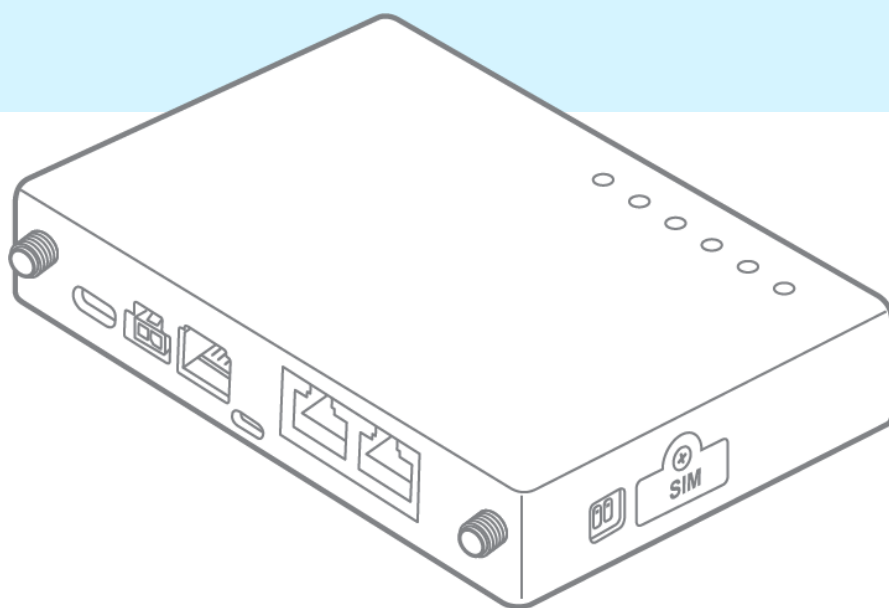


User Manual

AMT5500



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Safety precautions (be sure to follow)

- For correct use of this product, be sure to read through “Safety precautions” carefully before use. After reading it, please keep it in a safe place.
- You must follow the safety precautions presented here in order to prevent any personal injury to yourself or other people or loss of property.
- Do not remove the label attached to the product. This label indicates that the certification of conformity to the technical standards and the certification of conformity to the technical standards have been obtained, and this product cannot be used if the label is removed.
- Use only the designated products for AC Adaptor and Antenna.
- Use this product within the temperature range of -20°C to 60°C and the humidity is within 85%. Also, note that there are restrictions on the operating temperature and environmental humidity of this product.
- It contains general safety information for devices and may include content that does not apply to your device.



The term ‘device’ refers to the product and its battery, the items supplied with the product, and any approved accessories used with the product.

Symbol Description

The following symbols indicate the different levels of hazards or damages that may be caused when this product is misused without following the instructions.

 WARNING	This indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	This indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

The following symbols indicate the instructions that must be followed.

 Don't	This indicates an action that is prohibited.
 Do	This indicates that the action must be performed strictly according to the instructions provided (action which must be performed)

Handling of this product



WARNING



Don't

- Do not use, store or leave this product in any location at a high temperature or heat likely to accumulate (near a flame, near a stove, in a futon or kotatsu, in direct sunlight, or inside a vehicle exposed to sunlight).
It may cause a fire, a burn, an injury or an electric shock. In addition, some parts of the case may be hot, which may cause burns.
- Do not disassemble, modify, or repair your device
Any changes or modifications to your device can void your manufacturer's warranty. If your device needs servicing, take your device to a Service Centre.
- Do not pour and get it wet with liquid (drinking water, sweat, seawater, urine of the pet, etc.).
This product is not waterproof. It may cause a fire, a burn, an injury or an electric shock. Please note that if our inspection determines that the failure was caused by the customer's negligence, this product will not be covered by the warranty and the unit may not be repairable. Also, even if the unit is repairable, there will be a charge to repair the unit.
- Foreign objects or liquids may enter the product. If any abnormality occurs, immediately stop using it, turn off the power, and remove all connected cables.
- Do not apply excessive force or shocks such as drop, stamp or hurl.
It may cause a fire, a burn, an injury or an electric shock and Repair due to the user's carelessness is excluded from free warranty.
- Do not touch or apply excess force to the connector pins. It may cause failure.
- Do not use damaged power cords or plugs, or loose electrical sockets
Unsecured connections can cause electric shock or fire.
- Do not pull the power cord excessively when disconnecting it
Doing so may cause electric shock or fire.
- Do not bend or damage the power cord.
- Doing so may cause electric shock or fire.
- Do not touch this product and AC Adaptor by wet hands. If the AC adaptor is wet, stop using it and contact your place of purchase.

-
- Do not apply excessive force or shocks such as drop, stamp or hurl the AC adaptor.
 - Do not use the product when there is severe thunder or lightning, and disconnect the product from the AC adaptor. Injury or fire may result from lightning.
 - Do not put this product in the vicinity of the outlet air vent of an air conditioner.
 - Do not use a place that can emit flammable gas such as a service station. If used in such a place, it may cause an explosion or fire.
 - Do not put it in a heating cooking apparatus such as microwave ovens and the high pressure containers.
It may cause a fire, a burn, an injury or an electric shock.
 - Do not use while driving, such as a car. It may cause an accident. When setting the product, stop and operate
 - If you notice any abnormalities such as odor, abnormal noise, smoke emission, heat, discoloration or deformation during use or storage, turn off this product immediately.
It may cause fire, burns, injury or electric shock.
 - Do not place the product where there is a risk of overheating.
 - The heat can damage the battery, causing overheating or personal injury
 - Conductive materials may cause a short circuit or corrosion of the terminals, which may result in an explosion or fire.
 - Do not use or store your device in areas with high concentrations of dust or airborne materials
Dust or foreign materials can cause your device to malfunction and may result in fire or electric shock.
 - Do not use a cable whose covering is peeled off or damaged, and do not use any charger or battery that is damaged or malfunctioning.
 - Prevent the multipurpose jack and the small end of the charger from contact with conductive materials, such as liquids, dust, metal powders, and pencil leads. Do not touch the multipurpose jack with sharp tools or cause an impact to the multipurpose jack
 - Do not bite or suck the device or the battery
Doing so may damage the device or result in an explosion or fire and Children or animals can choke on small parts.
 - If children use the device, make sure that they use the device properly.
 - Do not insert the device or supplied accessories into the eyes, ears, or mouth. Doing so may cause suffocation or serious injuries.
-



Do

- On an aircraft, using electronic devices can interfere with the aircraft's electronic navigational instruments. Follow the regulations provided by the airline and the instructions of aircraft personnel. In cases where it is allowed to use the device, always use it in flight mode.
- Electronic devices in your car may malfunction, due to radio interference from your device. Contact the manufacturer for more information.
- Please switch off this product in the vicinity of the electronic equipment handling highly precise control or subtle signals.
It may adversely affect it such as malfunction.
- ※ Examples of the electronic equipment which requires attention:
A hearing aid, an implantable pacemaker and an implantable defibrillator, other medical service electric apparatuses, a fire alarm, an automatic door, and other automatic control apparatuses.
- If you use an implantable pacemaker, an implantable defibrillator or other medical electric apparatus, please confirm the influence of the radio wave with each medical electric apparatus maker or distributor involved.
- When designing an instrument equipped with this product, it must be designed so that high temperature components do not come into direct contact with the user. Depending on the communication condition, the temperature of this product may rise, causing fires, burns, and other accidents.



CAUTION



Don't

- Do not store this product in a dusty, highly humid, or high-temperature place. It may cause a fire, a burn or an electrical shock.
- Do not place this product on an unstable surface such as a loose pedestal, inclined platform, or a place subject to vibration. The product may fall and cause injury or product malfunction.
- Do not store your device near magnetic fields
Your device may malfunction from exposure to magnetic fields. Magnetic stripe cards, including credit cards, phone cards, passbooks, and boarding passes, may be damaged by magnetic fields.
- Do not dispose of with trash. It may cause fire or environmental damage. If the product becomes unnecessary, contact the retailer or manufacturer for a collection method.
- Inserting a card or connecting a cable by force or improperly may result in damage to the multipurpose jack or other parts of the device.
- Do not remove the connecting cable and antenna of each connector while this product is turned on. It may cause failure.
- Avoid contact with device when it is overheating. Failure to do so may cause low temperature burns, redness and skin pigmentation
- When inserting a card or connecting a cable to your device, make sure that the card is inserted or the cable is connected to the proper side.



Do

- This product may become hot when used for communication for many consecutive hours, but it is not failure. Be careful with the handling of this product as it may be still hot even after communication.
- If you do not use the product for a long time, disconnect the power cable from the product. If you use it for a long time, this product may overheat, so be careful when handling it.
- If this product is affected by noise by your environment, implement noise countermeasures as wireless characteristics may be compromised.
- Do not use your device near other electronic devices
Most electronic devices use radio frequency signals. Your device may interfere with other electronic devices.
- If you use this device in the vicinity of a phone, television set, or radio receiver, it may cause some interference. Please use this device at a distance as far as possible from such units.
- Using a wireless data connection may cause interference with other

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	<p>devices, such as audio equipment and telephones.</p> <ul style="list-style-type: none">• Electronic devices in your car may malfunction, due to radio interference from your device. Contact the manufacturer for more information. Comply with all safety warnings and regulations regarding mobile device usage while operating a vehicle.
--	---

Handling of this product in the vicinity of electronic medical equipment



WARNING



Do

- Those who wear an implantable pacemaker or a defibrillator must carry or use this product at least 22 cm away from the implanted product. The radio wave from this product may affect the operation of electronic medical equipment.
- Do not use this product in crowded places as there may be people nearby with implantable cardiac pacemakers and implantable defibrillators. The radio wave from this product may affect the operation of electronic medical equipment.
- Use the following indoors in the medical institution:
Do not bring this product into the operating room, Intensive Care Unit (ICU) or Coronary Care Unit (CCU)
Do not use this product in the ward.
Even if you are in a lobby, etc., do not use this product if there are medical electrical equipment nearby.
Please follow the instructions from each medical institution when you use this product in a medical institution.
- If any electronic medical equipment other than an implantable pacemaker or an implantable defibrillator is used outside a medical institution, such as in the home, please confirm the possible effect of radio waves with the manufacturer of the electronic medical equipment. The radio wave from this product may affect the operation of electronic medical equipment.
- If you use medical equipment, contact the equipment manufacturer before using your device to determine whether or not the equipment will be affected by radio frequencies emitted by the device.

Introduction

This product is a wireless router that supports GSM, UMTS, LTE wireless data communication and Ethernet connection.

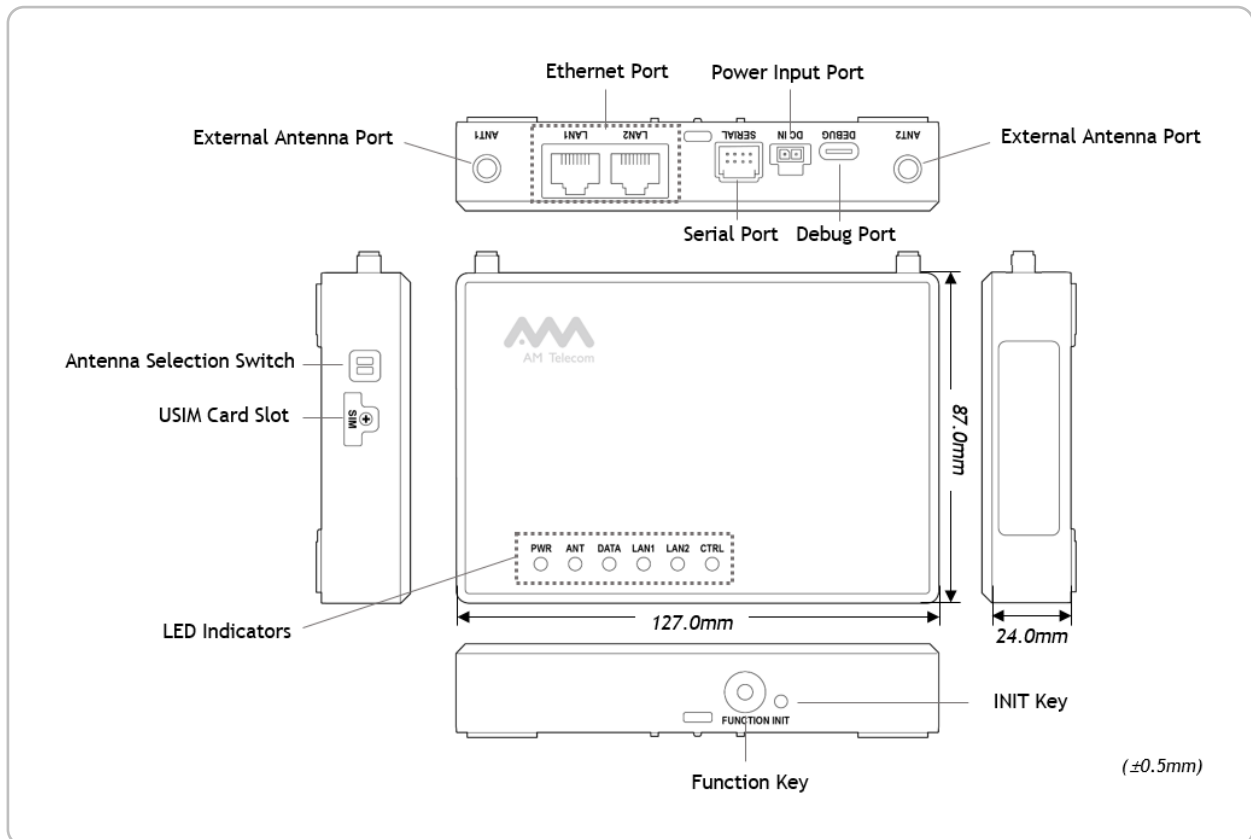
It is a miniaturized model that supports various frequency bands and supports both internal and external antennas. We will provide the best choice for all customers who want a wireless router.

1. Hardware Features

This section outlines the physical aspects of your router.

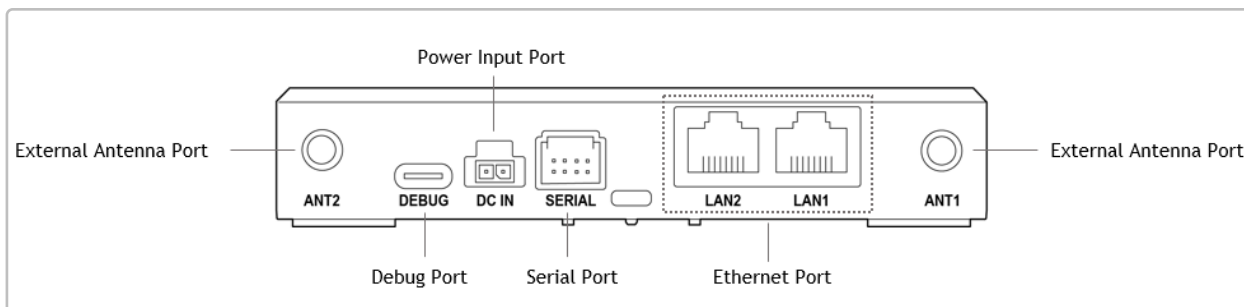
1.1. Product Overview

1.1.1. Product Layout



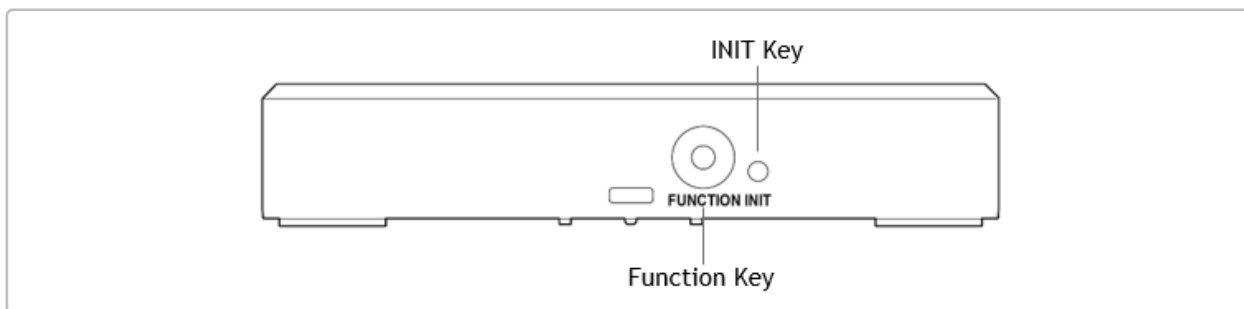
1.1.2. Interface

The following parts are located on the rear panel.

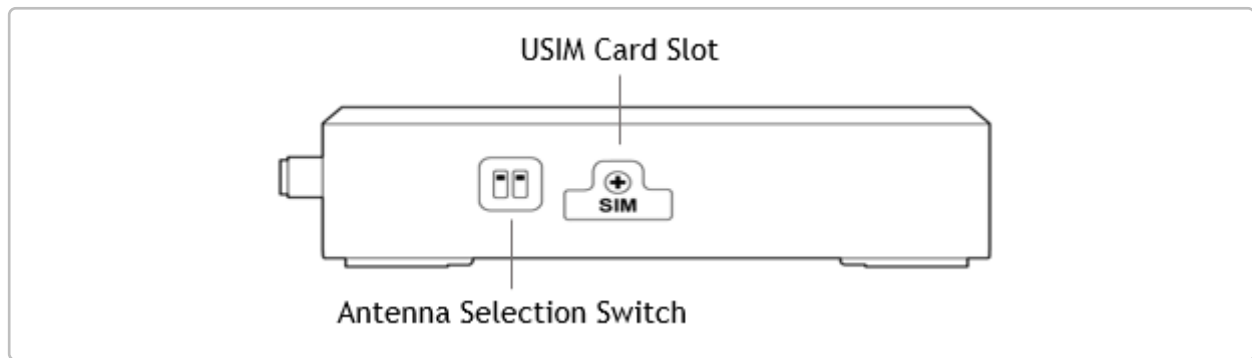




Item	Description
External Antenna Port (ANT1, ANT2)	To Connect the provided external antenna.
Debug Port (DEBUG)	For debugging purposes, do not use by users.
Power Input Port (DC IN)	For connecting the router to a power socket via the provided power adaptor.
Serial Port (SERIAL)	To use the serial interface via the provided cable. (Option)
Ethernet Port (LAN1, LAN2)	For connecting your PCs or other wired network devices to the router

1.1.3. Key & Switch

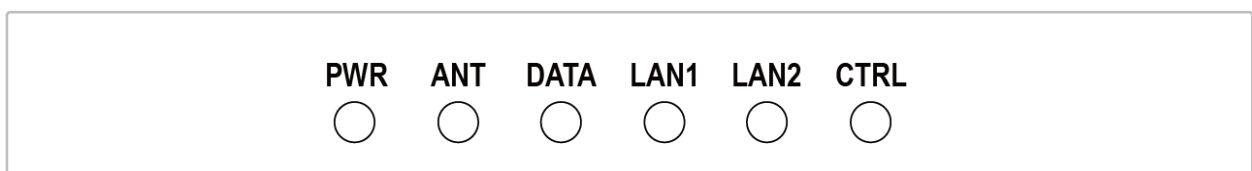


Item	Description
Function Key (FUNCTION)	Press and hold this button for more than 3 seconds to reboot the router.
INIT Key (INIT)	Press and hold this button for more than 3 seconds to Initialize the router setting values. After the initialization is complete, the router is restarted. Regarding initialization items, refer to <u>E. List of Stored and INIT items.</u>



Item	Description
ANT Select Switch	<p>This is a switch to select an external or internal antenna.</p> <p>- . Internal Antenna(Default) </p> <p>- . External Antenna(Optional) </p> <p>Please refer to 1.2.2 Attach the Antennas for Antenna Setting details</p>
USIM Card Slot (SIM)	<p>This is the slot to insert the USIM Card.</p> <p>Please refer to 1.2.1 Insert the USIM Card for how to insert the USIM.</p>

1.1.4. LED Indicator



LED	Status	Indication
PWR	Solid Green	The router is booted up and ready.
	Solid Red	The router is booting.
	Off	Power is not supplied.
ANT	Solid Green	LTE Network is attached and good signal is detected.
	Blinking Green	LTE Network is attached and poor signal is detected.
	Solid Blue	UMTS or GSM Network is attached and good signal is detected.
	Blinking Blue	UMTS or GSM Network is attached and poor signal is detected.

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	Solid Red	No signal or service failure is detected.
	Blinking Red	USIM is not detected or PIN/PUK is required.
	Off	Non-operation
DATA	Solid Green	Internet connection is ready.
	Blinking Green	Internet connecting is in progress.
	Off	Internet connection is disconnected.
LAN1	Solid Green	LAN1 port has detected wired links with device.
	Blinking Green	Data is being transmitted or received.
	Off	No link is detected on LAN1 port.
LAN2	Solid Green	LAN2 port has detected wired links with device.
	Blinking Green	Data is being transmitted or received.
	Off	No link is detected on LAN2 port.
CTRL	Blinking Red	Software upgrade is in progress.
	Off	Non-operation



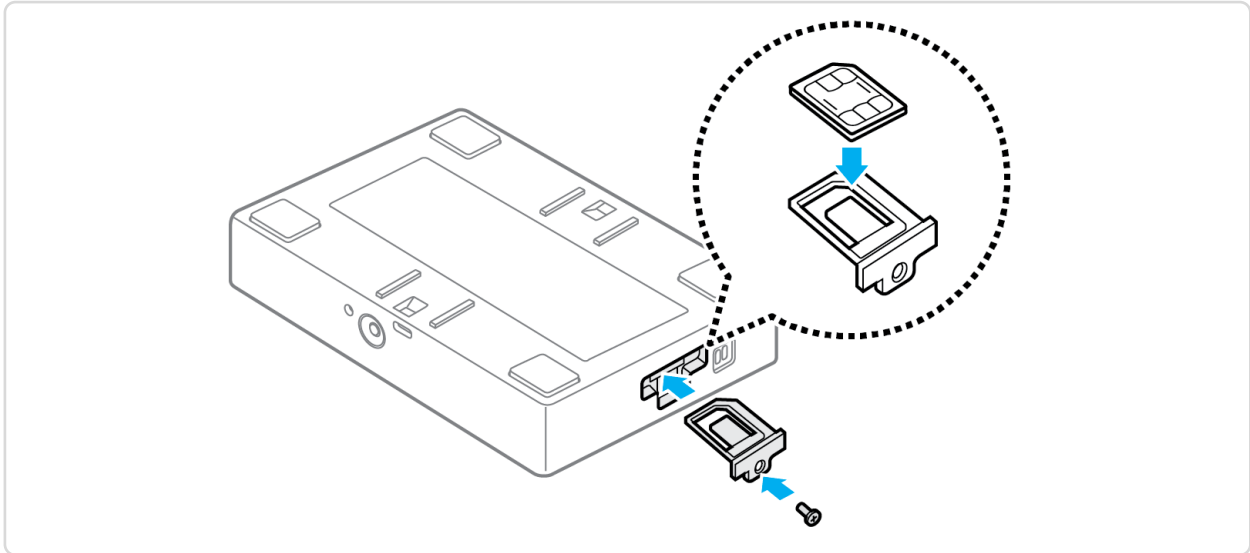
LED visibility may decrease depending on the surrounding environment of the product.

1.2. Assemble the Router

1.2.1. Insert the USIM Card

This product uses a separate USIM card tray. Mount the USIM card as shown in the figure and insert it into the product.

Make sure to tighten the screw after inserting the USIM card.

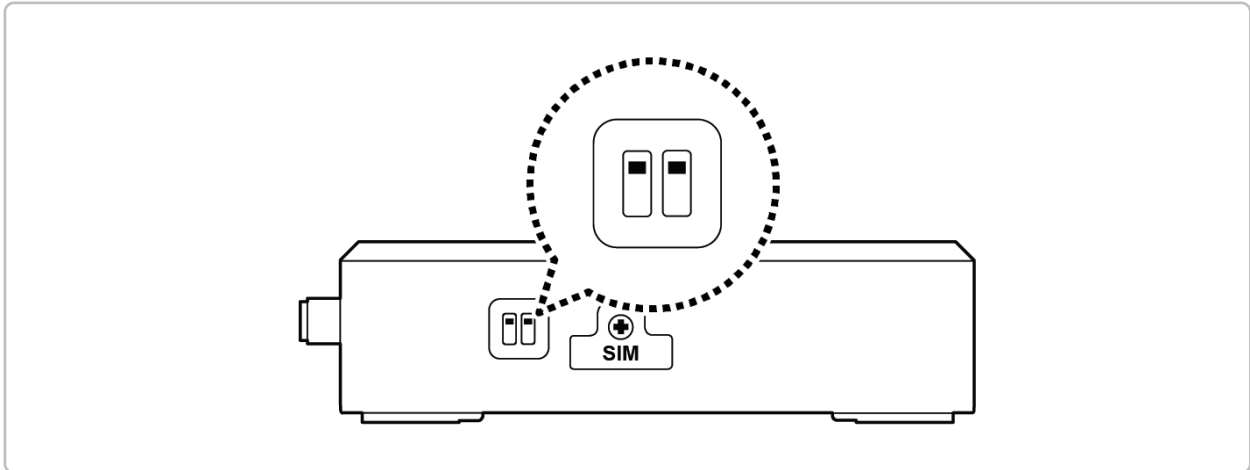


- Inserting a USIM card in the opposite direction or applying excessive force can cause product damage.
- Be careful not to touch or scratch the IC part of the USIM card.
- Do not force the USIM card out.
- Do not insert or remove a USIM card with the product powered on.

1.2.2. Attach the Antennas

1.2.2.1. Internal Antenna

This product includes internal antenna. To use the Internal antenna, set the Antenna Selection Switch as shown in the figure.



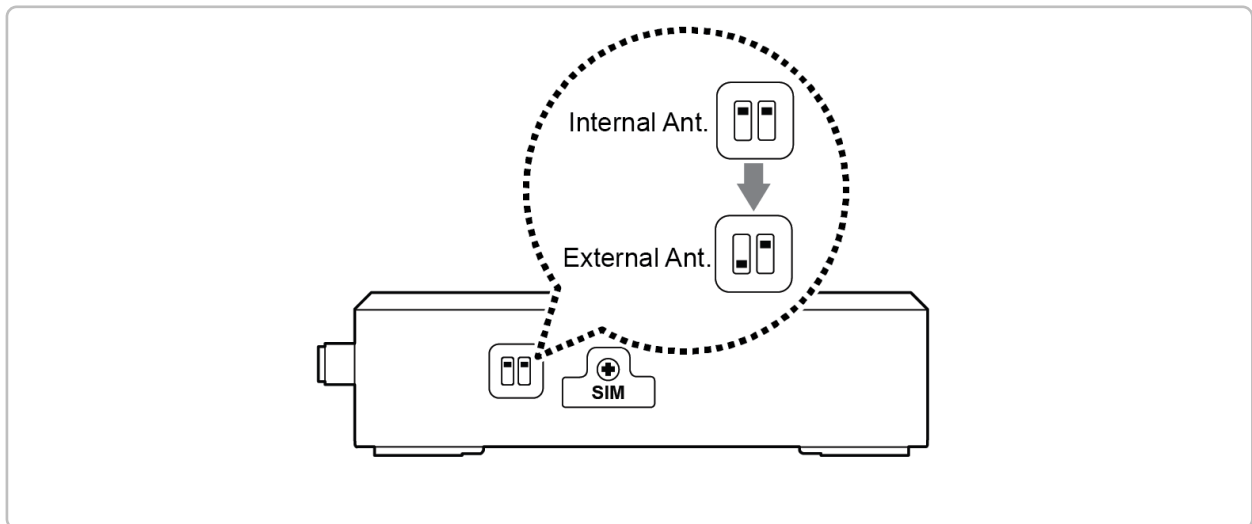
Check the direction of the antenna selection switch on initial installation.

1.2.2.2. External Antenna(Optional)

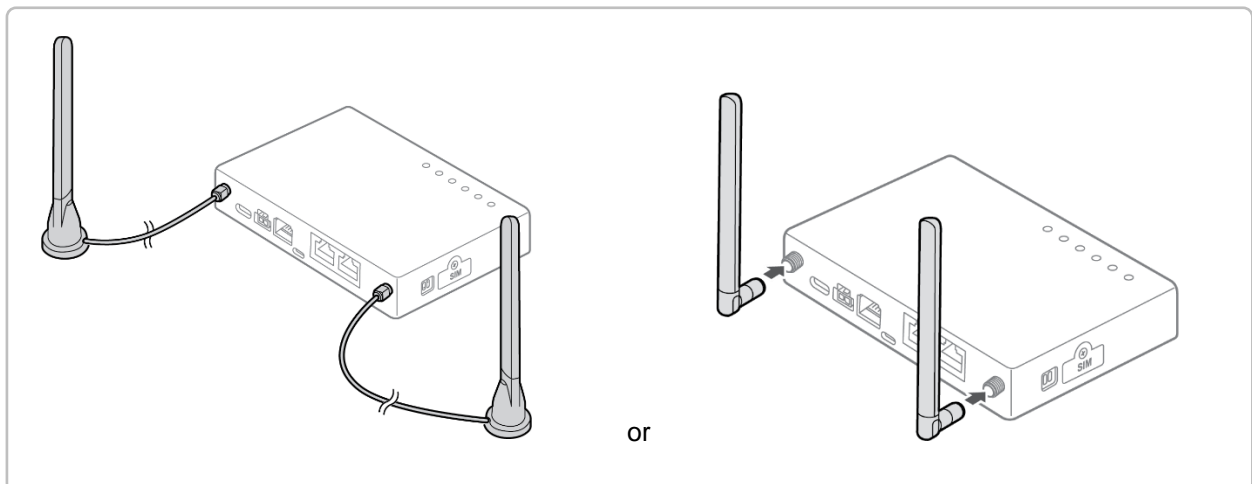
In addition to the build-in antenna designed to satisfy your basic needs, you can also install external antenna to the router to improve signal reception.

The router needs two external antennas. Please contact AM Telecom to purchase the antenna.

1. Turn off the router and unplug the power adaptor before installing any external antennas.
2. Set the Antenna Selection Switch to external antenna.



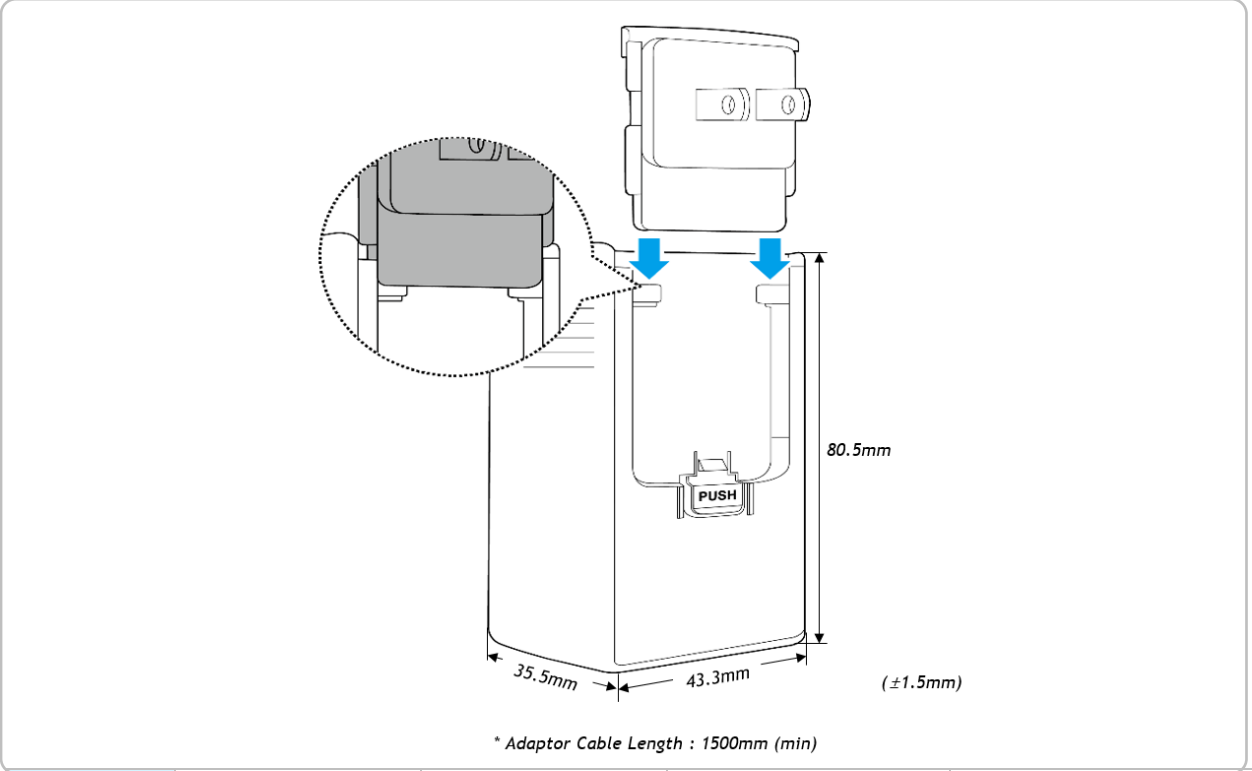
3. Align the antennas with the antenna ports on your router.
4. Turn the external antenna to fix it on the product.
5. Orient the antenna for best fit.



- Only use external antenna authorized by AM Telecom.
- Do not install or remove the external antenna with the product powered on.
- The external antenna must be connected when the antenna selection switch is set to an external antenna. If the external antenna is not connected, the product cannot be used.
- If you don't use two external antennas, please use without removing protective cap attached to antenna ports.

1.2.3. Connect the Adaptor Plug

Insert a plug meeting respective standard of nation where you use in the power adaptor body.



Plug				
Country	Japan, USA, Vietnam, Taiwan, Thailand, Cambodia, Bangladesh	Korea	UK, Malaysia, Singapore, Hong Kong, UAE, Bangladesh	Europe (France, Germany, Belgium, Turkey, etc), Myanmar, Bangladesh, Chile, Mongolia

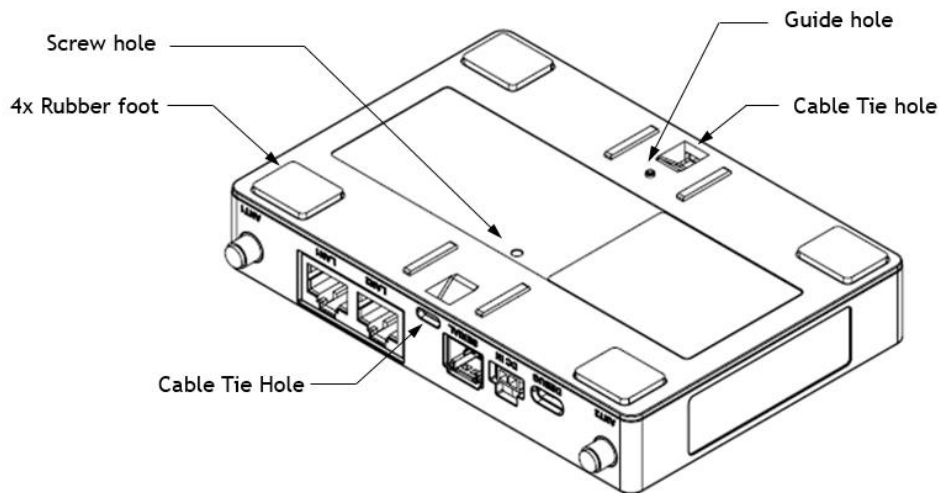


- Only use adaptor authorized by AM Telecom.
- Be careful not to damage the adaptor when inserting or unplugging the adaptor.

1.2.4. Fixed installation of router

The method of fixing the product is to use a bracket or cable tie.

There is a hole on the bottom of the product to fix the product, please refer to the following for how to use it.

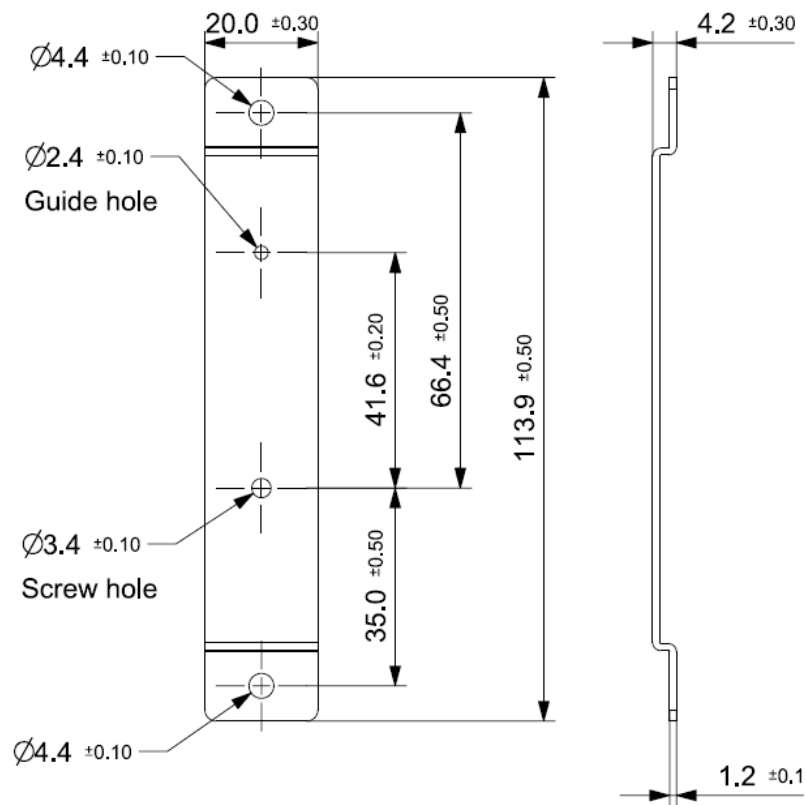


1.2.4.1. Bracket(Optional)

Our brackets can be very easily installed in just a few minutes using the provided fixings. They can be installed in horizontal or vertical orientations to hold the router exactly where you need it.

The size and weight data of the bracket are as follows.

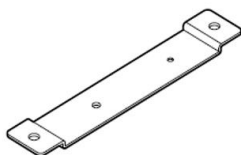
Feature	Description	Comments
Size	113.9 X 20.0 X 4.2 mm	
Weight	21g ± 2g	



Unit : mm

The Bracket package includes these items:

- 1 bracket
- 2 Anchors and 3 screws



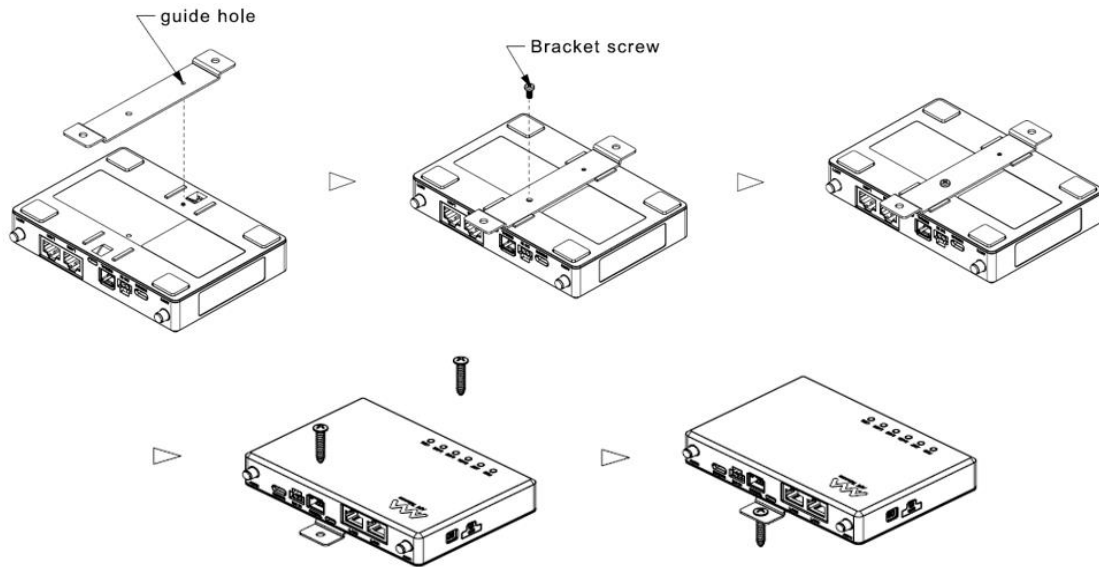
Bracket



Anchors and screws
for the bracket

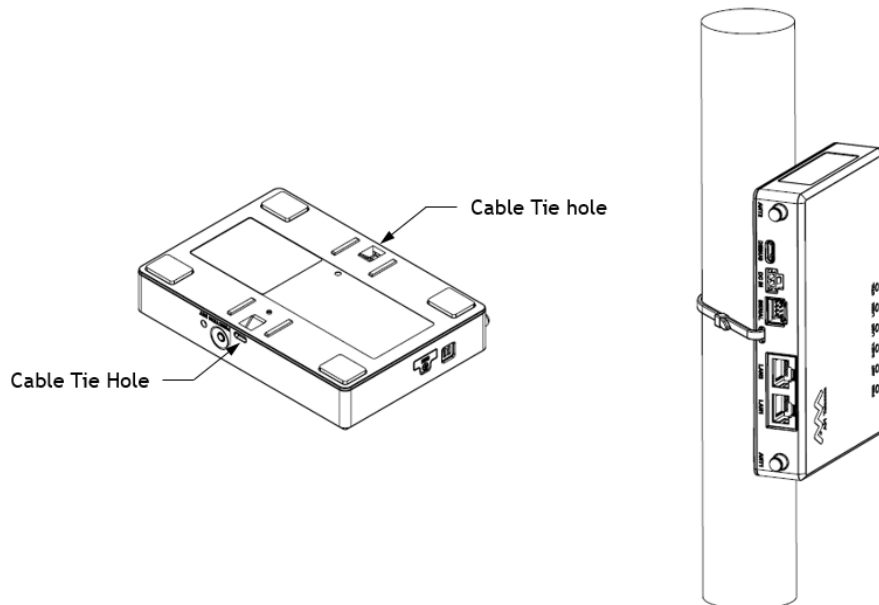
Please refer to the picture below for installation.

1. After adjusting the position by inserting the bracket into the guide hole, fix the product to the bracket using screws.
2. Mount the bracket to the desired location using the included screws & anchors and Phillips-head screwdriver.



1.2.4.2. Cable Tie

It can be fixed in the desired position using 2 cable tie holes and cable ties. Performance may decrease if used in metal pipe or in a place with magnetism. Please keep this in mind when choosing a location.



1.3. Place the Router

Place the router in a flat, non-sloping position. Here are some additional tips:

- Position your router upright and near a power outlet in an easily accessible area.
- Locate your router indoors where you receive a strong mobile broadband signal (preferably near a window) for best LTE/UMTS/GSM coverage.
- Avoid physical obstructions whenever possible.

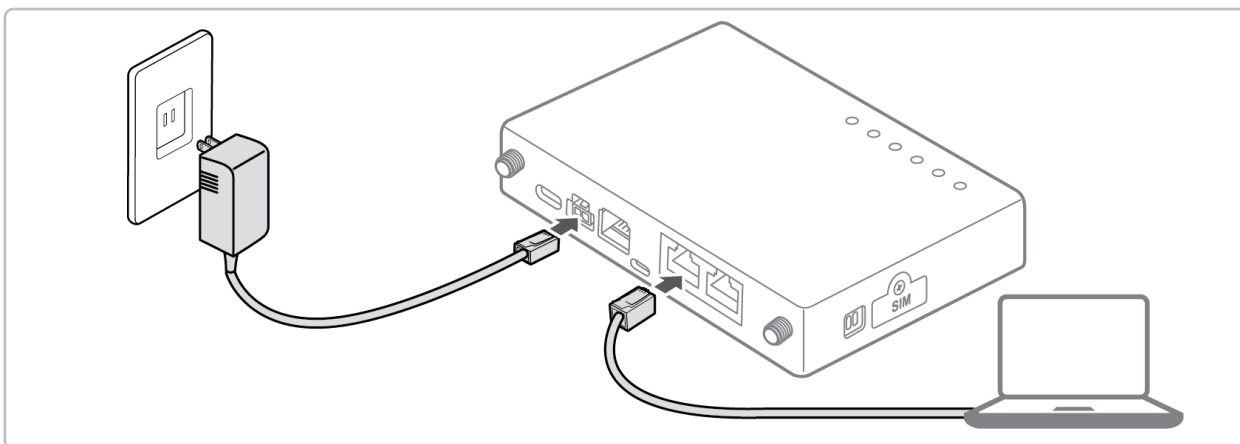
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- Avoid placing your router close to reflective or metal surfaces, magnetics such as:
 - Mirrors
 - Metal file cabinets
 - Stainless steel countertops
- The product should not be located in a place where it will be exposed to moisture or excessive heat.
- Make sure the cables and power cord are safely placed out of the way so they do not create a tripping hazard.
- Keep the router away from strong devices with strong electromagnetic interference, such as Bluetooth devices, cordless phones and microwaves.

2. Getting Started

2.1. Connect to Network

1. After plugging the adapter into the power outlet, connect the adapter to the DC IN port of the wireless router. Ensure that the PWR LED is Green solid.



2. Using the Ethernet cable, connect your computer to one of the router's LAN port. Ensure that the LAN LED is Green blinking.
3. Wait for the router's ANT LED to light Green or Blue and the DATA LED to turn on Green.

Your router tries to connect to the mobile network automatically. This process might take up to 10 minutes.

If the router cannot connect mobile network, you might need to enter your USIM card's Personal Identification Number (PIN), manually set your LTE provider's Access Point Name (APN), or do both.

- Enter your USIM card's PIN in the Web UI (see PIN). If you do not know the PIN, contact your mobile network provider.
- Ask your mobile network provider for the required APN, and enter the APN in the Web UI (see Profile Management).



- If the product is adjacent to a magnetic field or magnet, it may not be possible to use. Use it away from the product.
- Foreign objects or liquids may enter the product. If any abnormality occurs, immediately stop using it, turn off the power, and remove all connected cables.
- This product is not designed to be waterproof. If it is wet or submerged in water, it may not be covered under the free warranty and may not be repairable.
- Be sure to use a plug that conforms to your country's standards.

2.2. Logging into the Web UI

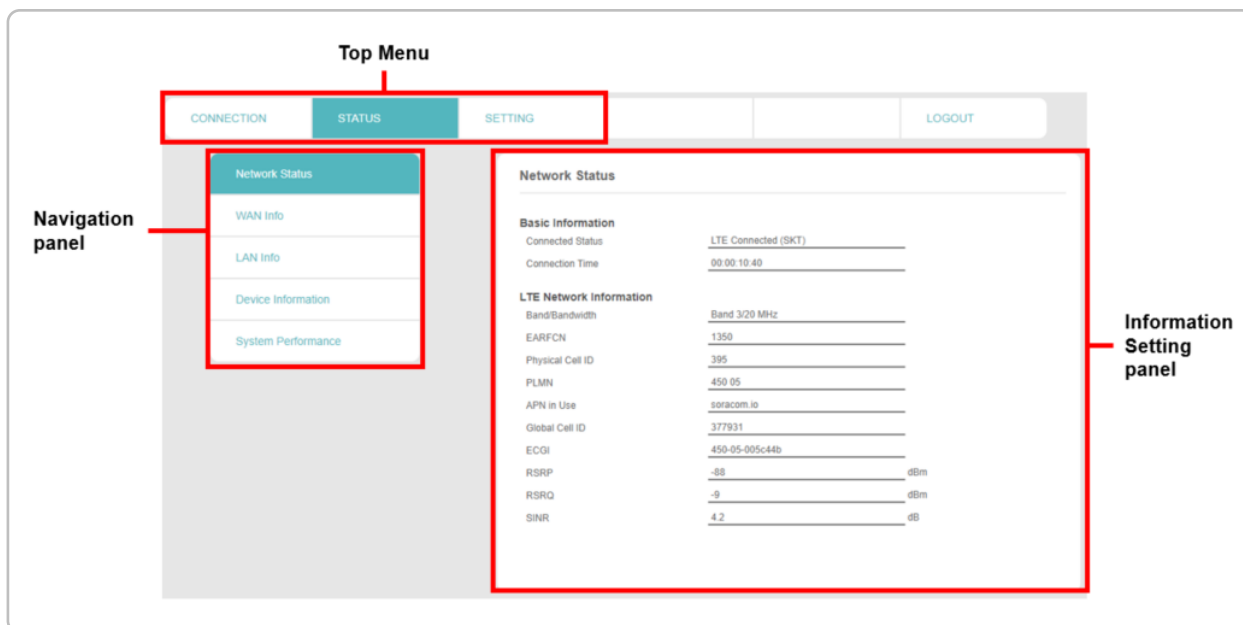
Your Router comes with an intuitive web user interface (UI) that allows you to easily configure its various features through a web browser such as Safari, Google Chrome.



The features may vary with different firmware versions.

To log into the Web UI:

1. On your web browser, manually key in the wireless router's default IP address:
192.168.225.1:58319 or enter **http://am.webcm:58319**.
2. On the login page, key in the default user name (**user**) and password (**0000**).
3. You can now use the Web UI to configure various settings of your Router.



- If you are logging into the Web UI for the first time, you will see a pop-up warning that you must change your password.
- If you do not operate the Web UI for 10 minutes, you are automatically logged out.

3. Checking the Router status

3.1. Network Status

The screenshot shows the 'STATUS' tab selected in the router's web interface. On the left, a sidebar menu lists 'Network Status' (highlighted), 'WAN Info', 'LAN Info', 'Device Information', and 'System Performance'. The main content area is titled 'Network Status' and contains two sections: 'Basic Information' and 'LTE Network Information'. The 'Basic Information' section shows 'Connected Status' as 'LTE Connected (SKT)' and 'Connection Time' as '00:01:40:47'. The 'LTE Network Information' section lists various parameters: Band/Bandwidth (Band 7/10 MHz), EARFCN (3200), Physical Cell ID (395), PLMN (450 05), APN in Use (soracom.io), Global Cell ID (378051), ECGI (450-05-005c4c3), RSRP (-96 dBm), RSRQ (-11 dBm), and SINR (2.4 dB).

Basic Information	
Connected Status	LTE Connected (SKT)
Connection Time	00:01:40:47

LTE Network Information	
Band/Bandwidth	Band 7/10 MHz
EARFCN	3200
Physical Cell ID	395
PLMN	450 05
APN in Use	soracom.io
Global Cell ID	378051
ECGI	450-05-005c4c3
RSRP	-96 dBm
RSRQ	-11 dBm
SINR	2.4 dB

The Network Status page displays wireless(LTE/UMTS/GSM) status information.

- **Basic Information** displays network registration status and data connection time information.
- **Network Information** displays detailed network information according to the network registration status (LTE/UMTS/GSM).

3.2. WAN Information

CONNECTION

STATUS

SETTING

LOGOUT

Network Status

WAN Info

LAN Info

Device Information

System Performance

WAN Information

WAN IPv4

IPv4 Address	10.243.146.71
IPv4 Subnet Mask	255.255.255.240
IPv4 Default Gateway	10.243.146.72
IPv4 DNS Server Primary	100.127.0.53
IPv4 DNS Server Secondary	100.127.1.53

WAN IPv6

IPv6 Address	
IPv6 Prefix Length	
IPv6 Default Gateway	
IPv6 DNS Server Primary	
IPv6 DNS Server Secondary	

The WAN Status page displays IP-based information received from the network.

- **WAN IPv4** displays IPv4 information received from the network.
- **WAN IPv6** displays IPv6 information received from the network.



USIM that only supports IPv6 is not supported.

3.3. LAN Information

LAN Information

LAN Operating Mode: DHCP

Subnet Mask: 255.255.255.0

Gateway IP: 192.168.225.1

MAC Address: 00:80:48:BA:D1:30

Number of Clients attached: 2

LAN Client List

Name	IPv4	IPv6	MAC	Leased Time	Status
SW-51	192.168.225.47	N/A	c8:08:e9:f7:bd:83	00:00:11:51	Connected
AMTELECOM-PC	192.168.225.53	N/A	e8:9a:8f:89:24:27	00:00:11:59	Connected

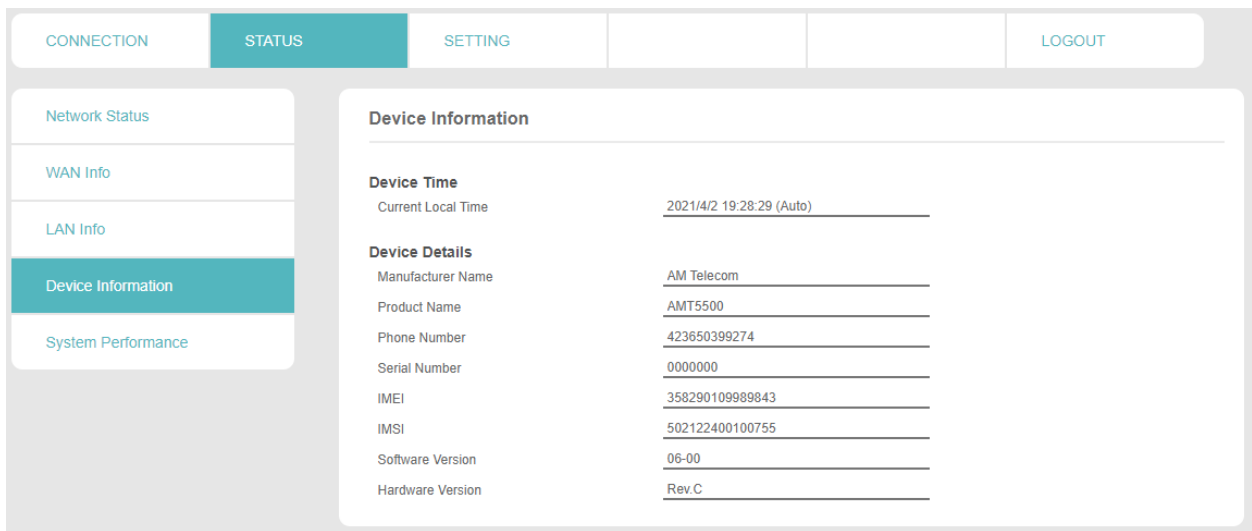
The LAN Information page displays the LAN information of the Wireless Router and the information of the clients connected to the LAN.

- **LAN Information** displays LAN information of Wireless Router.
- **LAN Client List** displays the information of the clients connected to the LAN of the Wireless Router.



Client may not be displayed depending on the settings and status of the Client.

3.4. Device Information



Device Information	
Device Time	
Current Local Time	2021/4/2 19:28:29 (Auto)
Device Details	
Manufacturer Name	AM Telecom
Product Name	AMT5500
Phone Number	423650399274
Serial Number	0000000
IMEI	358290109989843
IMSI	502122400100755
Software Version	06-00
Hardware Version	Rev.C

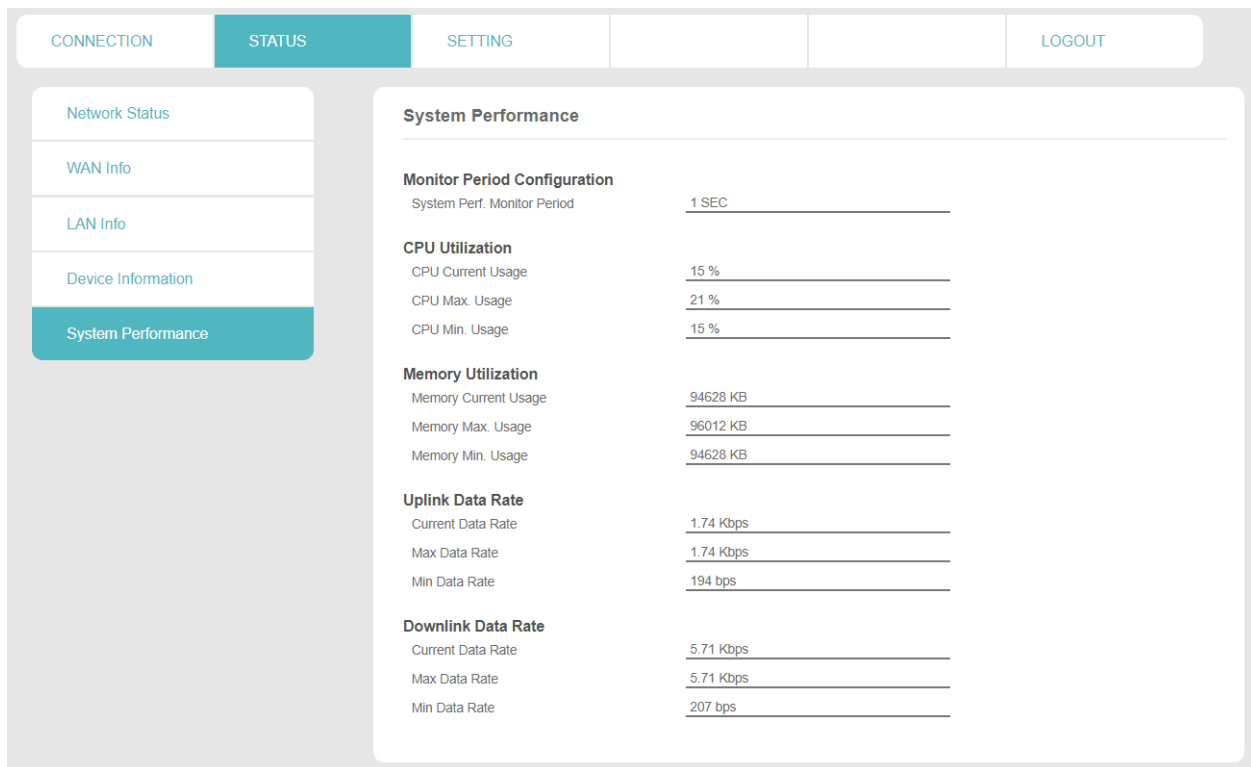
Device Information displays current time and Wireless Router product information.

- **Device Time** displays the current local time. The current local time is UTC + time_zone time. Acquisition of UTC time can be received from Network or NTP server. To set NTP, refer to section 4.2.1. (Auto) means the time_zone time received through the network. Refer to section 4.5.1 to set the time_zone.
- **Device Details** displays the product information of the Wireless Router and the phone number and IMSI information read from the USIM.



If time_zone is Auto, Current Local Time may be displayed as 0 depending on the network environment. In that case, it is recommended to activate NTP and set time_zone manually.

3.5. System Performance



The System Performance page displays CPU, Memory, and Data Rate performance.

- **Monitor Period Configuration** displays the update cycle of System Performance information.
- **CPU Utilization** displays the CPU usage.
- **Memory Utilization** displays the memory usage.
- **Uplink Data Rate** displays the rate of uplink data.
- **Downlink Data Rate** displays the rate of downlink data.

4. Configuring the Router settings

4.1. Network Setting

The Network Setting screen allows you to configure the basic network settings and manage PIN.

4.1.1. Network Mode

You can select the mode LTE, UMTS, GSM and ALL to connect to the network. The setting is reflected immediately after setting.



If you select a network mode that is not in the region where the router is located, it may become a no service state.

To set up Network Mode:

1. In the **Network Mode** field, select network mode(**ALL,LTE,UMTS,GSM**) that you want

to use for Network Mode.

- **ALL (default):** LTE, UMTS, GSM are all supported.
- **LTE:** Only LTE is supported.
- **UMTS:** Only UMTS is supported.
- **GSM:** Only GSM is supported.

2. Click **Apply**.

4.1.2. PIN

PIN provides PIN security settings to prevent unauthorized use of the USIM.

To turn On or Off PIN Verification:

If PIN verification is turned on, you need to enter the PIN. If PIN verification is turned off, no PIN is required.



- If a PIN is required, enter the correct PIN.
- If you enter your PIN incorrectly three times consecutively, the USIM card is locked and you must enter the PIN unlock key (PUK).
- If you enter the PUK incorrectly ten times consecutively, the USIM card is locked permanently. If you cannot enter the correct PIN or PUK, network-associated functions are unavailable.
- The PIN and the PUK are provided with the USIM card. If you did not receive them or have forgotten them, contact the mobile network provider.

1. In the **Enable PIN** field, select PIN operation(Enable, Disable) that you want.

- **Enable:** to turn on PIN verification.
- **Disable:** to turn off PIN verification.

2. In the **PIN Code** field, enter the correct PIN.

3. Click **Apply**.

To change the PIN:

If PIN verification is turned on, you can change the PIN.

1. In the **Enable PIN** field, select **Modify**.

2. In the **PIN Code** field, enter the current PIN.

3. Enter a new PIN and confirm the PIN.

4. Click **Apply**.

4.1.3. Profile Management

To add a Network Profile for the first time:

The initial Default Network Profile (CID1) has been created. If you are using the Wireless Router for the first time, you can proceed with the procedure below in the CID1 Profile name.

1. In the Profile Management field, Check Profile name is **CID1(default)**.
2. Set the profile-associated parameters.
3. Click **Apply**.

To add a Network Profile:

You can add a new Network Profile by below creating procedure.

1. In the Profile Management field, Click **New Profile**.
2. Set the profile-associated parameters.
3. Click **Apply**.

To Set the Default Network Profile:

After you set the default profile, the Wireless Router accesses the Internet via the default mobile network provider's network.

1. In the Profile Management field, select **Profile name** drop-down list.
2. Select a network profile.
3. Click **Apply**.



After clicking Apply, the router restarts.

4.1.4. Random NW Attach

The Random NW Attach function reduces the load on the network by randomly distributing the time to attach to the network for up to 10 seconds when restarting. When set to Disable, the function is canceled and is applied from the next restart.

1. In the **Random NW Attach** field, select.
 - **Enable (default):** Enable Random NW Attach.
 - **Disable:** Disable Random NW Attach.
2. Click **Apply**.

4.2. WAN Setting

WAN Setting

NTP

Status: Activate

NTP Server: 0.0.0.0

NTP synchronization(hours): 1

Apply

OpenVPN Client

Authentication File: Choose file

Browse

Delete Connect

Status	OpenVPN
Disconnect	client.ovpn

Port Forward

Add Get

No	Protocol	WAN Port Begin	WAN Port End	LAN IP	Entry Enable	Delete/Modify
1	TCP	80	80	192.168.225.63	Enable	⊖ ⊕

4.2.1. NTP

The wireless router can access a NTP server in order to synchronize the time.

To set up NTP:

1. Go to **SETTING > WAN Settings > NTP**.
2. On the Status field, select NTP status.
 - **Activate:** Activate NTP.
 - **Deactivate (default):** Deactivate NTP.
3. On the NTP Server field, if Status field is Activate you can enter NTP server IP or URL.
4. On the NTP synchronization field, if Status field is Activate you can enter NTP server connection period hour.
5. Click **Apply**.



- NTP synchronization hour range is 1~24. Default value is 1 hour.
- IP only supports IPv4 addresses.

4.2.2. OpenVPN Client

VPN clients are often used to connect to a VPN server to access private resources securely over a public network. This router supports OpenVPN among VPN types.

To use OpenVPN Client:

1. Go to **SETTING > WAN Settings > OpenVPN Client**.
2. Click **Browse**.
3. Select the ovpn file extension for OpenVPN access.
4. Click **Add**.
5. Click **Connect**.

4.2.3. Port Forward

Port forwarding is a method to direct network traffic from the Internet to a specific port or a specific range of ports to a device or number of devices on your local network. When port forwarding is enabled, the wireless router blocks unsolicited inbound traffic from the Internet and only allows replies from outbound requests from the LAN.


To set up Port Forward:

1. Go to **SETTING > WAN Settings > Port Forward**.
2. If you want to add Port Forward, click **Add** button.
3. In the Protocol field, select Port Forward protocol.
 - **TCP**: Port Forward protocol is TCP.
 - **UDP**: Port Forward protocol is UDP.
 - **ICMP**: Port Forward protocol is ICMP.
 - **TCP_UDP**: Port Forward protocol is both TCP and UDP.
4. In the WAN Port Begin field, if Protocol field is TCP or UDP or TCP_UDP you can enter the starting port number in the Port Forward range.
5. In the WAN Port End field, if Protocol field is TCP or UDP or TCP_UDP you can enter the ending port number in the Port Forward range.
6. In the LAN IP field, enter the IP of the device connected to the router to perform Port Forward. The IP of the device connected to the router can be checked in LAN Information > LAN Client List.
7. In the Enable field, you can select Enable or Disable.

- **Enable:** Enable Port Forward.
- **Disable:** Disable Port Forward.

8. Click **Submit**.

9. If you want to check the Port Forward lists, click **Get** button.

10. If you want to modify one of the list of Port Forward, click  button.

11. If you want to delete one of the list of Port Forward, click  button.



- IP only supports IPv4 addresses.
- WAN Port Begin and WAN Port End ranges are 1~65535.
- When ICMP is not configured and Ping is sent to the router from WAN side, the router does not reply to Ping.

4.3. LAN Setting

LAN Setting

Internet Protocol Settings

Operation Mode: DHCP

Start IP Address: 192.168.225.20

End IP Address: 192.168.225.60

Host IP Address: 192.168.225.1

Host Subnet Mask: 255.255.255.0

Host Lease Time: 43200

Apply Refresh

MAC addresses filter

MAC address filter: Activate

MAC address filter mode: Deny

Add Get Apply

No	Status	MAC Address	Delete/Modify
1	DENY	12:34:23:23:12:45	

4.3.1. Internet Protocol Settings

Internet Protocol Settings enable or disable the router's DHCP server.

To set up Internet Protocol Settings:

1. Go to **SETTING > LAN Settings > Internet Protocol Settings**.
2. On the Operation Mode field, select operation mode.
 - **DHCP (default):** The router automatically assigns an IP address to each connected device.
 - **Static:** The router does not assign an IP address to each connected device. You must enter the IP address on the connected device.
3. On the **Start IP Address** field, if Operation Mode field is DHCP you can modify the starting IP the connected device will be assigned to. This address must be part of the same Host Subnet Mask based on the Host IP Address.
4. On the **End IP Address** field, if Operation Mode field is DHCP you can modify the ending IP the connected device will be assigned to. This address must be part of the same Host Subnet Mask based on the Host IP Address.
5. On the **Host IP Address** field, you can modify the LAN IP address. It is used as the router's Web UI access IP address and is called Gateway IP address.
6. On the **Host Subnet Mask** field, you can modify the LAN subnet mask.

7. On the **Host Lease Time** field, if Operation Mode field is DHCP you can modify lease time. It specify in seconds when an assigned IP address will expire. Once it reaches this time limit, the DHCP server will then assign a new IP address.
8. Click **Apply**.
9. If you want to check the Internet Protocol Settings values, click **Refresh** button.



- After clicking Apply, the router restarts.
- IP only supports IPv4 addresses.
- The default value of Start IP Address is 192.168.225.20.
- The default value of End IP Address is 192.168.225.60.
- The default value of Host IP Address is 192.168.225.1.
- The default value of Host Subnet Mask is 255.255.255.0.
- The default value of Host Lease Time is 43200 seconds.





If the Start IP Address, End IP Address, and Host IP Address are not within the range of the Host Subnet Mask, the router may not operate normally.

4.3.2. MAC address filter

MAC filter provides control over packets transmitted to a specified MAC address on your wireless network.

To set up MAC address filter:

1. Go to **SETTING > LAN Settings > MAC address filter**.
2. On the MAC address filter field, select whether to perform MAC address filter.
 - **Activate:** Allow MAC address filter.
 - **Deactivate (default):** Do not allow MAC address filter.
3. On the MAC address filter mode field, if MAC address filter field is Activate you can select filter mode.
 - **Allow:** Allow devices in the MAC filter list to access to the wireless network.
 - **Deny (default):** Prevent devices in the MAC filter list to access to the wireless network.
4. Click **Apply**.
5. If you want to check the MAC address filter lists, click **Get** button.
6. If you want to add MAC address filter, click **Add** button.
7. If you want to modify one of the list of MAC address filter, click  button.

8. If you want to delete one of the list of MAC address filter, click  button.



- If you have your MAC address registered on Deny entry list, you can't connect to your router. Initialize the settings with the INIT button.
- If you do not have your MAC address registered on Allow entry list, you can't connect to your router. Initialize the settings with the INIT button.

4.4. Diagnosis

Diagnosis

Ping Diagnosis

Status:

Ping Destination:

Ping Size: byte

Ping Set Interval: min

Reboot:

Ping Set Failure:

Remote Access

Status:

No	IP address	Port	Delete/Modify
1	0.0.0.0/0	52647	<input type="button" value="-"/> <input type="button" value="+"/>
2	0.0.0.0/0	58319	<input type="button" value="-"/> <input type="button" value="+"/>

4.4.1. Ping Diagnosis

Ping Diagnosis is the function that the router sends ping to a specific server. It provides the function to restart the router if there is no ping response depending on conditions.

To set up Ping Diagnosis:

1. Go to **SETTING > Diagnosis > Ping Diagnosis**.
2. On the Status field, select whether to perform Ping Diagnosis.
 - **Activate:** Enable Ping Diagnosis.
 - **Deactivate (default):** Disable Ping Diagnosis.
3. On the Ping Destination field, if Status field is Activate you can enter ping destination IP or URL.
4. On the Ping Size field, if Status field is Activate you can enter ping size.
5. On the Ping Set Interval field, if Status field is Activate you can enter ping interval time.
6. On the Reboot field, if Status field is Activate you can select whether to reboot.
 - **Activate (default):** If the Ping response is not received as many times as the Ping Set Failure count, reboot the router.
 - **Deactivate:** Do not reboot the router.
7. On the Ping Set Failure field, if Status field is Activate and Reboot field is Activate you can enter ping failure count.
8. Click **Apply**.





- IP only supports IPv4 addresses.
- Ping Size input number range is 1~68. Default value is 8.
- Ping Set Interval input number range is 15~1440. Default value is 30.
- Ping Set Failure input number range is 3~10. Default value is 3.

4.4.2. Remote Access

The Remote Diagnosis configures whether to allow access to the router from a remote location.

To set up Remote Access:

1. Go to **SETTING > Diagnosis > Remote Access**.
2. On the Status field, select whether to perform Remote Access.
 - **Activate:** Allow remote access.
 - **Deactivate (default):** Do not allow remote access.
3. Click **Apply**.
4. If Status field is Activate, you can see a list of IP and Port that are available for remote access.
5. If you want to add an IP and Port for remote access, click **Add** button.
6. If you want to modify one of the list of IP and Port available for remote access, click  button.
7. If you want to delete one of the list of IP and Port available for remote access, click  button.



- IP only supports IPv4 addresses and CIDR method is supported by specifying IP as a range. 0.0.0.0/0 means all IPs allow remote access.
- The maximum number of Remote Access allowed lists is 10.



Depending on the remote access setting, there may be a risk of unauthorized access.

4.5. User Management

The screenshot shows the 'User Management' configuration page. The top navigation bar has tabs for CONNECTION, STATUS, SETTING (selected), and LOGOUT. The left sidebar lists various settings, with 'User Management' currently selected. The main panel is titled 'User Management' and contains the following sections:

- Time zone:** A dropdown menu is set to 'Auto'. An 'Update' button is to the right.
- Account Management:** Fields for Username (containing 'user'), Password, New Password, and Confirm Password. An 'Update' button is to the right.
- Web UI Refresh Time:** A numeric input field is set to '10', followed by 'SEC'. An 'Update' button is to the right.
- Periodic Reboot:** Three dropdown menus: 'Reboot' (set to 'Deactivate'), 'Rebooting Day' (set to 'Every Day'), and 'Rebooting Time' (set to 'AM 2:00'). An 'Update' button is to the right.
- Rebooting:** A 'Rebooting' button at the bottom.

4.5.1. Time zone

Time zone can set the time zone value of the city that is reflected in the current time.

To set up Time zone:

1. Go to **SETTING > User Management > Time zone**.
2. Select the time zone you want to change.
 - **Auto (default):** it is set to the time zone time received from the network.
 - **City:** It is set to the time zone time of the set city.
3. Click **Update**.

4.5.2. Account Management

Account Management can change the username and password used when logging in.

To change username and password:

1. Go to **SETTING > User Management > Account Management**.
2. On the **Username** field, you can change the username.
3. On the **Password** field, enter current your password.
4. On the **New Password** field, enter the password you want to change.
5. On the **Confirm Password** field, re-enter the password you want to change.
6. Click **Update**.



- Username input range is 1~20 digits (a-z or A-Z or 0-9).
- Password input range is 8~20 digits (a-z and A-Z and 0-9).

4.5.3. Web UI Refresh Time

Web UI Refresh Time sets the automatic update cycle of Web UI STATUS(Network Status, WAN Info, LAN Info, Device Information, System Performance).

To set up Web UI Refresh Time:

1. Go to **SETTING > User Management > Web UI Refresh Time**.
2. Enter the number of seconds.
3. Click **Update**.



Web UI Refresh Time input range is 10~120 seconds and default time is 10 seconds.

4.5.4. Periodic Reboot

Periodic Reboot configures the router to reboot at periodic times.

To set up Periodic Reboot:

1. Go to **SETTING > User Management > Periodic Reboot**.
2. On the Reboot field, select whether to perform Periodic Reboot.
 - **Activate:** Enable Periodic Reboot.
 - **Deactivate (default):** Disable Periodic Reboot.
3. On the **Rebooting Day** field, if Reboot field is Activate you can select the day you want to set.

4. On the **Rebooting Time** field, if Reboot field is Activate you can select the time you want to set.
5. Click **Update**.

4.5.5. Rebooting

Rebooting immediately reboots the router.

To use Rebooting:

1. Go to **SETTING > User Management > Rebooting**.
2. Click **Rebooting**.



The maximum time until the router reboots is 65 seconds.

4.6. Firmware Management

4.6.1. Software Upgrade

If you want to upgrade your router's software, you can upgrade by selecting the software binary file you want to upgrade software version.

To use Software Upgrade:

1. Go to **SETTING > Firmware Management > Software Upgrade**.
2. Check current Software Version.
3. Click **Browse**.
4. Select the file of the version you want to upgrade on your PC.
5. Click **Upgrade**.
6. After completing the upgrade, check if the Software Version has changed.



- The upgrade process proceeds in two stages.
 - 1) The upgrade file is sent to the router.
 - 2) Router automatically restarts and upgrades
- Upgrade progress can be checked with CTRL LED.
- Software is not rollback to the original/previous Software after power is OFF because the upgraded Software is stored in nonvolatile memory.



- Do not turn off the power while the software upgrade is in progress.
- Do not disconnect the LAN cable while the software upgrade is in progress.

4.6.2. Initialize Configuration

Initialize Configuration Initialize the router setting values.

To use Initialize Configuration:

1. Go to **SETTING > Firmware Management > Initialize Configuration**.
2. Click **Apply**.



- The items to be initialized are ○ or ◎ Items in the INIT column listed in [E. List of Stored and INIT items](#).
- After the initialization is complete, the router is restarted.

4.6.3. Configuration Backup

Configuration Backup saves the current router setting values to the PC.

To use Configuration Backup:

1. Go to **SETTING > Firmware Management > Configuration Backup**.
2. Click **Backup**.



- The items to be saved are ◎ Items in the INIT column listed in [E. List of Stored and INIT items](#).

4.6.4. Configuration Restore

Configuration Restore restores the setting values saved with Configuration Backup.

To use Configuration Restore:

1. Go to **SETTING > Firmware Management > Configuration Restore**.
2. Click **Browse**.
3. Select the file you saved with Configuration Backup.

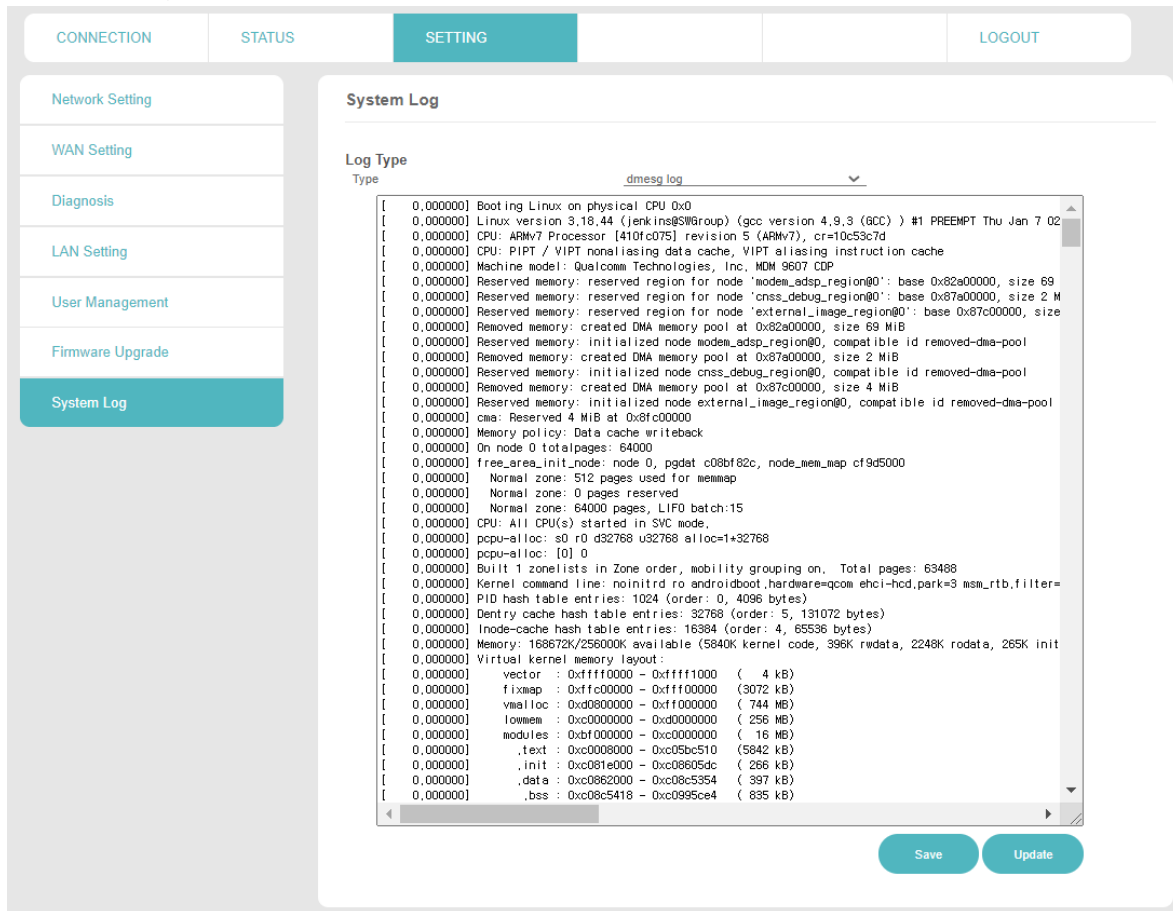
4. Click **Restore**.



After restoration is complete, the router will restart.

4.7. System Log

System Log contains your recorded router activities.



To view System Log:

1. Go to **SETTING > System Log**.
2. On the **Log Type** field, you can view the router's activities by selecting the log type.
 - **dmesg log**: kernel log message.
 - **System log**: system log message.
3. Click **Update** to view the latest log.

To save System Log:

1. Go to **SETTING > System Log**.
2. On the **Log Type** field, select the log type you want to save.
3. Click **Save**.



dmesg log resets when the router is rebooted or powered off.

A. Product Specification

Feature	Description	Comments
AC Adaptor Input	AC100~240V, 50~60Hz	
AC Adaptor Output	5VDC/2A	
Dimensions	127.0 x 87.0 x 24.0 mm (± 0.5)	
Weight	160.0g \pm 5g	
Operating Temperature	-20°C to 60°C	
Operating humidity	85% (60°C) RH, Non-condensing	
Mobile bands	LTE : B1/2/3/4/5/7/8/9/12/17/18/19/20/26	Cat.4
	UMTS : B1/2/4/5/6/8/19	WCDMA/HSPA
	GSM : 850/900/1800/1900MHz	GPRS Class 12
USIM	4FF NANO SIM Card	
LAN	RJ45 : 10/100/1000Mbps	2port
RS-232C	4Pins : TXD, RXD, CTS, RTS	
GPIO	3Pins : 3.3V	
DIP SW	2EA	Antenna Select
USB	USB2.0 High Speed (Debug)	Type C
LED Indicator	6EA : PWR, ANT, DATA, LAN1, LAN2, CTRL	
Button	2EA : Function, INIT	
Antenna	2x Internal Antenna, 2x SMA Connector for Optional External Antenna	

※ Data throughput may decrease depending on the usage environment and conditions.

※ Storage condition is the same as operating temperature and humidity.

In case long term storage over 6 months is needed, it is recommended to store this device at room temperature and room humidity environment.

B. Frequency Information

Item		Transmit Frequency	Receive Frequency	Max Power	Comments
LTE	Band 1	1920 ~ 1980 MHz	2110 ~ 2170 MHz	22dBm, ±2dB	FDD
	Band 2	1850 ~ 1910 MHz	1930 ~ 1990 MHz		
	Band 3	1710 ~ 1785 MHz	1805 ~ 1880 MHz		
	Band 4	1710 ~ 1755 MHz	2110 ~ 2155 MHz		
	Band 5	824 ~ 849 MHz	869 ~ 894 MHz		
	Band 7	2500 ~ 2570 MHz	2620 ~ 2690 MHz		
	Band 8	880 ~ 915 MHz	925 ~ 960 MHz		
	Band 9	1749.9 ~ 1784.9 MHz	1844.9 ~ 1879.9 MHz		
	Band 12	699 ~ 716 MHz	729 ~ 746 MHz		
	Band 17	704 ~ 716 MHz	734 ~ 746 MHz		
	Band 18	815 ~ 830 MHz	860 ~ 875 MHz		
	Band 19	830 ~ 845 MHz	875 ~ 890 MHz		
	Band 20	832 ~ 862 MHz	791 ~ 821 MHz		
	Band 26	814 ~ 849 MHz	859 ~ 894 MHz		
UMTS	Band 1	1920 ~ 1980 MHz	2110 ~ 2170 MHz	+23dBm /3.84MHz, ±2.7dB	
	Band 2	1850 ~ 1910 MHz	1930 ~ 1990 MHz		
	Band 4	1710 ~ 1755 MHz	2110 ~ 2155 MHz		
	Band 5	824 ~ 849 MHz	869 ~ 894 MHz		
	Band 6	830 ~ 840 MHz	875 ~ 885 MHz		
	Band 8	880 ~ 915 MHz	925 ~ 960 MHz		
	Band 19	830 ~ 845 MHz	875 ~ 890 MHz		
GSM	850	824.2 ~ 848.8 MHz	869.2 ~ 893.8 MHz	+32.5dBm, ±2.0dB	TDD / FDD
	900	880.2 ~ 914.8 MHz	925.2 ~ 959.8 MHz	+32.5dBm, ±2.0dB	
	1800	1710.2 ~ 1784.8 MHz	1805.2 ~ 1879.8 MHz	+28.5dBm, ± 2.0dB	
	1900	1850.2 ~ 1909.8 MHz	1930.2 ~ 1989.8 MHz	+28.5dBm, ±2.0dB	

C. Current Consumption

Idle Current

-. Condition: 5V, Normal Temperature (25±2°C)

Mode	Condition	Current(Typical)
GSM/WCDMA/LTE /Ethernet	No Signal Area, No Service, Ethernet 1port	0.19A
	No Signal Area, No Service, Ethernet 2port	0.24A
	Attached, No Signal Area, No Data, Ethernet 1port	0.19A
	Attached, No Signal Area, No Data, Ethernet 2port	0.24A
	Attached, Signal area, No Data, Ethernet 1port	0.33A
	Attached, Signal area, No Data, Ethernet 2port	0.38A

Operating Current

-. Condition: 5V, Normal Temperature

Mode	Condition	Current(Typical)
GSM	Max Power, Ethernet 1port	0.52A
	Max Power, Ethernet 2port	0.57A
WCDMA	7dBm, Ethernet 1port	0.49A
	7dBm, Ethernet 2port	0.54A
	Max Power, Ethernet 1port	0.92A
	Max Power, Ethernet 2port	0.97A
LTE	7dBm, Ethernet 1port	0.59A
	7dBm, Ethernet 2port	0.64A
	Max Power, Ethernet 1port	0.95A
	Max Power, Ethernet 2port	1A

-. Condition: 5V, Temperature guaranteed performance

Mode	Condition	Current (Max)
GSM	Max Power, Ethernet 2port	2A
WCDMA	Max Power, Ethernet 2port	1.1A
LTE	Max Power, Ethernet 2port	1.3A

D. Troubleshooting

Troubleshoot with the LED Indicators.

After you turn on your router, the following should occur:

1. When power is first applied, make sure that the Power LED is lit.
2. After 20 seconds, look for the following:
 - a. The Power LED is still solid green. A Red LED indicates that the router has failed
 - b. The Ethernet LAN Port LED is lit when any local ports are connected.
If a local area network (LAN) port's LED is lit, a link has been established to the connected computer.
 - c. The ANT LED is lit when the router has detected a mobile broadband signal.
 - A Solid LED indicates good coverage.
 - A Blink LED indicates poor coverage.
 - A Red LED indicates No Service.

Power LED is off or Red Solid

- Make sure that the power cord is securely connected to your router and that the power adaptor is securely connected to a functioning power outlet.
- Make sure you are using the 5VDC, 2A power adaptor provided by AM Telecom.
- When the router is turned on, the Power LED lights red for about 20 seconds and then lights green. If the LED does not light green, the router has a problem.

If the Power LED is lit red one minute after you turn on power to the router:

1. Turn off the power and then turn it back on to see if the router recovers.
2. Press INIT key to return the router to its factory settings.

Contact AM Telecom for recovery instructions or hardware problems.

LED does not turn off immediately.

When the router is off, the LED turns on for a few seconds and then turns off. This is a operation that occurs in product design.

If all LEDs are still on one minute after power-up

1. Turn off the power and then turn it back on to see if the router recovers.
2. Press INIT key to return the router to its factory settings.

E. List of Stored and INIT items

Stage1	Stage2	Stage3	Stage4	Stored ^{*1}	INIT ^{*2}
Login			username/password	O	O
Connection			DNS address	O	-
Status	Network Status	Basic Information	Connected Status	-	-
			Connection Time	-	-
		LTE Network Information	Band/Bandwidth	-	-
			EARFCN	-	-
			Physical Cell ID	-	-
			PLMN	-	-
			APN in Use	-	-
			Global Cell ID	-	-
			ECGI	-	-
			RSRP	-	-
			RSRQ	-	-
			SINR	-	-
		UMTS Network Information	Band	-	-
			UARFCN	-	-
			PSC	-	-
			PLMN	-	-
			RSCP	-	-
			RSSI	-	-
			Ec/Io	-	-
		GSM Network Information	Band	-	-
			ARFCN	-	-
			CELL ID	-	-
			PLMN	-	-
			RSSI	-	-
	WAN Information	WAN IPv4	IPv4 Address	-	-
			IPv4 Subnet Mask	-	-
			IPv4 Default Gateway	-	-
			IPv4 DNS Server Primary	-	-
			IPv4 DNS Server Secondary	-	-
		WAN IPv6	IPv6 Address	-	-
			IPv6 Prefix Length	-	-

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			IPv6 Default Gateway	-	-
			IPv6 DNS Server Primary	-	-
			IPv6 DNS Server Secondary	-	-
	LAN Information	LAN Information	LAN Operation Mode	O	-
			Subnet Mask	O	-
			Gateway IP	O	-
			MAC Address	O	-
			Number of Client attached	-	-
		LAN Client List		-	-
	Device Information	Device Time	Current Local Time	-	-
		Device Details	Manufacturer Name	O	-
			Product Name	O	-
			Phone Number	O	-
			Serial Number	O	-
			IMEI	O	-
			IMSI	O	-
			Software Version	O	-
			Hardware Version	O	-
	System Performance	Monitor Configuration	System Perf. Monitor Period	O	-
		CPU Utilization	CPU Current Usage	-	-
			CPU Max. Usage	-	-
			CPU Min. Usage	-	-
		Memory Utilization	Memory Current Usage	-	-
			Memory Max. Usage	-	-
			Memory Min. Usage	-	-
		Uplink Data Rate	Current Data Rate	-	-
			Max Data Rate	-	-
			Min Data Rate	-	-
		Downlink Data Rate	Current Data Rate	-	-
			Max Data Rate	-	-
			Min Data Rate	-	-
Setting	Network Setting	Network Mode	Network Mode	O	-
		PIN	PIN Operation	O	-
			Remaining Attempts	O	-
		Profile Management	Profile name	O	-
			IP Type	O	-

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			Authentication Type	O	-
			Username	O	-
			Password	O	-
			APN	O	-
		Random NW Attach	Random NW Attach	O	-
	WAN Setting	NTP	Status	O	⊙
			NTP Server	O	⊙
			NTP synchronization	O	⊙
		OpenVPN Client	Authentication File	O	O
			Status	-	-
		Port Forward	Protocol	O	⊙
			WAN Port Begin	O	⊙
			WAN Port End	O	⊙
			LAN IP	O	⊙
			Enable	O	⊙
	LAN Setting	Internet Protocol Settings	Operation Mode	O	⊙
			Start IP Address	O	⊙
			End IP Address	O	⊙
			Host IP Address	O	⊙
			Host Subnet Mask	O	⊙
			Host Lease Time	O	⊙
		MAC address filter	MAC address filter	O	⊙
			MAC address filter mode	O	⊙
	Diagnosis	Ping Diagnosis	Status	O	⊙
			Ping Destination	O	⊙
			Ping Size	O	⊙
			Ping Set Interval	O	⊙
			Reboot	O	⊙
			Ping Set Failure	O	⊙
		Remote Access	Status	O	-
			Access List	O	-
	User Management	Time zone	Time zone	O	⊙
		Account Management	Username	O	O
			Password	O	O
			New Password	-	-
			Confirm Password	-	-
		Web UI Refresh Time	Web UI Refresh Time	O	⊙

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		Periodic Reboot	Reboot	O	◎
			Rebooting Day	O	◎
			Rebooting Time	O	◎
		Rebooting		-	-
	Firmware Management	Software Upgrade		-	-
		Initialize Configuration		-	-
		Configuration Backup		-	-
		Configuration Restore		-	-
	System Log	Log Type	dmesg log	-	-
			system log	O	-

*1 - Stored

The O mark is an item stored in non-volatile memory or USIM. This item is maintained even after restarting the router.

*2 - INIT

O mark is the item initialized when executing INIT button or Initialize Configuration.

◎ mark is an item that is initialized when executing INIT button or Initialize Configuration. It is also an item that is backed up when executing Configuration Backup.

F. Notification of Compliance

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Notice

This section includes user requirements for operating this product in accordance with National laws for usage of radio spectrum and operation of radio devices. Failure of the end-user to comply with the applicable requirements may result in unlawful operation and adverse action against the end-user by the applicable National regulatory authority.

Europe – EU Declaration of Conformity

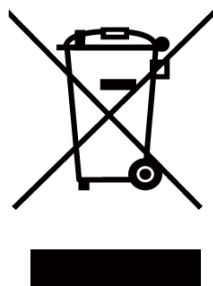


Products bearing the  marking comply with the following EU directives:

The product is in conformity to all the essential requirements of RE Directive 2014/53/EU.

This device can be operated in at least one Member State without infringing applicable requirements on the use of radio spectrum.

Correct disposal of this product (Waste Electrical & Electronic Equipment)



This marking on the product, accessories or literature indicates that the product and its electronic accessories should not be disposed of with other household waste.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for

environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

This product is RoHS compliant.

NBTC - The National Broadcasting and Telecommunications Commission

“เครื่องโทรคมนาคมและอุปกรณ์นี้ มีความสอดคล้องตามมาตรฐานหรือข้อกำหนดทางเทคนิคของ กสทช.”
(This telecommunication equipment conforms to the standard or technical requirements of NBTC)

“เครื่องวิทยุคมนาคมนี้มีระดับการแผ่คลื่นแม่เหล็กไฟฟ้าสอดคล้องตามมาตรฐานความปลอดภัยต่อสุขภาพของมนุษย์จากการใช้เครื่องวิทยุคมนาคมที่คณะกรรมการกิจการโทรคมนาคมแห่งชาติประกาศกำหนด”
(This radiocommunication equipment has the electromagnetic field strength in compliance with the Safety Standard for the Use of Radiocommunication Equipment on Human Health announced by the National Telecommunications Commission.)



เครื่องวิทยุคมนาคมนี้ ได้รับยกเว้น ไม่ต้องได้รับใบอนุญาตให้มี ใช้ซึ่งเครื่องวิทยุคมนาคม หรือตั้งสถานีวิทยุคมนาคมตามประกาศ กสทช. เรื่อง เครื่องวิทยุคมนาคม และสถานีวิทยุคมนาคมที่ได้รับยกเว้นไม่ต้องได้รับใบอนุญาตวิทยุคมนาคมตามพระราชบัญญัติวิทยุคมนาคม พ.ศ. 2498



nabp. | โทรคมนาคม
กำกับดูแลเพื่อประชาชน
Call Center 1200 (InSW5)

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Industry Canada Statement

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio

exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

The device could automatically discontinue transmission in case of absence of information to transmit, or operational failure. Note that this is not intended to prohibit transmission of control or signaling information or the use of repetitive codes where required by the technology.

L'appareil peut interrompre automatiquement la transmission en cas d'absence d'informations à transmettre ou de panne opérationnelle. Notez que ceci n'est pas destiné à interdire la transmission d'informations de contrôle ou de signalisation ou l'utilisation de codes répétitifs lorsque cela est requis par la technologie.

Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Déclaration d'exposition aux radiations:

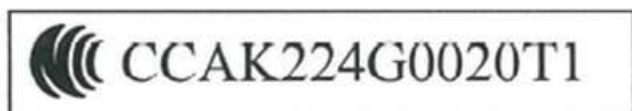
Cet équipement est conforme aux limites d'exposition aux rayonnements ISSED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

NCC – National Communications Commission

1. 「減少電磁波影響，請妥適使用」
2. 「電波功率密度MPE標準值：1.0mW/cm²，送測產品實測值：0.102mW/cm²，建議使用時設備天線至少距離人體 20 公分。」

額定電壓/電流: 5.0V=2.0A

認證編號：CCAK224G0020T1



F. Abbreviations

APN	access point name
ARFCN	Absolute Radio Frequency channel number
CHAP	Challenge Handshake Authentication Protocol
CID	Context ID
CIDR	Classless Inter-Domain Routing
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
EARFCN	E-UTRA Absolute Radio Frequency Channel Number
Ec/Io	Chip Energy/Others Interference
ECGI	E-UTRAN Cell Global Identifier
GSM	Global System for Mobile Communications
HTTP	HyperText Transfer Protocol
ICMP	Internet Control Message Protocol
IMEI	international mobile equipment identity
IMSI	international mobile subscriber identity
IP	Internet Protocol
IPv4	Internet Protocol version 4
IPv6	Internet Protocol version 6
LAN	Local Area Network
LTE	Long Term Evolution
MAC	Media Access Control
NTP	network time protocol
ODM	Original Development Manufacturing
PAP	Password Authentication Protocol
PIN	personal identification number
PLMN	Public Land Mobile Network
PSC	Primary scrambling code
PUK	PIN Unlock Key
RSCP	Received signal code power
RSRP	Reference Signal Received Power
RSRQ	Reference Signal Received Quality
RSSI	Received Signal Strength Indication
SINR	signal-to-interference-plus-noise ratio
SSH	Secure Shell
TCP	Transmission Control Protocol

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UARFCN	UTRA Absolute Radio Frequency channel number
UDP	User Datagram Protocol
UI	User Interface
UMTS	Universal Mobile Telecommunications System
USIM	Universal Subscriber Identity Module
VPN	Virtual Private Network
WAN	wide area network