is mostly empty.

- 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 shows the SEOWON INTECH web interface. The left sidebar contains a navigation menu with the following items:

- Menu
- Dashboard
- Connection Mode
- Status
- Settings** (selected)
- LTE
  - Cell Selection
  - Cell Lock** (selected)
  - SIM Management
  - Default PDN
  - Multiple PDN
  - Internet MTU
  - IPv6 Settings
- Network
- Firewall
- User Management
- Firmware Management
- Monitoring

The main content area is titled "Cell Lock". It has two sections: "Search Cell" and "Cell Lock List".

**Search Cell:** A table with the following data:

Check	Index	DL-EARFCN	PCI	RSRP(dBm)	RSRQ(dB)	SINR(dB)
<input checked="" type="checkbox"/>	1	42890	0x23 (35)	-106.4/-107.9	-7.0/-7.1	20.0/21.3

**Add** and **Search** buttons are located at the bottom right of the table.

**Cell Lock List:** A table with the following columns:

Check	DL-EARFCN	PCI
-------	-----------	-----

**Add +**, **Delete**, **Delete All**, and **Apply** buttons are located at the bottom right of the table.

- 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 SIM Management page of the SEO WON INTECH web interface. The left sidebar contains a navigation menu with options like Dashboard, Connection Mode, Status, Settings (selected), LTE, SIM Management, Network, Firewall, User Management, Firmware Management, and Monitoring. The main content area is titled "SIM Management". It includes four sections: "PIN Information" (PIN Status: PIN DISABLED, RETRIES PIN: 3, RETRIES PUK: 10), "PIN Management" (PIN Code input field with Verify, Enable, and Disable buttons), "PIN Change" (PIN Code, New PIN Code, Confirm New PIN Code input fields with a Change button), and "PIN Unblock" (PUK Code, New PIN Code input fields with an Unblock button). A "Refresh" button is located at the top right of the main content area.

- 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 shows the SEO WON INTECH web interface. At the top, there is a header with the logo, user information ('user'), language selection ('English'), and a 'Logout' button. On the left, a vertical navigation menu is displayed under the 'Settings' section, with 'Default PDN' selected. The main content area is titled 'Default PDN' and contains a sub-section titled 'Default PDN Connection'. It includes fields for 'APN Name' (with an empty input box), 'Authentication Type' (set to 'NONE'), and 'PDN Type' (set to 'IPv4v6'). A blue 'Apply' button is located at the bottom right of this form.

- 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

The screenshot shows the SEOWON INTECH web interface. The left sidebar menu includes: Menu, Dashboard, Connection Mode, Status, Settings (selected), LTE (Cell Selection, Cell Lock, SIM Management, Default PDN), Multiple PDN (selected), Internet MTU, IPv6 Settings, Network, Firewall, User Management, Firmware Management, and Monitoring.

The main content area is titled "Multiple PDN". It contains a "PDN Configure" section with fields: PDN cid (2), PDN Label (ims), APN Name (empty), Authentication Type (NONE), PDN Type (IPv4v6), and Enable (checkbox). Below this is a "PDN list" table:

Cid	PDN Label	PDN Type	APN Name	Auth Type	Username	Enable
2	ims	IPv4v6		NONE		Off
3	admin	IPv4		NONE		Off
4	app	IPv4		NONE		Off

Buttons for "Apply" and "Cancel" are located at the bottom right of the "PDN Configure" section.

- 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 logo, the text "SEOWON INTECH", and a navigation bar with links for "Tx", "user", "English" (with a dropdown arrow), and "Logout". On the left, a vertical sidebar menu titled "Menu" lists several options under "Settings": Dashboard, Connection Mode, Status, LTE (which is expanded to show 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 selected and highlighted in blue. The main content area has a title "Internet MTU" and a sub-section "Internet MTU Settings". It contains a text input field with the value "1500" and a note "(The default is 1500, do not change unless necessary.)". A blue "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 shows the SEOWON INTECH web interface. At the top, there is a logo, user information (Tx, user), language selection (English), and a logout button. On the left, a vertical menu bar is visible with the following items: Dashboard, Connection Mode, Status, and a expanded section under Settings. The expanded Settings section includes LTE (Cell Selection, Cell Lock, SIM Management, Default PDN, Multiple PDN, Internet MTU), IPv6 Settings (selected), Network, Firewall, User Management, Firmware Management, and Monitoring. The main content area is titled "IPv6 Settings". It contains two sections: "IPv6 Setup" and "DHCPv6 Address Settings". In the "IPv6 Setup" section, "IPv6 Enable" is set to "Enable". In the "DHCPv6 Address Settings" section, "DHCPv6 Autoconfiguration Mode" is set to "Stateless" and "DNS Server Address Mode" is set to "Auto". A blue "Apply" button is located at the bottom right of the settings panel.

- 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

The screenshot shows the SEOWON INTECH web-based management interface. At the top, there is a header with the brand logo, user information ('user'), language selection ('English'), and a 'Logout' button. On the left, a vertical navigation menu is displayed under the 'Menu' section. The 'Settings' section is expanded, showing options like LTE, Network, Switch, Firewall, User Management, Firmware Management, and Monitoring. The 'Network' option is currently selected. Under the 'Switch' option, sub-options such as DHCP Server, DMZ, Port Forwarding, Port Triggering, VPN Configuration, VPN Passthrough, UPnP, QoS, DDNS, and Firewall are listed. To the right of the menu, the main content area is titled 'Switch Setup'. It contains a sub-section titled 'Switch Setup' with a 'Switch Mode' dropdown set to 'NAT'. A blue 'Apply' button is located at the bottom right of this section.

- 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

The screenshot shows the SEO WON INTECH web interface. The left sidebar menu includes: Menu, Dashboard, Connection Mode, Status, Settings (selected), LTE, Network (selected), Switch, DHCP Server (selected), DMZ, Port Forwarding, Port Triggering, VPN Configuration, VPN Passthrough, UPnP, QoS, DDNS, Firewall, User Management, Firmware Management, and Monitoring.

The main content area is titled "DHCP Server". It has a sub-section "DHCP Server Settings" with the following fields:

- 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: checked
- Primary DNS: (empty)
- Secondary DNS: (empty)
- Tertiary DNS: (empty)
- DHCP Lease Time: 3600 seconds

Below this is a "Lease Reservation Table" section:

Add	Del	Searched List					Add
Select	Host Name	MAC Address	IP Address	Enable	Select	IP/MAC Address	
					<input type="checkbox"/>	192.168.1.2 / C8:08:E9:6 F:CF:57	

At the bottom, there is a note "Up to 10 rules can be set" and an "Apply" button.

- 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-based management interface. On the left, there is a vertical navigation menu with the following items:

- Menu
- Dashboard
- Connection Mode
- Status
- Settings** (selected)
- LTE
- Network** (selected)

  - Switch
  - DHCP Server
  - DMZ** (selected)
  - Port Forwarding
  - Port Triggering
  - VPN Configuration
  - VPN Passthrough
  - UPnP
  - QoS
  - DDNS

- Firewall
- User Management
- Firmware Management
- Monitoring

The main content area is titled "DMZ". It contains several configuration options:

- Enable DMZ**: A group of three radio buttons labeled "Enable" and "Disable". The first "Enable" button is selected.
- Redirect ICMP To The Host**: A group of three radio buttons labeled "Enable" and "Disable". The first "Enable" button is selected.
- Exclude Web Server Port**: A group of three radio buttons labeled "Enable" and "Disable". The first "Enable" button is selected.
- Private LAN IP Address**: An input field containing "192.168.1.2".
- Apply**: A blue button located at the bottom right of the configuration section.

- 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.

The screenshot shows the SEOWON INTECH web interface. The left sidebar menu is open, showing various settings categories. The 'Network' category is currently selected, and its sub-menu includes 'Port Forwarding'. The main content area is titled 'Port Forwarding' and contains a form for adding a new rule. The form fields are: Name (text input), Protocol (dropdown menu set to 'BOTH'), Start Port (text input), End Port (text input with placeholder '(Blank or Start Port-65535)'), Destination IP (text input with placeholder '[ ] - [ ]'), and Destination Port (text input with placeholder '(Blank or 1-65535)'). Below the form are two buttons: 'Add' (blue) and 'Cancel' (green). Underneath the form is a section titled 'Port Forwarding List' with a table header row containing columns: No., Name, Start Port, End Port, Protocol, IP Address, and Destination Port. A note below the table says '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.

- 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 SEO WON INTECH web-based management interface. At the top, there is a header with the brand logo, user status ('user'), language selection ('English'), and a 'Logout' button. On the left, a vertical navigation menu is displayed under the 'Menu' section. The 'Network' option is currently selected. Other options in the Network section include LTE, Switch, DHCP Server, DMZ, Port Forwarding, Port Triggering, VPN Configuration, VPN Passthrough, UPnP, QoS, DDNS, Firewall, User Management, Firmware Management, and Monitoring. The main content area is titled 'VPN Configuration' and contains a sub-section titled 'VPN Configuration Settings'. It includes fields for selecting the 'VPN Mode' (set to 'L2TP'), 'Server Address' (set to 'Disable'), 'Username' (empty), 'Password' (empty), 'Pre Shared Key' (empty), 'Connect Mode' (set to 'Keep Alive'), and 'Redial Period' (set to 'Seconds'). At the bottom right of the configuration form 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

The screenshot shows the SEO WON INTECH web-based management interface. At the top, there is a header with the brand name "SEO WON INTECH", user status ("user"), language selection ("English"), and a "Logout" button. Below the header is a left-hand sidebar menu with the following items:

- Menu
- Dashboard
- Connection Mode
- Status
- Settings** (selected)
- LTE
- Network** (selected)

  - Switch
  - DHCP Server
  - DMZ
  - Port Forwarding
  - Port Triggering
  - VPN Configuration
  - VPN Passthrough** (selected)
  - UPnP
  - QoS
  - DDNS

- Firewall
- User Management
- Firmware Management
- Monitoring

The main content area is titled "VPN Passthrough". It contains a sub-section titled "VPN Pass Through Settings" with two checkboxes: "VPN Service" (unchecked) and "PPTP Service" (checked). There is also a checkbox for "L2TP/IPSEC Service" which is also checked. A blue "Apply" button is located at the bottom right of this section.

- 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 SEO WON INTECH web-based management interface. On the left, there is a vertical navigation menu with the following items:

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

The main content area has a title "Universal Plug & Play". It contains two sections:

- Universal Plug & Play**: A configuration section with a radio button for "UPnP Enable/Disable" set to "Enable". There is also an "Apply" button.
- Client List**: A table with columns: No., Client Program, Protocol, External Port, IP Address, and Internal Port. A "Refresh" button is located at the top right of the table.

- 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

The screenshot shows the SEO WON INTECH web interface. The left sidebar menu includes: Menu, Dashboard, Connection Mode, Status, Settings (selected), LTE, Network, Firewall, User Management, Firmware Management, and Monitoring. The main content area is titled "QoS". It has two sections: "QoS Setup" and "QoS Rule Setup". In "QoS Setup", there is a radio button for "QoS Enable/Disable" (selected "Enable") and a "Download(kbps)" input field set to "10000". A note states: "Setting QoS on device might be mandatory for access control and usage tracking, but suffering a performance hit is strictly optional." In "QoS Rule Setup", there are dropdown menus for "QoS Mode" (set to "Down"), "IP Address/Mask" (with fields for IP and subnet mask), "Protocol" (set to "ALL"), "Start Port" and "End Port" (empty), "Rate(kbps)" (set to "HIGH"), and "Priority" (dropdown). Below these are "Save" and "Cancel" buttons. The "QoS List" section shows a table header: "No. IP Address/Mask Protocol Port Rate(kbps) Priority". A note says: "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

The screenshot shows the SEO WON INTECH web interface. The left sidebar menu is open, showing the following structure:

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

The main content area is titled "DDNS". It contains two sections: "Dynamic DNS" and "DDNS Setting". Under "Dynamic DNS", there is a checkbox labeled "DDNS Enable" with options "Enable" (checked) and "Disable". Under "DDNS Setting", there are several input fields:

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

A blue "Apply" button is located at the bottom right of the "DDNS Setting" section.

- 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

The screenshot shows the SEO WON INTECH web interface. At the top, there is a header with the brand name, user status (Tx, user), language selection (English), and a Logout button. On the left, a vertical navigation menu is displayed under the 'Settings' section, with 'Firewall' and 'Basic' selected. The main content area is titled 'Firewall' and contains two sections: 'Firewall Setup' and 'SIP ALG Settings'. In the 'Firewall Setup' section, several checkboxes are available for enabling/disabling various functions: Firewall Enable/Disable (checked), Allow Ping From WAN (checked), Allow HTTP login from WAN (checked), Allow HTTPS login from WAN (checked), and Multicast Filter (checked). There is also an 'Apply' button. Below this, the 'SIP ALG Settings' section states that the modem supports SIP ALG and describes its function. It includes fields for 'Enable SIP ALG' (checkbox checked) and 'SIP port' (set to 5060), followed by another 'Apply' button.

- 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 shows the device management interface for SEOWON INTECH. At the top, there is a header with the brand name, a Tx button, user information, language selection (English), and a Logout button. On the left, a vertical navigation menu is displayed under the 'Menu' heading. The 'Settings' section is expanded, showing options like LTE, Network, Firewall, User Management, Account, Language, Restore Default, Reboot, Date and Time, Remote Management, Firmware Management, and Monitoring. The 'User Management' option is selected. The main content area is titled 'Account' and contains a sub-section titled 'Account Management'. It includes fields for Privilege (set to 'user'), Username ('user'), Current Password, New Password, and Confirm Password. A blue 'Apply' button is located at the bottom right of this 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a header with the logo, user information ('user'), language selection ('English'), and a 'Logout' button. Below the header is a left sidebar menu with the following structure:

- Menu (selected)
- Dashboard
- Connection Mode
- Status
- Settings (selected)
- LTE
- Network
- Firewall
- User Management (selected)
- Account
- Language (selected)
- Restore Default
- Reboot
- Date and Time
- Remote Management
- Firmware Management
- Monitoring

To the right of the sidebar is the main content area titled "Language". It displays a "Language Settings" section with a dropdown menu set to "English" and a blue "Apply" button.

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

#### 4.4.3 Restore Default

The screenshot shows the SEOWON INTECH web interface. The left sidebar menu includes: Menu, Dashboard, Connection Mode, Status, Settings (with sub-options: LTE, Network, Firewall), User Management (with sub-options: Account, Language, **Restore Default**, Reboot, Date and Time, Remote Management, Firmware Management, Monitoring). The main content area is titled "Restore Default". It contains two sections: "Factory Reset" (with a note: "Reset all settings to factory default values" and a blue "Apply" button) and "Last Good Configuration" (with a note: "Last Good Configuration Not Exist" and three buttons: "Save Last Good" (blue), "Remove Last Good", and "Reset to Last Good").

- 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

The screenshot shows a web-based management interface for a device. At the top, there is a header with the SEO WON INTECH logo, user information ('user'), language selection ('English'), and a 'Logout' button. Below the header is a left sidebar menu with the following items:

- Menu
- Dashboard
- Connection Mode
- Status
- Settings
  - LTE
  - Network
  - Firewall
- User Management
  - Account
  - Language
  - Restore Default
  - Reboot** (highlighted)
  - Date and Time
  - Remote Management
  - Firmware Management
  - Monitoring

The main content area is titled "System Reboot" and contains the following text:  
It takes about 40 seconds to reboot the system  
With the "Apply" button.

- 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. The left sidebar menu includes: Menu, Dashboard, Connection Mode, Status, Settings (selected), LTE, Network, Firewall, User Management, Account, Language, Restore Default, Reboot, Date and Time (selected), Remote Management, Firmware Management, and Monitoring.

The main content area is titled "Date and Time". It has a sub-section titled "Time Zone Setup". Under "Time Zone Setup", there is an "NTP Client" section with "Enable/Disable" options. The "Enable" radio button is selected, and the status is shown as "2017-12-22 12:30:41". Below this is a "Time Server" input field containing "my.pool.ntp.org". A "Time Zone Select" dropdown is set to "Seoul". Under "Daylight Saving", the "Enable Daylight Saving" checkbox is checked. The "Start Date" and "End Date" fields are set to "First Sunday of April at 2 o'clock" and "Last Sunday of October at 2 o'clock" respectively. A blue "Apply" button is located at the bottom right of the form.

- 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 'Remote Management' page of the SEOWON INTECH web interface. On the left, a sidebar menu lists various settings categories. Under 'User Management', the 'Remote Management' option is selected. The main panel displays two sections: 'HTTP Server' and 'HTTPS Server'. In the 'HTTP Server' section, there is a field for 'Remote IP Address' which is empty, and a 'Port Number' field containing '80' with the note '(The default is 80)'. In the 'HTTPS Server' section, there is a checked 'Enable' checkbox and a 'Port Number' field containing '443' with the note '(The default is 443)'. A blue 'Apply' button is located at the bottom right of the form.

- 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 'Software' page of the SEOWON INTECH web interface. At the top, there is a header with the brand logo, user information ('user'), language selection ('English'), and a 'Logout' button. Below the header, the left sidebar contains a 'Menu' section with 'Dashboard', 'Connection Mode', 'Status', and a 'Settings' section that includes 'LTE', 'Network', 'Firewall', 'User Management', 'Firmware Management', 'Software', and 'Monitoring'. The main content area is titled 'Software' and specifically 'Software Upgrade'. It features four input fields for 'Filename 1', 'Filename 2', 'Filename 3', and 'Filename 4', each with a 'Choose File' button and a message indicating 'No file chosen'. Below these fields is a note: 'Please select the update package file'. Underneath the note, the 'Device Software Version' is listed as '1.0.4'. In the bottom right corner of the main content area, there is a blue 'Update' button.

- 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 shows the SEOWON INTECH Performance Measurement Tool. At the top, there is a header with the logo, user information ('Tx', 'user'), language ('English'), and a 'Logout' button. On the left, a vertical menu bar is visible under the 'Menu' section, listing 'Dashboard', 'Connection Mode', 'Status', 'Settings' (which is expanded to show 'LTE', 'Network', 'Firewall', 'User Management', 'Firmware Management', 'Monitoring', 'Iperf', 'Diagnostic', and 'Log'), and 'Iperf'. The main content area is titled 'Performance Measurement Tool' and contains a sub-section titled 'Iperf Settings'. It includes fields for 'Status' (with 'Enable' and 'Disable' radio buttons), 'Last Measurement Date/Time' (empty input field), 'Server Address' (empty input field), 'Server Port' (input field containing '5001'), 'Management Port' (input field containing '5001'), 'Measurement Time' (input field containing '60'), 'Protocol Type' (dropdown menu set to 'TCP'), and 'TCP Client Number' (input field containing '1'). Below these fields is a large empty text area for results. At the bottom right of the 'Iperf Settings' section 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-based management interface. At the top, there is a header with the logo, user information ('user'), language selection ('English'), and a 'Logout' button. Below the header is a left sidebar menu with the following structure:

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

The main content area is titled "Diagnostic". It contains two tabs: "Ping" (which is selected) and "Trace router". Under the "Ping" tab, there is a configuration form with the following fields:

IP Address (URL)	<input type="text"/>
Ping Packet Size (Bytes)	56
Ping Timeout (sec)	30
Ping Count	4

Below the form is a large empty container area for displaying results, and at the bottom right is a blue "Apply" button.

- 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.

The screenshot shows a web-based management interface for a device. At the top left is the logo "SEOWON INTECH". To the right are navigation links for "Tx", "user", "English" (with a dropdown arrow), and "Logout". On the far left is a vertical "Menu" sidebar with the following items:

- Dashboard
- Connection Mode
- Status
- Settings** (selected)

  - LTE
  - Network
  - Firewall
  - User Management
  - Firmware Management
  - Monitoring** (selected)

    - Iperf
    - Diagnostic** (selected)
    - Log

The main content area is titled "Diagnostic" and contains two tabs: "Ping" and "Trace router" (which is currently selected). Below the tabs is a sub-section titled "Trace router" with the following configuration options:

- "IP Address (URL)" input field.
- "Set Maximum TTL(Max Hops)" input field set to "30".
- "Set the number of queries at each TTL" dropdown menu set to "3".
- "Report IP Address Only" checkbox.

At the bottom right of the main content area is a blue "Apply" button.

- 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

The screenshot shows the SEOWON INTECH web interface. At the top, there is a logo, user information (Tx, user), language selection (English), and a logout button. On the left, a vertical navigation menu is displayed under the "Menu" section, which includes Dashboard, Connection Mode, Status, Settings (with sub-options like LTE, Network, Firewall, User Management, Firmware Management, Monitoring, iperf, Diagnostic, and Log), and Log. The main content area is titled "System log". It contains a "System log Enable/Disable" section with a radio button for "Enable" (which is selected) and a "Disable" option. Below this is a "View System Log" section with a radio button for "System log" (selected) and "Kernel log". A blue "Apply" button is located at the top right of the log section. At the bottom right of the log section is a "Download" button.

- 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. On the left, there's a sidebar with a 'Menu' icon, followed by 'Dashboard', 'Connection Mode', 'Status', 'Settings' (which is expanded to show 'LTE', 'Network', 'Firewall', 'User Management', 'Firmware Management', 'Monitoring', 'iperf', 'Diagnostic', and 'Log'), and a 'Logout' button at the top right.

The main content area has a title 'System log'. It contains two tabs: 'System log Enable/Disable' (selected) and 'View System Log'. Under 'Enable/Disable', there are radio buttons for 'Disable' (selected) and 'Enable', with an 'Apply' button. Under 'View System Log', there are radio buttons for 'System log' (selected) and 'Kernel log', with a 'Download' button.

Below these tabs, there's a note: 'Note: It could take a longer time to display detailed log'. A scrollable text area displays system logs:

```

Log lines (Display/Total) = 288/424
Log level = Simple
0001 -----
0002 KERNEL LOGGING
0003 -----
0007 [Thu Jan 1 09:00:15 LST 1970] <5>Linux version 3.10.0-uc0 (release) #SeowonSW73) (gcc
0008 [Thu Jan 1 09:00:15 LST 1970] <>CPU: ARMv7 Processor [410fc075] revision 5 (ARMv7), c
0009 [Thu Jan 1 09:00:15 LST 1970] <>CPU: PPIP / VIPT nonaliasing data cache, VIPT aliasing li
0010 [Thu Jan 1 09:00:15 LST 1970] <>Machine: GCT GDMT243
0011 [Thu Jan 1 09:00:15 LST 1970] <>Boot device: nand
0012 [Thu Jan 1 09:00:15 LST 1970] <>boot mem size: 256MB
0013 [Thu Jan 1 09:00:15 LST 1970] <>FW Checksum: disable
0014 [Thu Jan 1 09:00:15 LST 1970] <>Active linux: linux2
0015 [Thu Jan 1 09:00:15 LST 1970] <>Active roots: roots
0016 [Thu Jan 1 09:00:15 LST 1970] <>Active rk : rk

```

- 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 licensed 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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