Quick Start Guide Manual

Sigfox Access Station Nano NAP-Series

Remote solution X sigfox



Contents

General Information	02
Activation / Configuration	09
How to Configure the Web	10
Regular Installation	11
How to use Web UI	12
NAP Configuration	13
LTE Configuration	16
WAN Setup Primary	17
WAN Setup Secondary	20
LAN Configuration	21
NAP Client List	22
Wi-Fi Configuration	23
Wi-Fi Configuration Security	25
Administration Menu	29



GeneralInformation

NAP is a gateway equipment that comes in three versions. These are categorized by the capability of internet connection. NAP3 connects the Sigfox cloud platform to an wired Ethernet cable or through Wi-Fi connection.

NAP5 features a built-in Cellular module which supports LTE Cat M1 as a default capability. (LTE Cat1 is a customized option for user). NAP5 doesn't support a wired network or Wi-Fi. (only LTE support)

NAP7 connects to Sigfox Cloud via an existing LAN infrastructure (Ethernet or Wi-Fi) or cellular network.

It features the ability to automatically switch networks if encountering an issue on the network, as well as checking network backhaul to support seamless data service.

Improve Sigfox Device Coverage Indoor

With the multiple backhaul capability, NAP can be installed at customer premises where Ethernet, Wi-Fi and LTE are available. This can be installed for indoor or rural outdoor with IP61 enclosure such as attics, underground, warehouses, buildings, shops, farms, offices and etc.

It can be installed in a Sigfox radio-shaded area that is out of signal range of existing access stations to further increase coverage.



Before You Start

This quick start guide will take you through the few steps required to connect and start using your station.

Prepare the following to Access Station Micro System

- •Internet connection: either by Ethernet port or compatible LTE Cat-M1
- •In case of using Ethernet network: Ethernet cable CAT5e or above, shielded F/FTP, SF/UTP, SF/FTP
- •In case of using LTE M1: Micro SIM card registered with mobile operator
- •Indoor 220 / 110 V AC power outlet
- Antennas come attached. *Sim cards are not provided

This guide is based on NAP-7.

NAP-3 / NAP-5 have different number of antennae.

Please refer to "Interface" in this guide.

This "Before you start" is a session for the physical installation of the NAP device to the Ethernet and LTE environment.

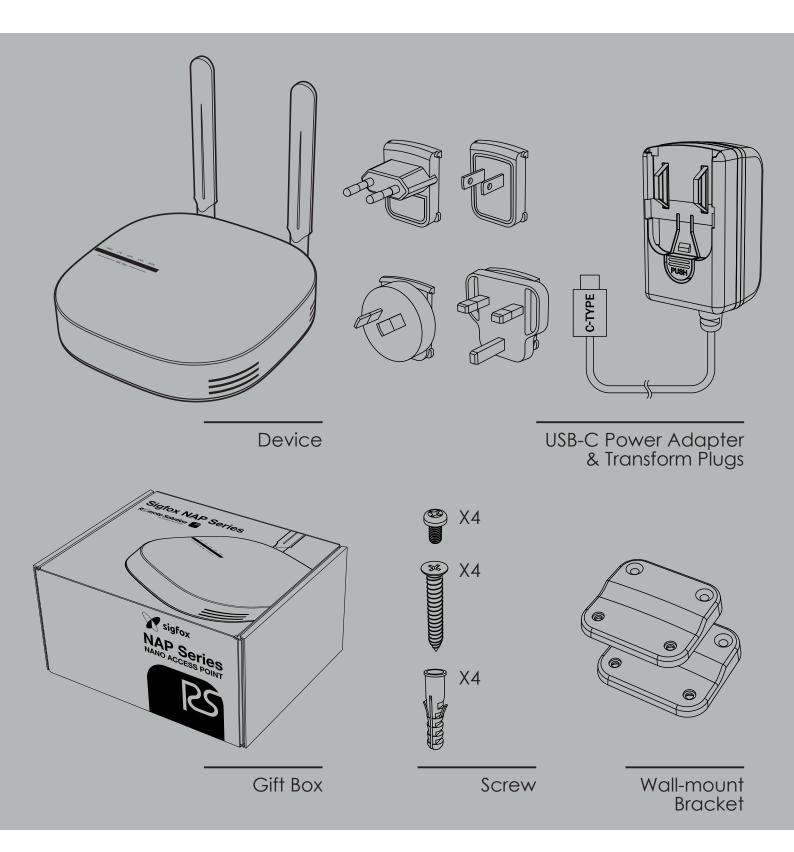
Regarding the Wi-Fi configuration or the other connection process, please refer to the session "Activation / Configuration".

The locational information including GNSS coordinates MUST be entered during the configuration.

For further details, please visit https://service.rs-aiot.com/



Package Contents ____

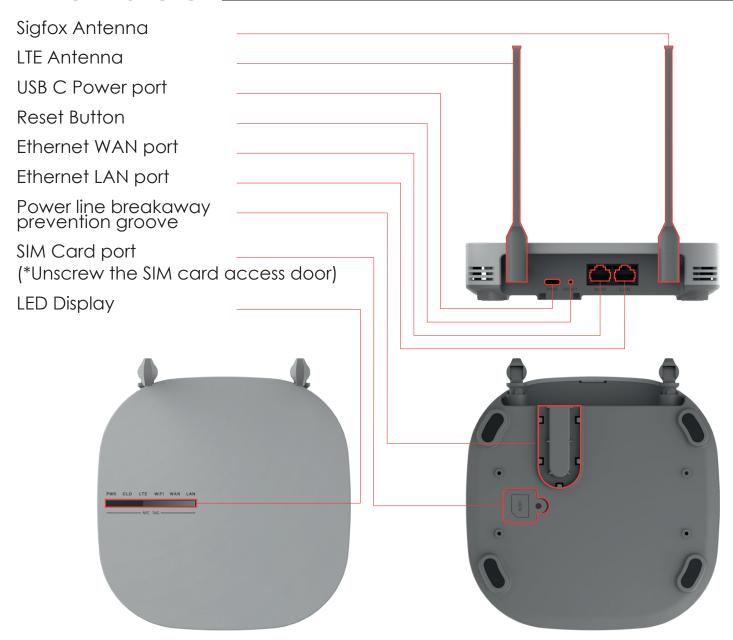


- 4 Taptite & 4 Tapping Screws are included.
- 4 Wall-Plugs are included.
- Ethernet cables are not provided.
- Screwdrivers are not included; regular size is required.





Interface





External Antenna Config _

- 2 antennas* for NAP-5 and NAP-7
- 1 antenna for NAP-3

LED Description

Name	Status	Meaning
PWR	On	Power is normal
	Off	No power or abnormal condition
CLOUD	On	Connected to Sigfox Cloud successfully
	Off	Failed to connect to Sigfox Cloud
LTE	Flashing 1.8s on/0.2s off	LTE Connected to peer
	Flashing 0.2s on/1.8s off	Trying to connect to peer
	Flashing quickly 0.1s on/0.1s off	Data transfer is on going
WIFI	On	WiFi On
	Off	WiFi Off
WAN	On	WAN Link up
	Off	WAN Link down
LAN	On	LAN Link up
	Off	LAN Link down



^{*}Two antenna config, includes one for Sigfox, the other for LTE

Powering the Station 1) Connect the USB C Power port to the power adapter and plug the adapter to a power outlet. 2) Insert the electric wire into the power cord separation prevention groove to prevent the power cord from being easily disconnected from the USB port during use. 3) Station will boot up automatically. 4) To reboot the station, press the Reset button and it will automatically reboot.

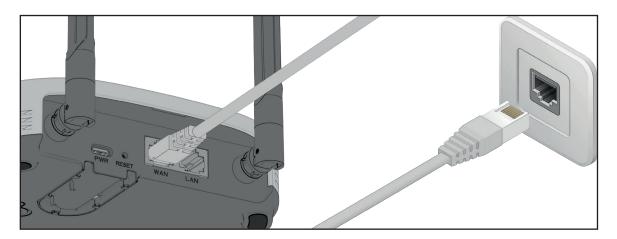
Ethernet Connection_

Step 1 Installation Location

Place or fix the Access Station Nano at the desired location. Make sure you leave enough space to access the ports and you can see the side to check the LED display.

Step 2 Connect the Station to the Internet

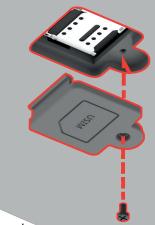
- 1) In case of using Ethernet connect the Ethernet cable to the station's Ethernet WAN port.
- 2) Connect the other end of the Ethernet cable to the Ethernet wall socket or router.







- 1) In case of using LTE M1 remove the cover of the SIM card port on the bottom of the station.
- 2) Unscrew SIM card port.
- 3) Slide the SIM socket cover in the Open direction, and then lift the socket cover up wards.
- 4) Place the SIM card by aligning the cut edge of the SIM card with the edge of the socket.



- 5) Close the SIM socket cover downwards and slide it in the Lock direction to lock it.
- 6) Tighten the cover of the SIM card port with a screw.

Place the station upside down carefully





Open the USIM slot on the bottom of the NAP. Insert the USIM according to the shape of the corner as shown in the figure below, close the iron lid, and Slide it to the right to lock it in place.



Activation / Configuration

- 1) By default, the station is setup for automatic DHCP connection.
- 2) Check the Support Section of this guide if you need to reconfigure the Ethernet or LTE network settings.
- 3) The Access Station NAP is ready and operational as soon as the boot up is done, the connectivity established. This should take less than 1 minutes in normal temperature conditions.
- 4) To activate the device, the GNSS coordinates must be manually inputted by the user via the Android App or Web UI.

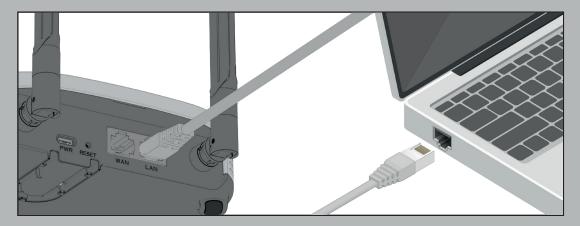
 Please refer to "NAP Settings" for more information.
- 5) Check the Support Section of this guide if you need to reconfigure the Ethernet.



How to Configure the Web

Step 1. Connect the station to PC

1) Connect the Ethernet cable to the station's Ethernet LAN port. Connect the other end of the Ethernet cable to PC.



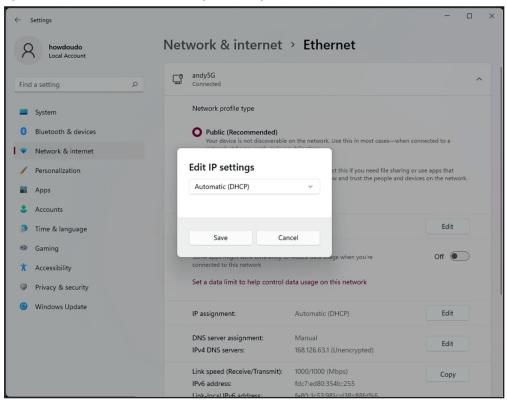
- 2) In Windows 11, go to Start > Settings > Network & internet > Ethernet
- 3) Choose your Ethernet adapter and click **V** to show detail options.





Step 2. Find IP assignment and click Edit

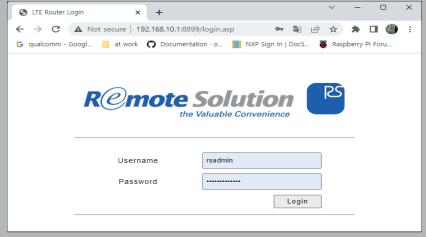
1) Select "Automatic (DHCP)" and Save



Regular Installation

Step 1. Run Web browser and connect to

http://192.168.10.1:8899/



Step 2. Enter Username & Password

■ Default Username: rsadmin

■ Default Password: rsadmin0000!!

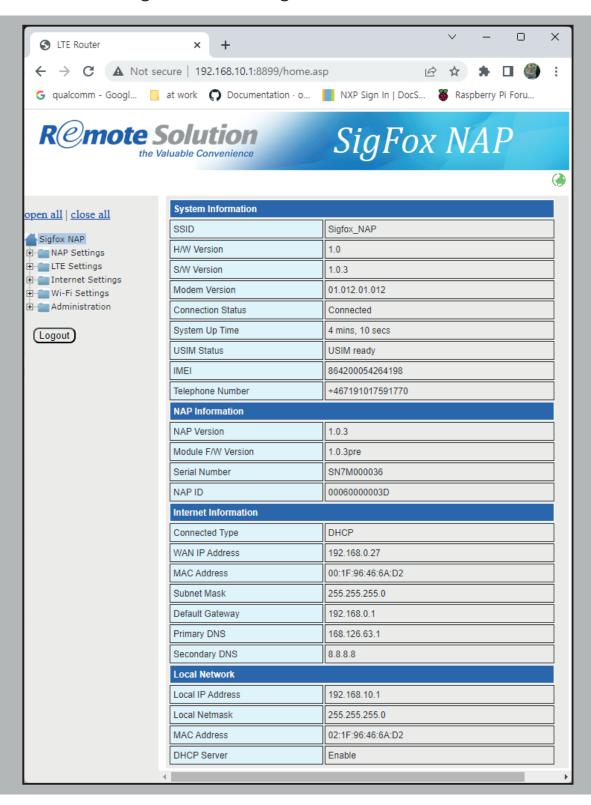
- Default Username & Password is the same for all the NAP Devices
- Recommend to change them for your security
- You can change them in Administration Management menu





How to use Web UI

After successfully connecting to the Web the below will appear. You can get NAP status information, and also configure NAP through the Web UI.

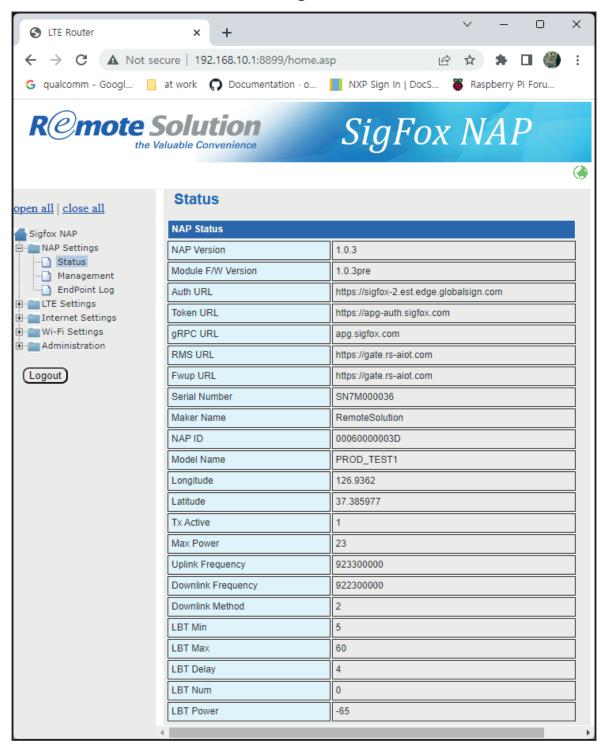




NAP Configuration_

■ NAP Status Information:

Shows various information for Sigfox service

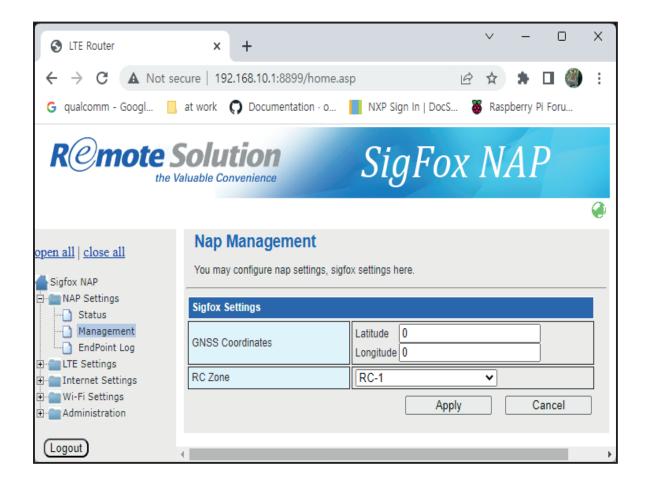




GNSS Coordinates

Specify the latitude & longitude value of GNSS

Coordinate value can be obtained from the mobile application provided by Remote Solution or google map by user.



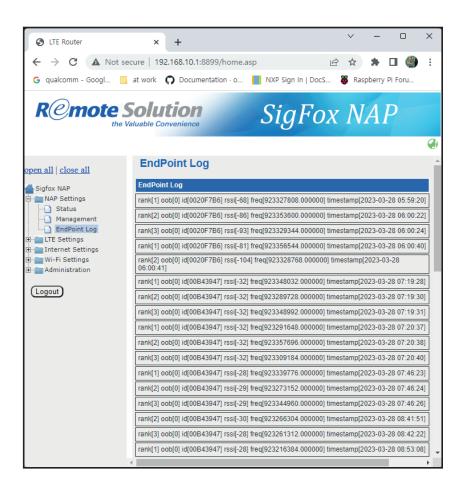


■ End Point Log

NAP shows recent 50 message logs from end point

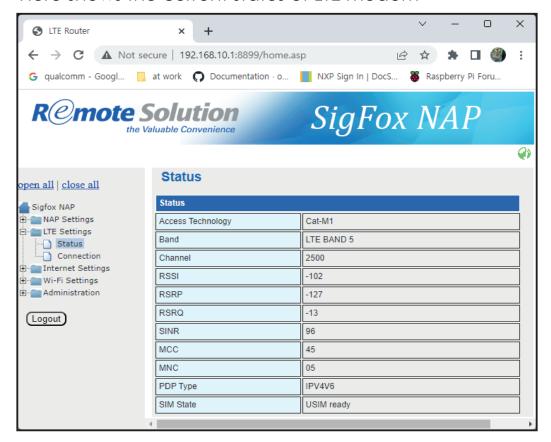
Log show end point's device ID, rssi, frequency and received time in UTC

Note) Log don't show end point's encrypted payload data, you can read it in the Sigfox backend



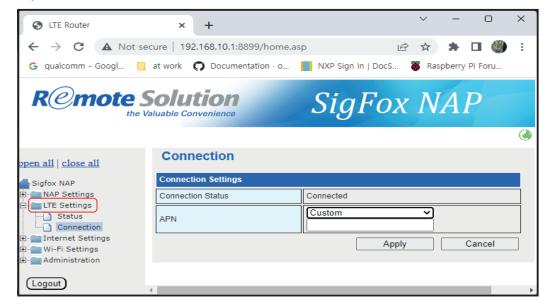
LTE Configuration

Here shows the current status of LTE modem



■ APN Settings(LTE setting)

- 1) In LTE settings -> Connection menu
- 2) Select pre-defined APN or Enter custom APN

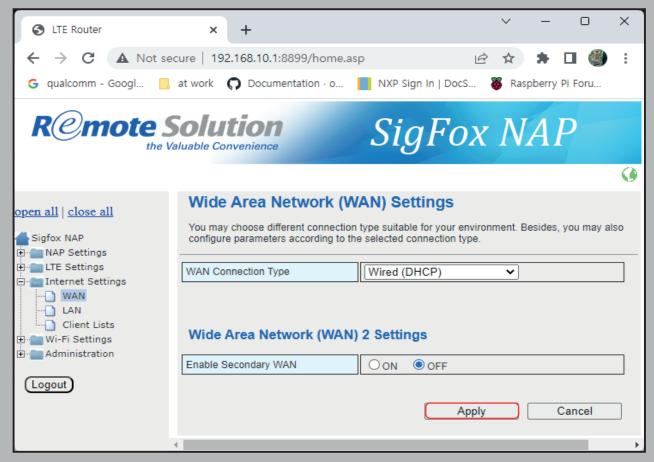




WAN Setup Primary

■ DHCP configuration.

In case of using DHCP Select WAN Connection Type: Wired(DHCP)



Click Apply

"In the case of NAP-7, Multi-Backhaul (LTE, Ethernet, Wi-Fi) function is provided, but if you want to connect two or more backhauls at the same time, you need to set up primary and secondary backhaul.

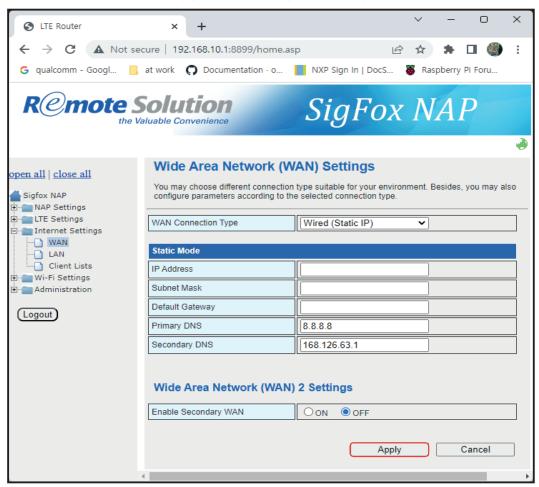
At this time, basic Internet communication is performed with the backhaul set as the primary, and if the primary backhaul becomes unable to communicate, it operates as the secondary backhaul as the backup backhaul.

After that, when the primary backhaul returns to normal, communication is resumed as the primary backhaul."



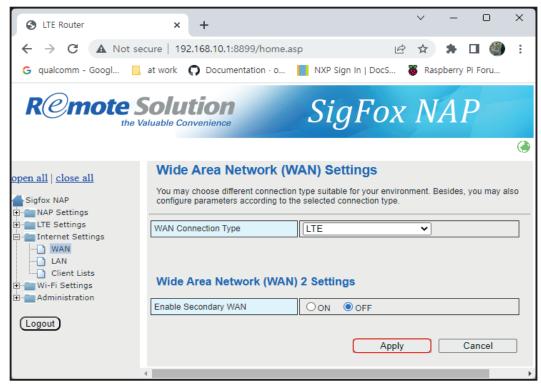
Static IP configuration

WAN Connection Type: Wired (Static IP)



Enter IP address, Subnet Mask, Default Gateway, DNS address **Click Apply**

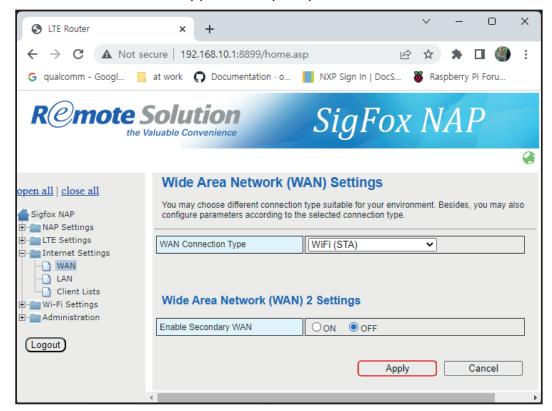
WAN Connection Type: LTE





Click Apply

WAN Connection Type: WiFi(STA)



Click Apply

"Before selecting WiFi(STA), you have to configure STA mode first in the Wi-Fi Settings -> STA menu."



WAN Setup Secondary

Select Enables Secondary WAN: ON

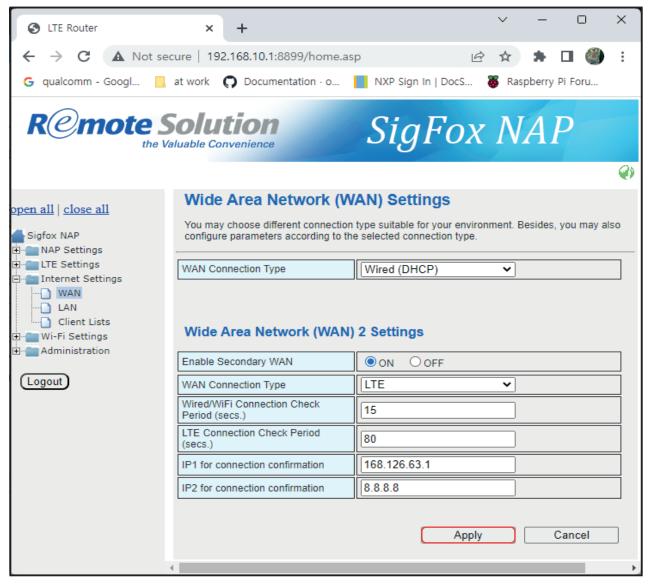
Select WAN Connection type: DHCP/Static/LTE/WiFi(STA)

*Note: You have to select different type with above (LTE or WiFi(STA))

If you enable secondary WAN,

NAP will monitor network status with check period & IP1/1P2 address

When primary or secondary WAN communication failure, NAP will switch to alternative WAN



Click Apply



LAN Configuration

- 1) If LAN IP address and WAN IP address have the same subnet you need to change LAN IP address and DHCP server settings
- 2) Default LAN IP address is 192.168.10.1
- 3) Enter new LAN IP address and DHCP Server settings.
- 4) LAN IP address and DHCP Server's Start IP Address & End IP address have to be same subnet

Eg.) IP address: 192.168.20.1

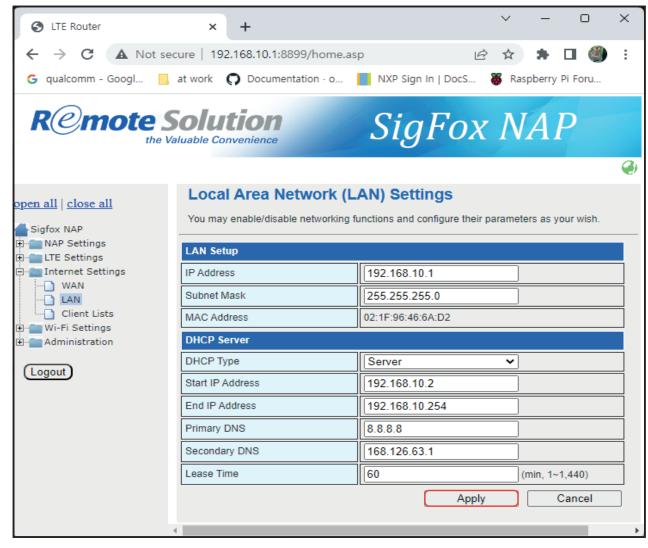
Start IP Address: 192.168.20.2 End IP Address: 192.168.20.254

Primary DNS: 8.8.8.8(google) or other DNS address

Secondary DNS: any DNS address

Lease Time: value in minutes

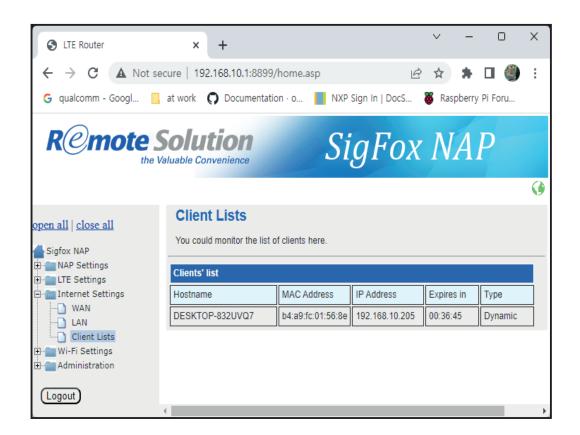
5) Click Apply



NAP Client List

Client list connected to NAP

NAP shows the list of the client which is connected to NAP through the LAN or WiFi





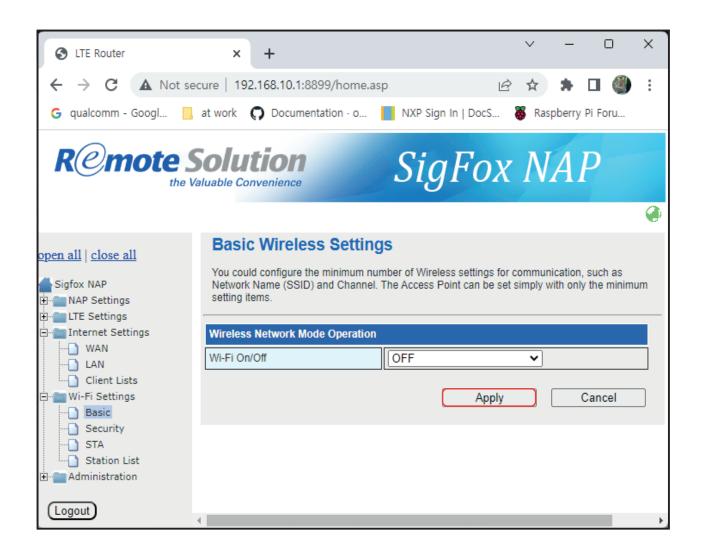
Wi-Fi Configuration

Select Wi-Fi On/Off: Wi-Fi AP mode On or Off

Note) Default WiFi AP function is "OFF" you can change "ON" to use WiFi AP function

To improve security for WiFi AP, you have to change default Pass Phrase more complex in Wi-Fi Settings -> Security menu

Recommend to create new pass phrase with combination of upper case, lower case, number and special characters

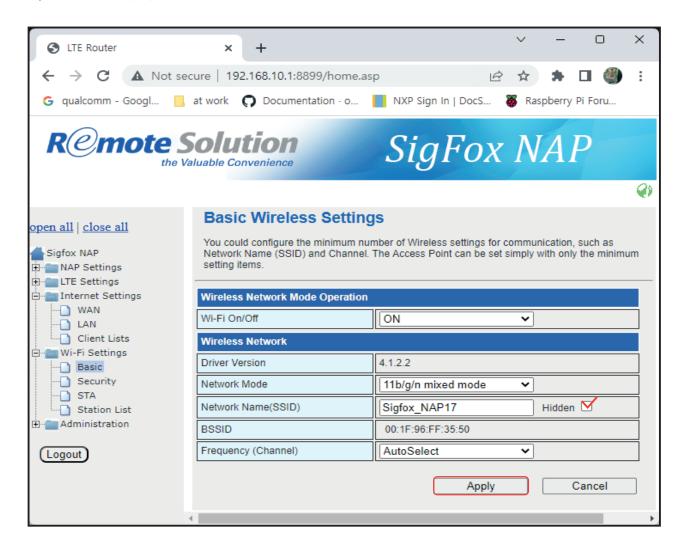




Wi-Fi Configuration.

Select Wi-Fi On/Off: Wi-Fi AP mode On or Off

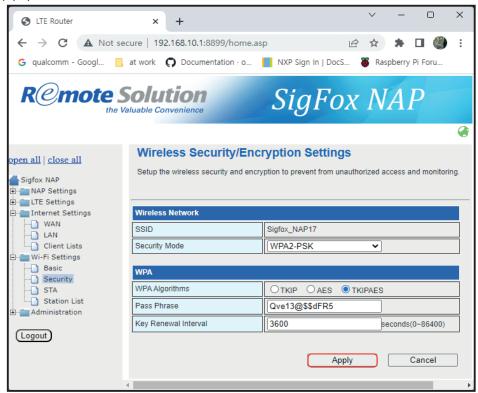
- 1) Network Mode: 11b/g/n or mixed mode
- 2) Network Name(SSID): Enter SSID of AP mode, Default is "Sigfox_NAP"
- 3) Check Hidden ™ to hide SSID
- 4) Frequency (Channel):
 Select specific channel number or Auto Select
- 5) Click Apply





Wi-Fi Configuration Security

- 1) Select Security Mode
- 2) Disable: Open, No security (not recommended)
- 3) WPA-PSK/WPA2-PSK/WPAPSKWPA2PSK: WiFi Protected Access
- 4) WPA Algorithm: TKIP/AES/TKIPAES, TKIPAES means support TKIP or AES
- 5) Pass Phrase: Enter password to access Wi-Fi
- 6) Key Renewal Interval: WPA group rekey interval, default is 3600 sec
- 7) Click Apply



Station List

NAP shows the list of STAs which are connected to NAP through Wi-Fi



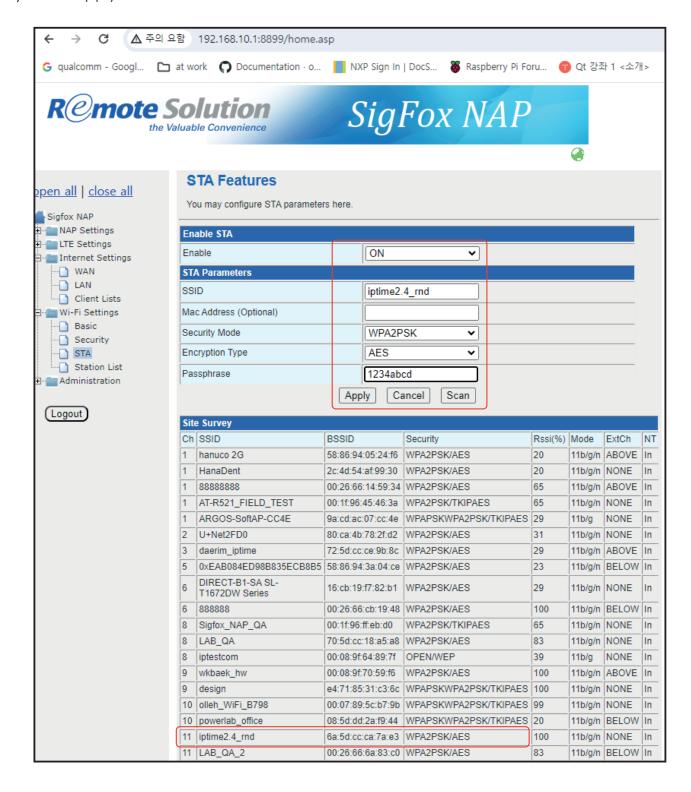




Wi-Fi Configuration STA

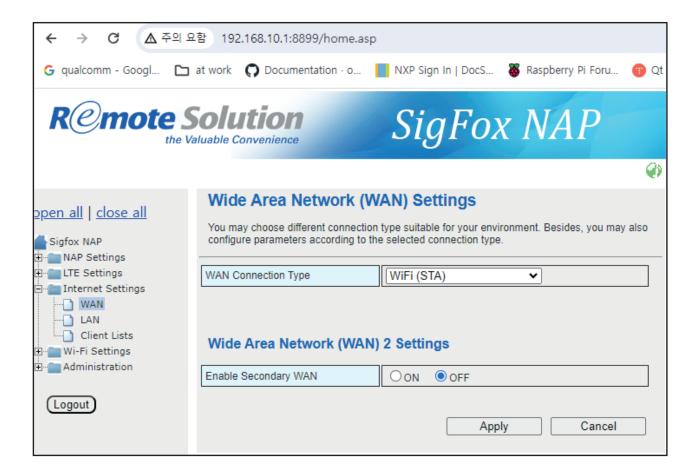
You can use WiFi STA as an internet backhaul

- 1) Select Enable STA: ON
- 2) Find WiFi AP which you want connect in the Site Survey list if you can't find a SSID in Site Survey list, click "Scan" button again
- 3) Enter or select "SSID", "Security Mode", "Encryption Type" and "Passphrase" you can see "Security Mode" and "Encryption Type" in site survey list
- 4) Click Apply



Wi-Fi Configuration STA

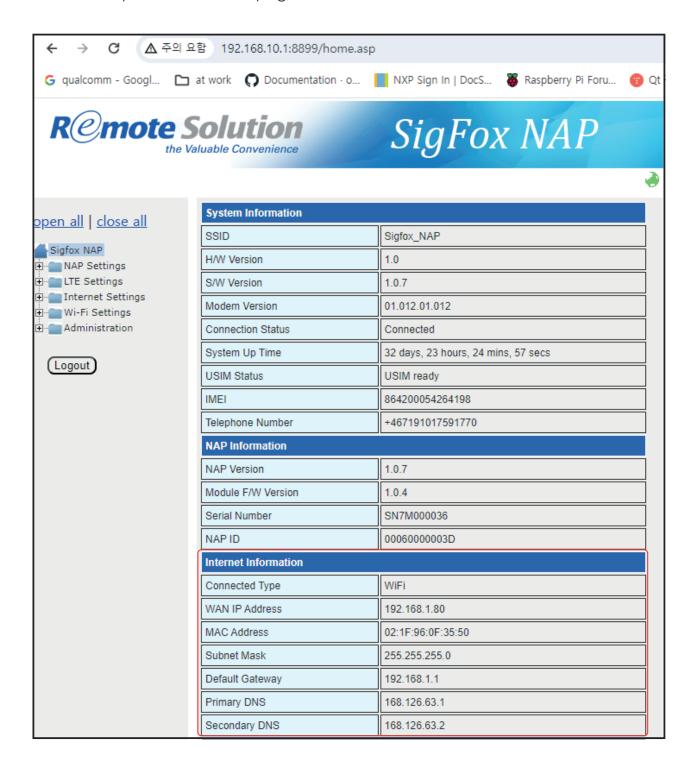
- 5) Go to Internet Settings -> WAN menu
- 6) Select WAN Connection Type: WiFi(STA)
 You can also select WiFi(STA) as a secondary WAN



7) Click Apply

Wi-Fi Configuration STA

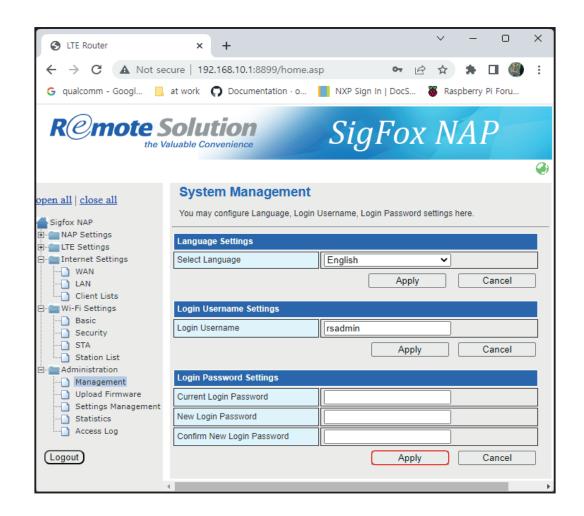
If you configure WiFi(STA) settings correctly and NAP connected to AP successfully, you can see an IP address gotten from AP in the System Information page



Administration Menu

Login Information

- 1) Management, Language: Select English or Korean
- Default Username: rsadmin, Default Password: rsadmin0000!!
- Default Username & Password is the same for all the NAP Devices
- 4) Recommend to change them for your security

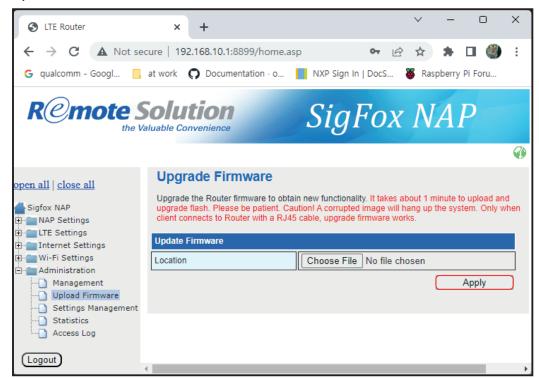




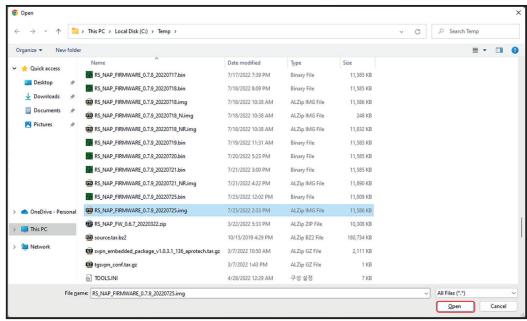
■ Firmware Upgrade

Upload Firmware, NAP support firmware update in Web UI For updating new firmware

1) Click "Choose File" button



2) Select firmware image file and open it



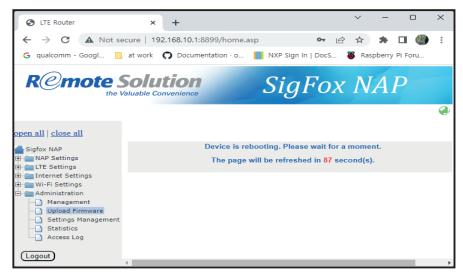
3) Click Open



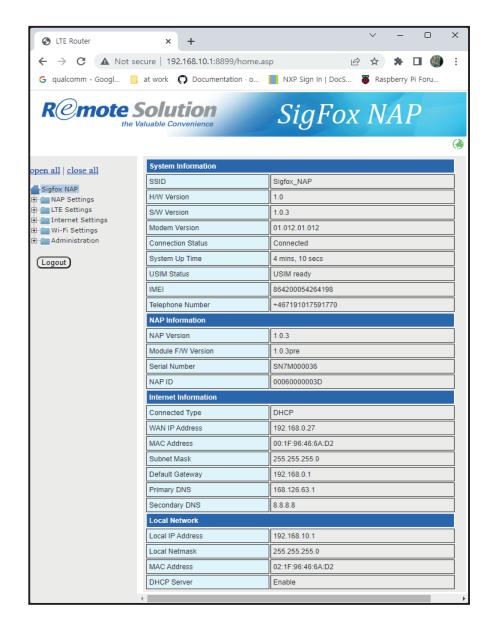




5) Upload Firmware



- 6) After writing firmware image to internal flash memory, NAP will reboot automatically
- 7) Wait for 2 ~ 3 mins to reboot and reconnect to Web UI
- 8) Check the S/W Version in System Information to confirm firmware update success

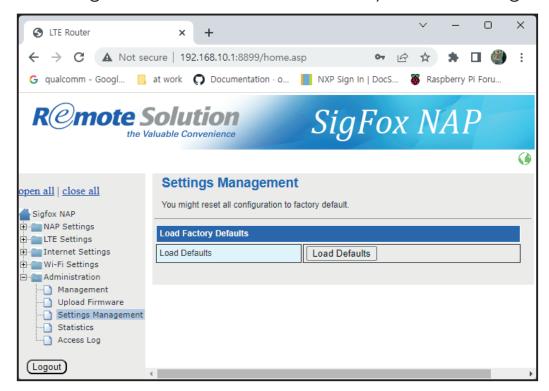






Load Factory Defaults

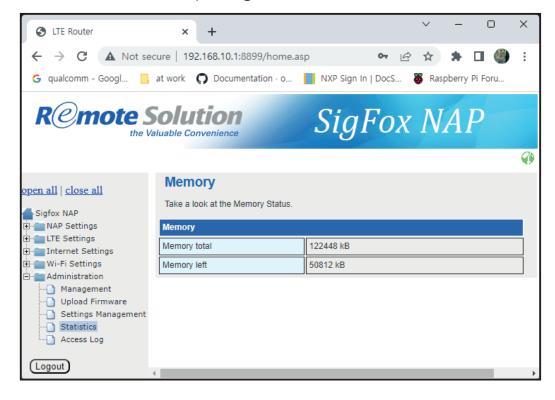
All configurations are restored to factory default settings



- 1) NAP will reboot automatically,
- 2) Wait for $2 \sim 3$ mins to reboot and reconnect to Web UI

Statistics

NAP shows memory usage

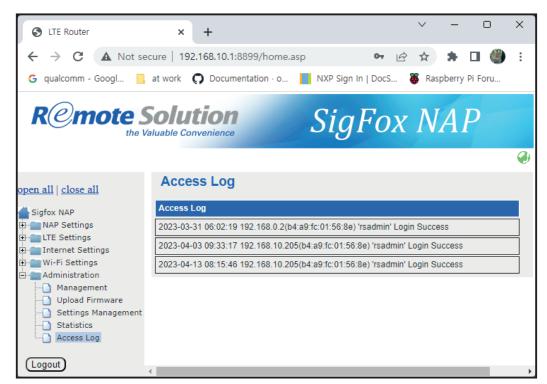






■ Debugging Mode – Access Log

- 1) NAP shows access log for Web UI
- 2) Access Log





Thank you

Remote solution X sigfox

