XEDGE Private Network Intelligence

XEDGE Controller User Guide

Version 2.0

Revision 1.27

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VIAVI Solutions
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Notice

Every effort was made to ensure that the information in this manual was accurate at the time of printing. However, information is subject to change without notice, and VIAVI reserves the right to provide an addendum to this manual with information not available at the time that this manual was created.

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Terms and conditions

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About This Guide

Purpose and scope

The purpose of this guide is to help you successfully use the XEDGE features and capabilities. This guide includes task-based instructions that describe a quick start to get XEDGE devices operating to perform indoor and outdoor walk tests.

Assumptions

This guide is intended for novice, intermediate, and experienced users who want to use the XEDGE software effectively and efficiently.

Related Information

Use this guide in conjunction with the following document:

- PNI Dashboards User Guide

Document Revision History

This table provides a revision history for this document. Table 1 Document Revision History

Revision	Date	Description
1.25	November 2024	Initial Version compatible with controller version 2.2.25
1.26	December 2024	Version compatible with controller version 2.2.26
1.27	December 2024	Version compatible with controller version 2.2.26

Technical Assistance

If you require technical assistance, please email to XEDGE.support@viavisolutions.com. For the latest TAC information, go to www.viavisolutions.com.

Regulatory compliance

Safety information

Safety information is provided in the Safety Instructions chapter at the end of this document.

California Proposition 65

California Proposition 65, officially known as the Safe Drinking Water and Toxic Enforcement Act of 1986, was enacted in November 1986 with the aim of protecting individuals in the state of California and the state's drinking water and environment from excessive exposure to chemicals known to the state to cause cancer, birth defects or other reproductive harm.

For the VIAVI position statement on the use of Proposition 65 chemicals in VIAVI products, see the **Hazardous Substance Control** section of the VIAVI Policies & Standards web page.

Federal Communications Commission (FCC)

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 or more 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.

The authority to operate this equipment is conditioned by the requirements that no modifications be made to the equipment unless the changes or modifications are expressly approved by VIAVI.

This product complies with 47 CFR Part 15 using a modular component authorized under a grant of certification:

- FCC ID: WUW-SXPCEAC2
- FCC ID: WUW-RM520NGL

CAUTION:

- This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment.
- To comply with FCC RF exposure compliance requirements, a separation distance of at least 2.5 cm must be maintained between the antenna of this device and all persons.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Innovation, Science and Economic Development Canada (ISED)

This digital apparatus complies with CAN ICES-003 (B).

Cet appareil est conforme à la norme NMB-003 (B).

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs/récepteurs exemptés de licence conformes à la norme Innovation, Sciences, et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes:

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

This product complies with relevant ISED Canada Radio Standard Specifications (RSS) through the use of a modular component authorized under a grant of certification:

- IC: 9613A-SXPCEAC2
- IC: 9613A-RM520NGL

CAUTION:

- This equipment complies with the ISED Canada RF radiation exposure limits set forth for an uncontrolled environment.
- To comply with ISED Canada RF exposure compliance requirements, a separation distance of at least 2.5 cm must be maintained between the antenna of this device and all persons.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Ce produit est conforme aux cahiers des charges sur les normes radioélectriques (CNR) pertinentes d'ISDE Canada grâce à l'utilisation d'un composant modulaire autorisé en vertu d'une délivrance de

certification:

- IC: 9613A-SXPCEAC2
- IC: 9613A-RM520NGL

PRUDENCE:

- Cet équipement est conforme aux limites d'exposition aux rayonnements RF d'ISDE Canada établies pour un environnement non contrôlé.
- Pour se conformer aux exigences de conformité d'exposition RF d'ISDE Canada, une distance de séparation d'au moins 2.5 cm doit être maintenue entre l'antenne de cet appareil et toute personne.
- Cet émetteur ne doit pas être co-localisé ou fonctionner en conjonction avec toute autre antenne ou émetteur.

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.The maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit.

The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate.

Be advised that high-power radars are allocated as primary users (i.e., priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

L’appareil pour fonctionner dans la bande 5150-5250 MHz est uniquement pour une utilisation à l’intérieur pour réduire le potentiel d’interférence nuisible aux systèmes satellites mobiles co-canaux.Le gain en puissance d’antenne maximal autorisé pour les périphériques dans les bandes 5250 à 5350 MHz et 5470 à 5725 MHz doit respecter la limite EIRP.

Le gain en puissance d’antenne maximal autorisé pour les périphériques dans les bandes 5725 à 5850 MHz doit respecter les limites EIRP spécifiées pour les opérations point à point et non point à point le cas échéant.

Sachez que les radars de haute puissance sont désignés comme utilisateurs principaux (c.-à-d. utilisateurs prioritaires) des bandes 5250 à 5350 MHz et 5650 à 5850 MHz, et que ces radars peuvent causer des interférences ou endommager les périphériques LE-LAN.

EU WEEE and Battery Directives

The equipment, and the batteries used to power it, should not be disposed of as unsorted municipal waste and should be collected separately and disposed of according to your national regulations.

VIAVI has established a take-back process in compliance with the EU Waste Electrical and Electronic Equipment (WEEE) Directive, 2012/19/EU, and the EU Battery Directive, 2006/66/EC. Instructions for returning waste equipment and batteries to VIAVI can be found in the **WEEE** section of the VIAVI Policies & Standards web page.

If you have questions concerning the disposal of your equipment or batteries, contact the VIAVI WEEE Program Management team at weee.emea@viavisolutions.com.

EU REACH

Article 33 of EU REACH regulation (EC) No 1907/2006 requires product suppliers to provide information when a substance included in the list of Substances of Very High Concern (SVHC) is present in an product above a certain threshold.

For information about the presence of REACH SVHC in VIAVI products, see the **Hazardous Substance Control** section of the VIAVI Policies & Standards web page.

EU CE Marking Directives (LV, EMC, RoHS)

The equipment conforms with all applicable CE marking directives. Please request an EU Declaration of Conformity for further details.

Access to CE compliance labels can be obtained by removing the back cover and separating the module to gain visual access to the labels.

1. Place the unit so you have access to the back and remove the back cover with a slotted screwdriver.
2. Using the hex key located in the groove on the back panel, loosen the four fasteners and lift the base unit off of the XEdge module.
3. You will now have visual access to the CE compliance labels on the base and the module.

To re-assemble the instrument, follow the reverse process:

1. Place the ONA-800 base onto the module, ensuring the mating connectors are aligned.
2. Using the hex key, tighten the captive fasteners on the rear of the base that secure it to the module.
3. Re-attach the back cover with a slotted screwdriver.

EU Radio Equipment Directive

In accordance with Article 10.8 of the EU Radio Equipment Directive 2014/53/EU, the following table provides information on the frequency bands and the maximum RF transmit power of this product for sale in the EU.

Interface	Mode	Frequency Range	Channels Used	Max. Transmit Power (conducted)
WLAN	-	2412-2462	1-11	15 dBm (32 mW)
		5180-5240	36-48	15.5 dBm (36 mW)
		5260-5320	52-64	15.5 dBm (36 mW)
		5500-5700	100-140	15.5 dBm (36 mW)
		5745-5825	149-165	9 dBm (8 mW)
Cellular	WCDMA	-	B1/ 2/ 4/ 5/ 8/ 19	25 dBm (316 mW) (Class 3)
	LTE	-	B1/B2/B3/B4/B5/B7/B8/B12/B13/ B14/B17/B18/B19/B20/B25/B26/ B28/B29/B30/B32/B34/B38/B39/ B40/B41/B42/B43/B48/B66/B71	25 dBm (316 mW) (Class 3)
	LTE HPUE	-	B38/B41/B42/B43	28 dBm (631 mW) (Class 2)
	5G NR	-	n1/n2/n3/n5/n7/n8/n12/n13/n14/ n18/n20/n25/n26/n28/n29/n30/ n38/n40/n41/n48/n66/n70/n71/ n75/n76/n77/n88/n79	25 dBm (316 mW) (Class 3)
	5G NR HPUE	-	n38/n40/n41/n77/n78/n79	28 dBm (613 mW) (Class 2)
	5G NR HPUE	-	n41/n77/n78/n79	28 dBm (613 mW) (Class 1.5)

Japan Radio Law

.当該機器には電波法に基づく、技術基準適合証明等を受けた特定無線設備を装着している。

電波法により5.2/5.3 GHz帯は屋内使用に限ります

Safety standards compliance

The equipment meets the following standards and requirements:

- UL 61010-1 / CAN/CSA-C22.2 No.61010-1-12 Safety Requirements for Electrical Equipment for

Measurement Control, and Laboratory Use - Part I: General Requirements; 3rd edition, Rev 6/6/2023

- IEC 61010-1:2010+AMD1:2016 / EN 61010-1:2010+A1:2019 Safety Requirements for Electrical Equipment for Measurement Control, and Laboratory Use - Part I: General Requirements
- Indoor use only
- Altitude: 2000m
- Temperature: 0 to 40°C
- Relative Humidity: 95% (non-condensing)
- Installation Category (Over voltage Category) II under IEC 60664-1
- Pollution Degree 2 Category under IEC 61010-1

Table of Contents

Chapter 1 Getting Started

1.Battery Unit and Power Supply

Check the XEDGE device battery upon unpacking. The battery should be preinstalled in the base unit. If needed, install the battery as shown in Figures 1 and 2 below.

.

Figure 1

CAUTION:

The Lithium Ion batteries shipped with the unit can explode if incorrectly installed. When replacing the battery, ensure that you only use VIAVI approved battery types, as shown in Figure 2, and that they are properly installed. Always dispose of batteries according to your local safety and environmental regulations.

NOTE:

VIAVI recommends that you either power off the unit or switch to AC power before replacing the batteries.

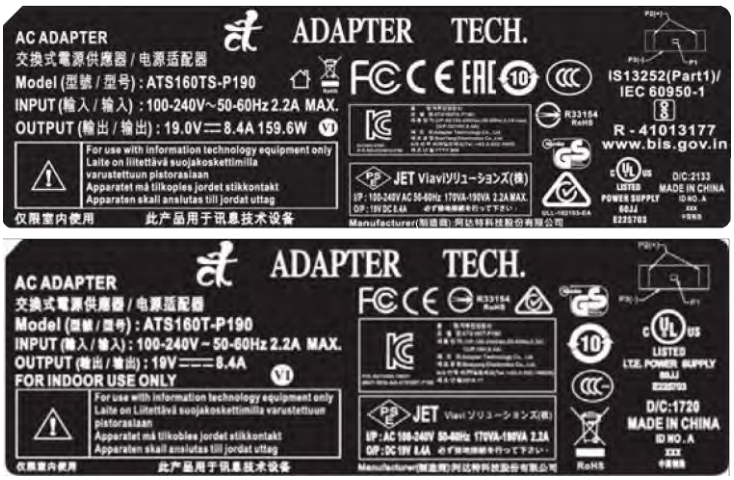
Figure 2

The battery compartment is accessed by unscrewing the thumbscrew on the side of the instrument and removing the battery access door.

Reverse the process to remove the battery.

Figure 3

Power is supplied to the instrument by the battery or the AC power adapter. For the XEDGE device, the adapter is supplied with the instrument. Use of batteries or AC power adapters other than those supplied with your XEDGE device is not recommended as other slices/modules may be supplied with incompatible batteries or adapters. Please verify that you have the correct battery and adapter. The battery and AC adapter labels are shown below



The XEDGE unit operates from 19-27V DC and can operate supplied by the 19V DC, 160W AC power adapter shipped with the unit. The nominal input ratings of the power adapter are 100-240V AC, 50-60Hz, and it auto-ranges between 90-264V AC and 47-63Hz. The mains supply cord used with the power adapter must be grounded with a connection to protective earth.

NOTE:

Before connecting an AC power adapter to the unit, refer to the label on the adapter (Figure 15) to confirm that it is the correct adapter for use with the unit. AC power adapters supplied with other products might not be compatible for use with XEDGE.

2 Antennas Layout and Installation.

Attach the Antennas as per the Label layout on figure 4.

Modem 1 utilizes antenna positions A0, A1, A2, A3
Modem 2 utilizes antenna positions B0, B1, B2, B3
Modem 3 utilizes antenna positions C0, C1, C2, C3
Modem 4 utilizes antenna positions D0, D1, D2, D3

Figure 4

Split locker washers are used to provide retention of the antennas

Figure 5

SMA connector with wave split locker washers

Figure 6

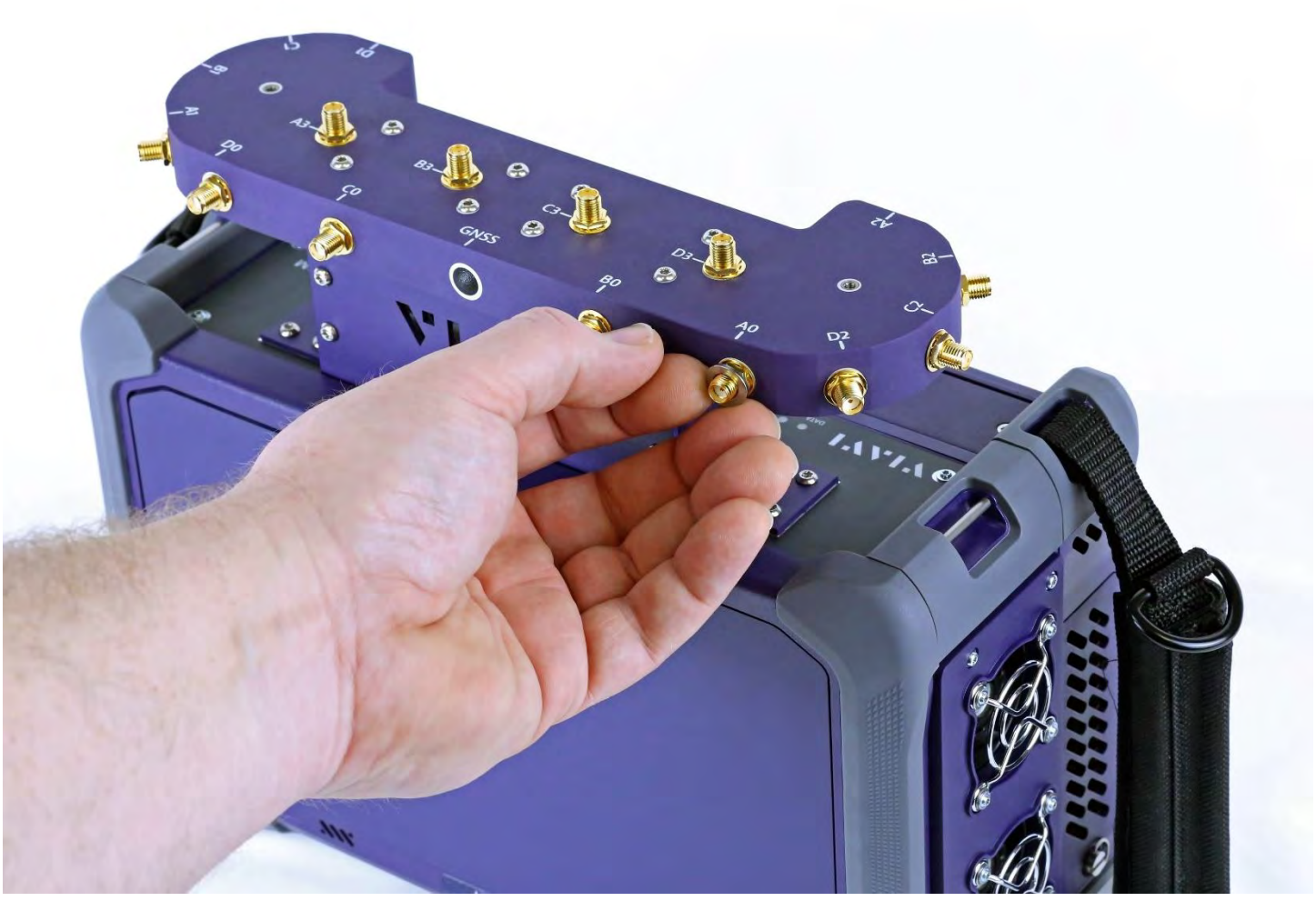


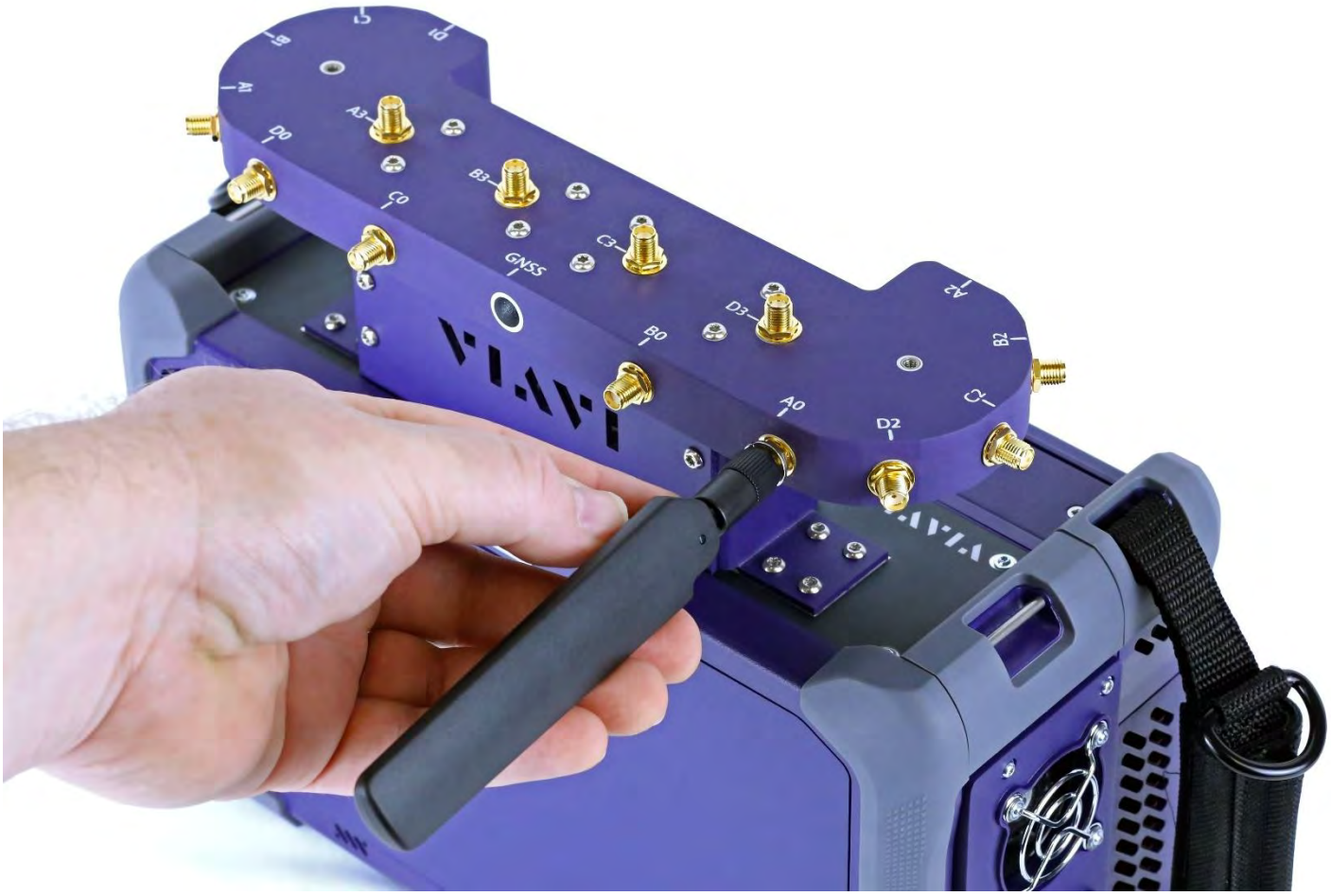
Figure 7

Attaching the Antennas to SMA connectors

Figure 8

Tightening the Antennas to SMA connectors

Figure 9



After the antennas are installed, place the antenna alignment frame over the antennas to set their position. Two thumbs screws can be used to secure the antenna alignment frame to the product

Figure 10

3 Connecting Power Cord.

Attach the power cord as shown in Figures 11 to 13

Figure 11

Figure 12

Figure 13


IMEI 2:
IMEI 3:
IMEI 4:
DATA
POWER
MODEM 1
MODEM 2
MODEM 3
MODEM 4
MicroSIM

4 Inserting the Sim card(s)

Insert the SIM card(s) into the XEDGE device as shown in Figure 14

Figure 14

Nano SIM card(s) to be inserted.

Figure 15

5 Powering on the device.

Power up the device by pressing the power button for approximately two seconds as shown in Figure 16.
Power down the device by pressing the power button for approximately 8 seconds.

Figure 16

6 Connecting the Ethernet cable.

Insert an ethernet cable in the ethernet port of the XEDGE device as shown in Figures 17 and 18 for network connectivity .

Figure 17

Figure 18

7 Establishing WIFI connectivity.

Next you will need to configure WiFi for your XEDGE device. Navigate to Chapter 2 and perform steps 1-2, 7-17.

8 LED Definition.

The LED's on the device defines the state of the XEDGE device. The LED's can be categorized to 3 types, they are:

- Modem LED's- There are 4 LED's to determine the status for each modem
- Power LED- Single LED to determine Power status.
- Data LED- Single LED to determine Data transfer status.

The LEDs glow in different sequences with blue, green and red color indicating different status. The diagram below shows the LED layout on the XEDGE device.

Figure 19

The different status showcased by the 3 types of LEDs are listed in the tables given below. Note '*'-concurrent,

Modem LEDs

Sl.No:	LED Color			Condition/State
	BLUE	**GREEN**	**RED**	
1	OFF	OFF	SOLID	Starlight (XEDGE application) is booting up
2	OFF	OFF	OFF	Empty Slot or No Modem is detected on the Slot
3	OFF	SOLID	SOLID	Modem Admin Status Down
4	OFF	BLINKING	BLINKING	Modem Admin Status is Maintenance
5	OFF	SOLID	OFF	Telemetry is in progress. When Modem has SIM
6	OFF	BLINKING	OFF	RF Walk test is in progress, When Modem has SIM
7	BLINKING	OFF	OFF	IPERF Test is in Progress
8	SOLID	OFF	OFF	On Management Modem
9	SOLID	SOLID	OFF	On Management modem and Telemetry is in progress
10	BLINKING	BLINKING	BLINKING	No test is running, When Modem has SIM
11	OFF	BLINKING*	BLINKING*	Modem does not have SIM; no test is running and Telemetry not running
12	OFF	SOLID	BLINKING	Modem does not have SIM, Telemetry running
13	OFF	BLINKING	SOLID	Modem does not have SIM and Walk test is running

Power LED

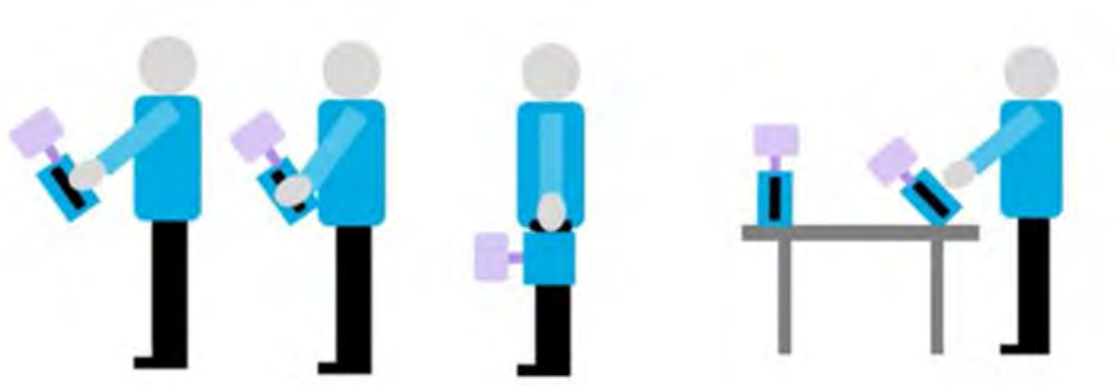
Sl.No:	LED Colour			Condition/State
	BLUE	GREEN	RED	
1	BLINKING	OFF	OFF	Starlight (XEDGE application) is booting up
2	BLINKING	OFF	OFF	Device does not have controller connectivity and in Admin Up/Down/Maintenance State
3	OFF	SOLID	SOLID	Device has controller connectivity and in Admin Down State
4	OFF	BLINKING	BLINKING	Device has controller connectivity and in Admin Maintenance State
5	OFF	SOLID	OFF	Device has controller connectivity and in Admin Up State

Data LED

Sl.No:	LED Colour			Condition/State
	BLUE	GREEN	RED	
1	OFF	OFF	SOLID	No Controller connectivity is established
2	SOLID	OFF	OFF	Controller connectivity is through management modem
3	OFF	SOLID	OFF	Controller connectivity is through WiFi/LAN

9 Carrying the XEDGE device

The user can carry the equipment in multiple ways. Typical use case is to hold the equipment along the side straps with both hands Infront of the body or hold the equipment with one side strap on the side of the body with antennas facing front or back as shown below:



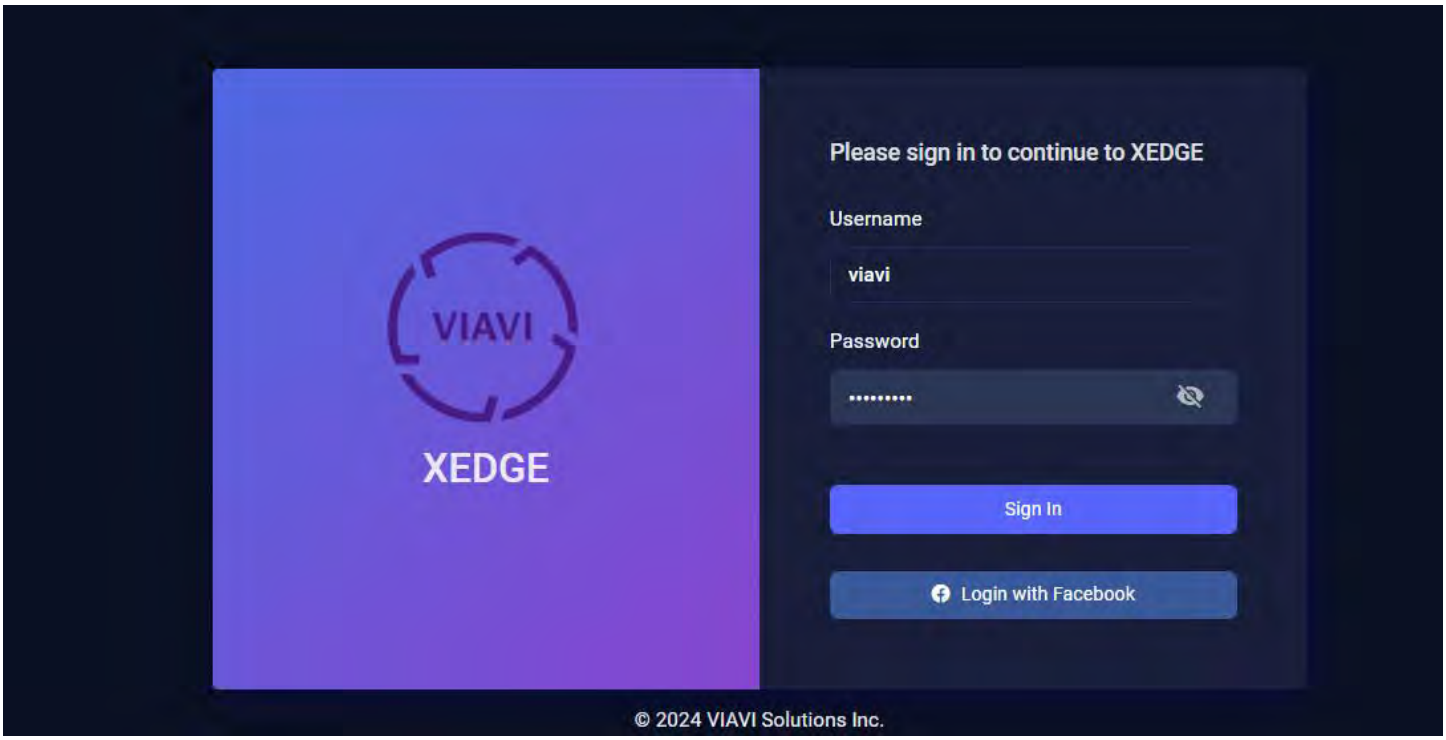
Chapter 2 Accessing the XEDGE UI

This chapter provides task-based instructions for accessing the XEDGE UI. To access the XEDGE UI, complete the following steps:

1 Log In Page

In your browser enter the XEDGE URL ,which will be provided by the support team(Support team email id- XEDGE.support@viavisolutions.com).

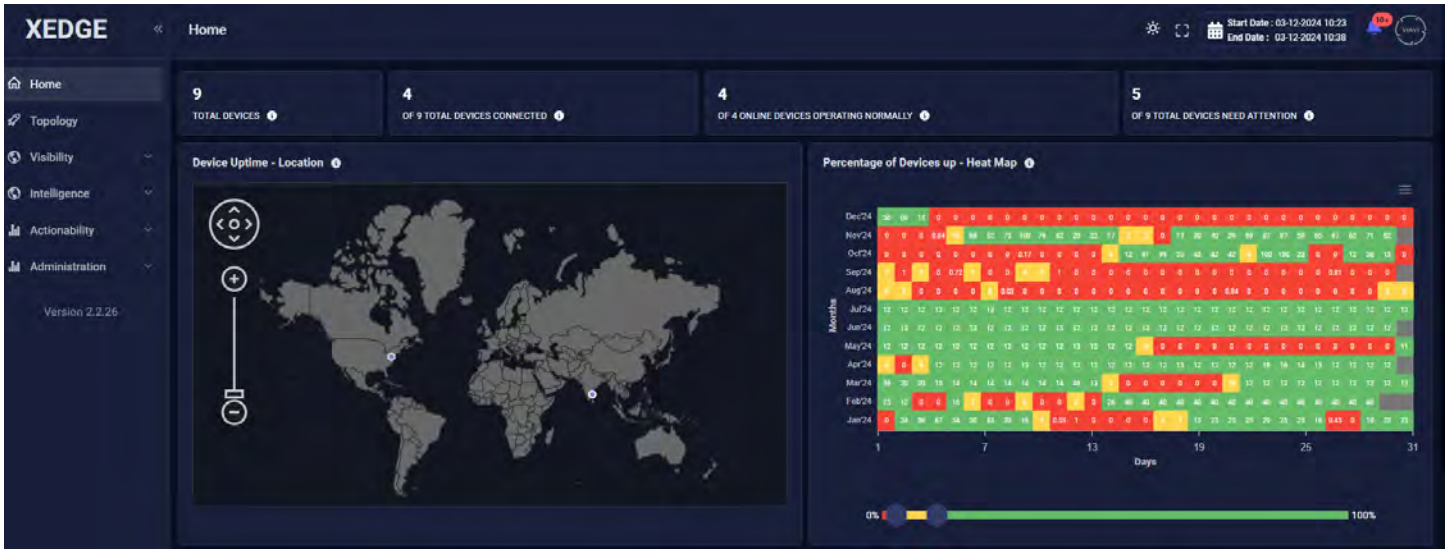
Enter username and password credentials provided by the support team and then sign in.



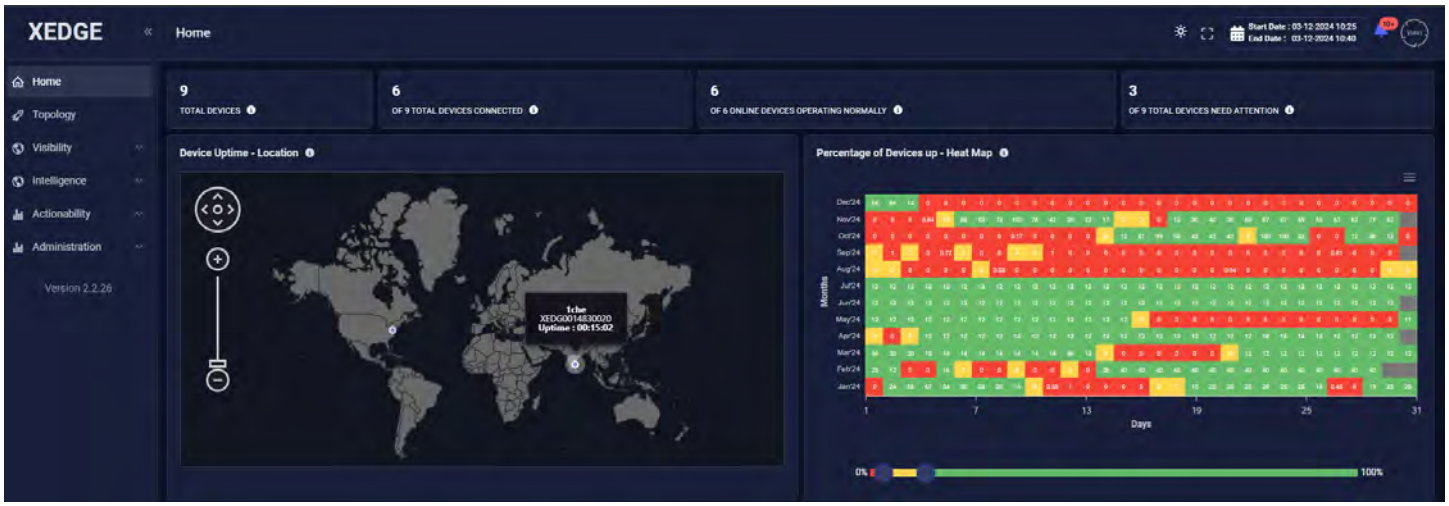
2 Home Page

The ‘Home’ page is displayed.

Device Uptime is when a device is up but not sending telemetry data to the controller. Device Connectivity is when a device is up and sending telemetry data to the controller.



The Location Map displays where the device is. Hover over to display how long the device has been up and connected to the Controller. One map shows uptime, and one shows connectivity duration.



Heat Map feature.

The following features are available for the heatmap:

- Color legend: The color range is from 0 to 100, where 0 means the critical case and 100 is for the best case.
- The slider under the heatmap is for setting criteria for critical, average, and best cases.
- Users can adjust the percentages as per their criteria for severity:
    - The red grid is in a critical state that needs attention.
    - The green grids are in the range of best cases
    - The yellow are in between critical and the best cases

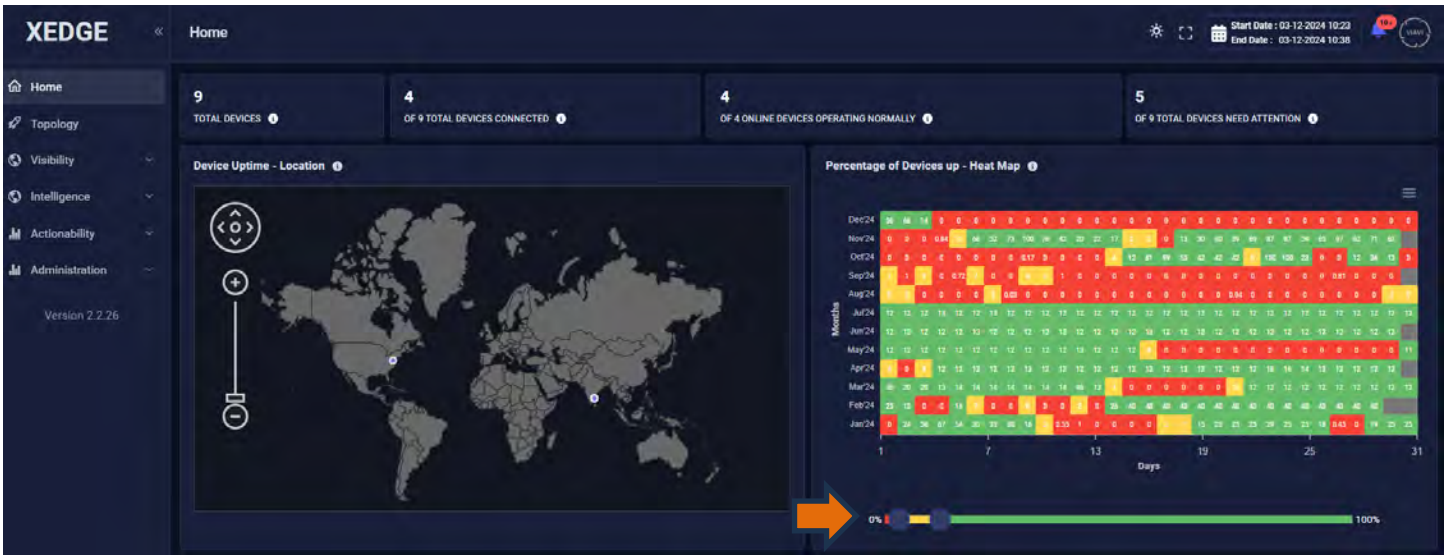
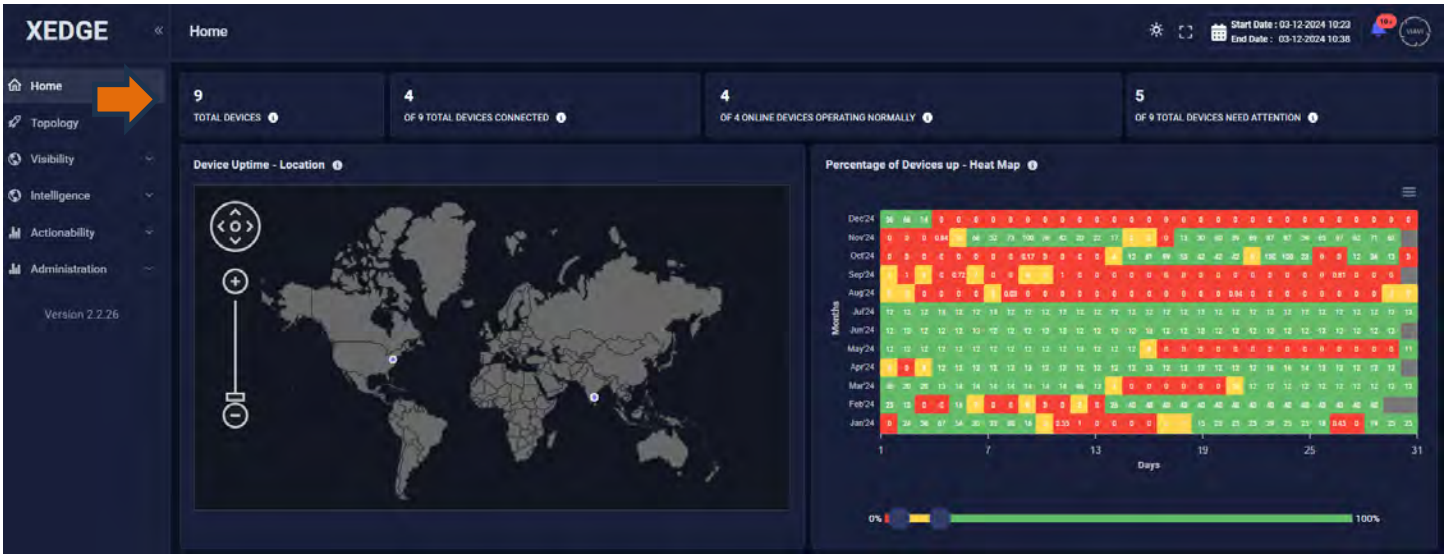


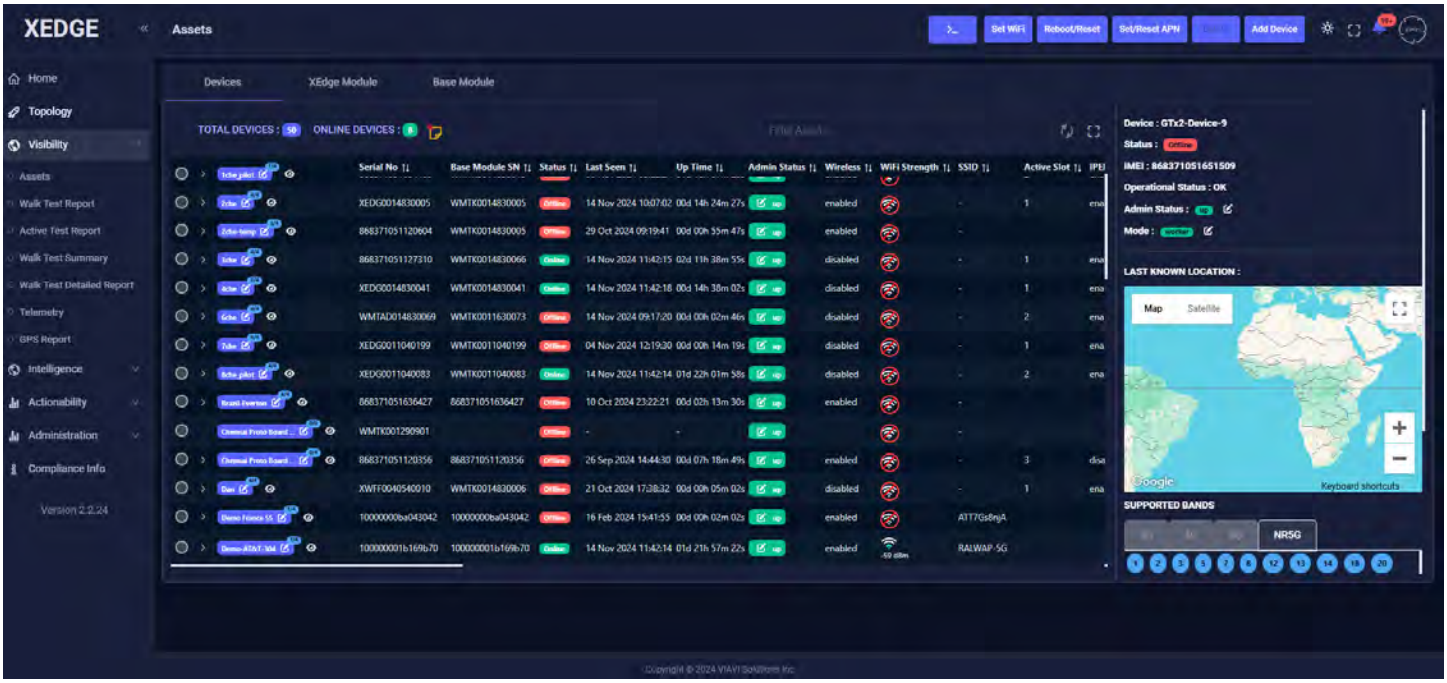
Table 2 Explanation of status on the Home page

Status	Description
Devices	Total number of Onboarded devices
Connected	Total number of Online devices
Operating Normally	Total number of Devices which has operation status as OK for all the modems
Attention Needed	The total number of devices that are either offline or the operation status of any of the modems in devices is not ok



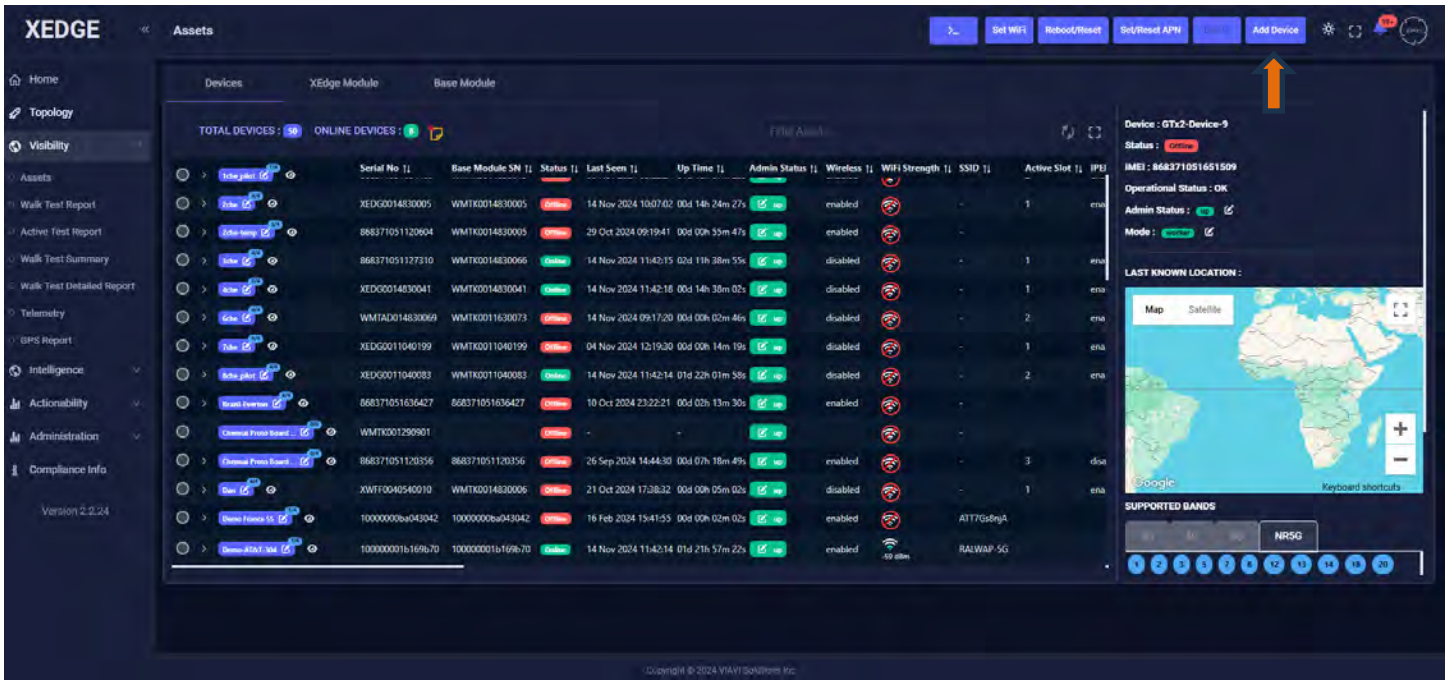
3 Assets Page

Navigate to **Visibility > Assets**.



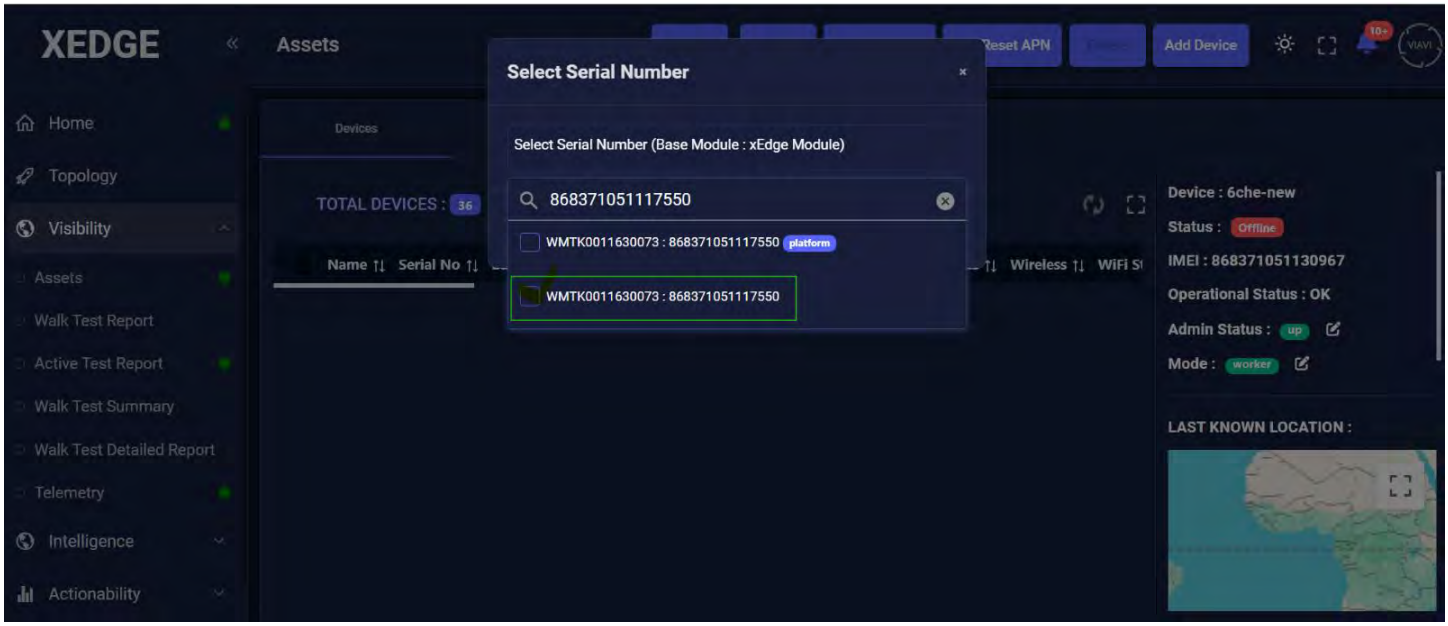
Onboarding a Device

Click "**Add Device"** to onboard the device you will use

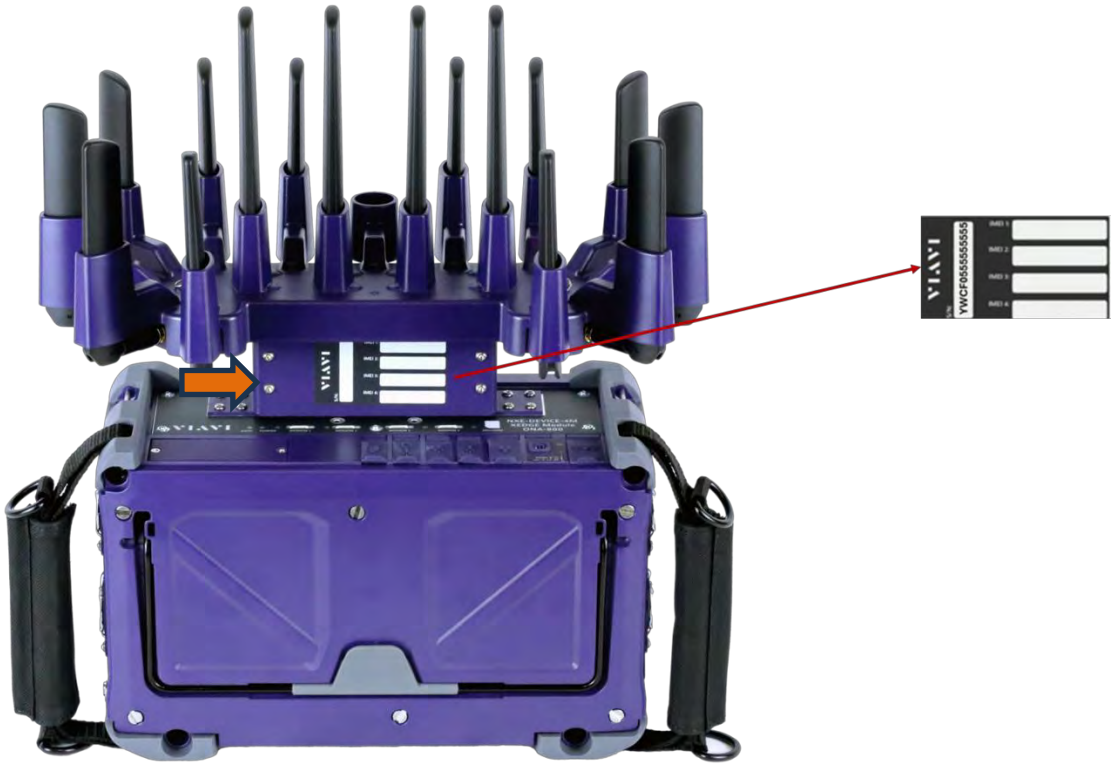


Enter the serial number and click **Next.** The serial number is located on the device label, as shown in the following figure.

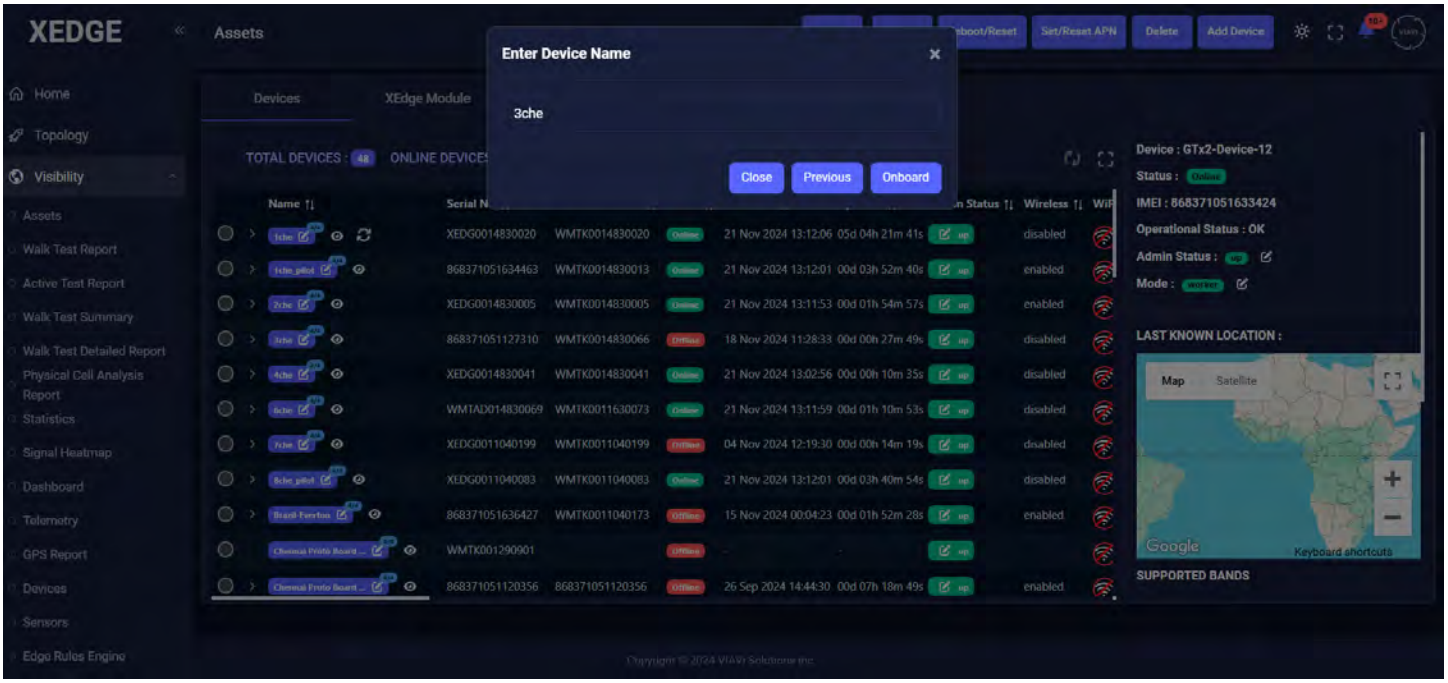
Select the BASE SN: XEDGE SN highlighted by rectangle box. Click Next.



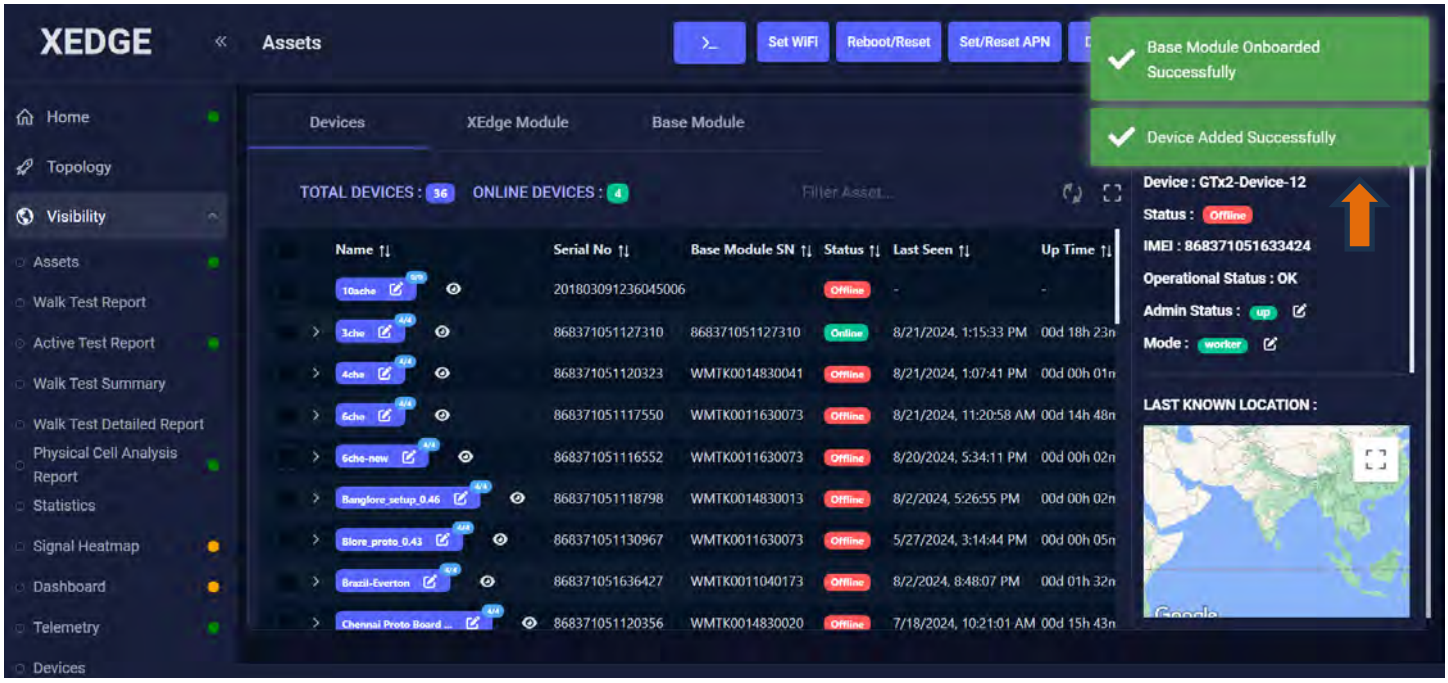
Serial number will be present on the device



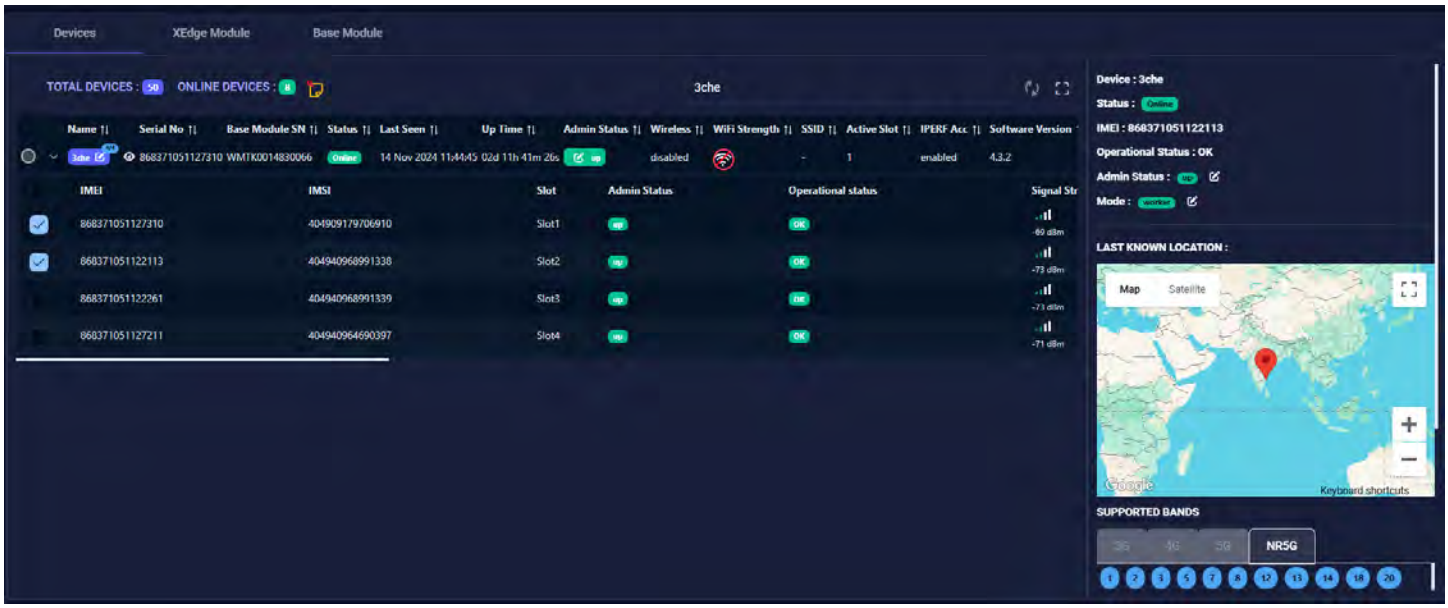
Enter the device name. Click **Onboard**

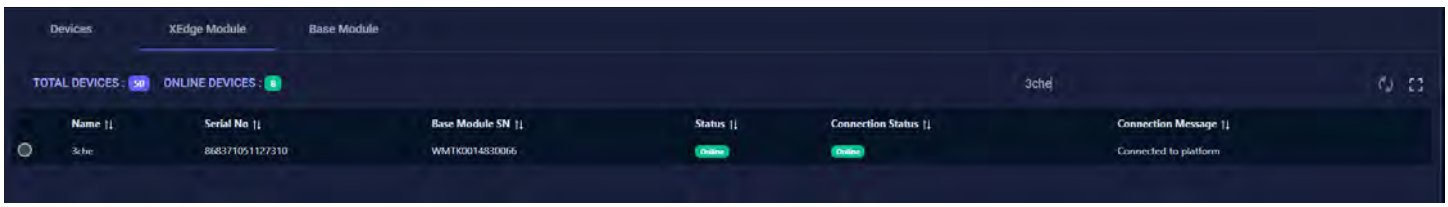


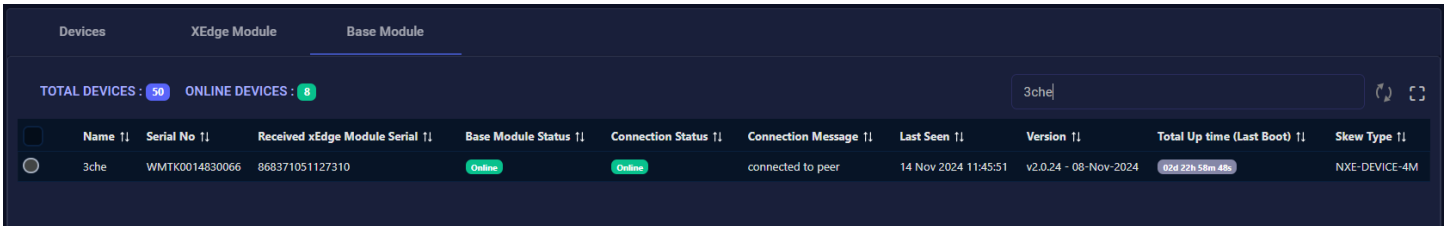
The following message appears after clicking the Onboard button.



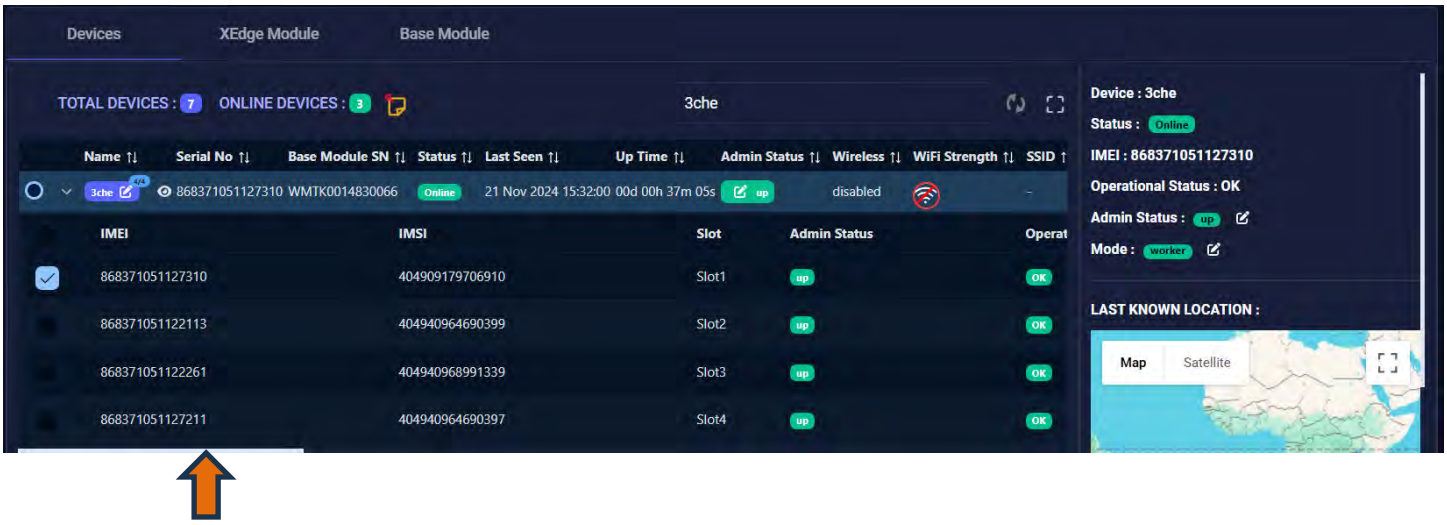
View the added device that you added. It should appear online on **Devices** tab as well as the **Base Module** tab.

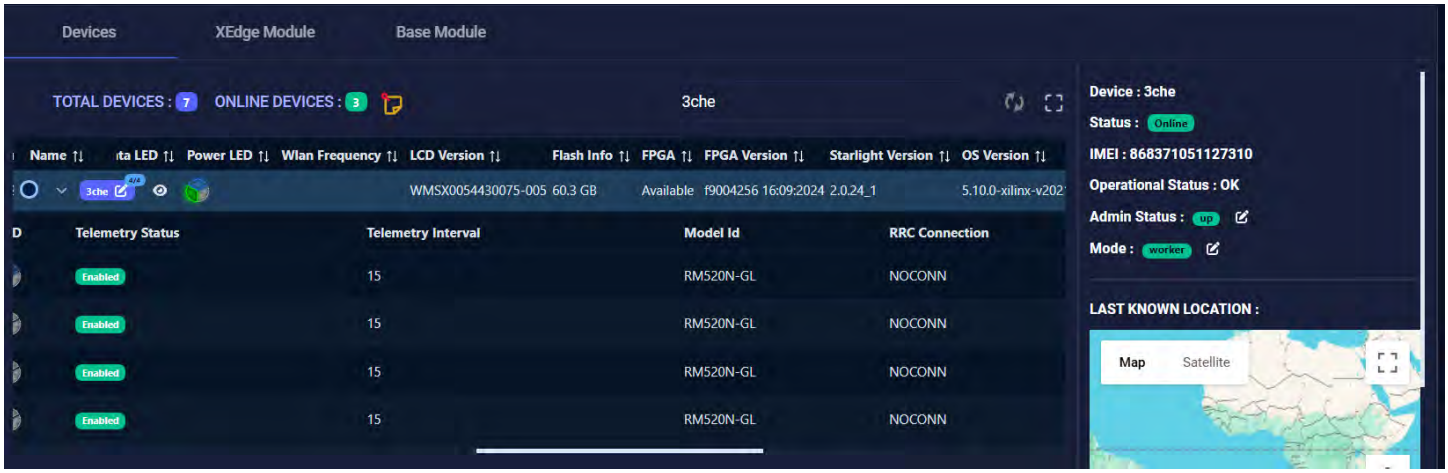


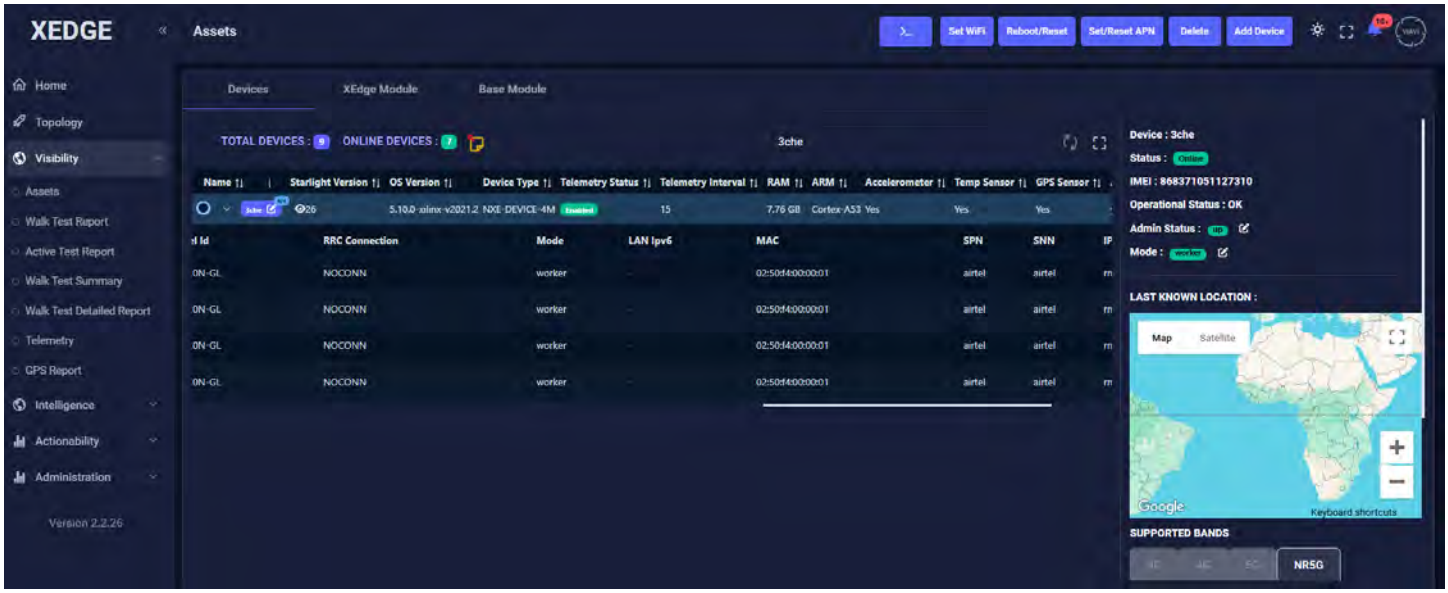




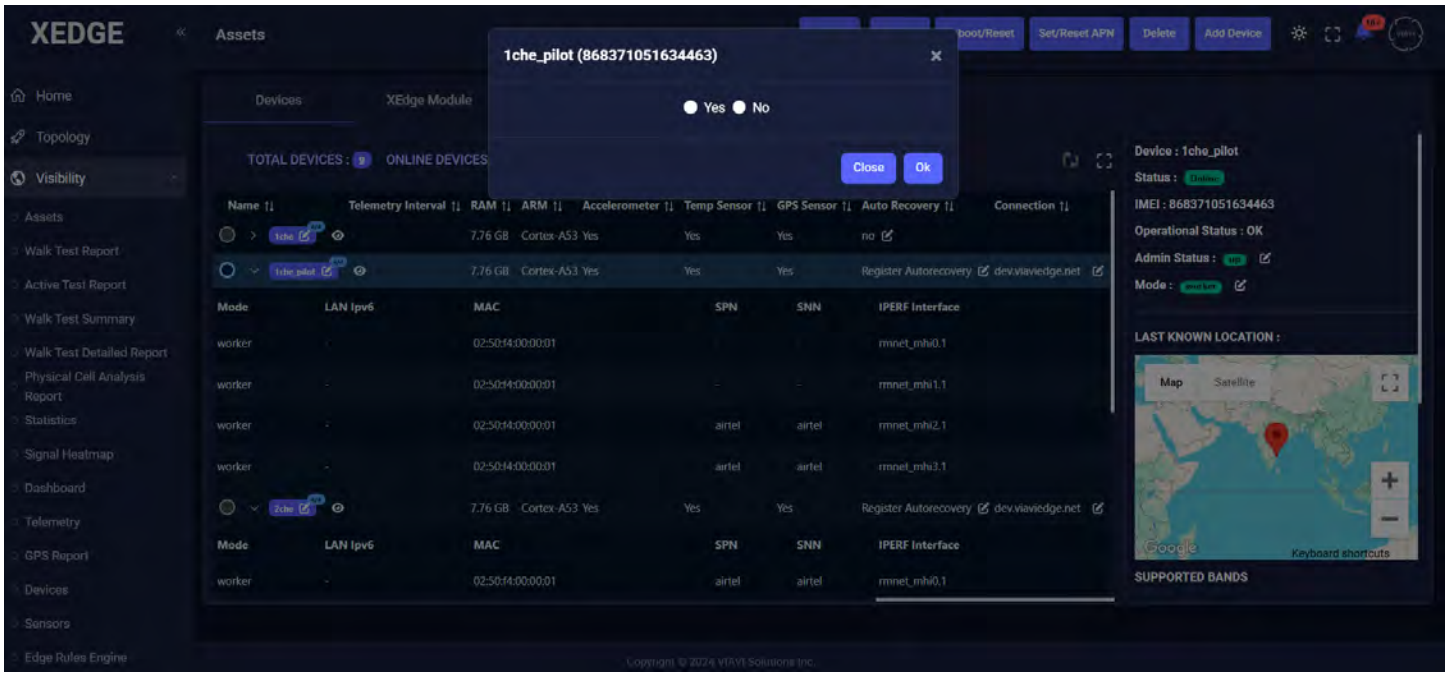
Scroll to the right to view the device details using the scroll bar.



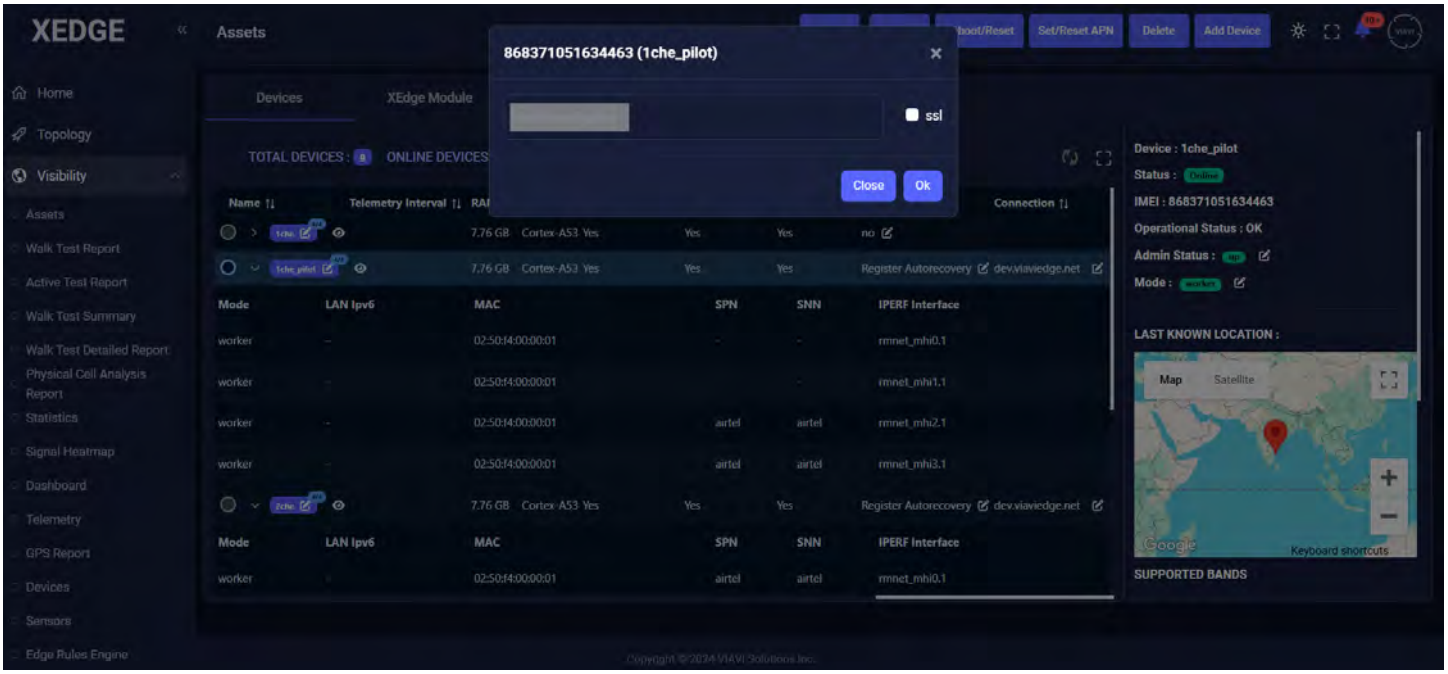

Devices
XEdge Module
Base Module
TOTAL DEVICES : 7
ONLINE DEVICES : 3
3che
Name
Power LED
Wlan Frequency
LCD Version
Flash Info
FPGA
FPGA Version
Starlight Version
OS Version
WMSX0054430075-005 60.3 GB
Available
f9004256 16:09:2024
2.0.24_1
Telemetry Status
Telemetry Interval
Model Id
RRC Connection
Enabled
15
RM520N-GL
NOCONN
Device : 3che
Status : Online
IMEI : 868371051127310
Operational Status : OK
Admin Status : up
Mode : worker
LAST KNOWN LOCATION :
Map
Satellite


XEDGE
Assets
Set WiFi
Reboot/Reset
Set/Reset APN
Delete
Add Device
Home
Topology
Visibility
Assets
Walk Test Report
Active Test Report
Walk Test Summary
Walk Test Detailed Report
Telemetry
GPS Report
Intelligence
Actionability
Administration
Version 2.2.26
Devices
XEdge Module
Base Module
TOTAL DEVICES : 8
ONLINE DEVICES : 7
3che
Name
Starlight Version
OS Version
Device Type
Telemetry Status
Telemetry Interval
RAM
ARM
Accelerometer
Temp Sensor
GPS Sensor
5.10.0-xilinx-v2021.2
NXE-DEVICE-4M
7.76 GB
Cortex-A53
RRC Connection
Mode
LAN Ipv6
MAC
SPN
SNN
NOCONN
worker
airtel
Device : 3che
Status :
IMEI : 868371051127310
Operational Status : OK
Admin Status :
Mode :
LAST KNOWN LOCATION :
Map
Satellite
Google
Keyboard shortcuts
SUPPORTED BANDS
NR5G

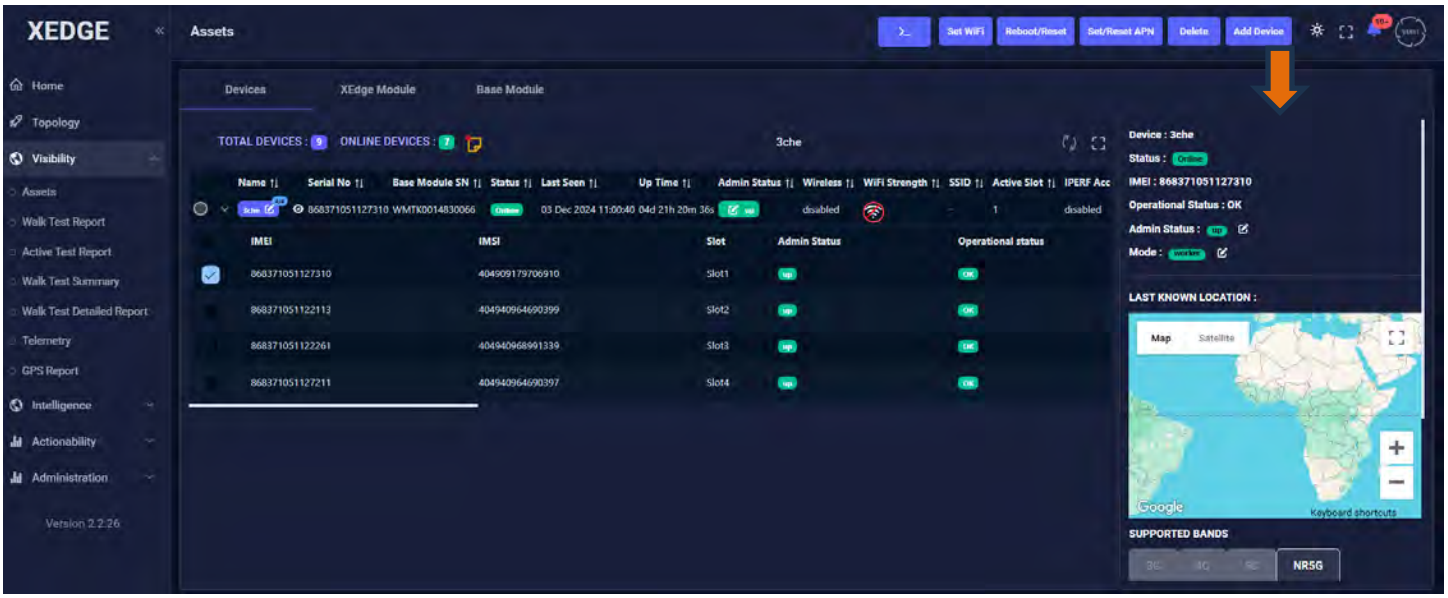
Auto recovery can be enabled and disabled by clicking on the edit button Auto recovery column. This brings up a pop window where the user can select ‘Yes’ or ‘No’ followed by clicking on ‘Ok’ button. The Auto Recovery feature provides device protection by automatically reverting to its original state when issues occur.



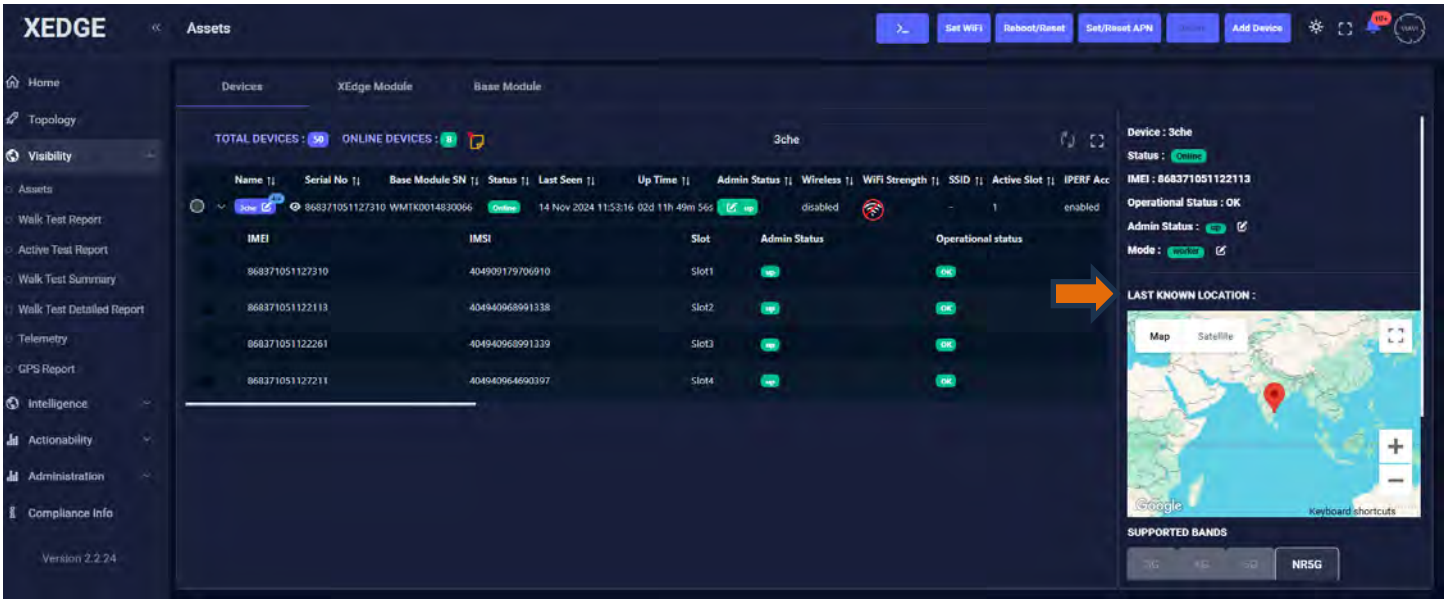
To change the controller instance and to enable secure controller connection the user can click on the edit button Connection column and then enter the URL and then click on ‘ssl’ check box followed by clicking on ‘Ok’. The user should ensure that no tests are running on the device before making the change. After changing the ssl, the device must be rebooted to ensure the change of controller address.



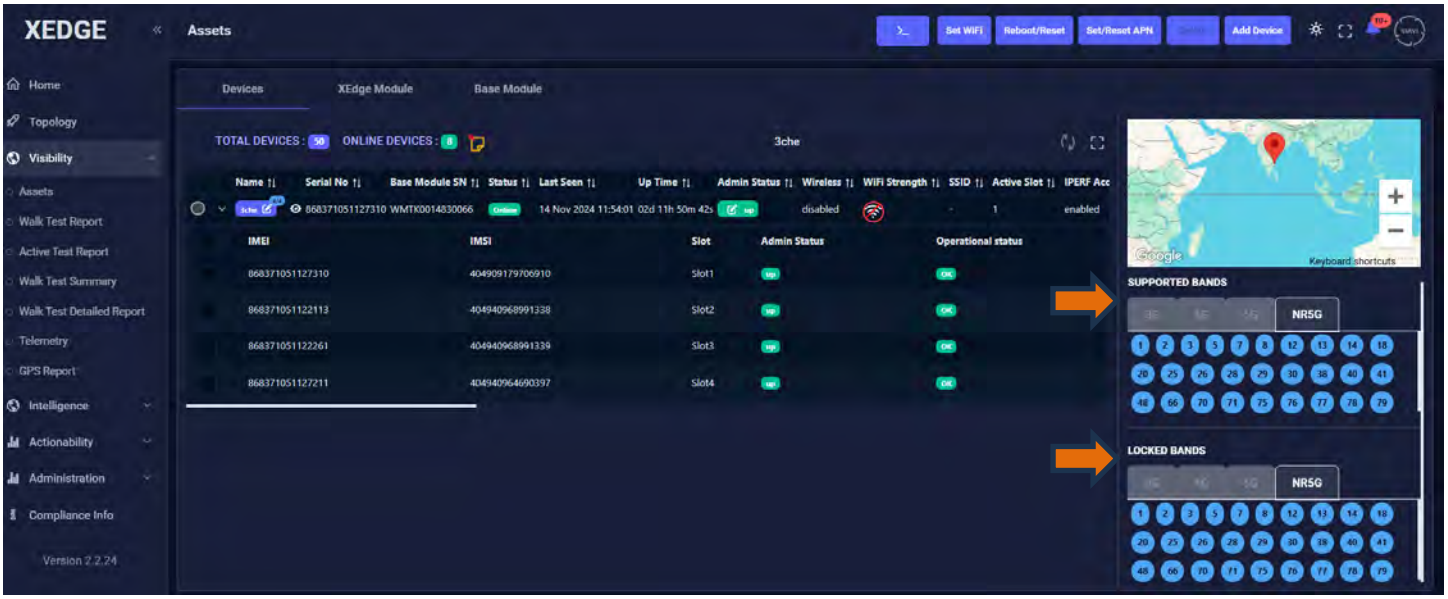
Details of the selected modem appear on the right side of the page, as shown in the figure below.



Last Known Location

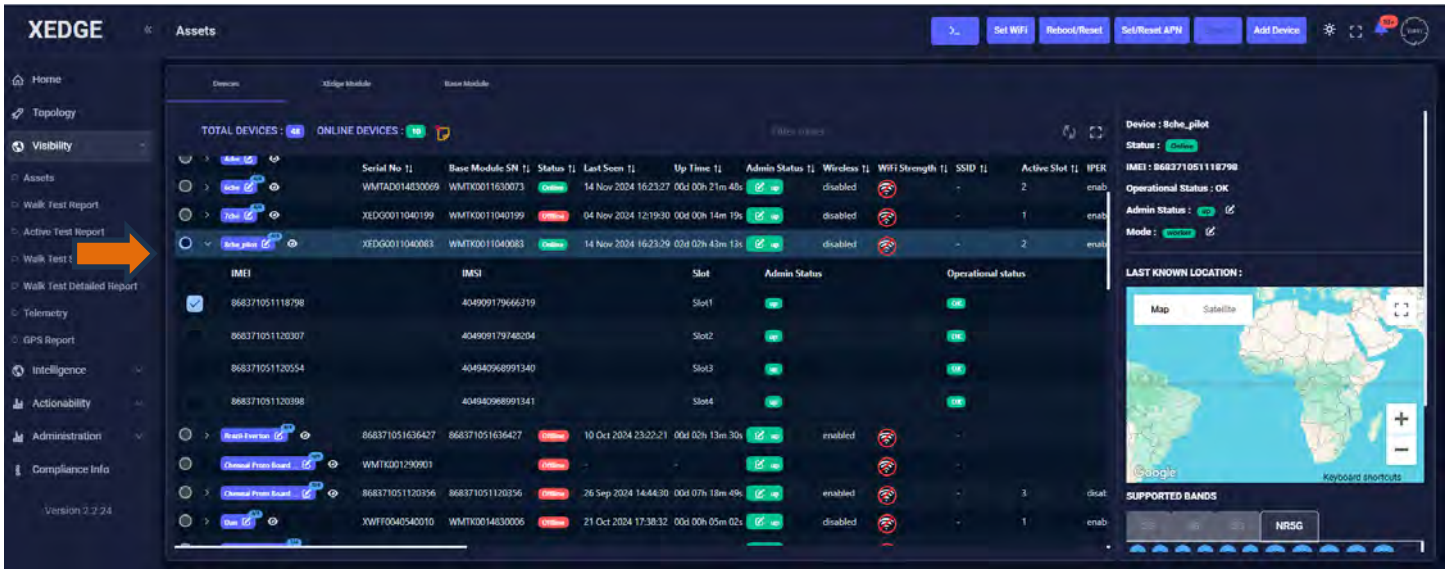


Supported and locked bands.

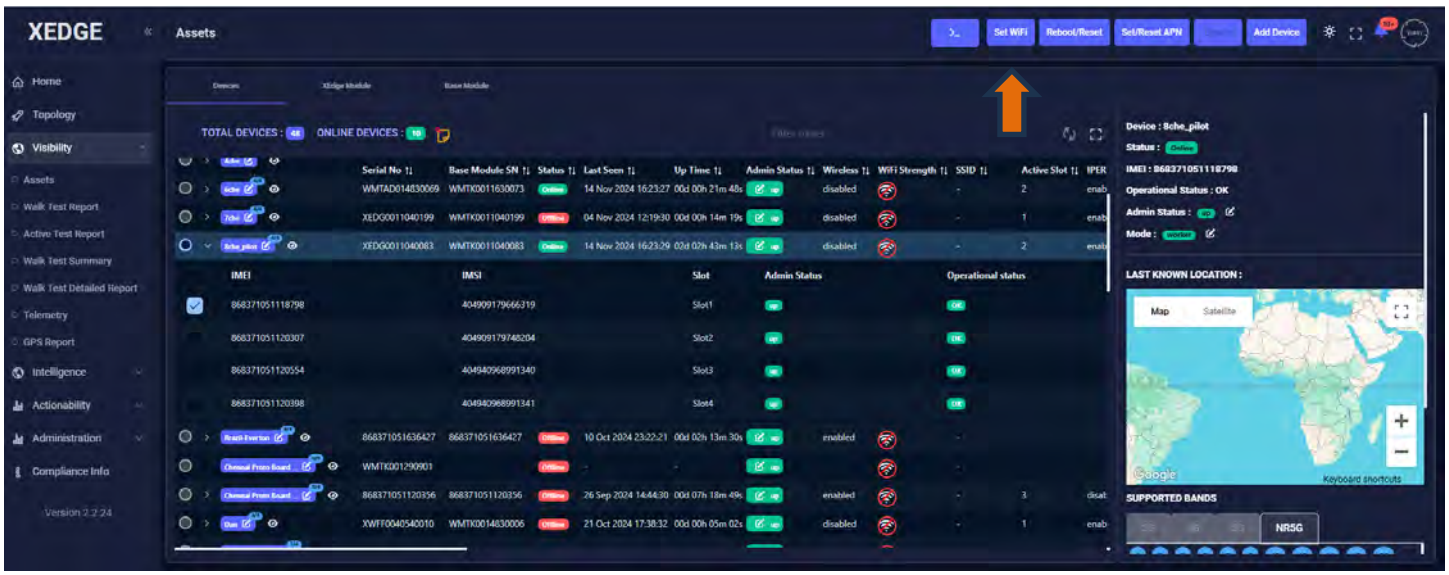


Configuring WIFI

Select an XEDGE device.

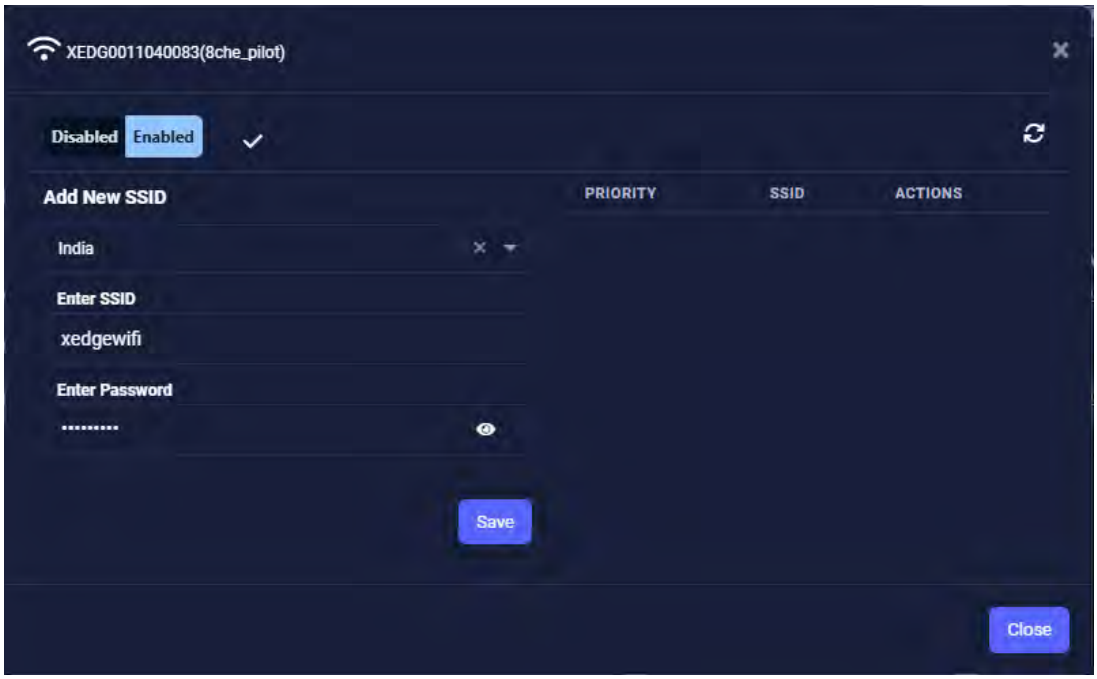


Click on “Set WiFi”

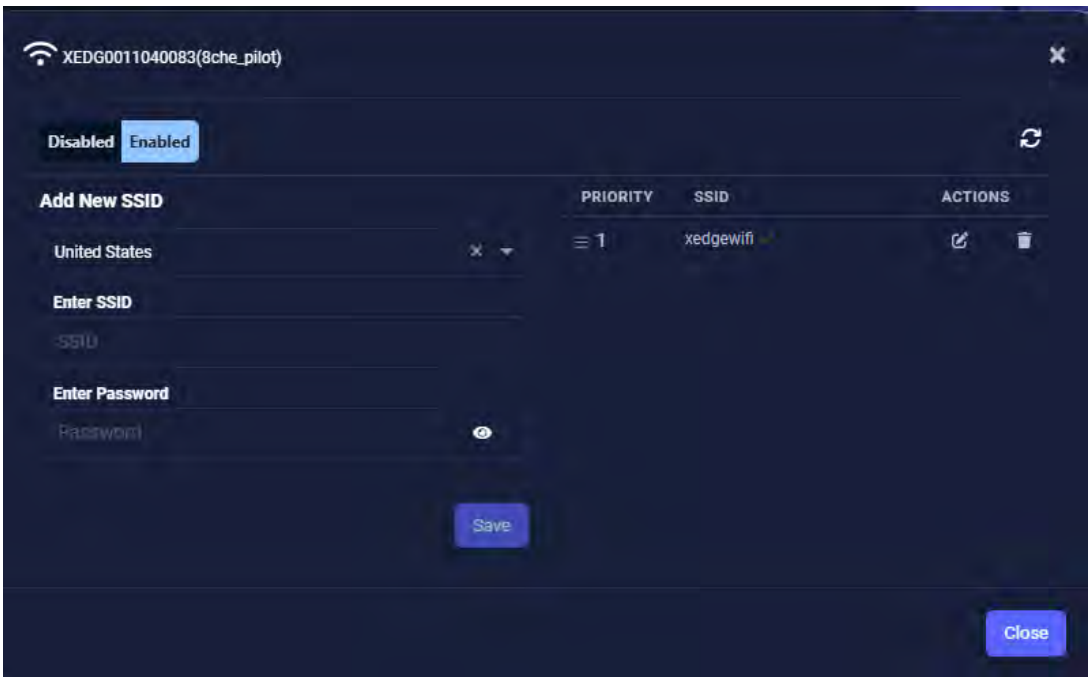


Enter the Country where the device is located using the dropdown menu, then enter the SSID and Password of your Router or Hotspot and click “Save.”

To enable or disable, WiFi toggle it to Enable or Disable respectively and then select the tick icon to confirm.

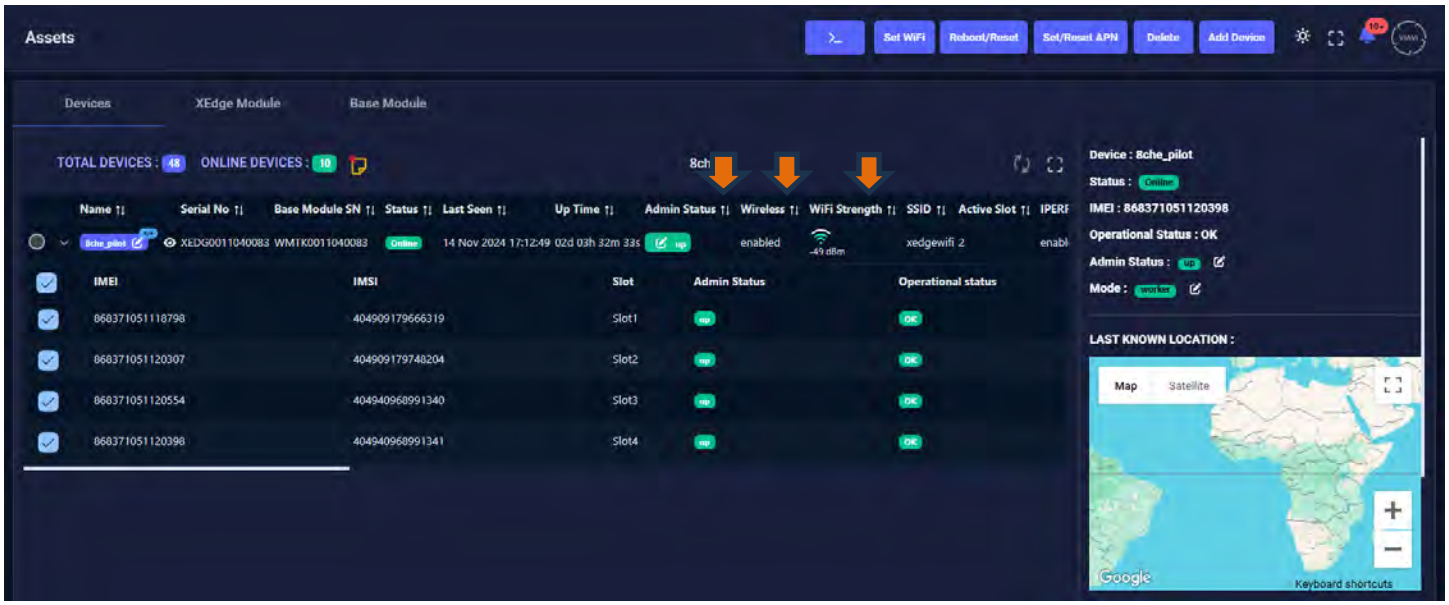


WiFi gets connected based on the priority list. When connected to WiFi, the device shows a green tick against the connected SSID in the priority list.



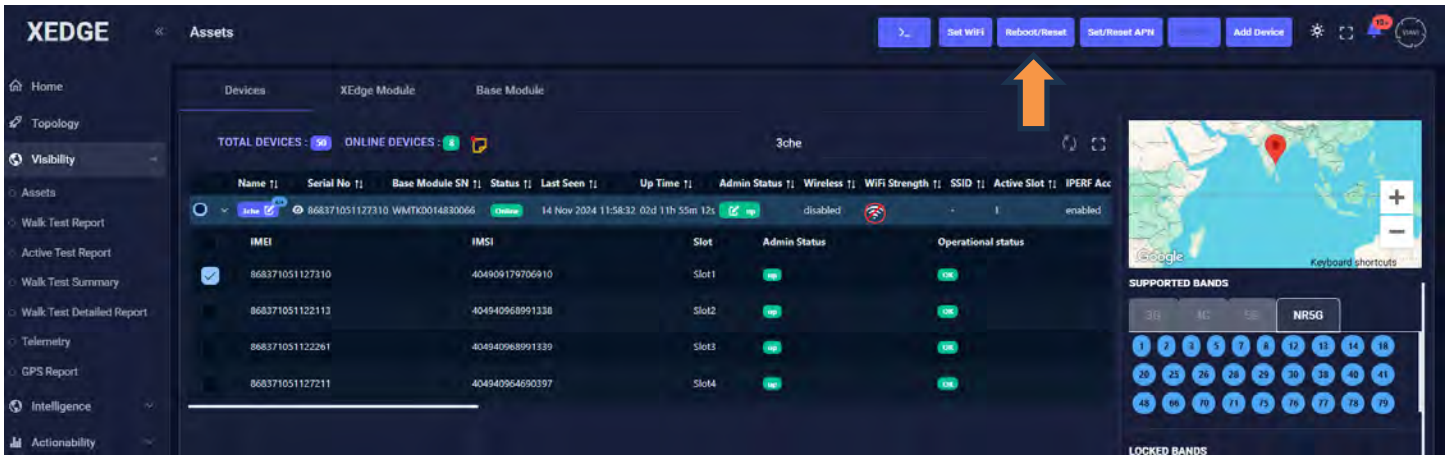
The device status is refreshed on the asset page with new WiFi settings. To verify, select the device again and click on the dropdown and view the:

- New SSID entered
- Wireless mode “enabled”
- WiFi strength



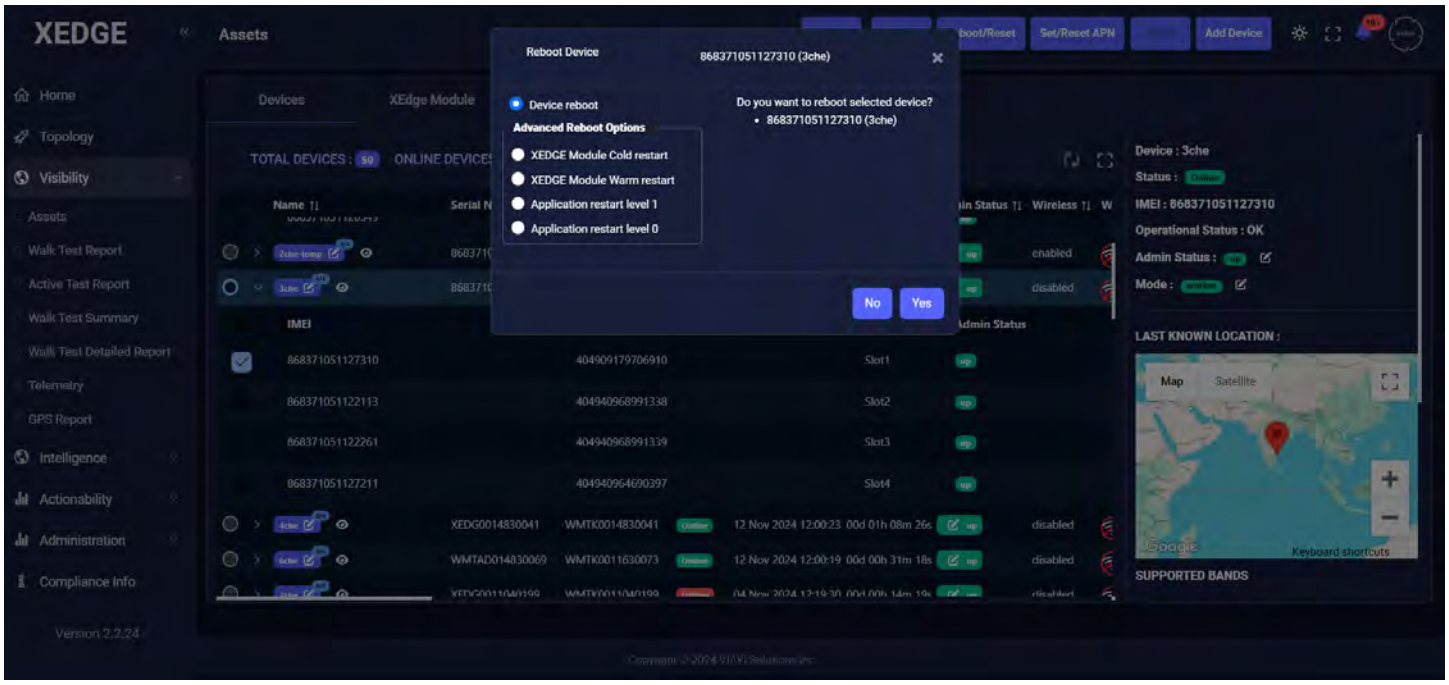
Rebooting a XEDGE device

Select the device as explained above, then click on “Reboot”

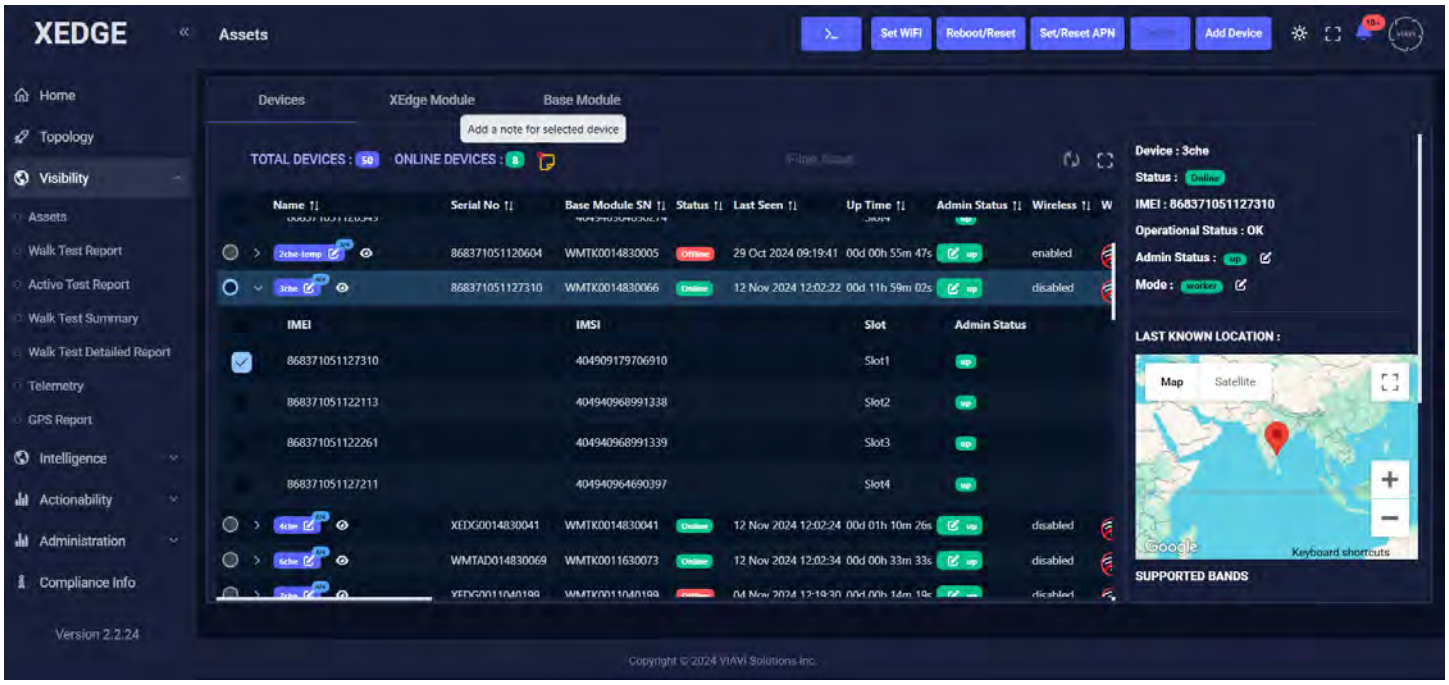


Select **Device Reboot** or any other advanced option provided, then click the **YES** button to proceed with rebooting.

- XEDGE Module Cold Restart- Only XEDGE module is given a cold reset, recovery time is around 180 sec.
- XEDGE Module warm Restart-Software restart of XEDGE module, recovery time is around 180 sec.
- Application restart level 1-Agent software restart of the Base module, recovery time is around 60 sec.
- Application restart level 0-Agent software restart of XEDGE module, recovery time is around 180 sec.

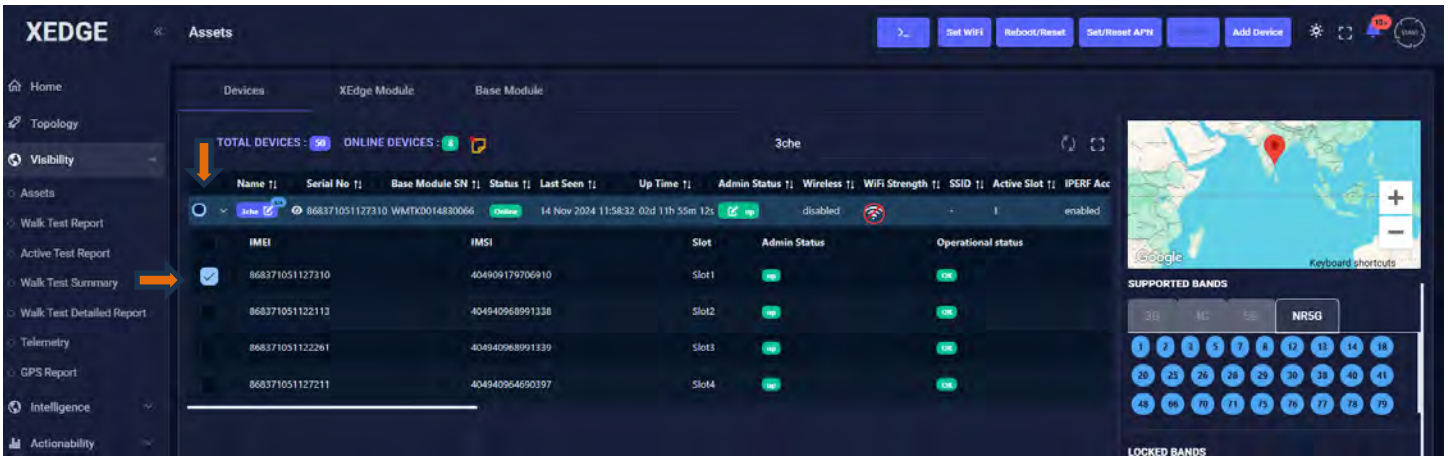


The device should reboot and come back online shortly after.

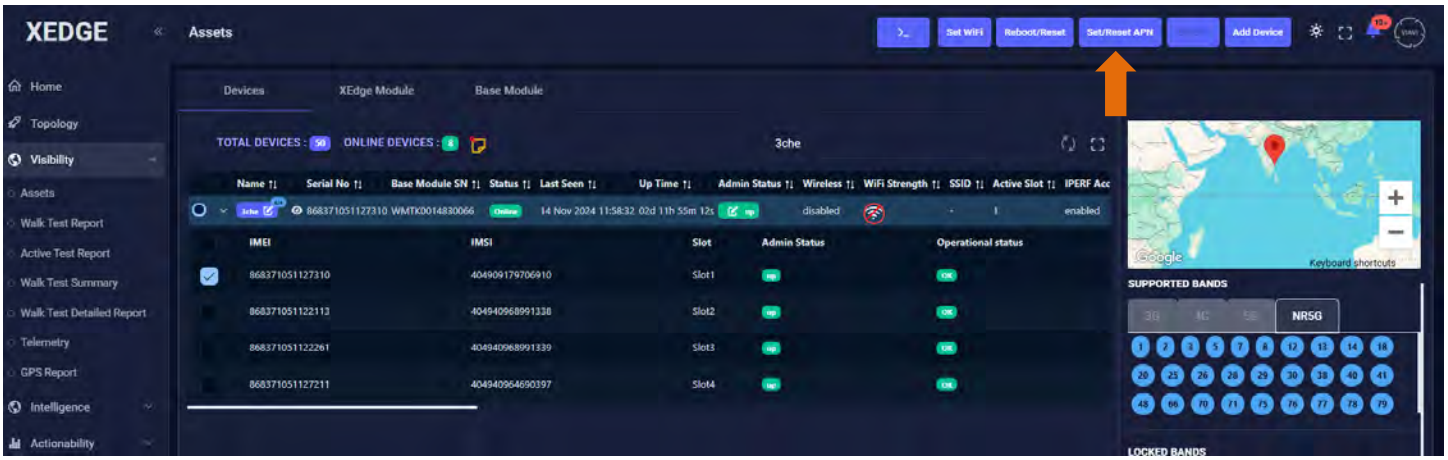


Setting the APN

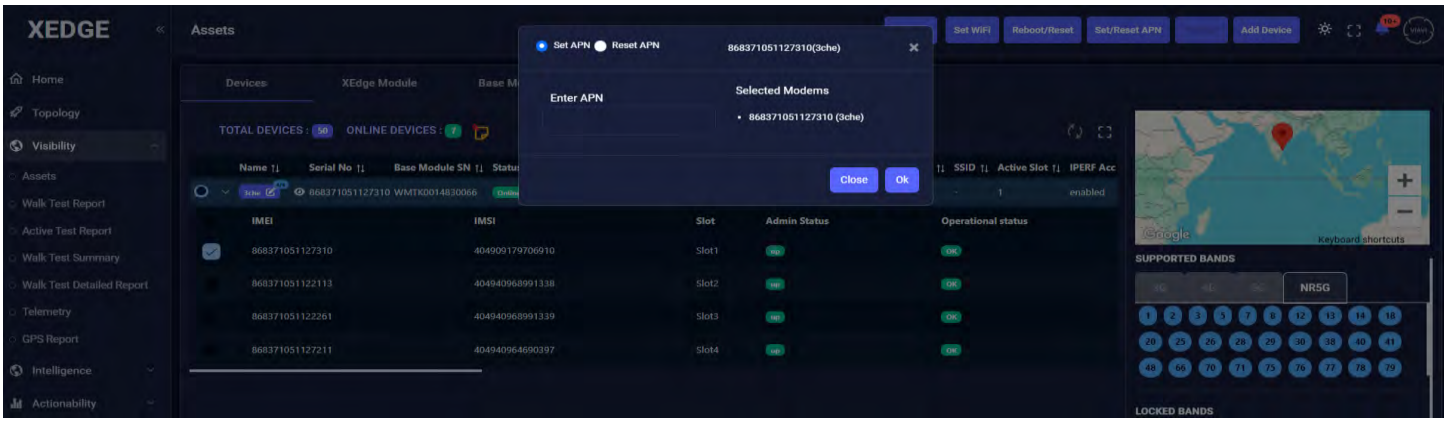
Select a device and click on the expand button of the device selected and then select modem.



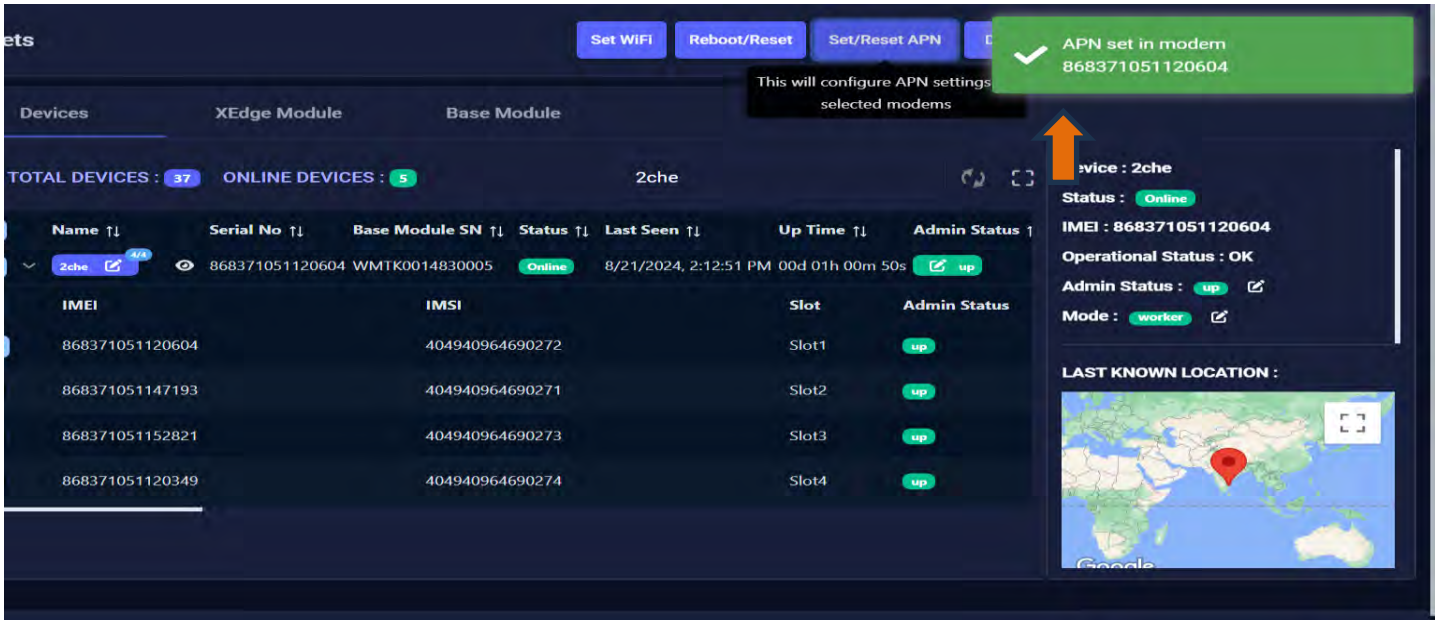
Click on “Set APN”



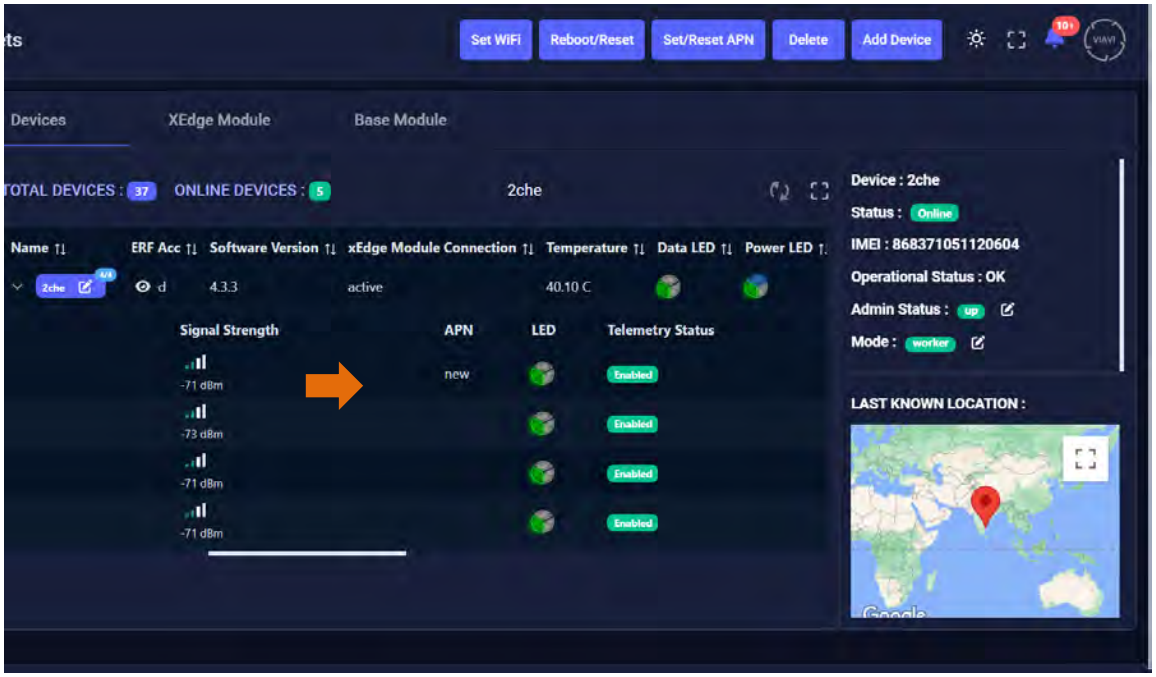
Type the APN name per your MNO provider. (AT&T, T-Mobile etc.…) and click “OK.”



The following message appears.

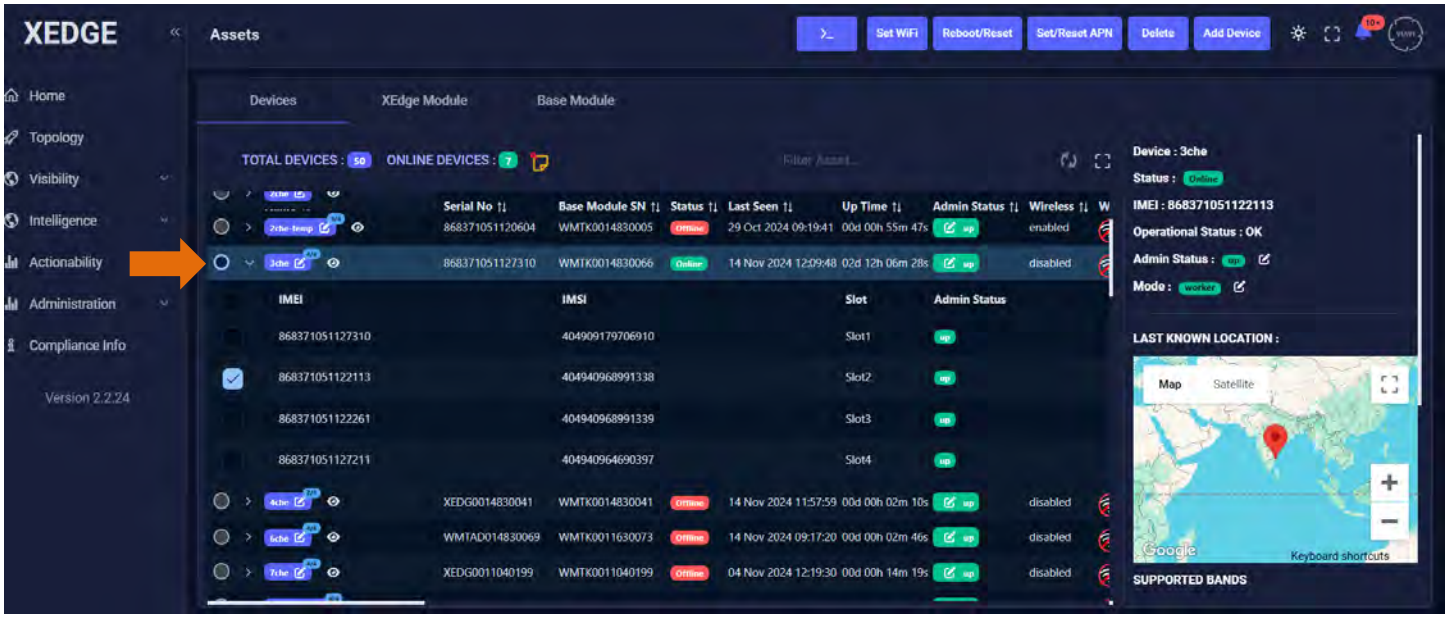


View the new APN name. Use the scroll bar at the bottom of the page to scroll over to see it if required.

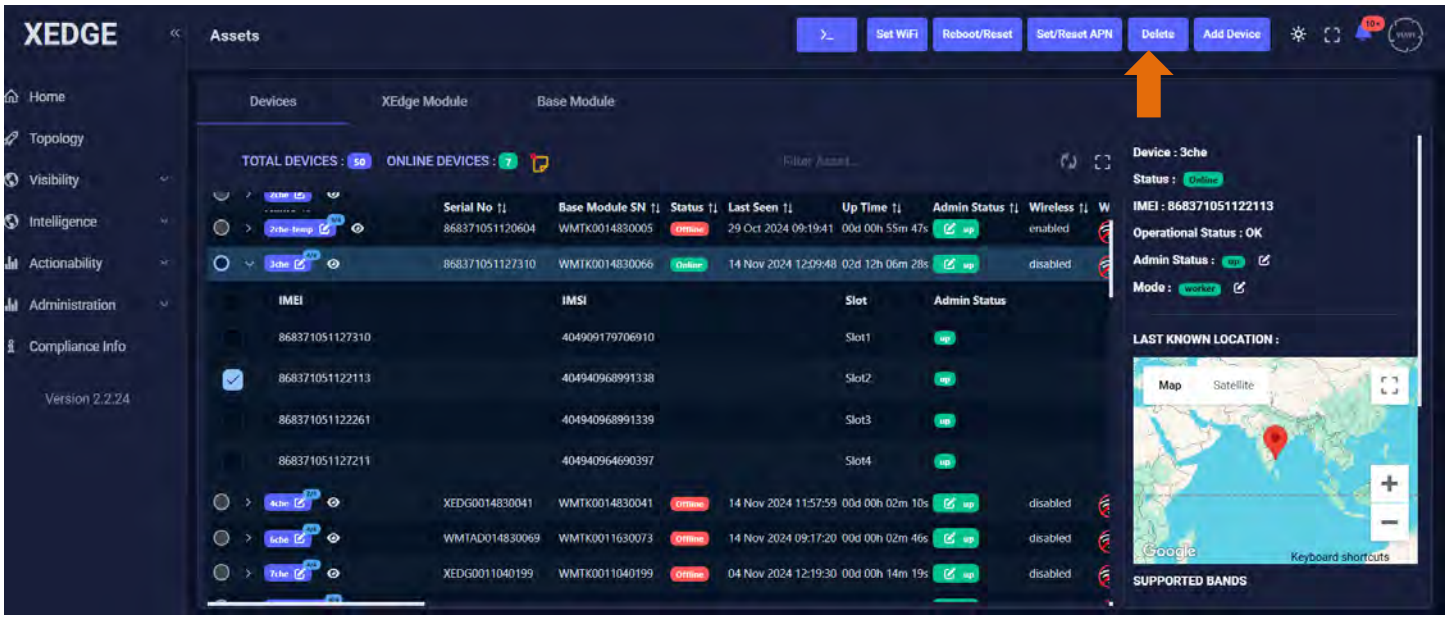


Deleting a XEDGE device

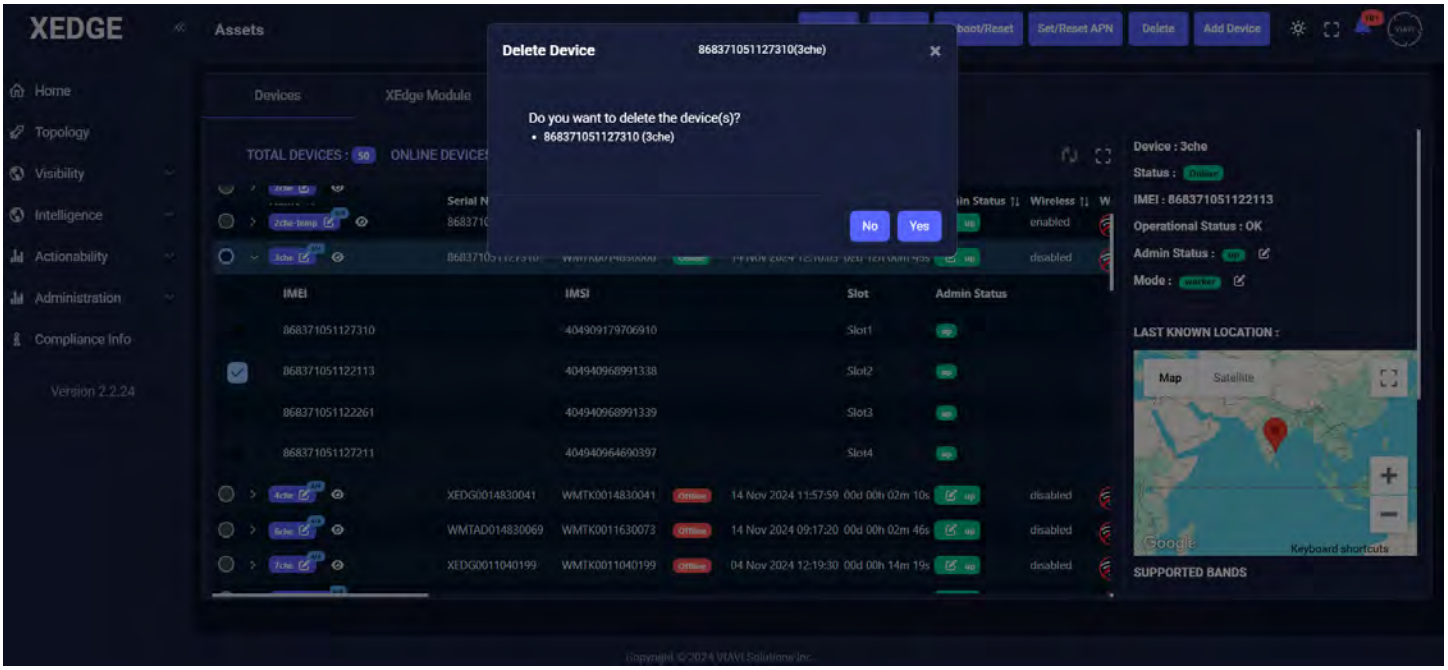
Only a user with admin privileges will be able to delete a device from the asset page. Select the XEDGE device entry you want to delete.



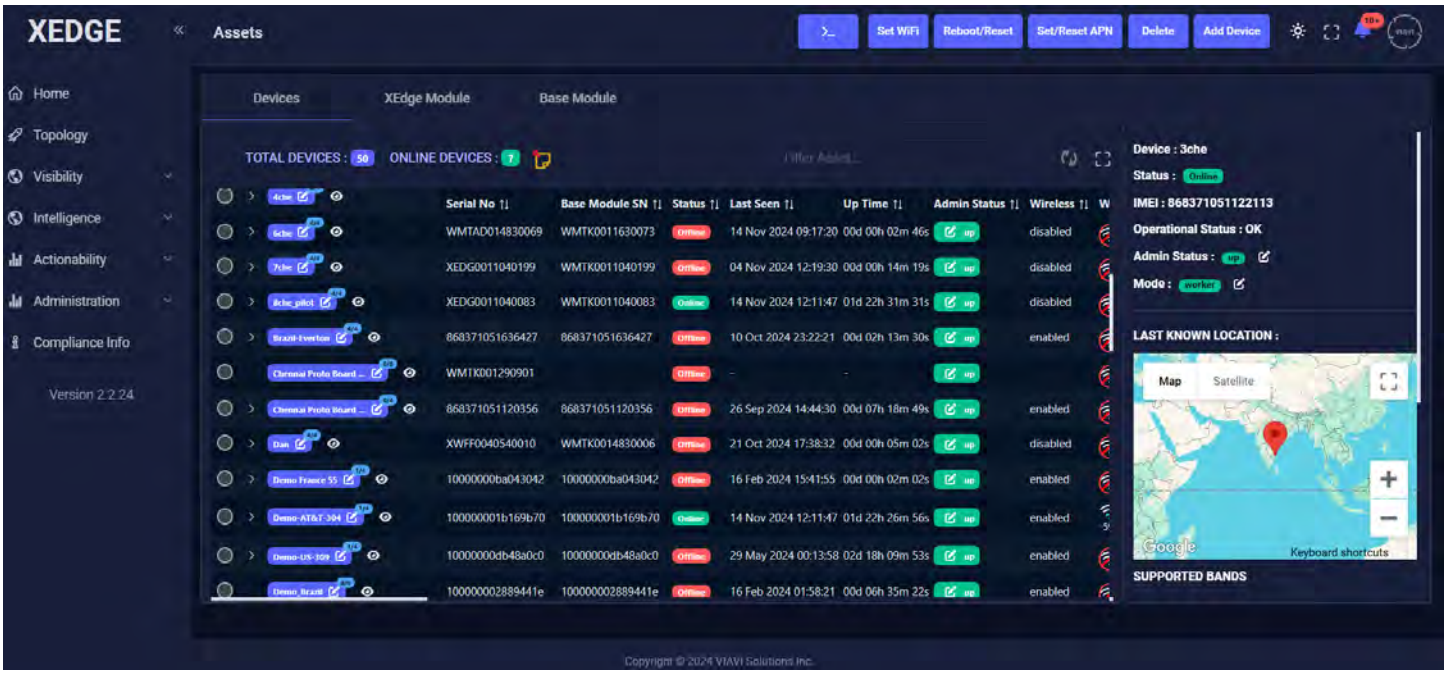
Click on “Delete”



Click “Yes”



Device entry should be deleted.



Status of XEDGE device

The following table provides an explanation of Status messages.

Table 3 Explanation of status on Assets page

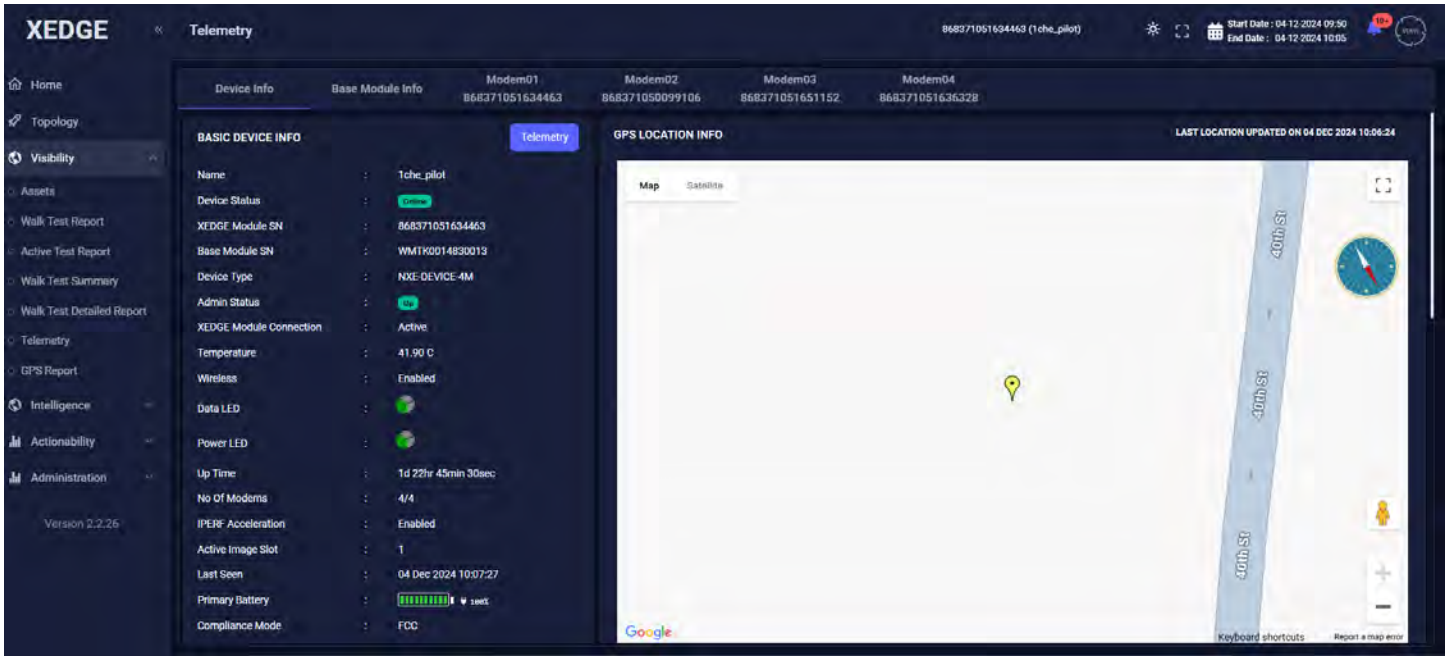
Status	Explanation
Offline	No internet connectivity
Online	Has internet connectivity
Admin Status (Device Level):	
up	Device up and functioning
down	• Device unavailable for test • Telemetry is disabled
maintenance	• Device unavailable for test • Device can be used for debugging • Telemetry is disabled • Device can be used to run some commands (system commands)
Admin Status (Modem Level):	
up	Modem up and functioning
down	• Modem unavailable for test • Telemetry is disabled
maintenance	• Modem unavailable for test • Modem can be used for debugging • Telemetry is disabled • Modem can be used to run some commands (system commands)
Mode (Modem Level):	
worker	Modem is available for test.
management	Management modems can act as backhaul connectivity to the XEDGE Controller

Visualizing MNO mapping and Group manager from Assets page.

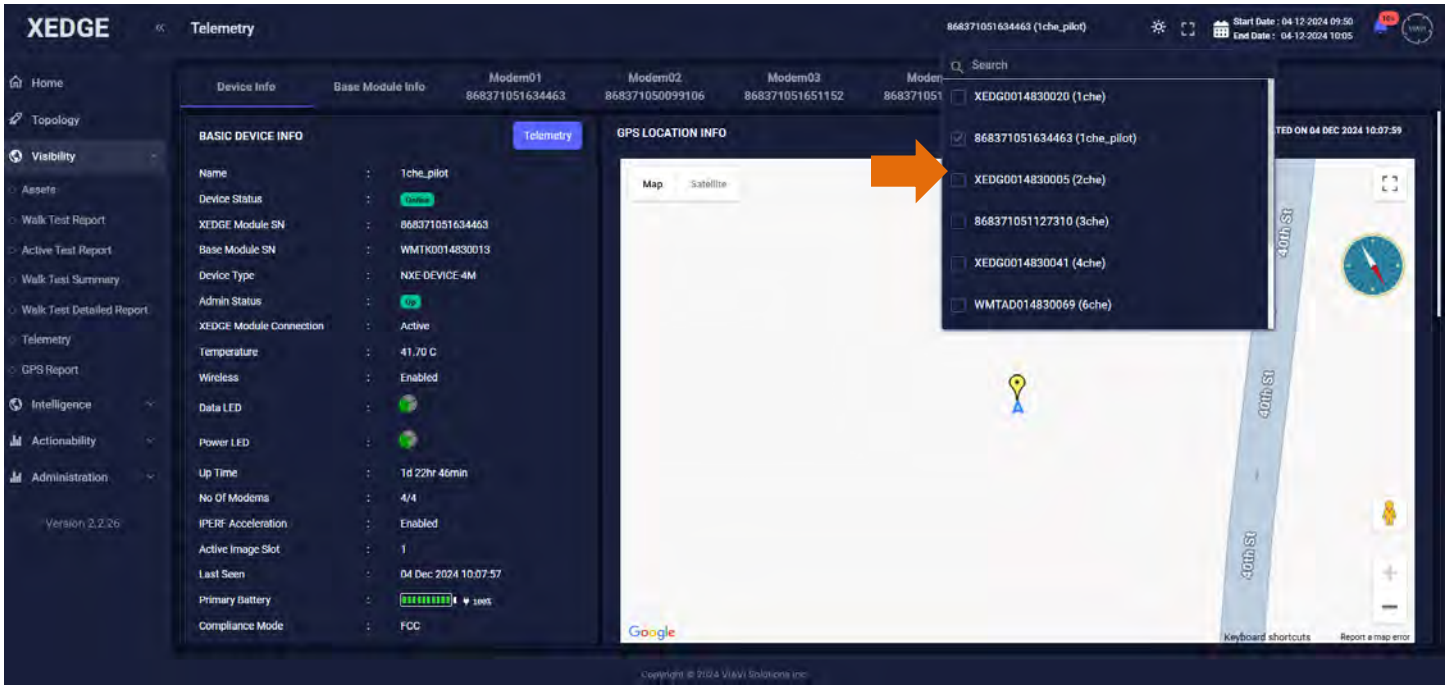
By clicking on the Eye button next to the Device name the user can visualize the MNO mapping and the Group with which the device is associated. Further explanation regarding the MNO Mapping and Group Manager is explained in chapters 3 and 4.

4 Telemetry Page

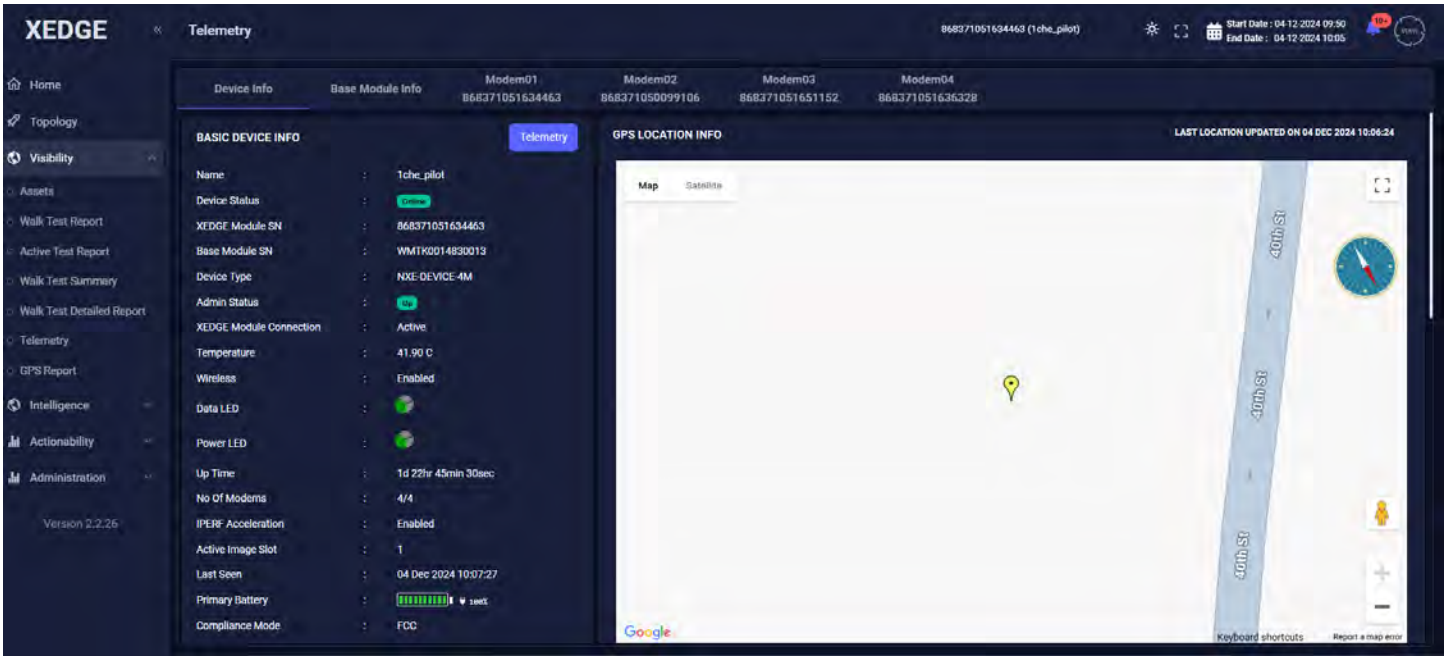
To see that the device is functioning properly, navigate to the Visibility > Telemetry page.

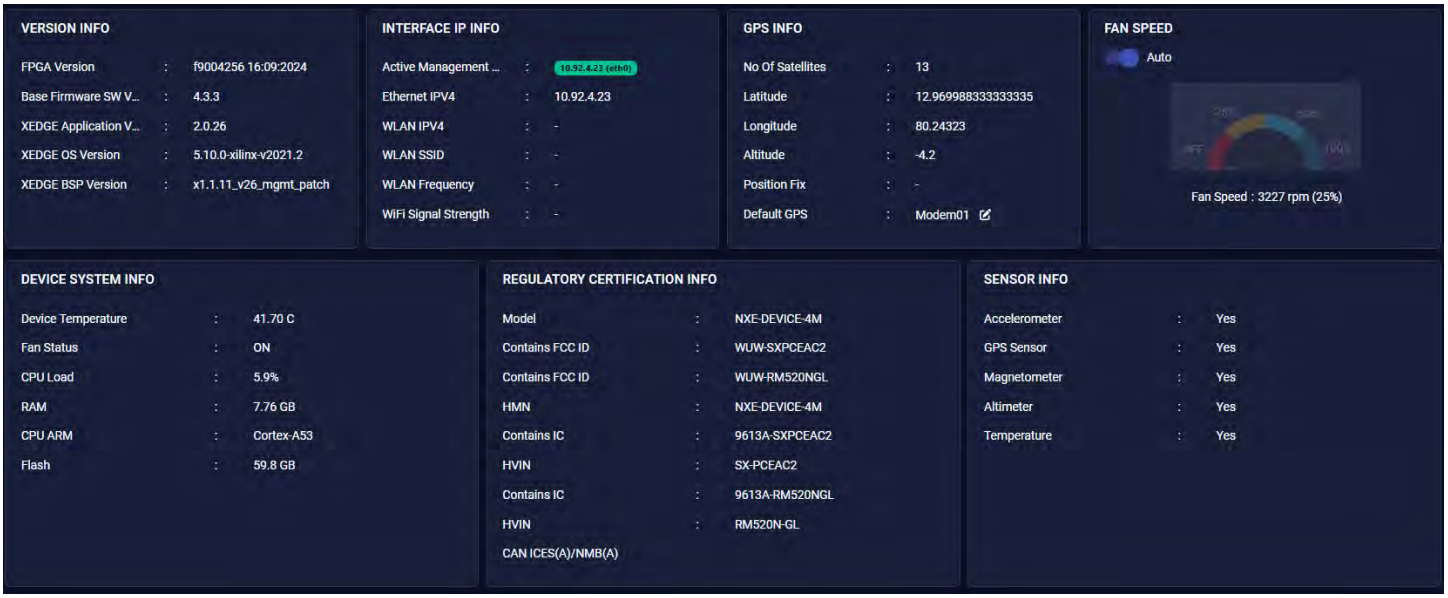


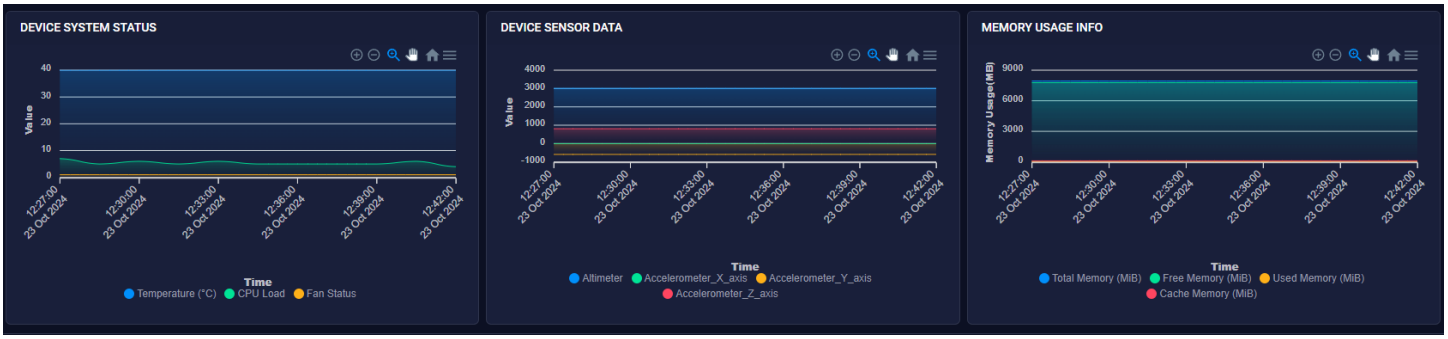
Select a device from dropdown to view the various parameters of the device.



Device information is displayed once the device selection is made in accordance with the time selected.



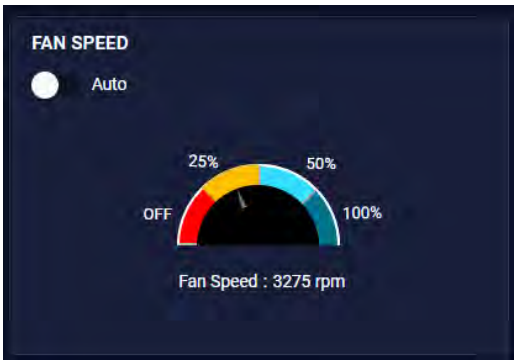




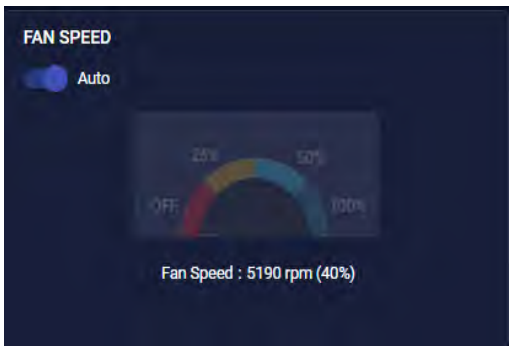
Regulating Fan speed

The Fan speed can be regulated by placing it on Auto mode or on Manual mode.

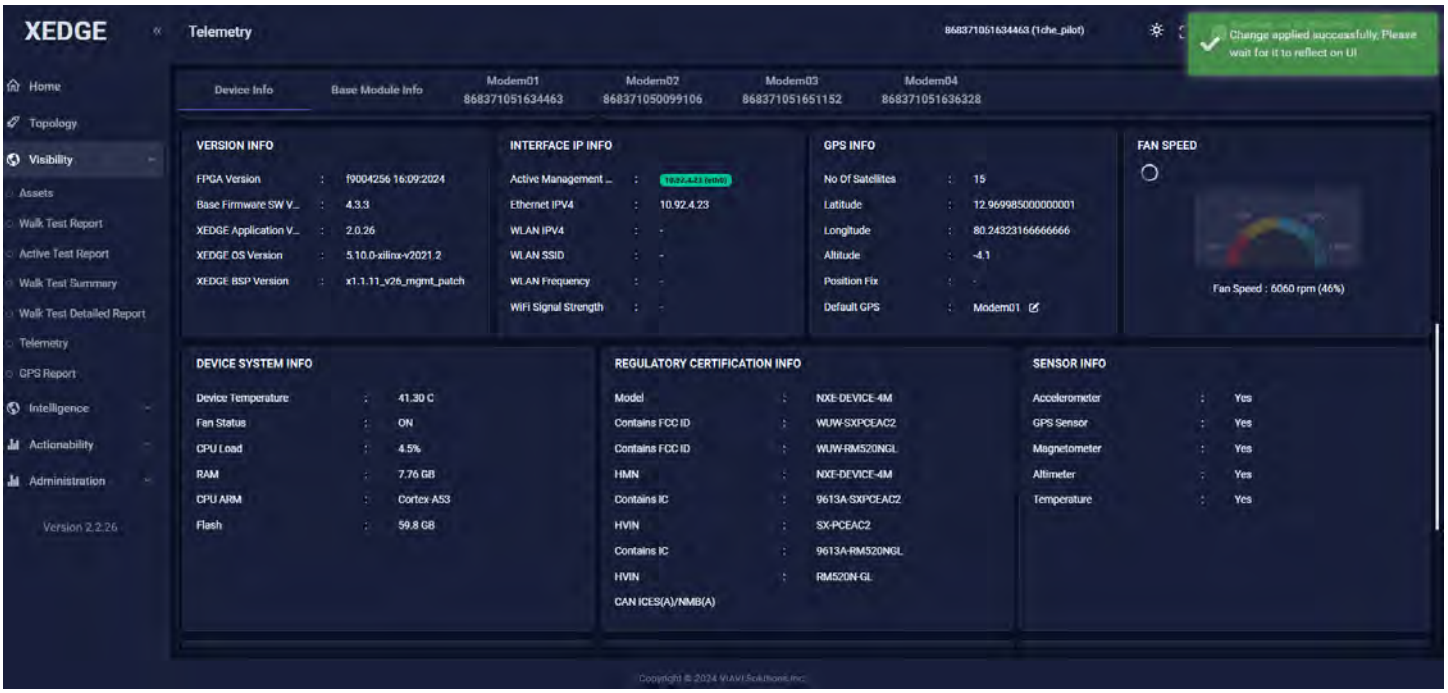
In manual mode the Fan speed can be regulated by changing the speed in the dial to different percentages as shown below.



The Auto mode can be enabled by moving the toggle button. Enabling the Auto Fan speed mode showcases the fan rpm instead of Fan speed percentage.

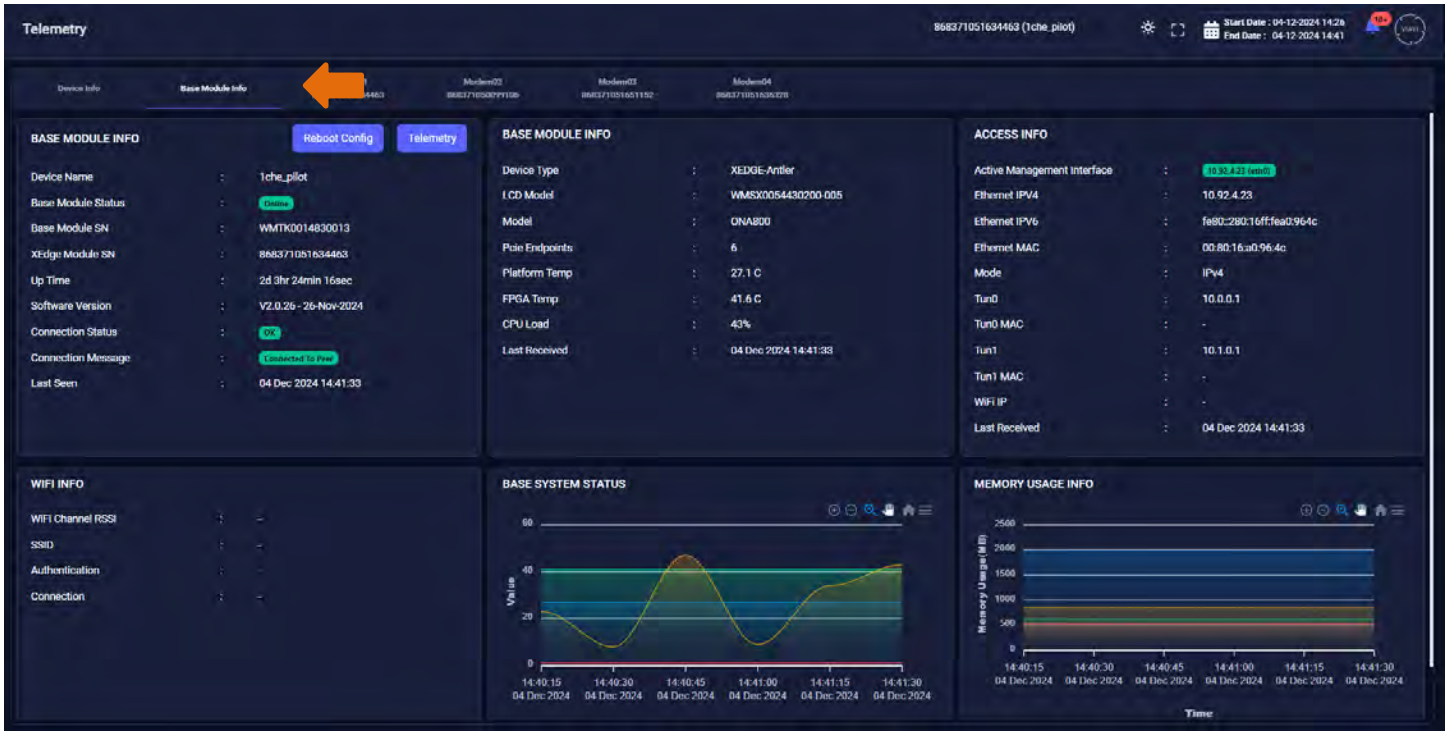


Changes in any of these setting displays a message saying “Changes applied successfully, please wait for it to reflect on UI”

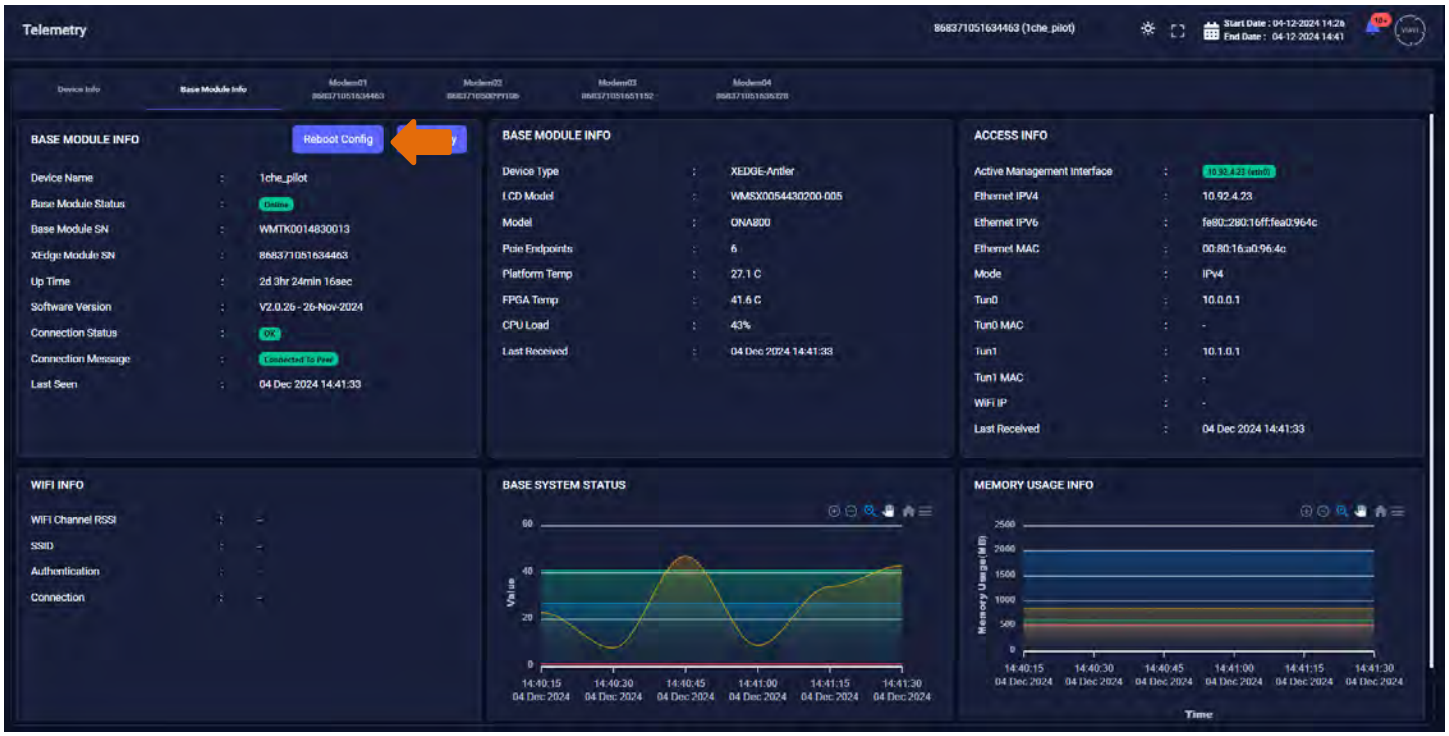


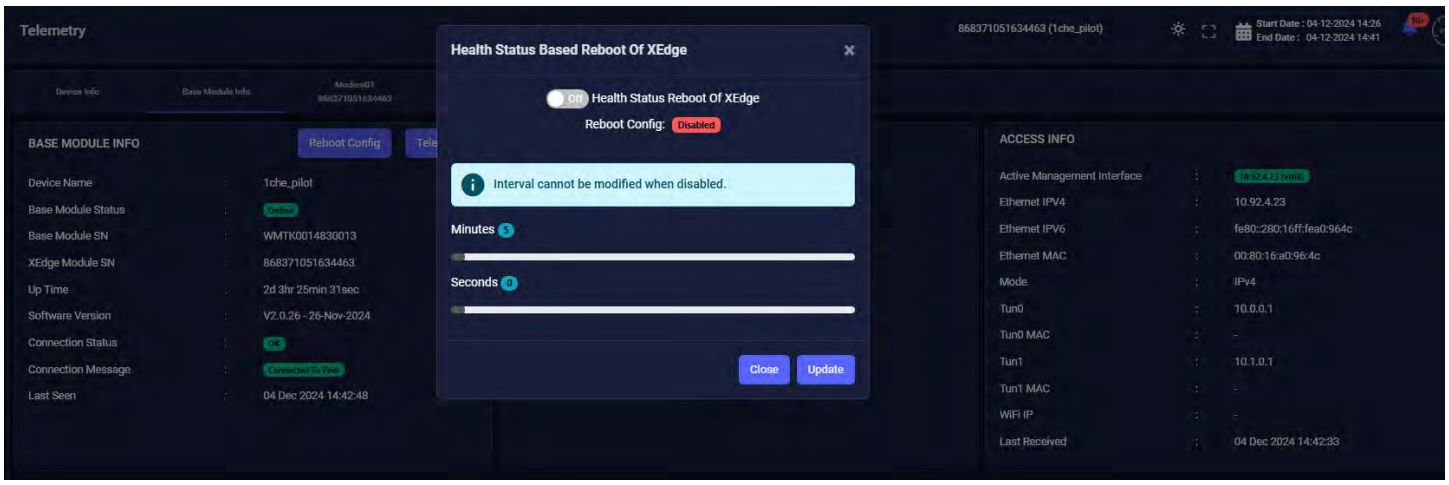
Base Module information

Click on Base module information to view the base module information.



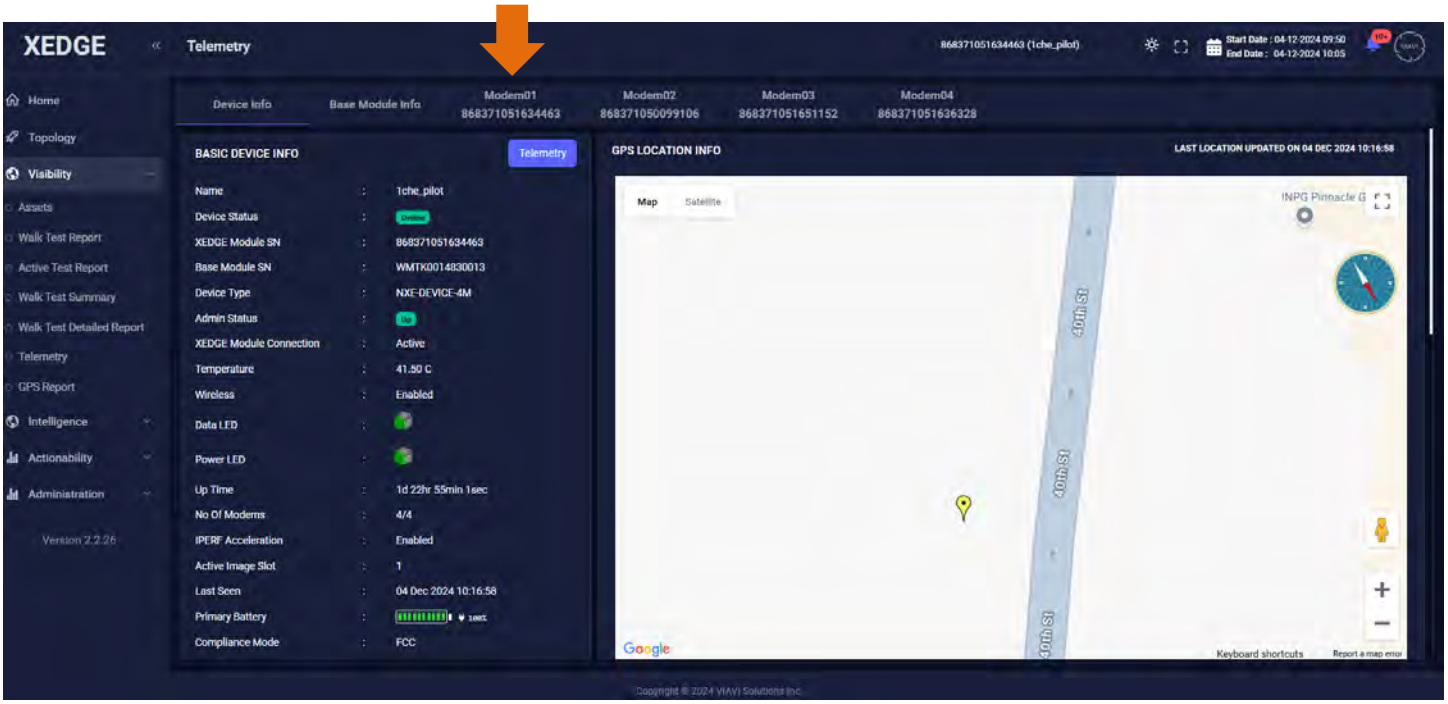
Click on Reboot config to configure the health status interval based reboot of XEDGE.



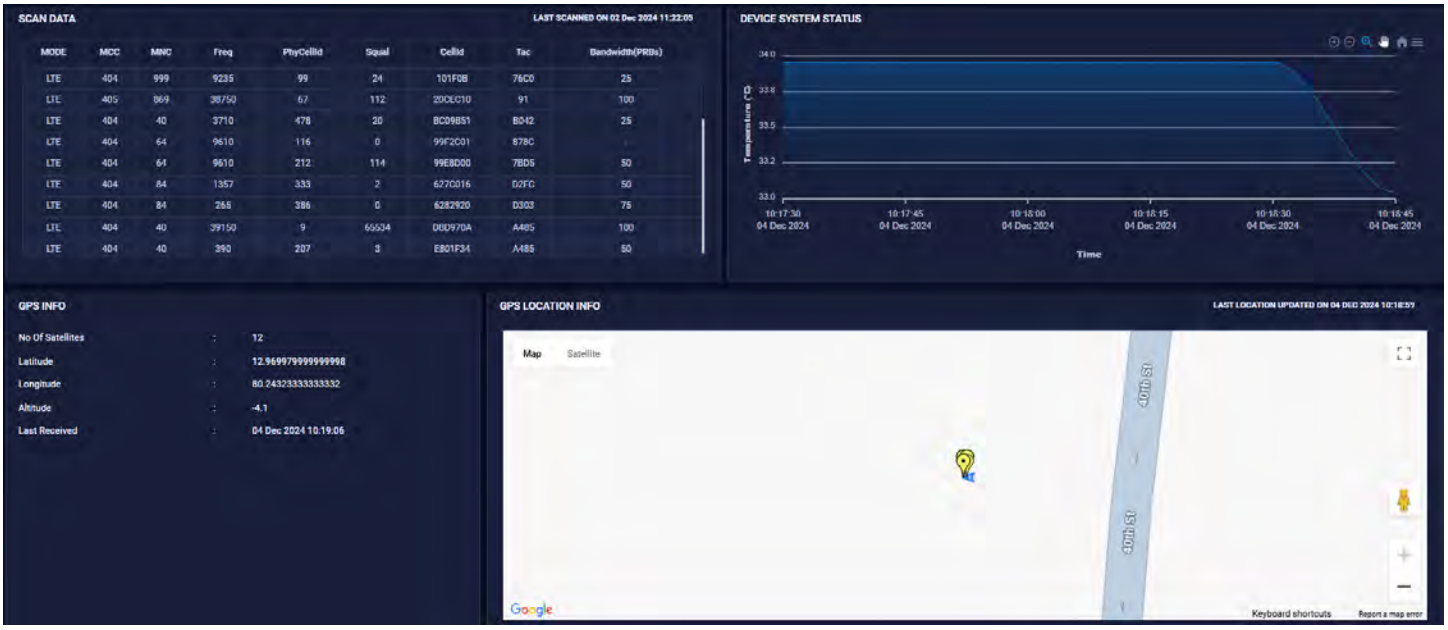


Modem level information

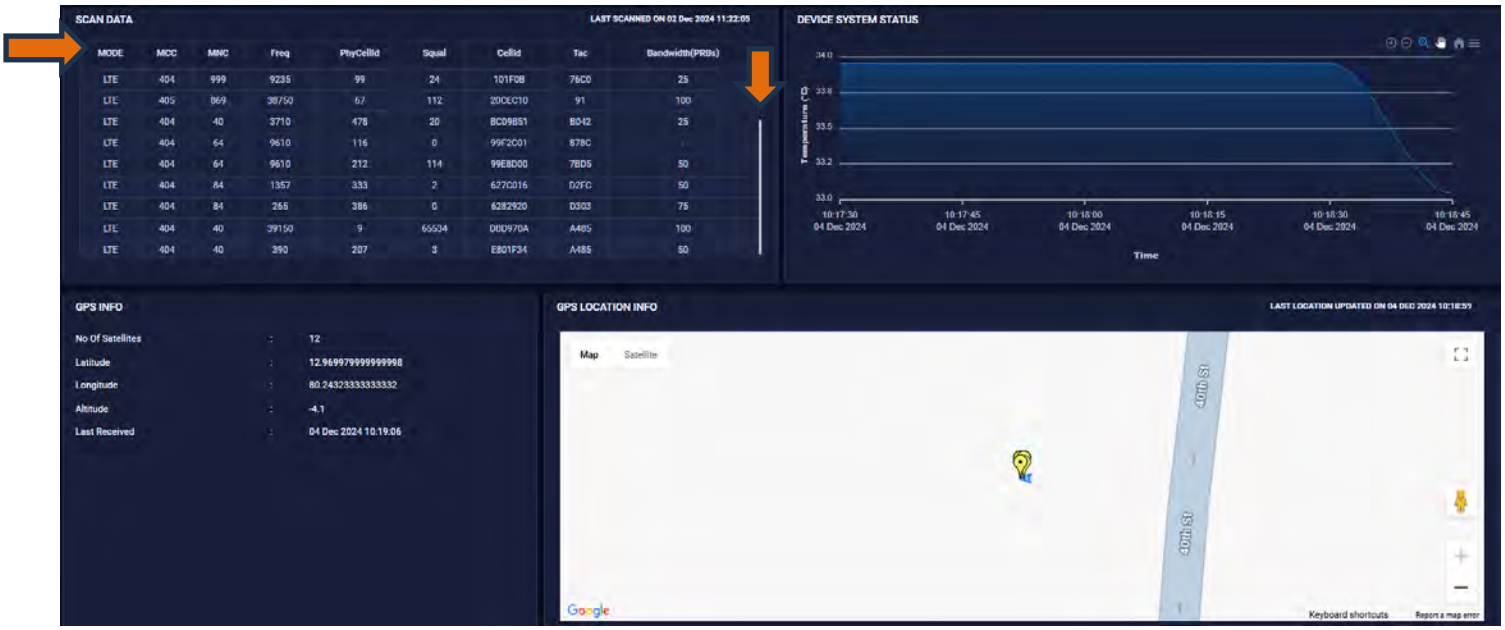
Click on Modem01.



View results. Graphs for RSSI, RSRP, RSRQ, and other device information are displayed.



To see the rest of the scan data information hover over with the mouse pointer and use the vertical slide bar.



Click on telemetry to Enable / Disable telemetry and to configure telemetry frequency

Repeat steps above steps for retrieving data from Modem02 to Modem04 to configure and visualize the data for the respective modems.

3

Chapter 3 MNO Mapping

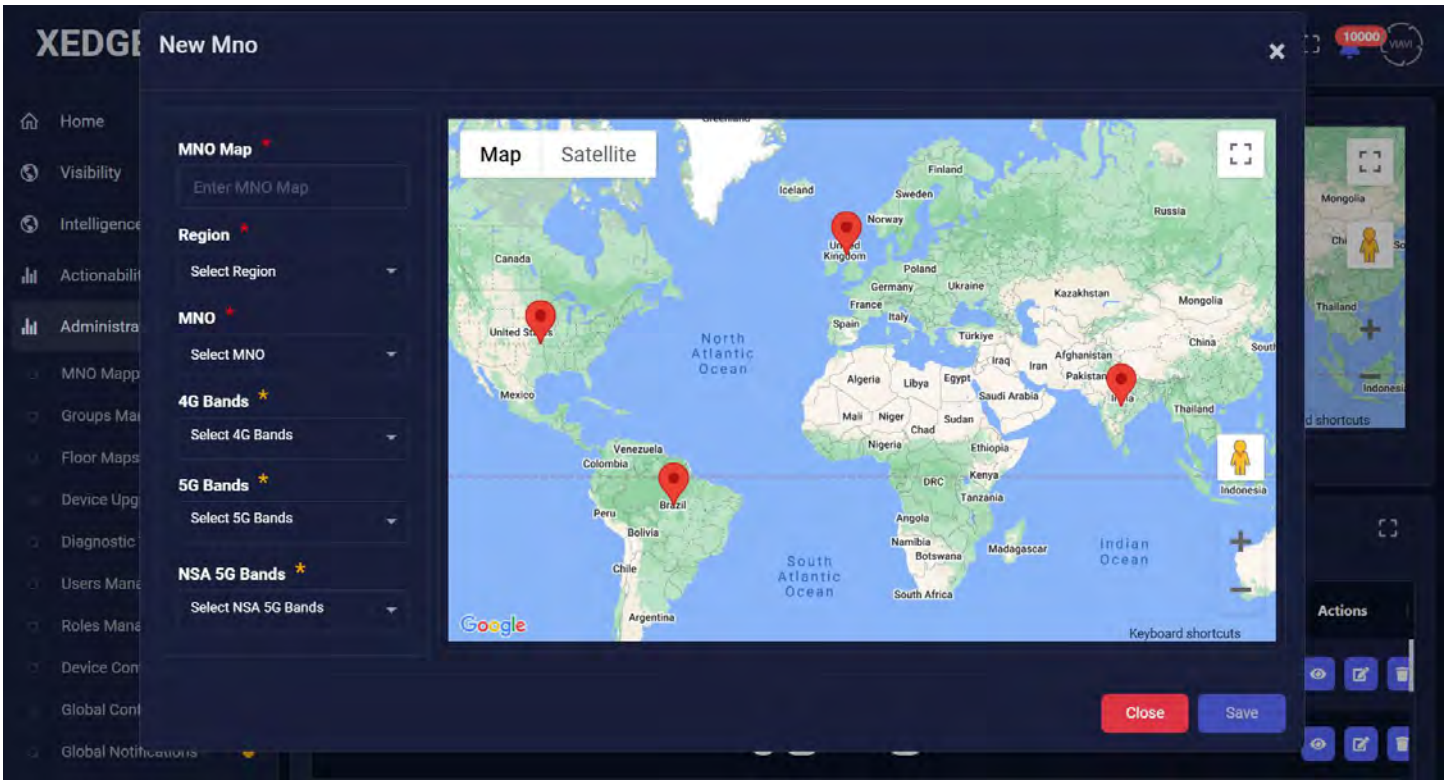
This section describes the procedure for Mobile Network Operator (MNO) Mapping. This feature is for creating templates with bands, which will be linked to modems for locking the modems to the bands in the template.

Creating an MNO map

Complete the following steps to create a new MNO map:

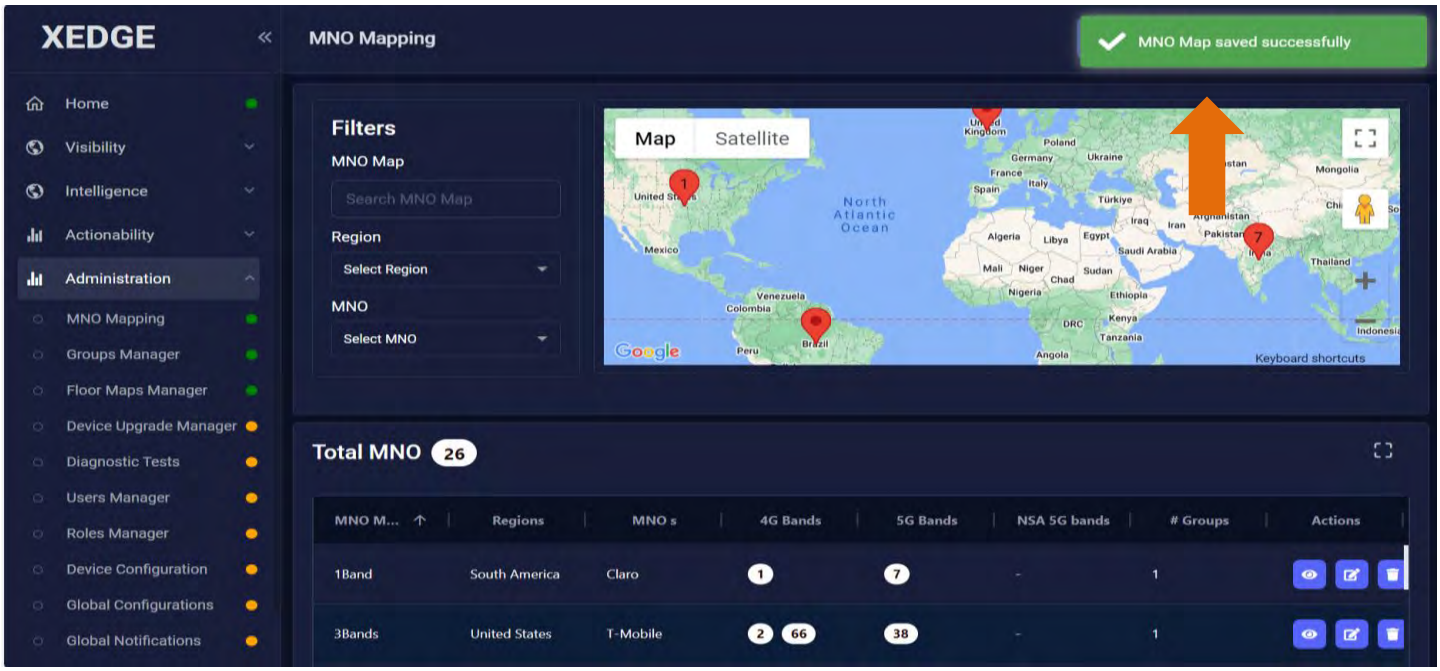
1. Navigate to Administration > MNO mapping page.

2. Click New MNO Map.

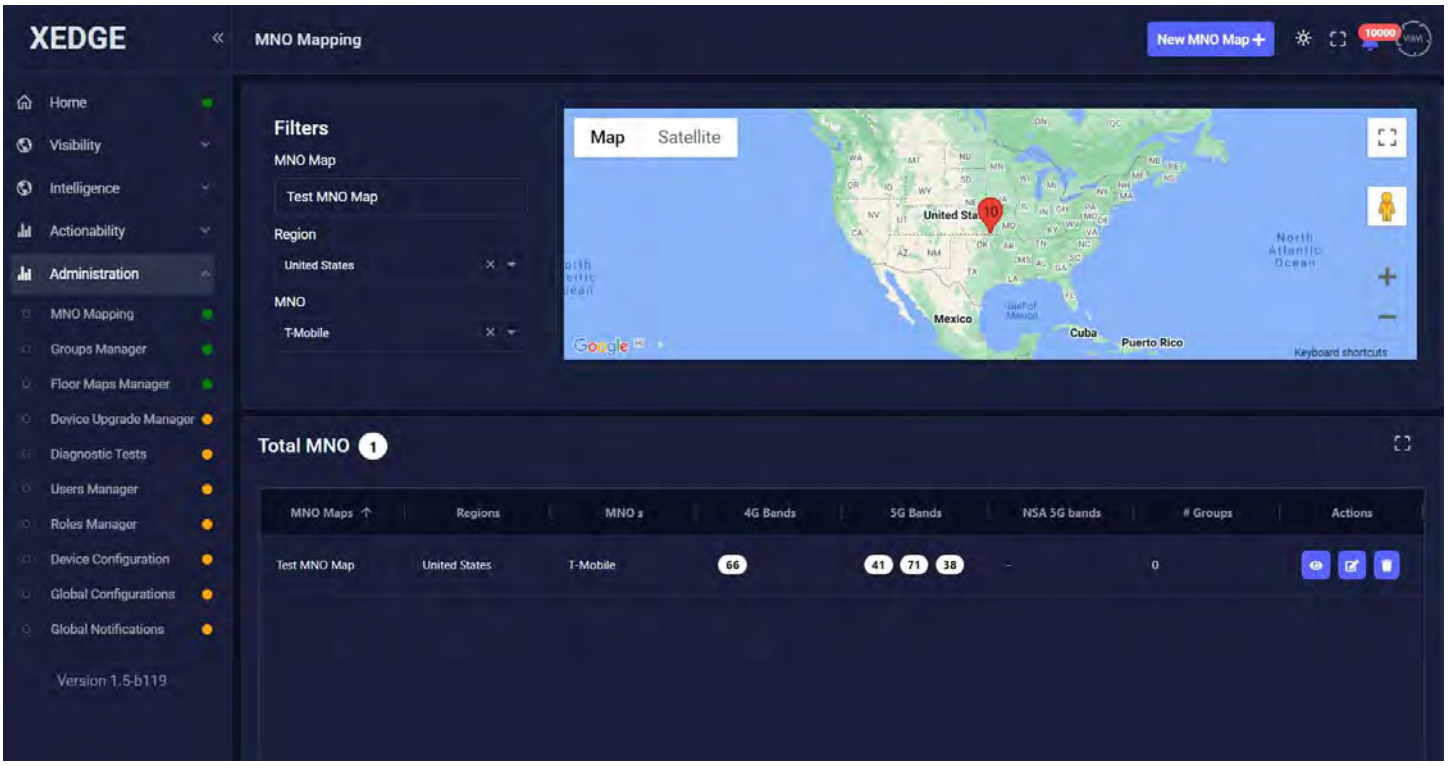


3. Click in the ‘MNO Map’ box and enter a new map name.
4. Click in the ‘Region’ dropdown box and select a region.
5. Click in the ‘MNO’ dropdown box and select an MNO.
6. Click in the ‘4G Bands’ dropdown and select bands.

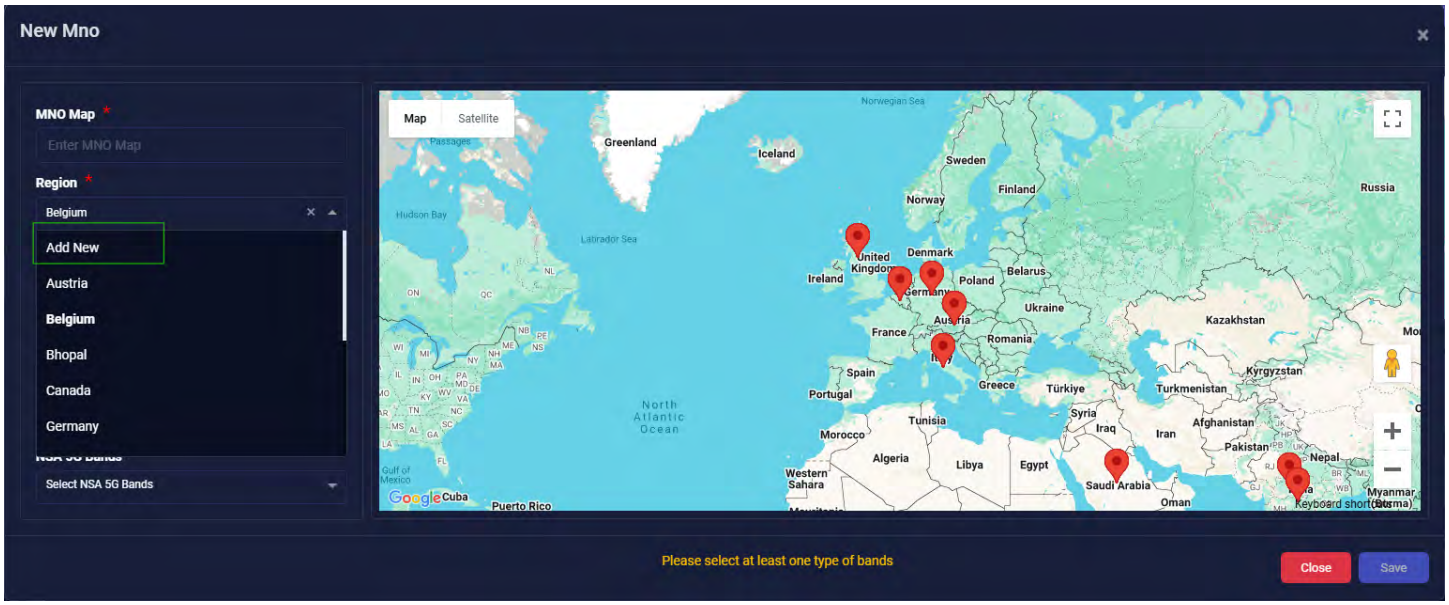
7. Click in the '5G Bands' dropdown and select bands.
8. Click in the 'NSA 5G Bands' dropdown and select bands.
9. Click **Save**.
10. If successful, the following message appears:



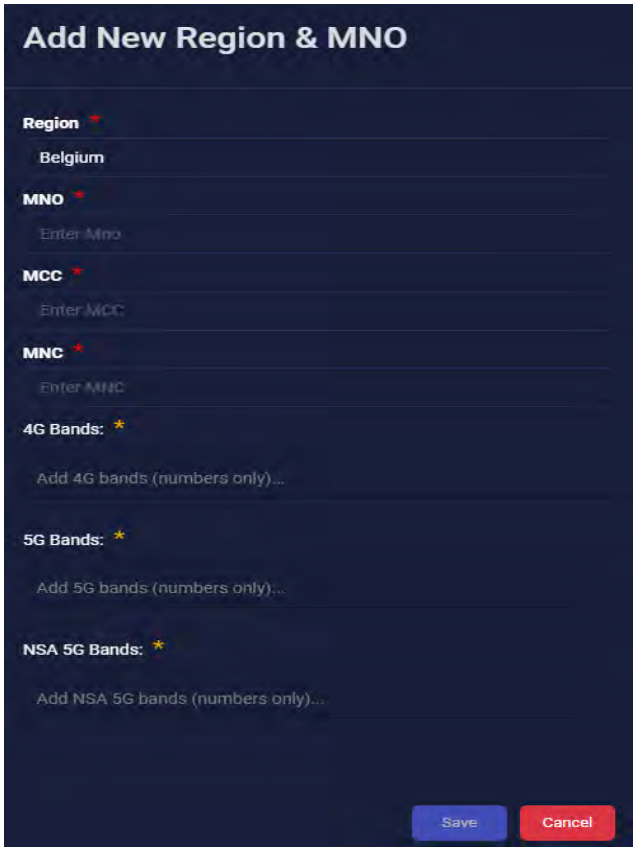
11. View the MNO that you created.



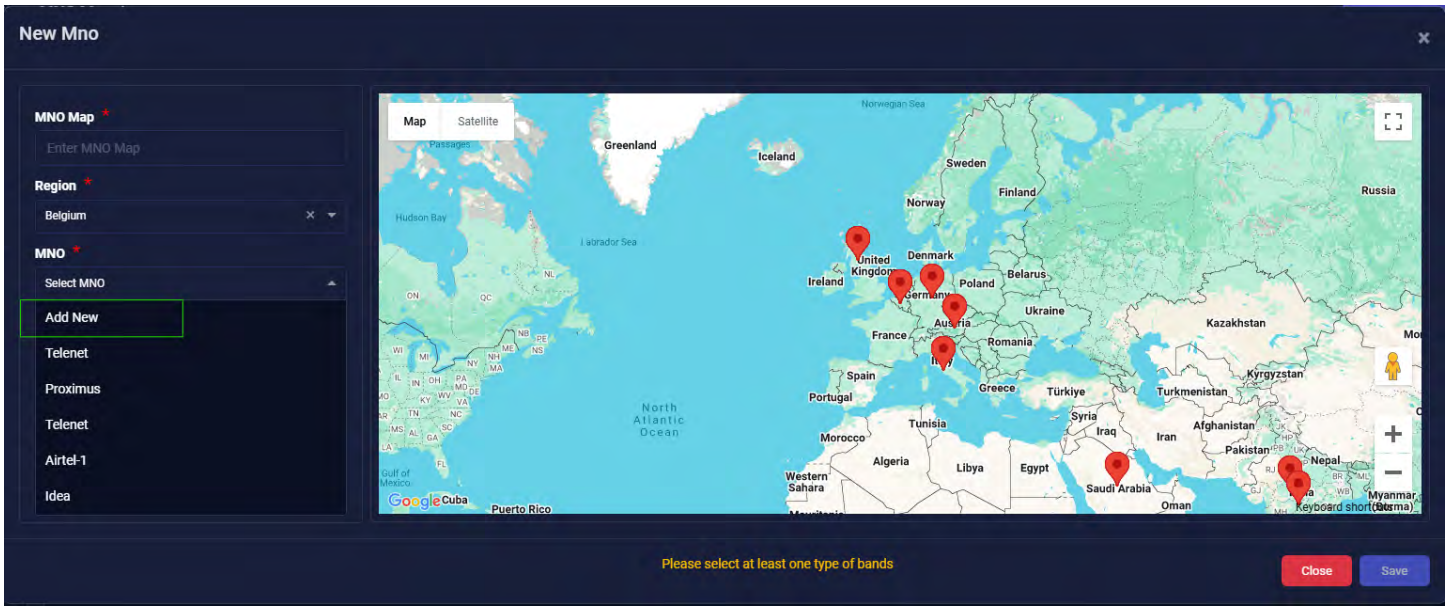
12. The user can Add a new MNO for a particular region by selecting “Add New” under region drop down



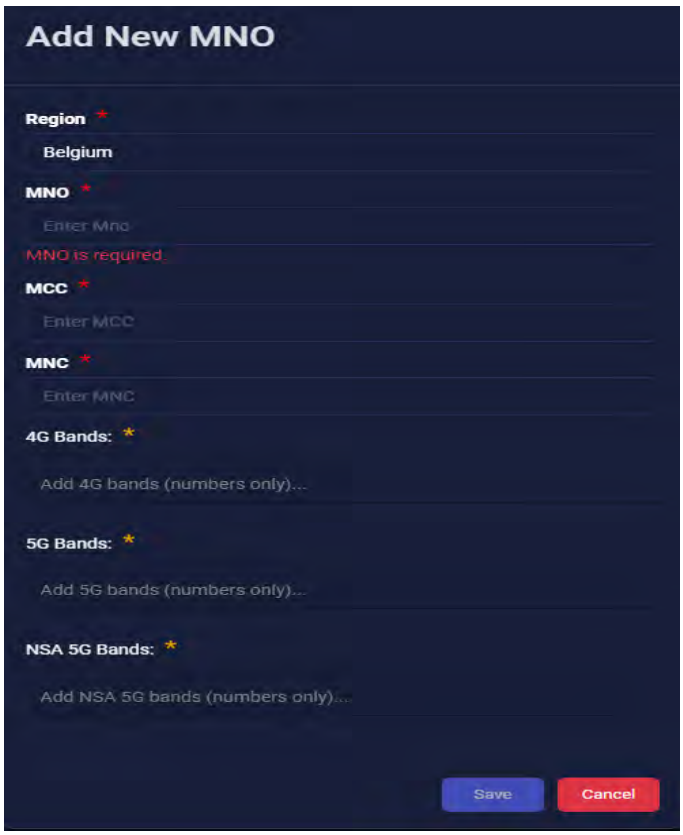
13. When the User selects “Add New” a new pop-up window will be displayed where the user can configure the Region, MNO, MCC, MNC and the respective bands on 4G,5G and NSA 5G. To save the MNO the user must click on Save button



14. The user can also configure a new MNO for a region by clicking on “Add New” under MNO dropdown



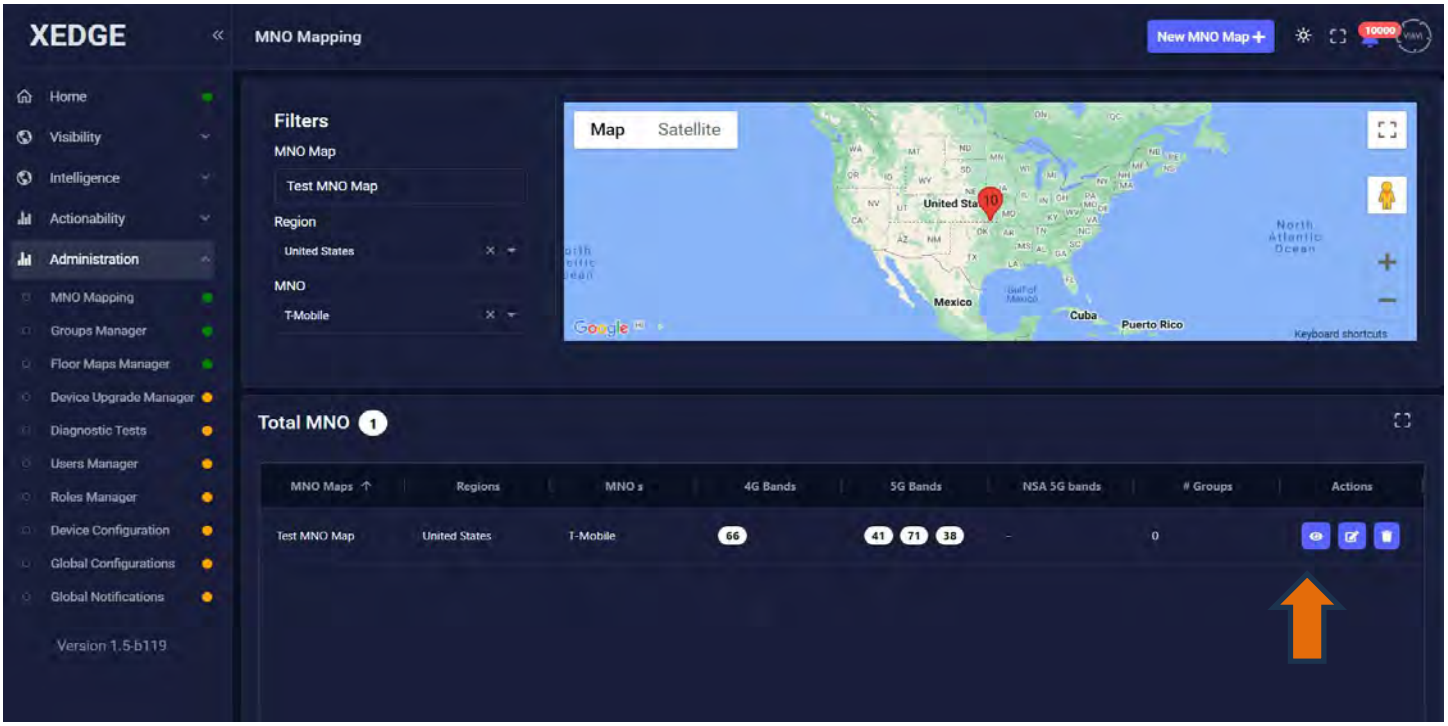
15. When the User selects “Add New” a new pop-up window will be displayed where the user can configure the MNO under the already selected region, MCC, MNC and the respective bands on 4G,5G and NSA 5G. To save the MNO the user must click on Save button



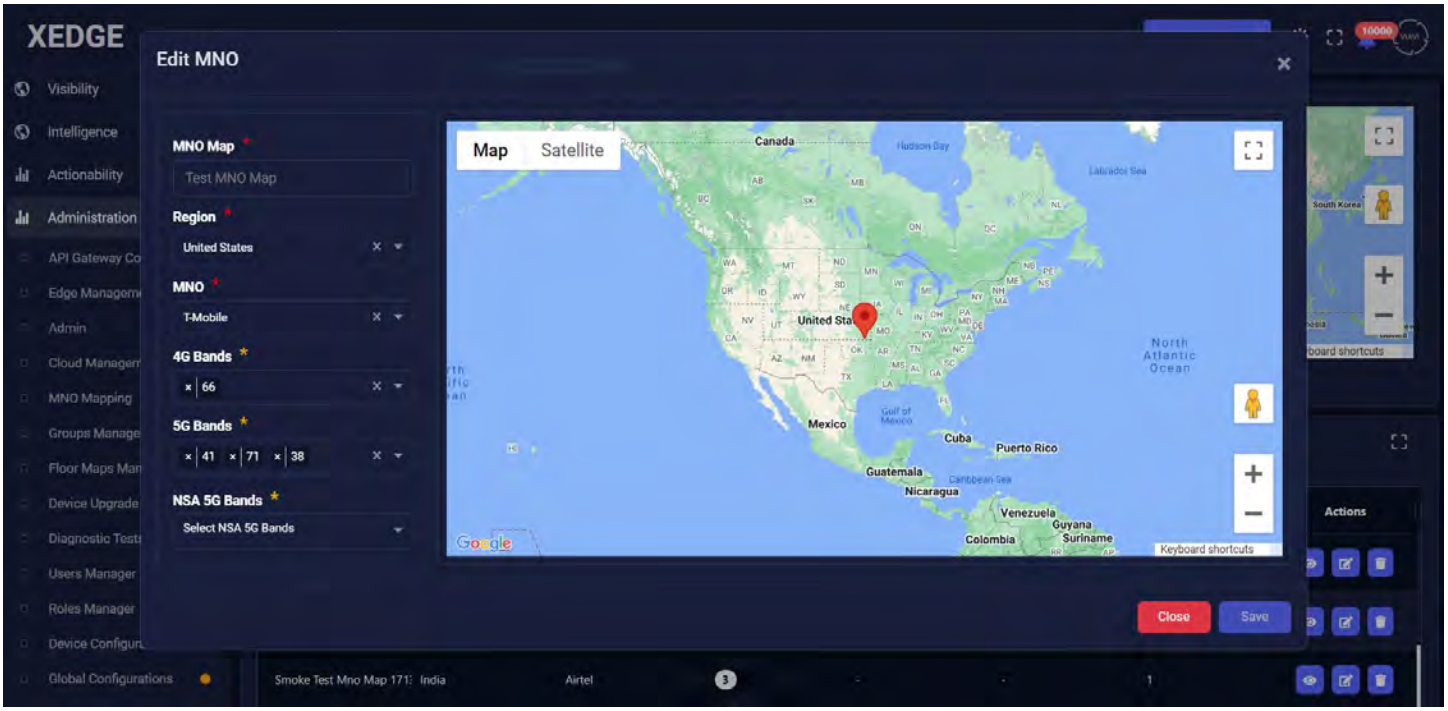
Editing an MNO map

Complete the following steps to edit an existing MNO map:

1. Navigate to the Administration > MNO mapping page.
2. View the list of all existing MNOs. Use the Filters to find your MNO map.
3. Select the MNO map that you need to edit and click the **Edit** icon.



4. Edit the page by removing one of the 5G bands and click **"Save."**

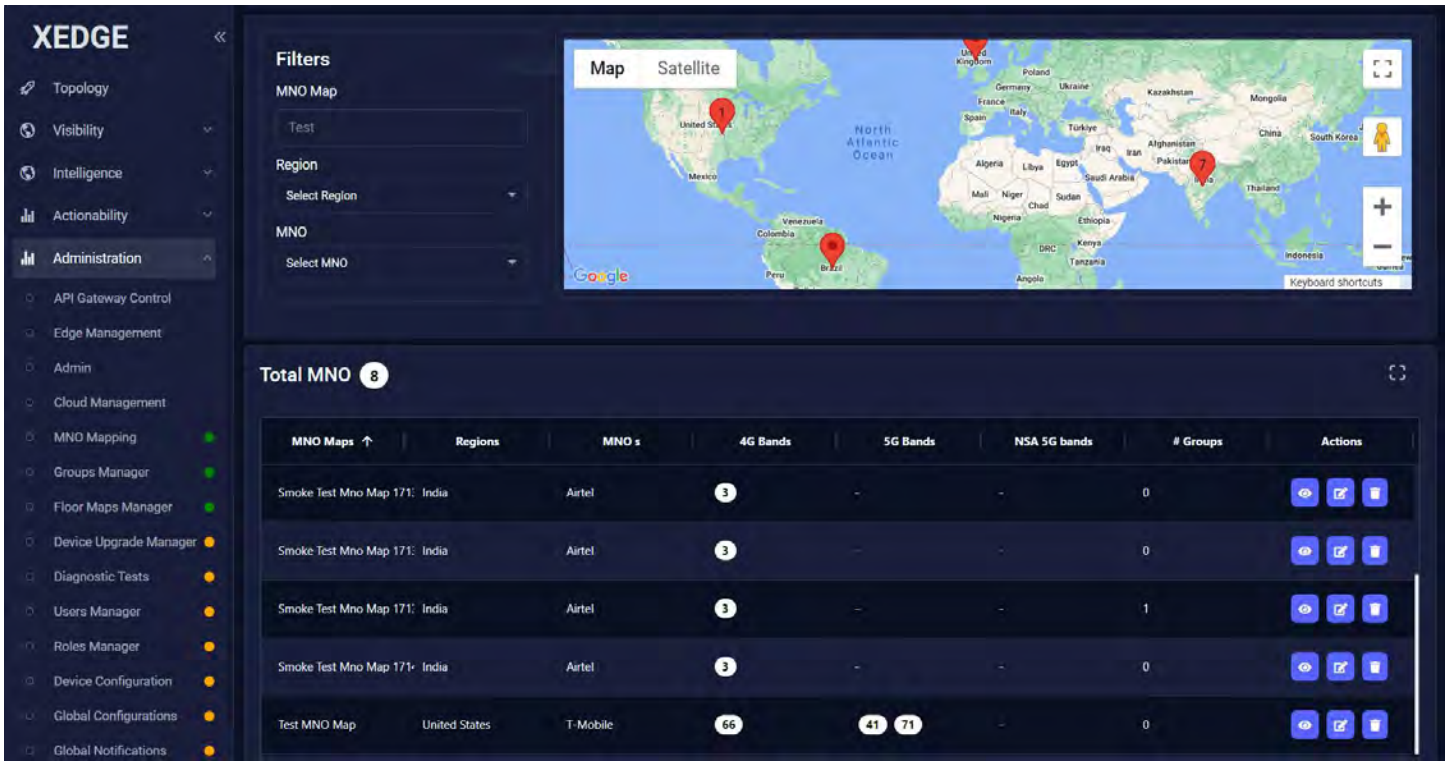


5. View results.

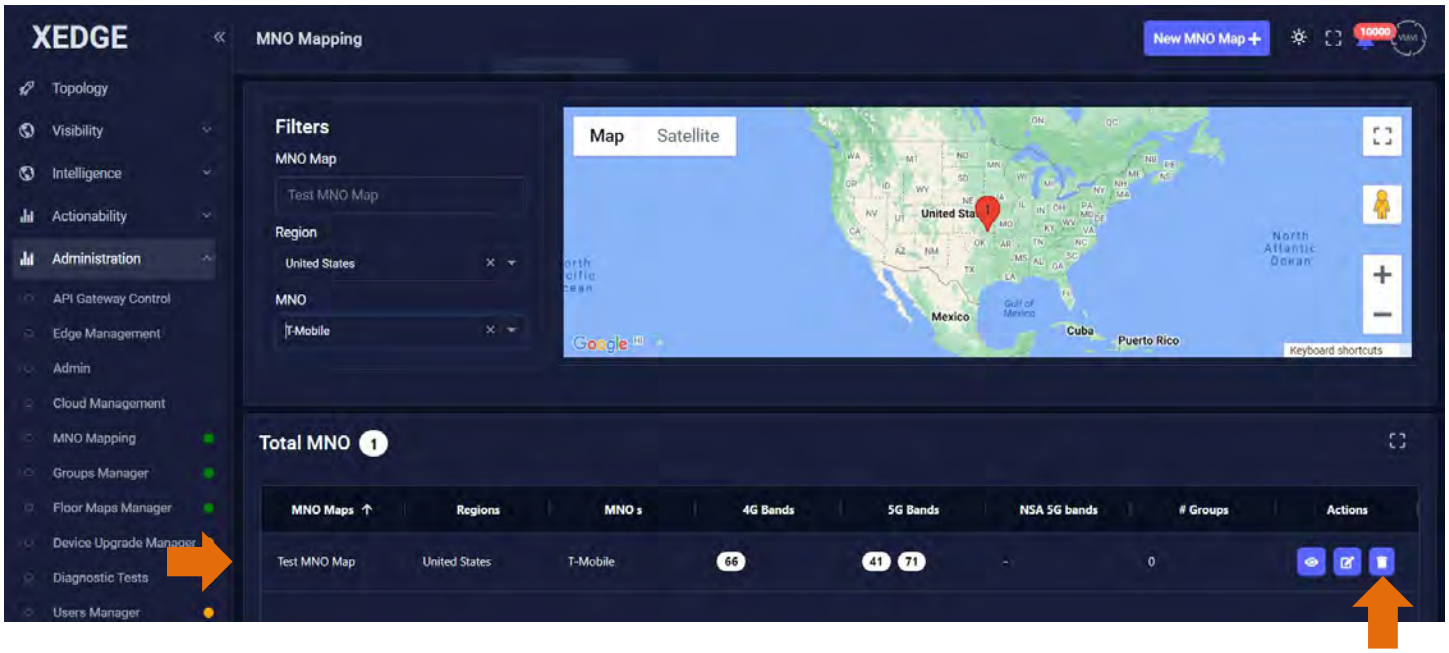
Deleting an MNO map

Complete the following steps to delete an existing MNO map:

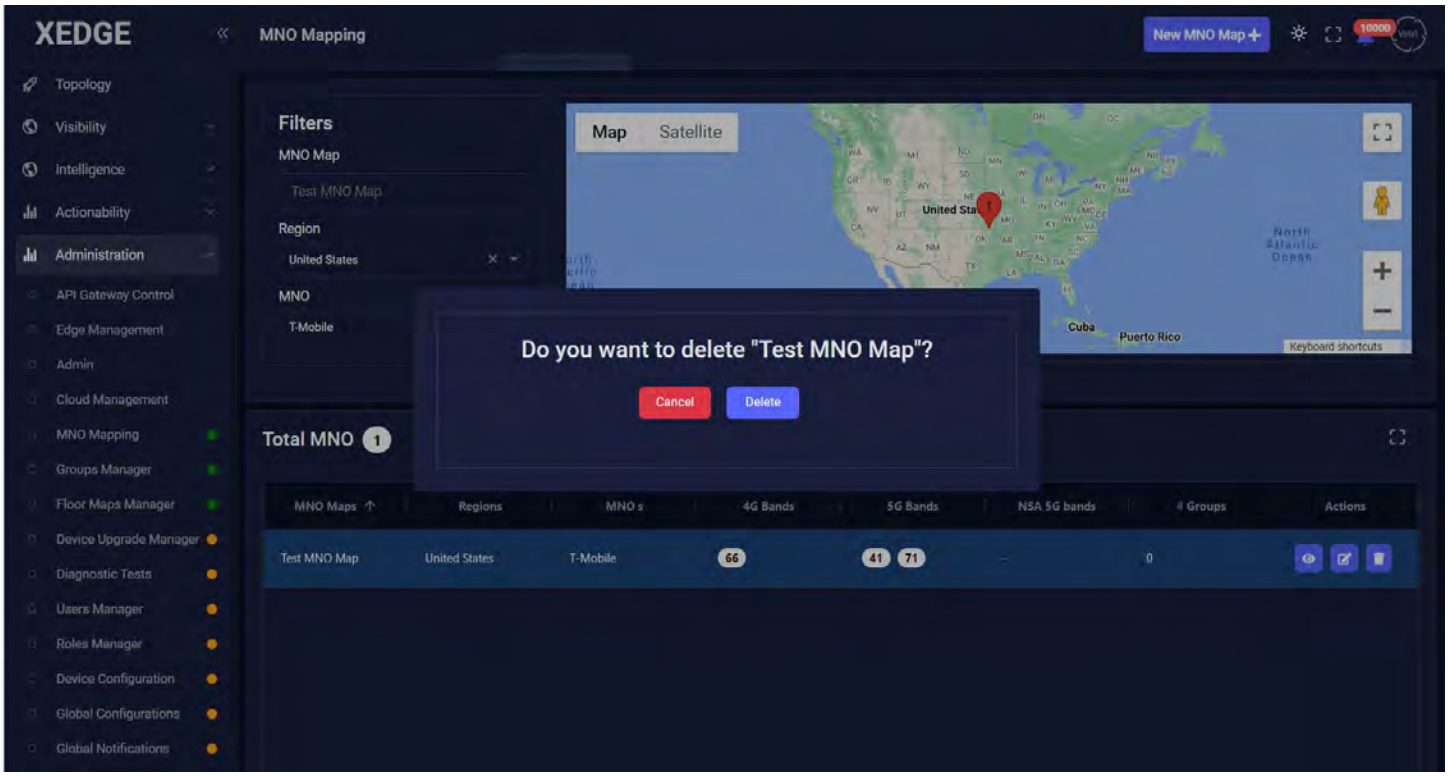
1. Navigate to the Administration | MNO mapping page.
2. View the list of all existing MNOs.
3. Use the search function to find your MNO.



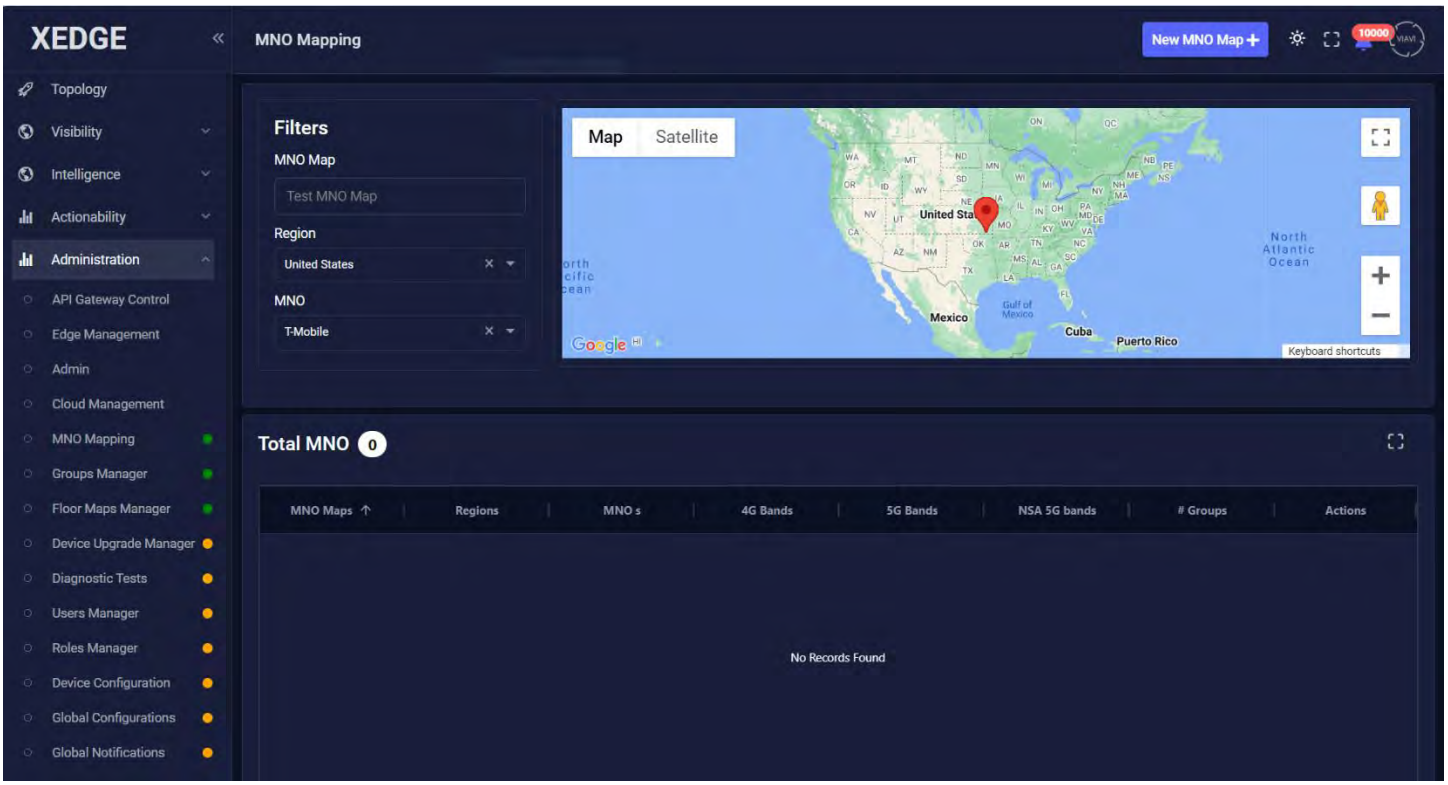
4. Select the MNO map that you need to remove and click the **Delete** icon.



5. You should see this message displayed.



6. Click “Delete”.
7. View the results.



4

Chapter 4 Group Manager

This chapter explains the procedure to access the Group Manager.

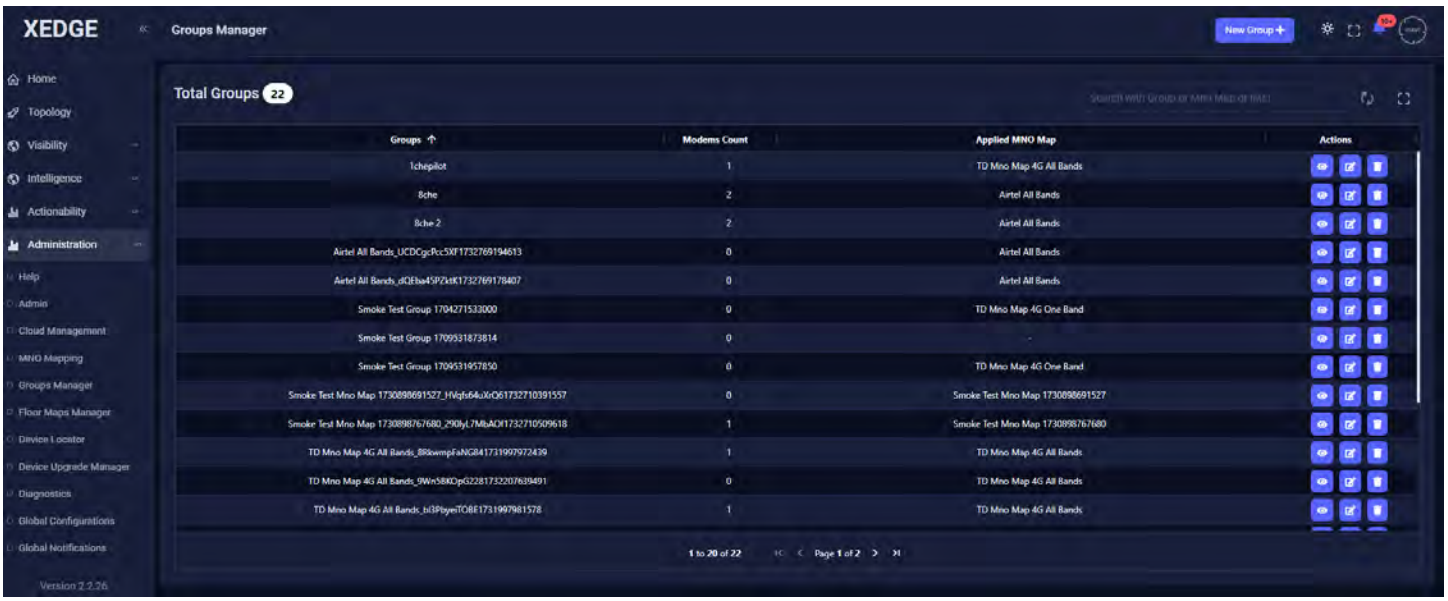
Group Manager is the feature that acts as a middle layer for making connections between modems and templates.

A group consists of modems and a template.

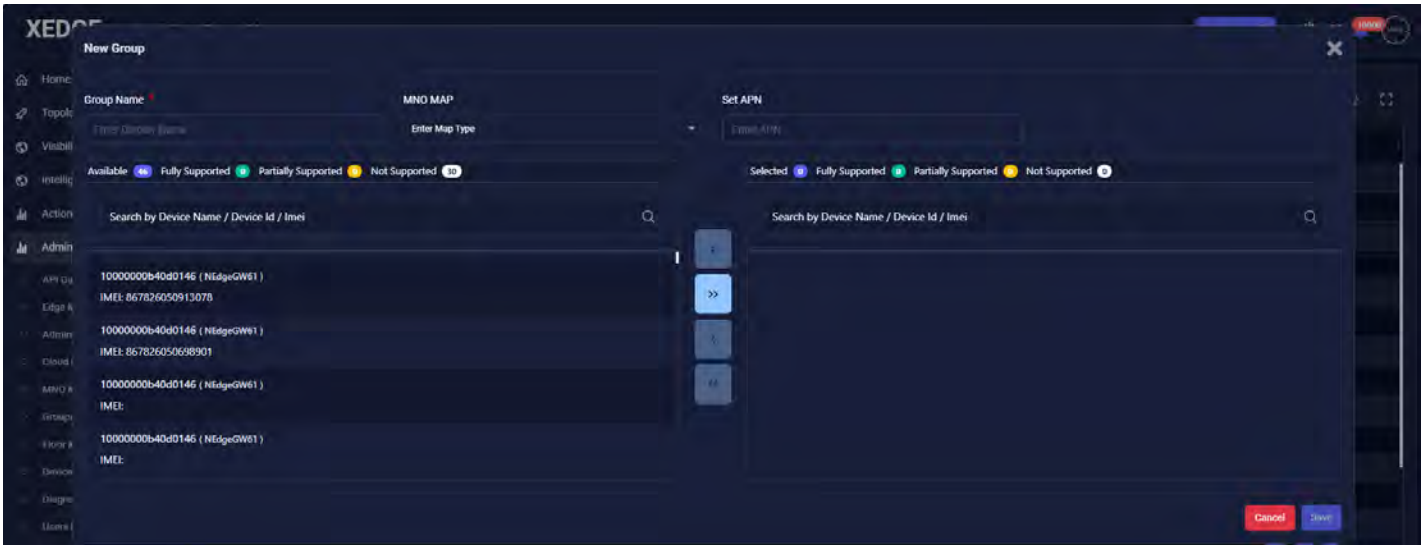
Modems that are not in any of the groups would be allowed to map with templates through a group.

Complete the following steps to create a new group:

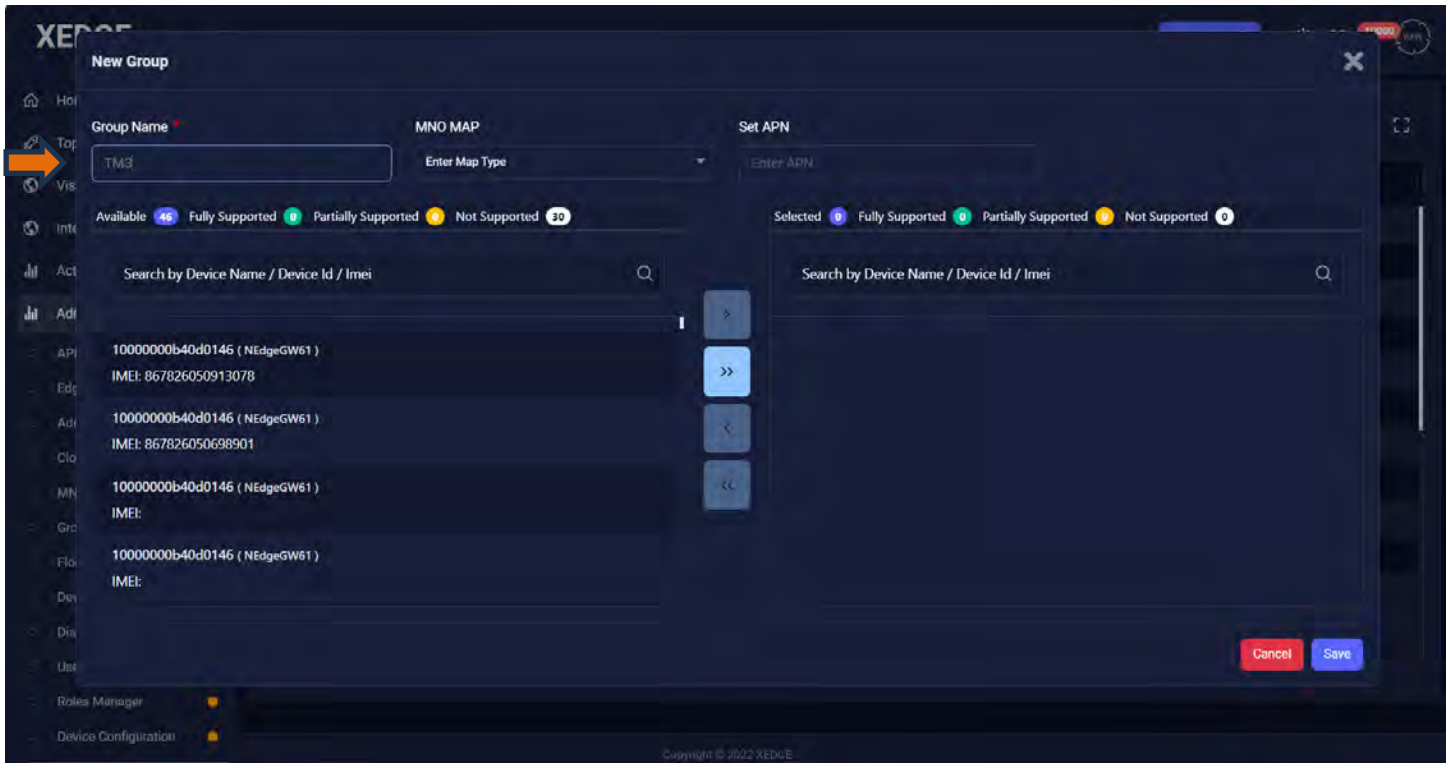
1. Navigate to Administration > Group Manager page.



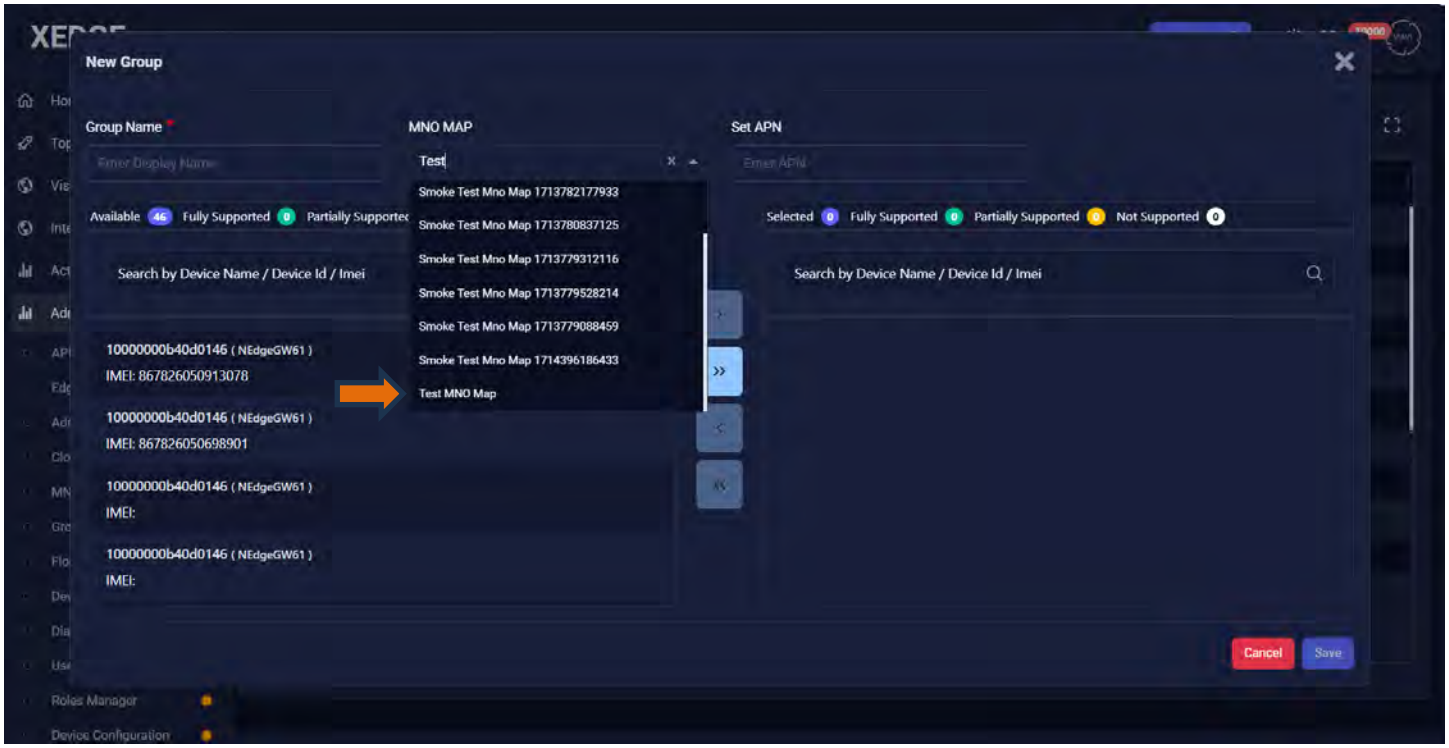
2. To create a new group, click on the **New Group** button at the top of the screen. This brings up a pop up window.



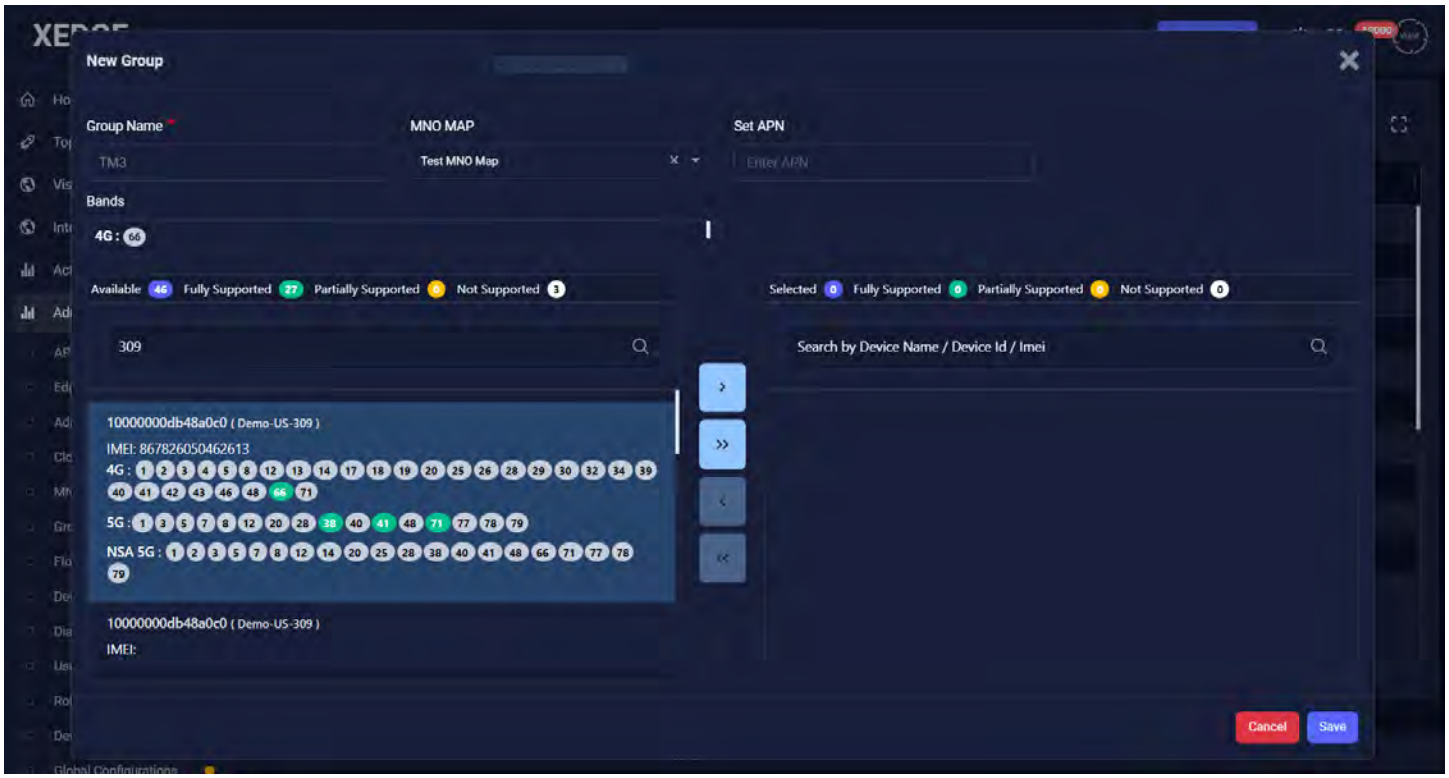
3. Click in the “Group name” box and enter a group name.



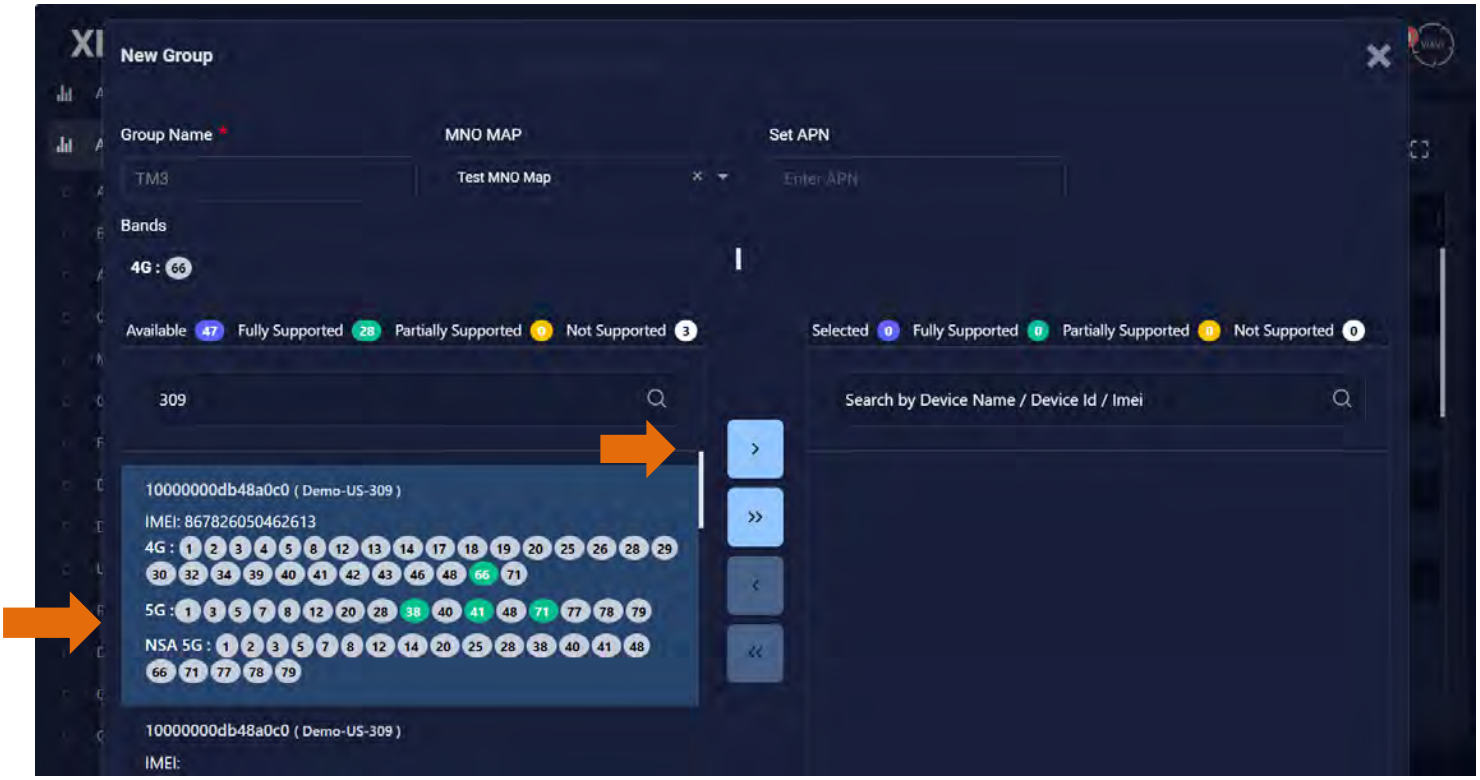
4. Click on the “MNO Map” dropdown menu and select the map created earlier.

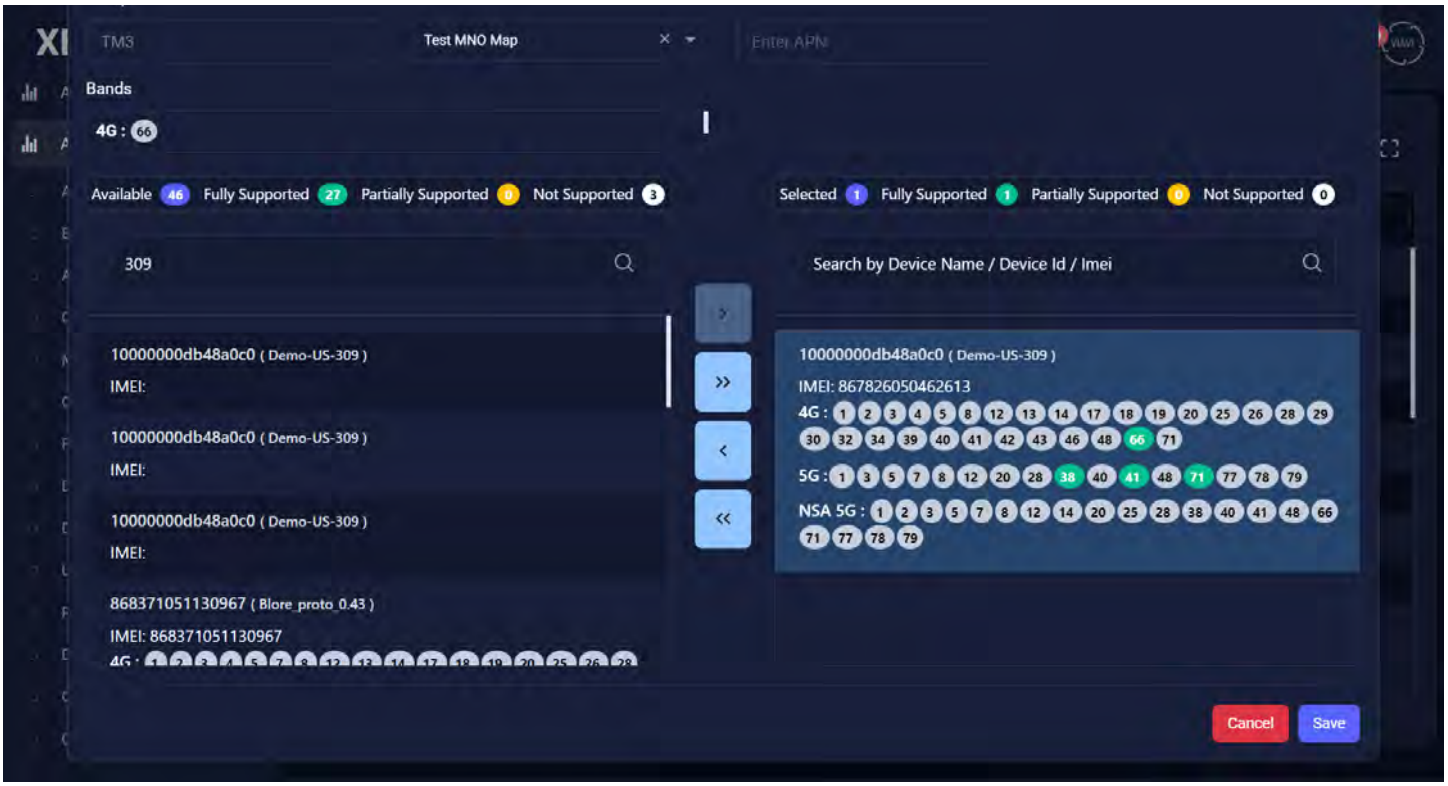


Click in the ‘Search by name’ box to search for a device and select it.

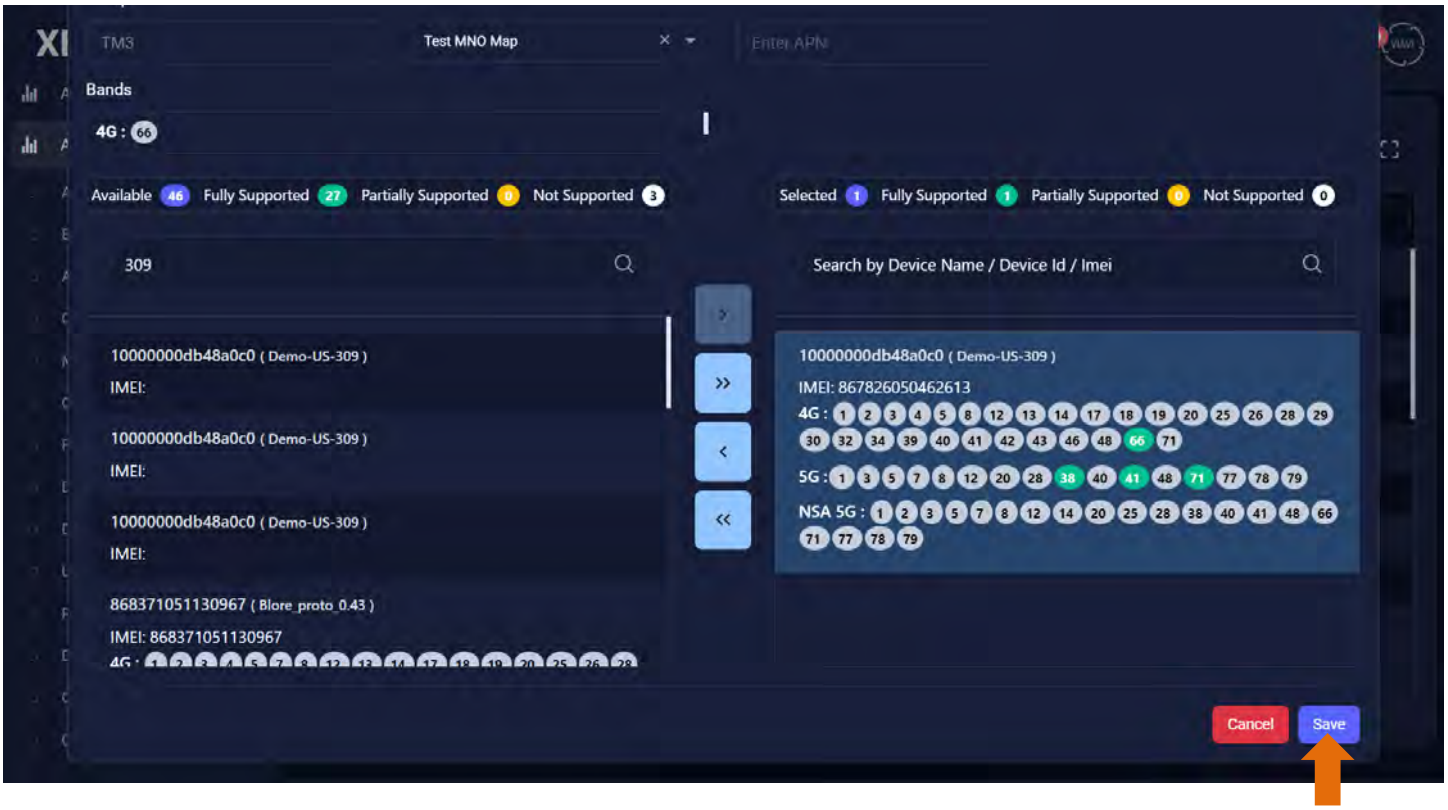


Highlight the device and then click the '>' button to move the selected modem to the right column.

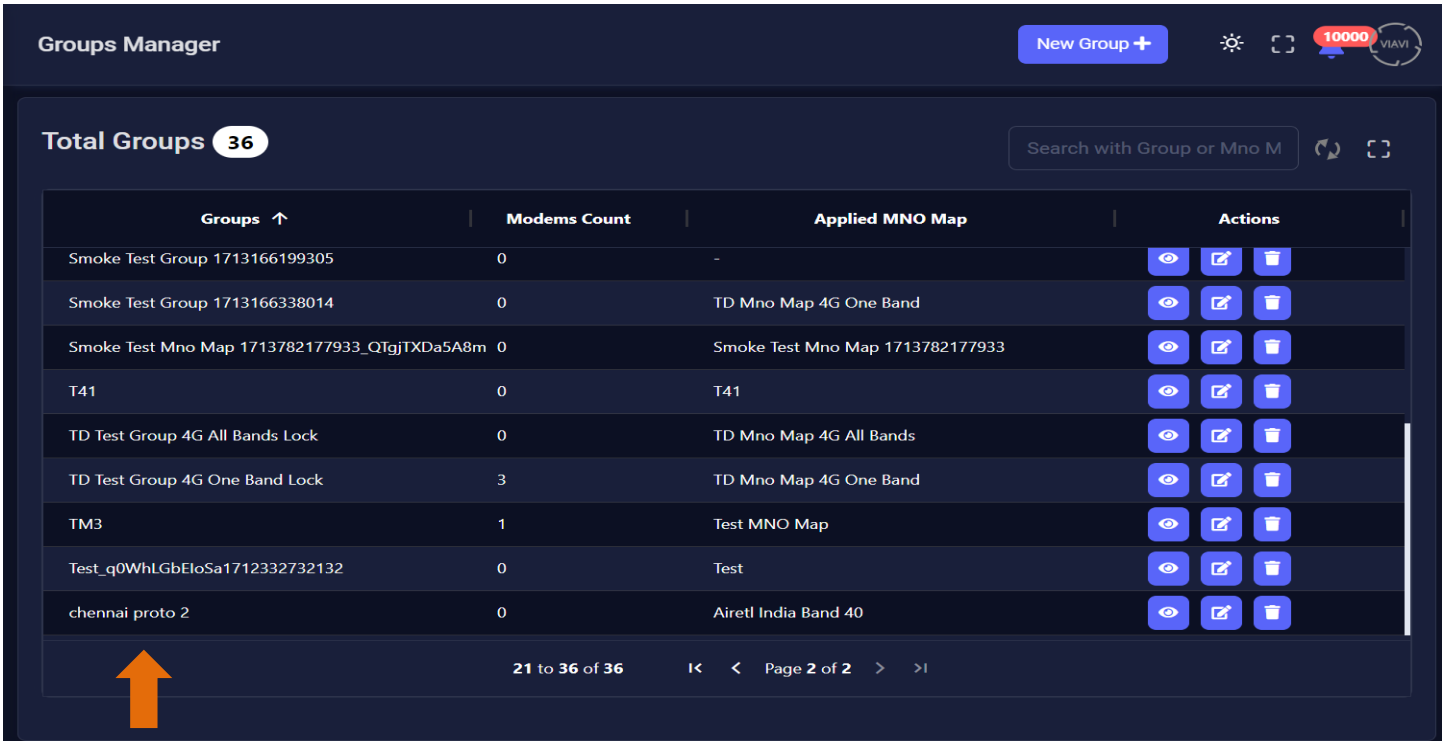




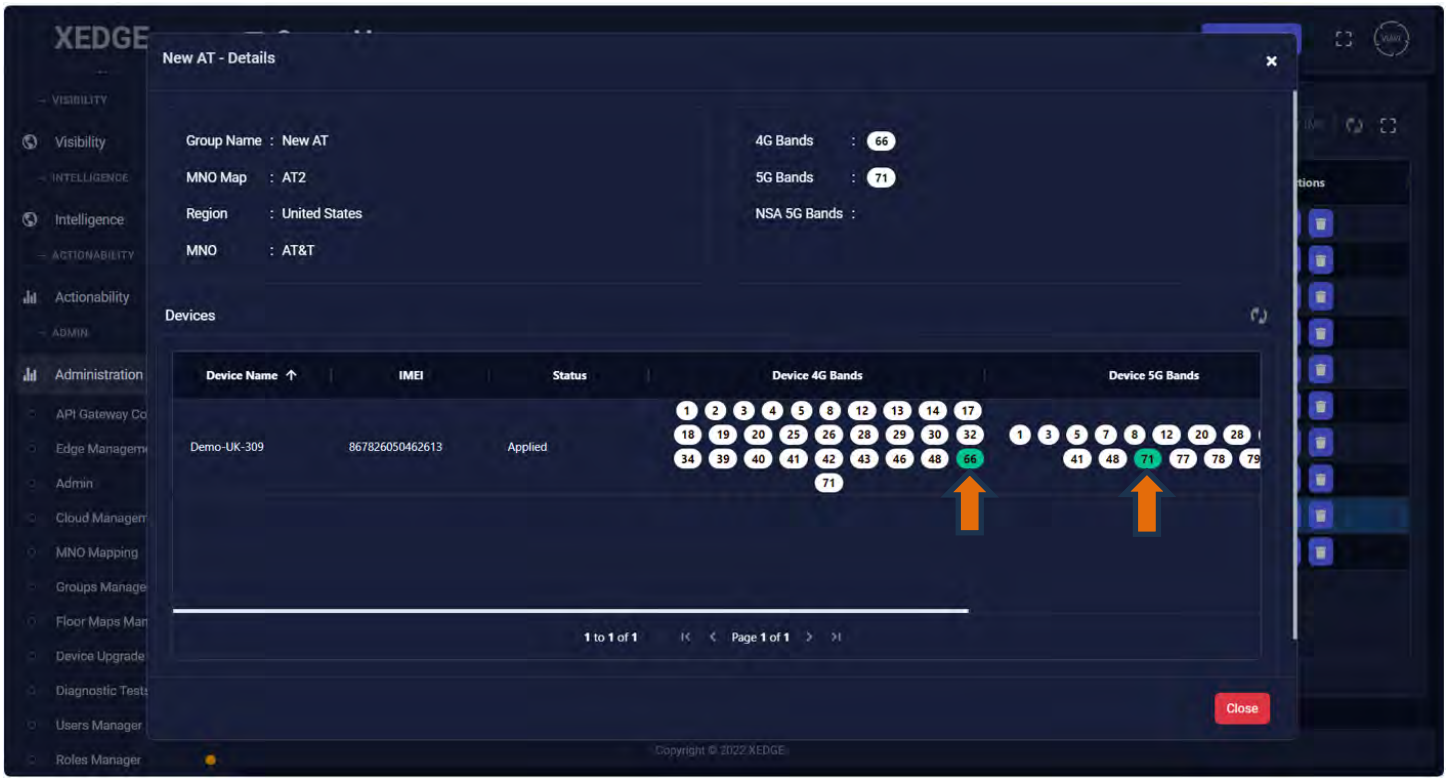
5. Click “Save”



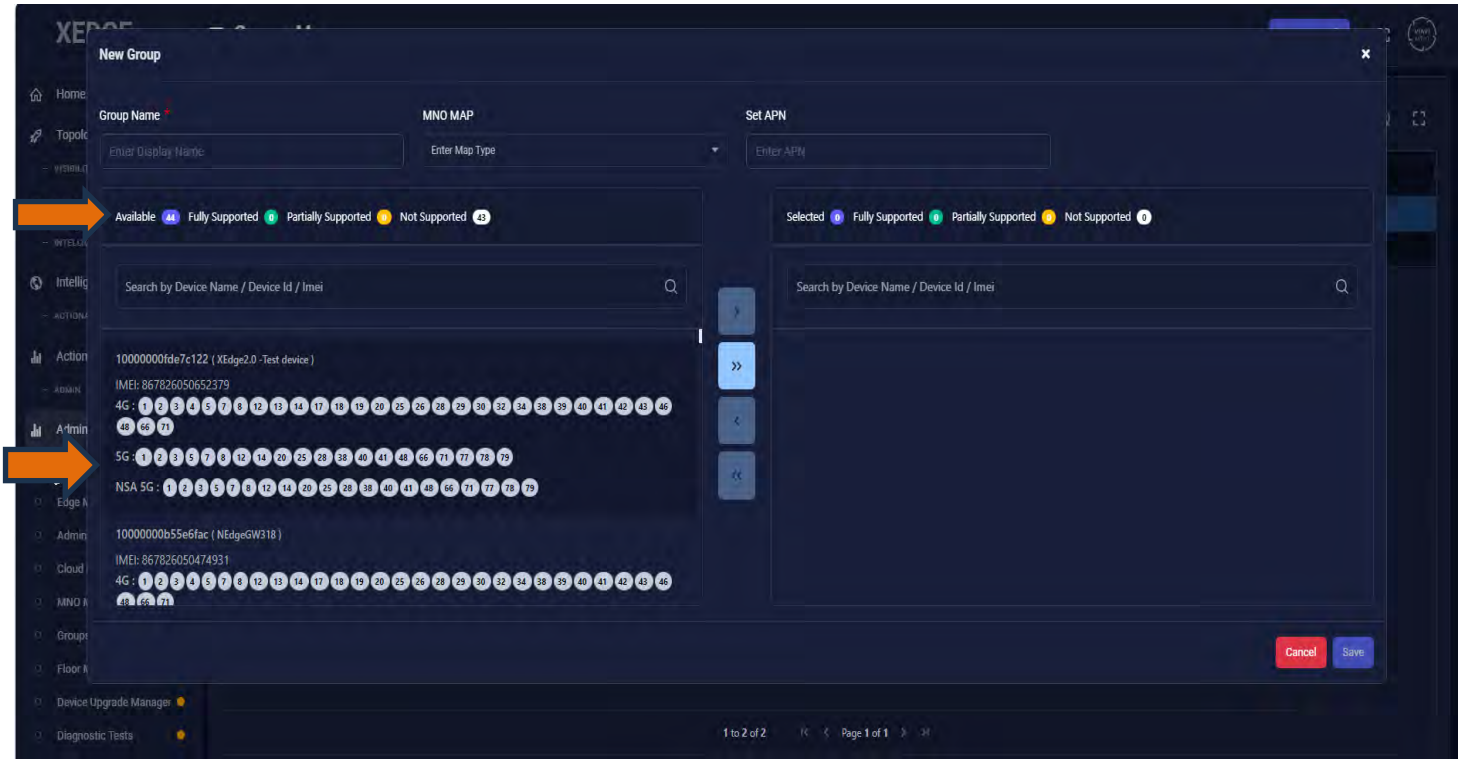
6. View results.



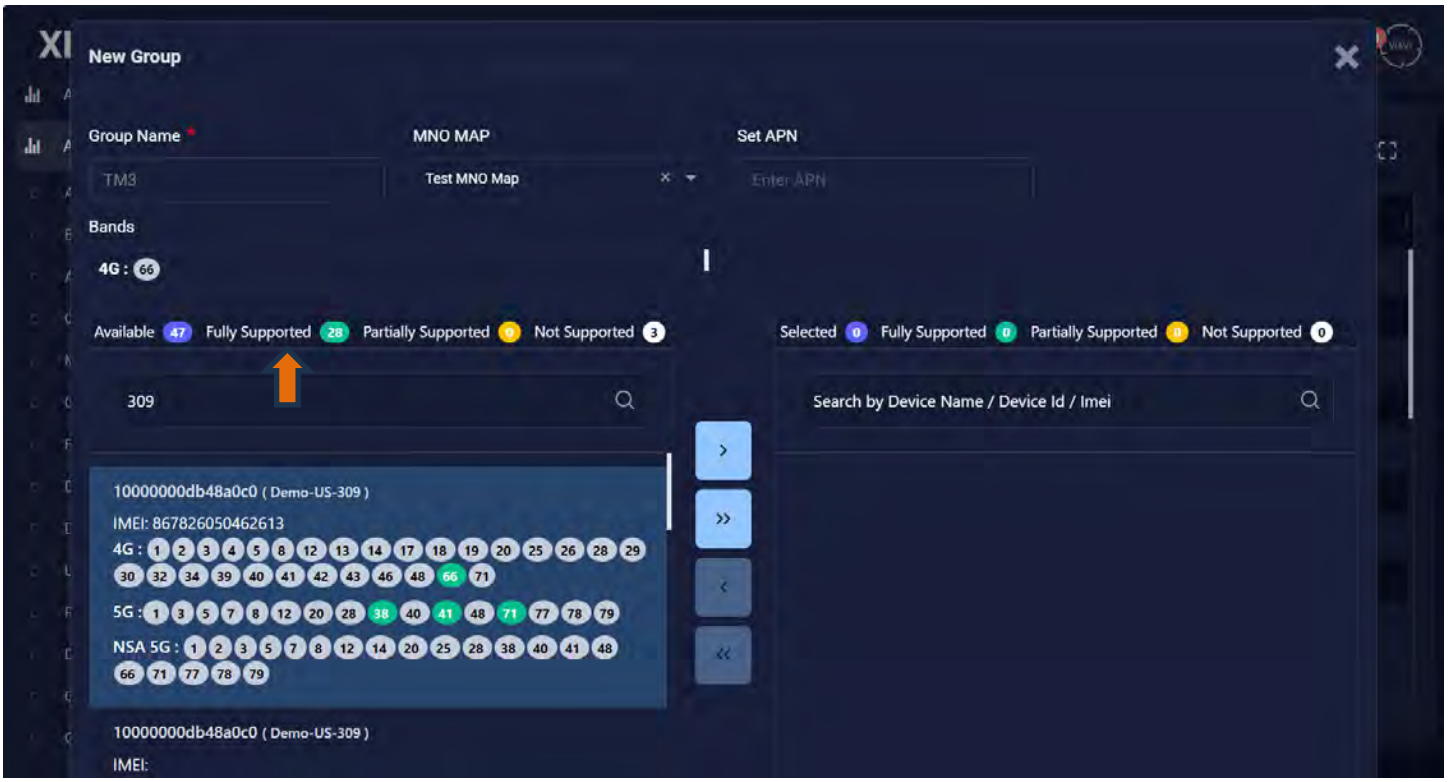
7. View band locking results. Click on the view button.



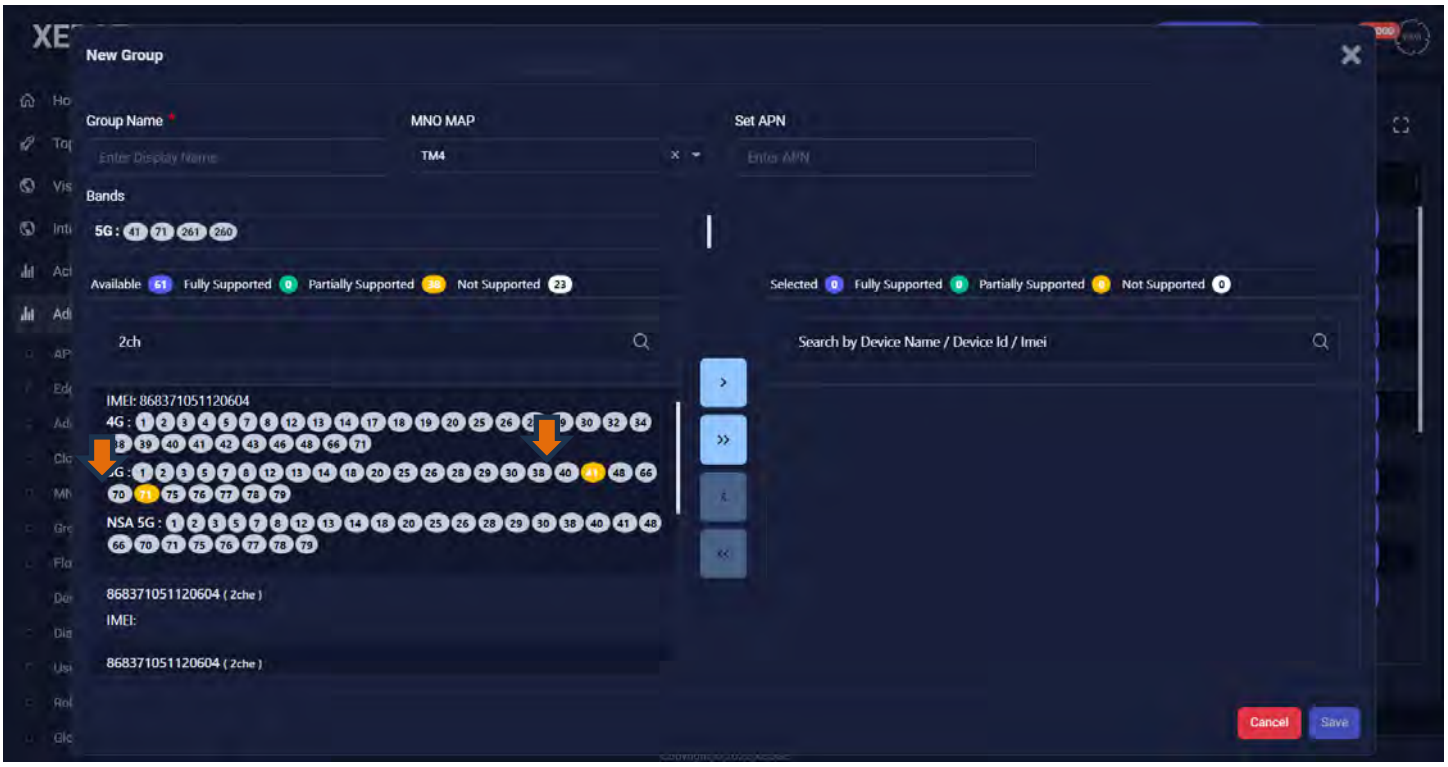
8. Explanation of color codes on the “New Group” page:
   - Blue means these are the available XEDGE modems that can be assigned to a group. In this case 44.



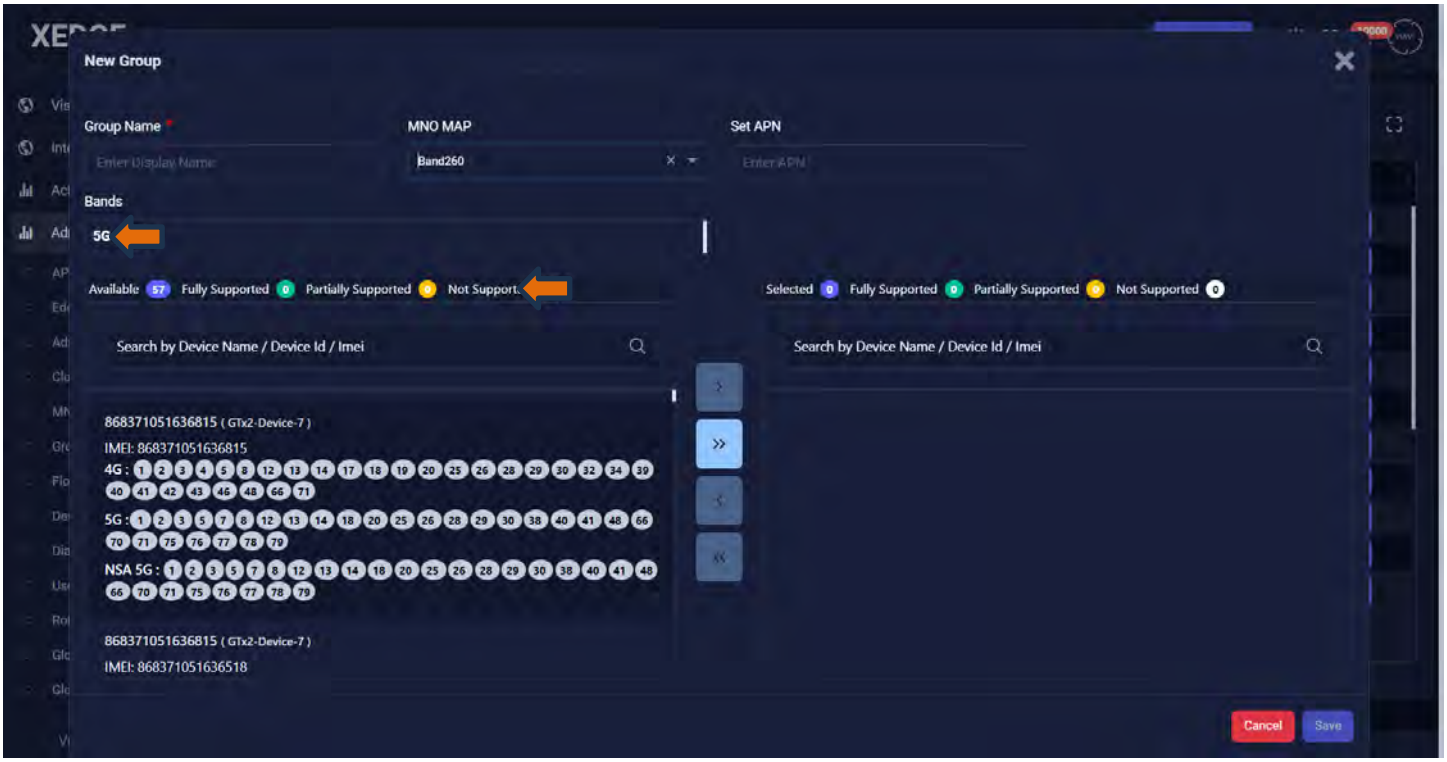
- Green means Fully Supported”. This means all bands are supported for the number of modems in this list. In this case, 4G band 66 is supported by the 28 XEDGE modems in the list.



Orange means “Partially Supported”. This means 5G bands 41 and 71 are supported, but bands 260 and 261 are not supported by the 23 XEDGE modems in the list.



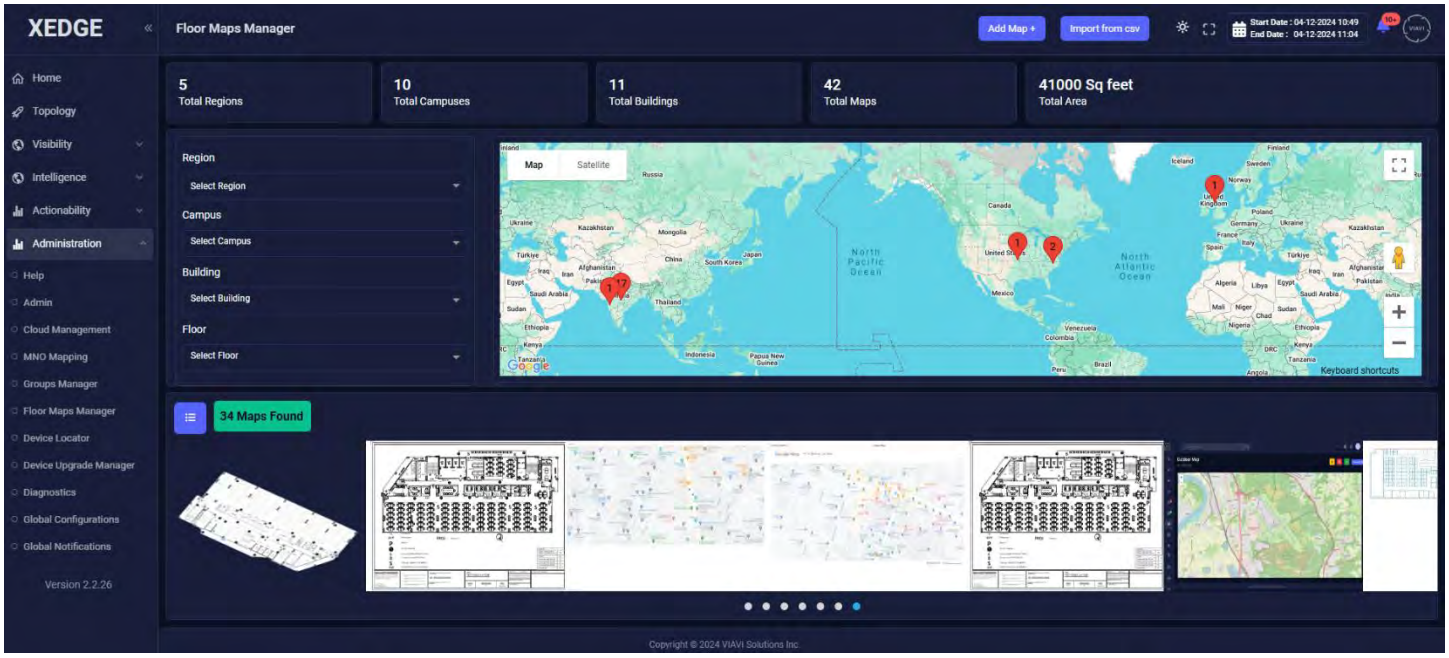
- White means none of the 57 XEDGE modems in the list support 5G band 260.



Chapter 5 Floor Map Manager

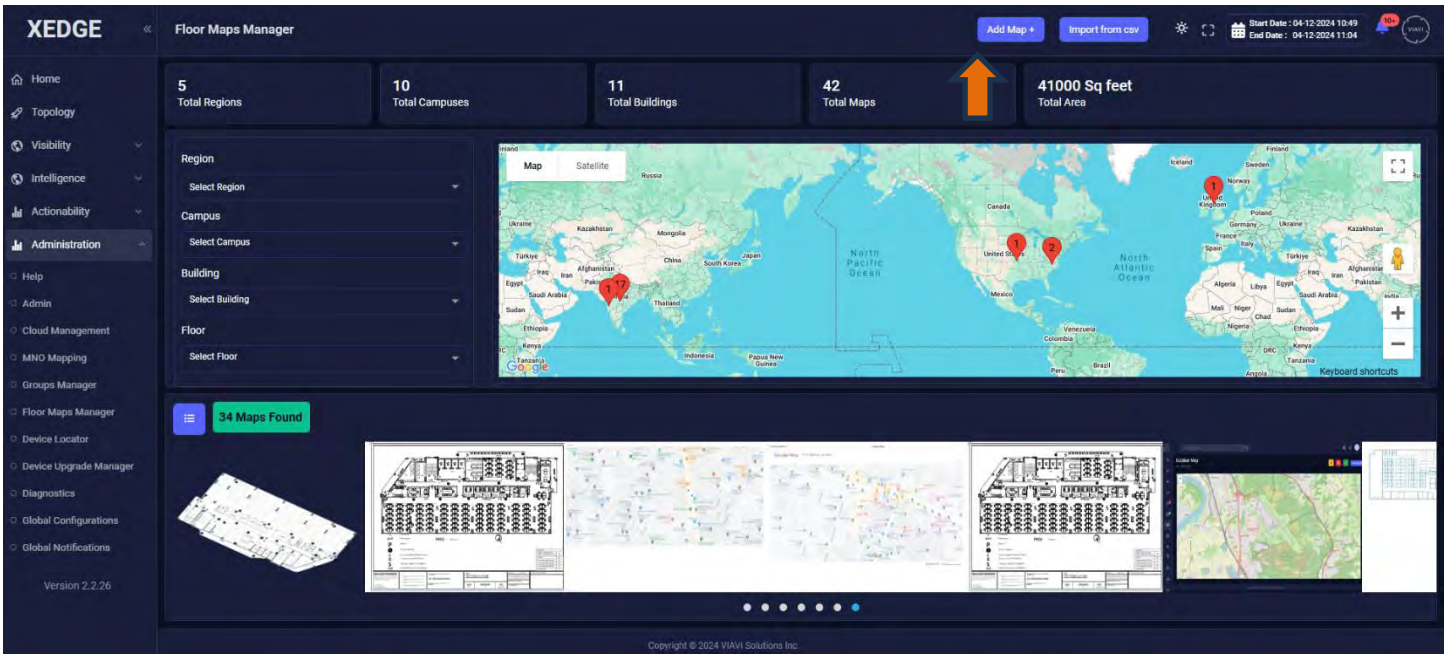
The “Floor Map Manager” is a feature that allows the user to upload a map of their building. This map will be used in conjunction with the “Live Walk Test” feature.

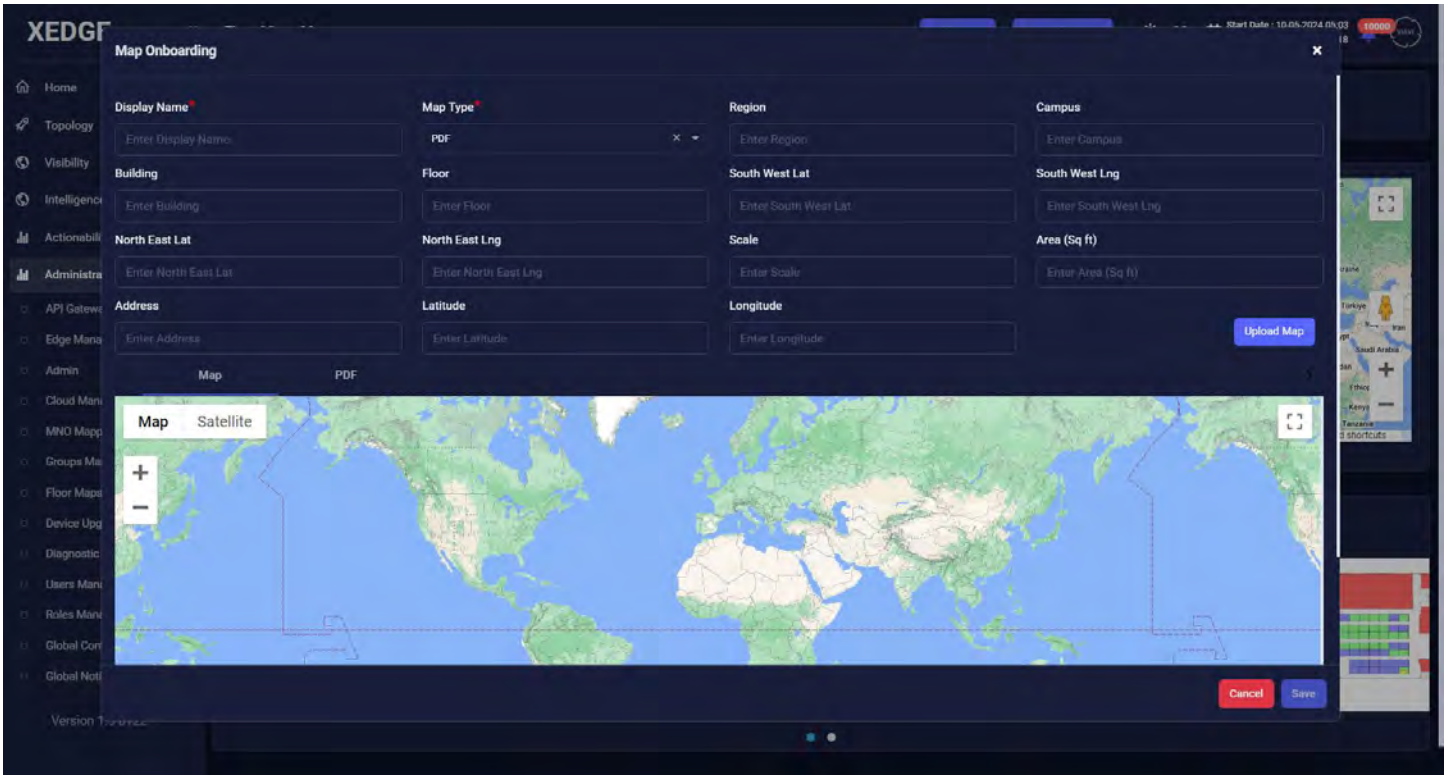
To access the floor map manager, Navigate to the “Floor Maps Manager” page under the Administration menu.



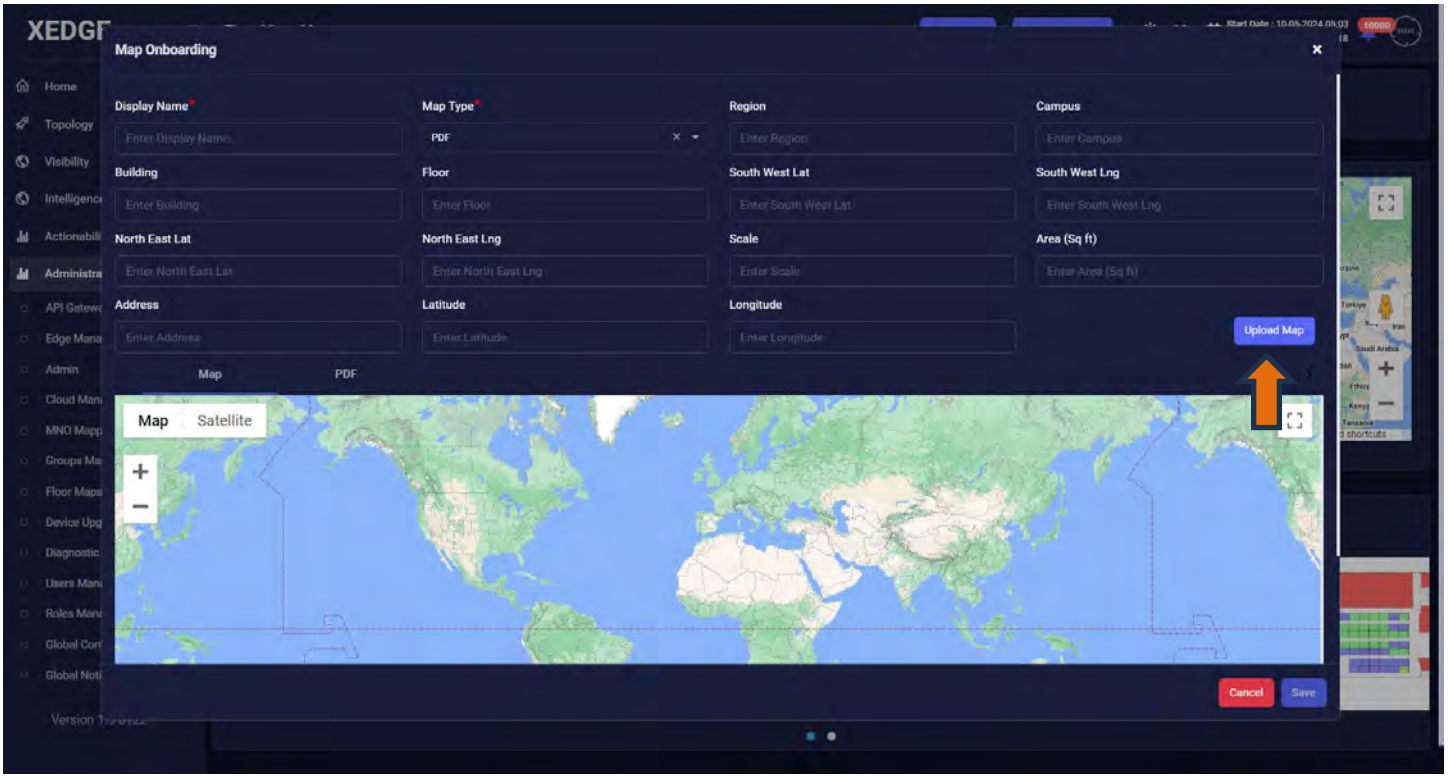
Perform the following steps to interact with maps.

1. Click on the **Add Map** button.

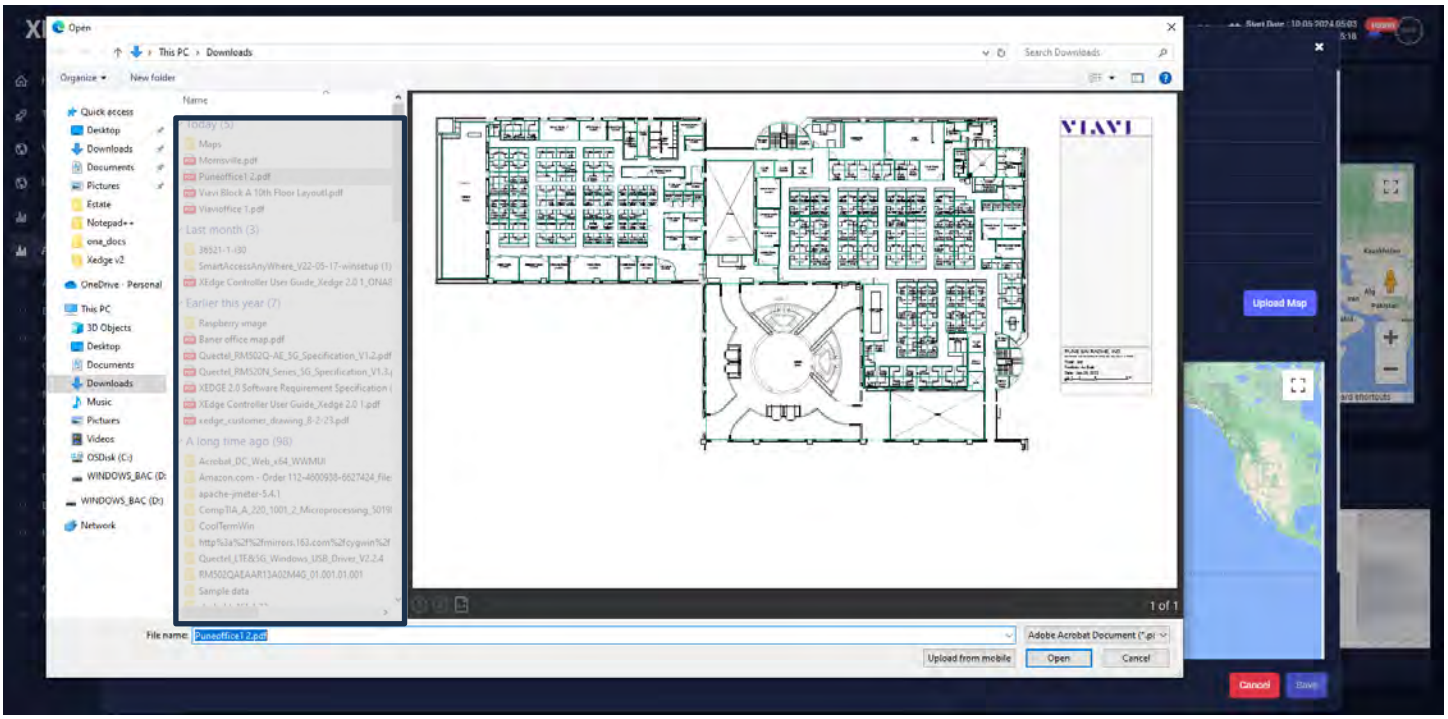




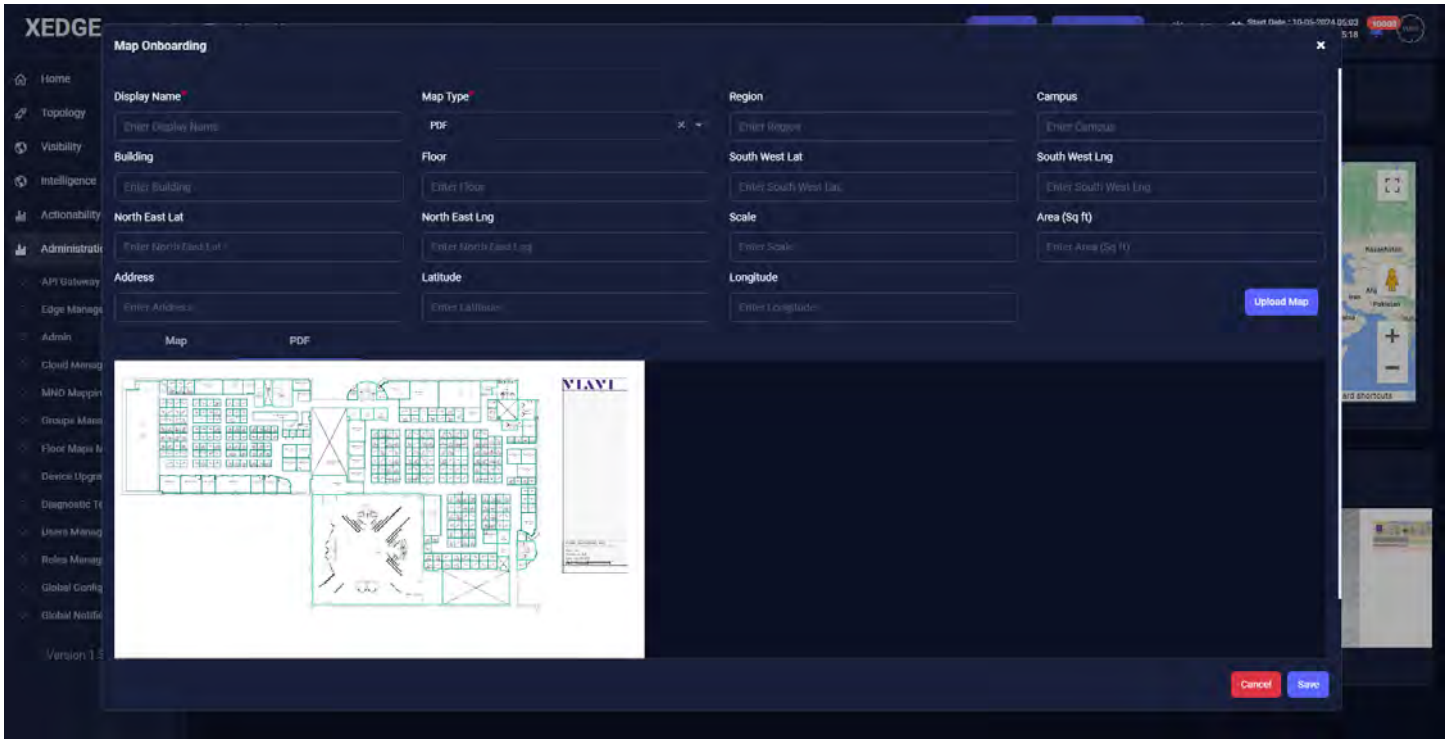
2. Click on **Upload Map**



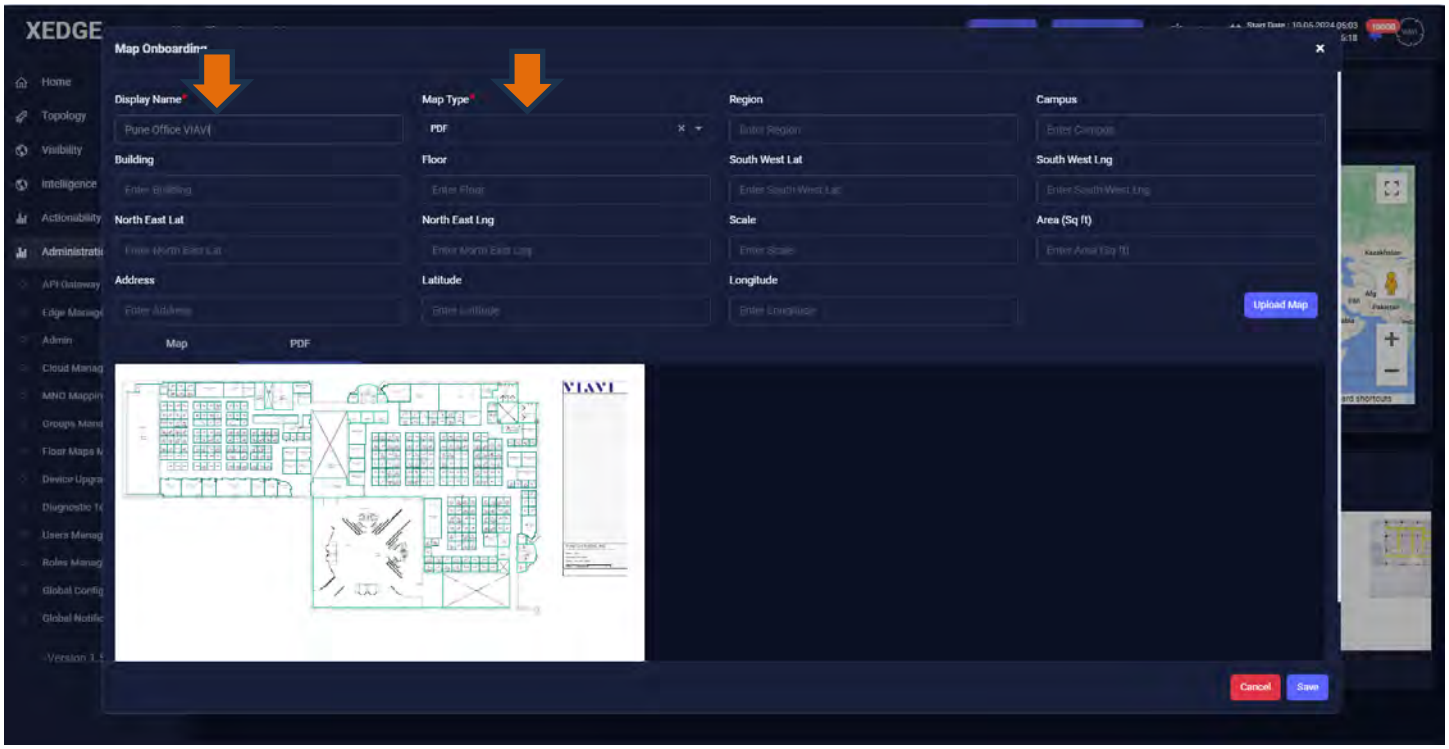
3. Select the map PDF that you want (for example, Pune office VIAVI) and click **Open**.



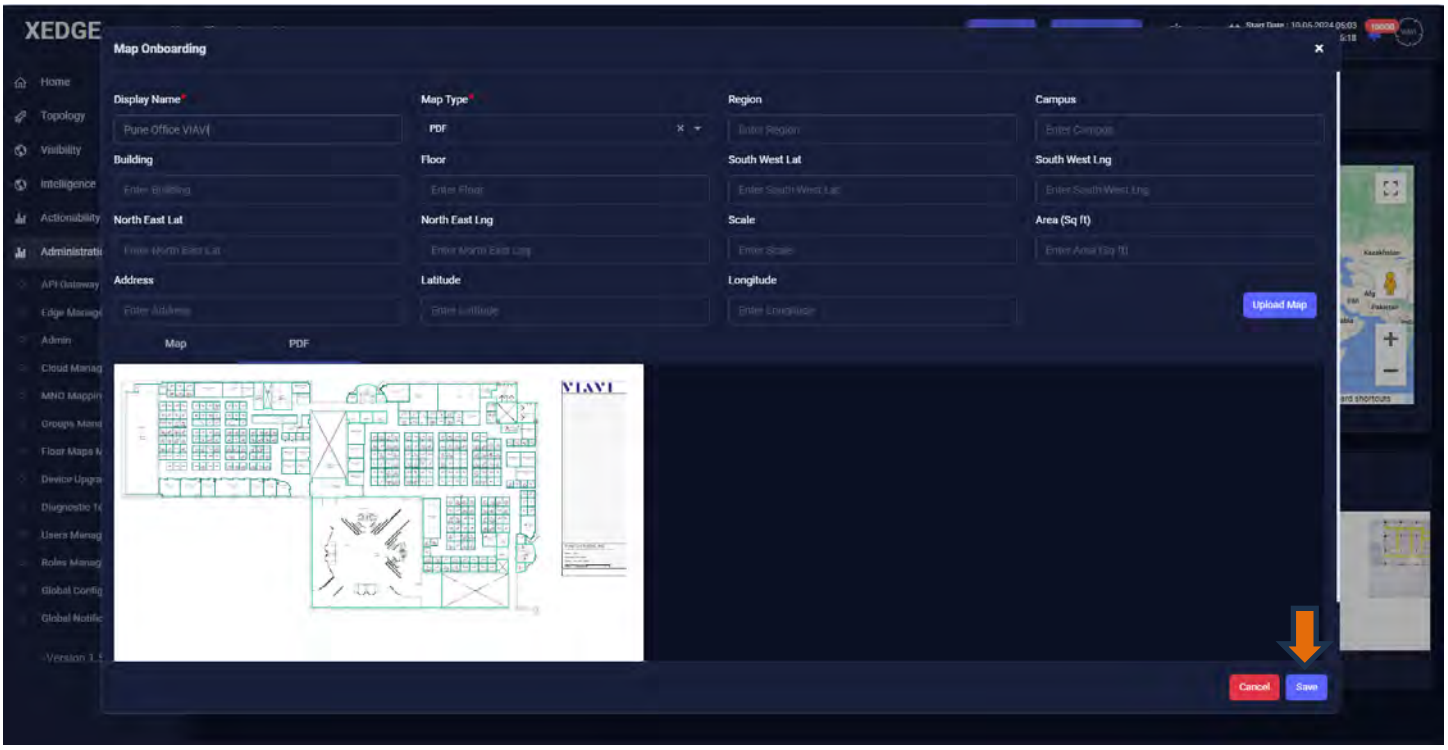
4. View results.



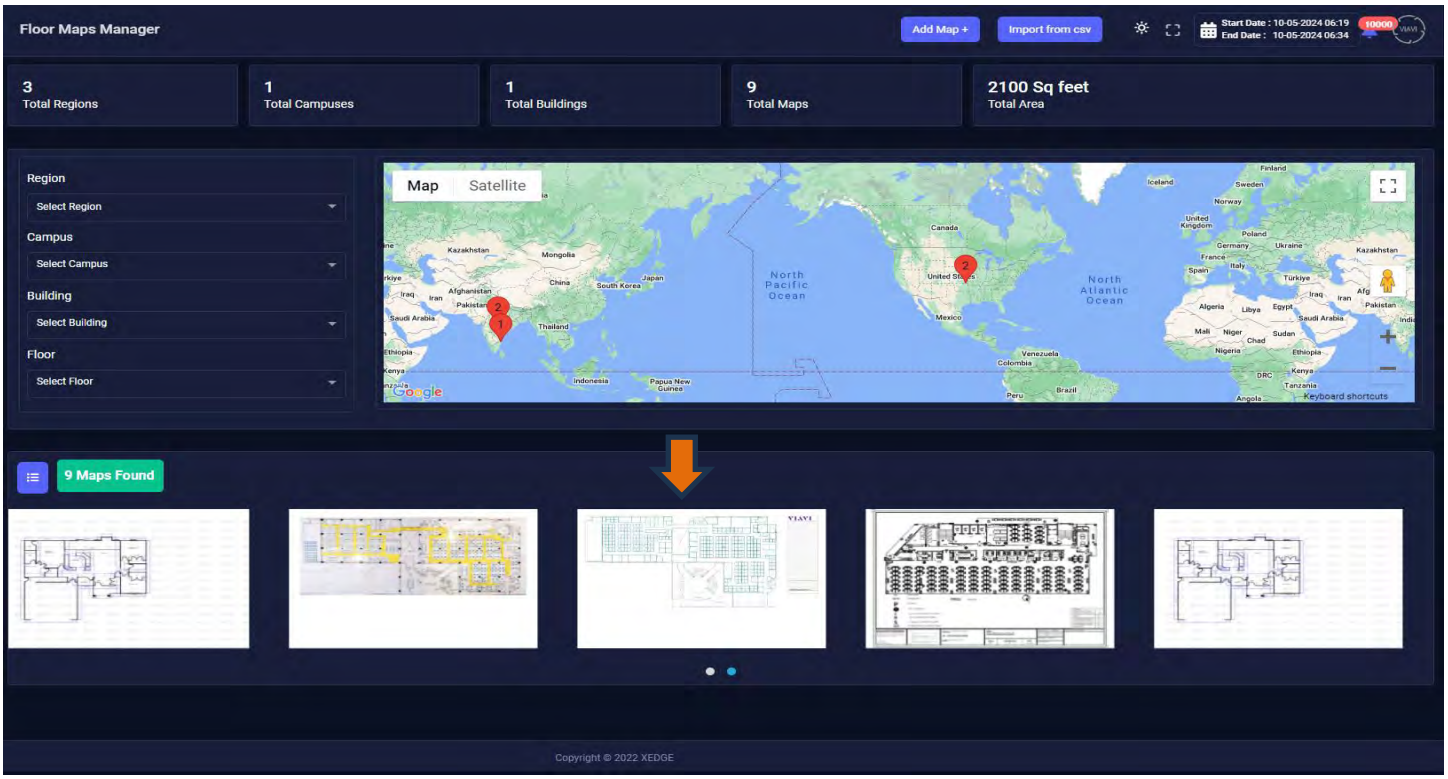
5. Fill out the required fields for the map you just uploaded.



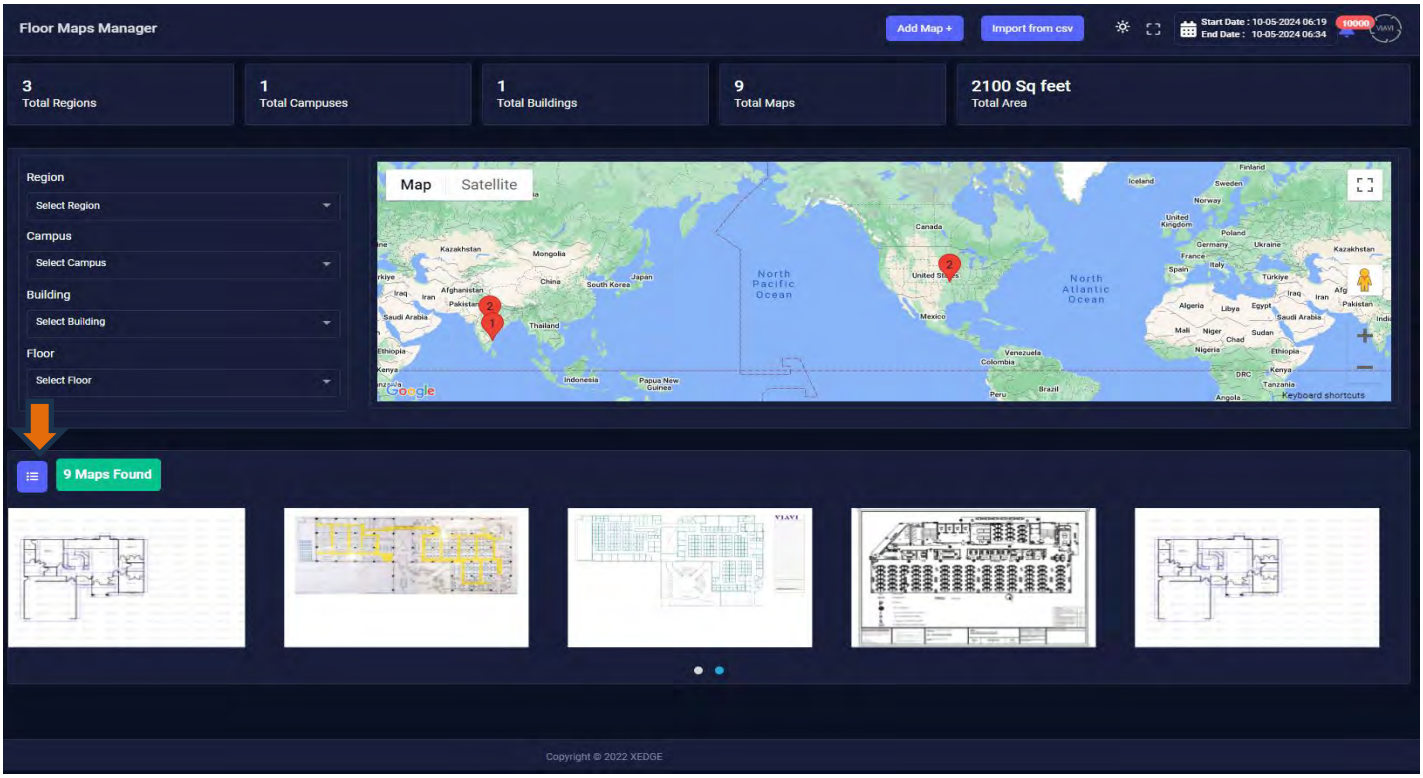
6. Click “Save”



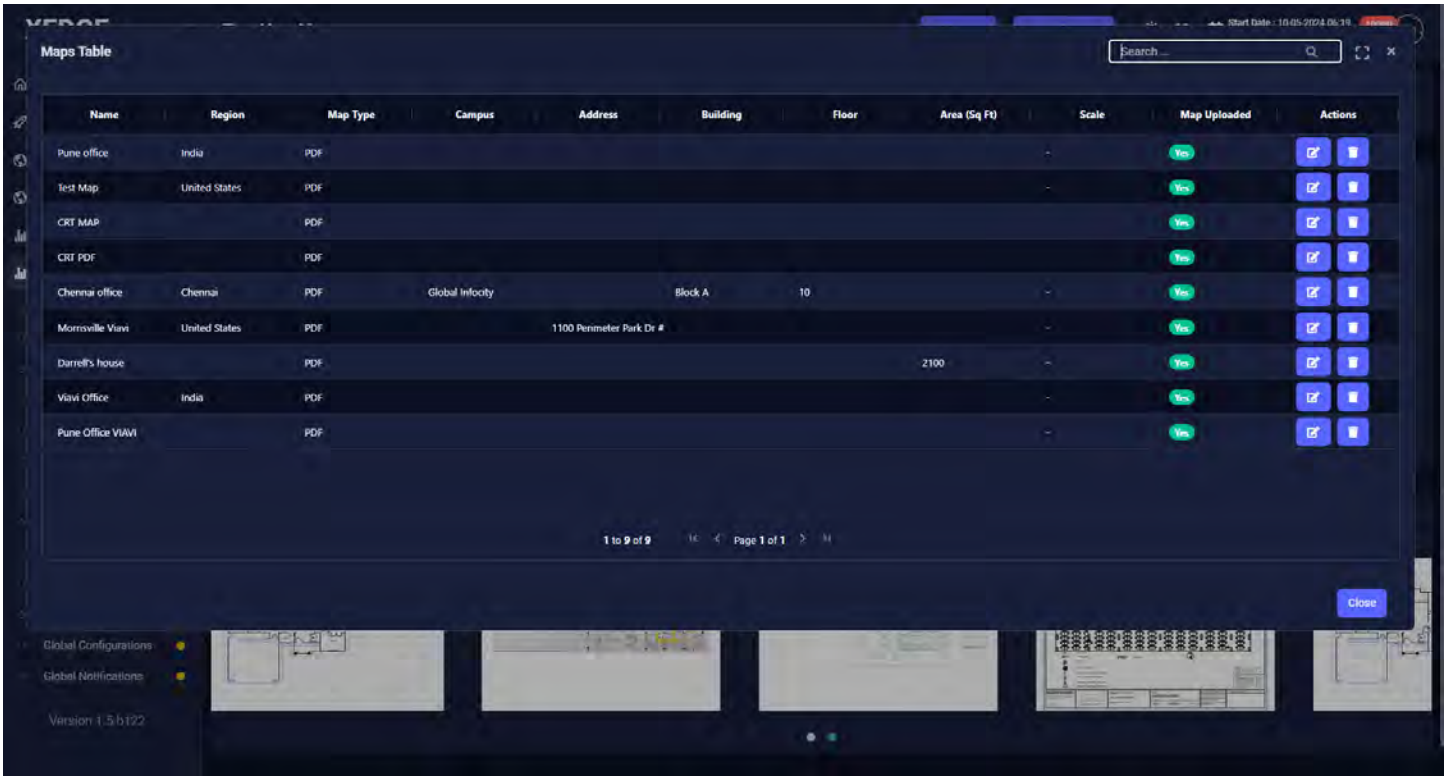
7. View results.



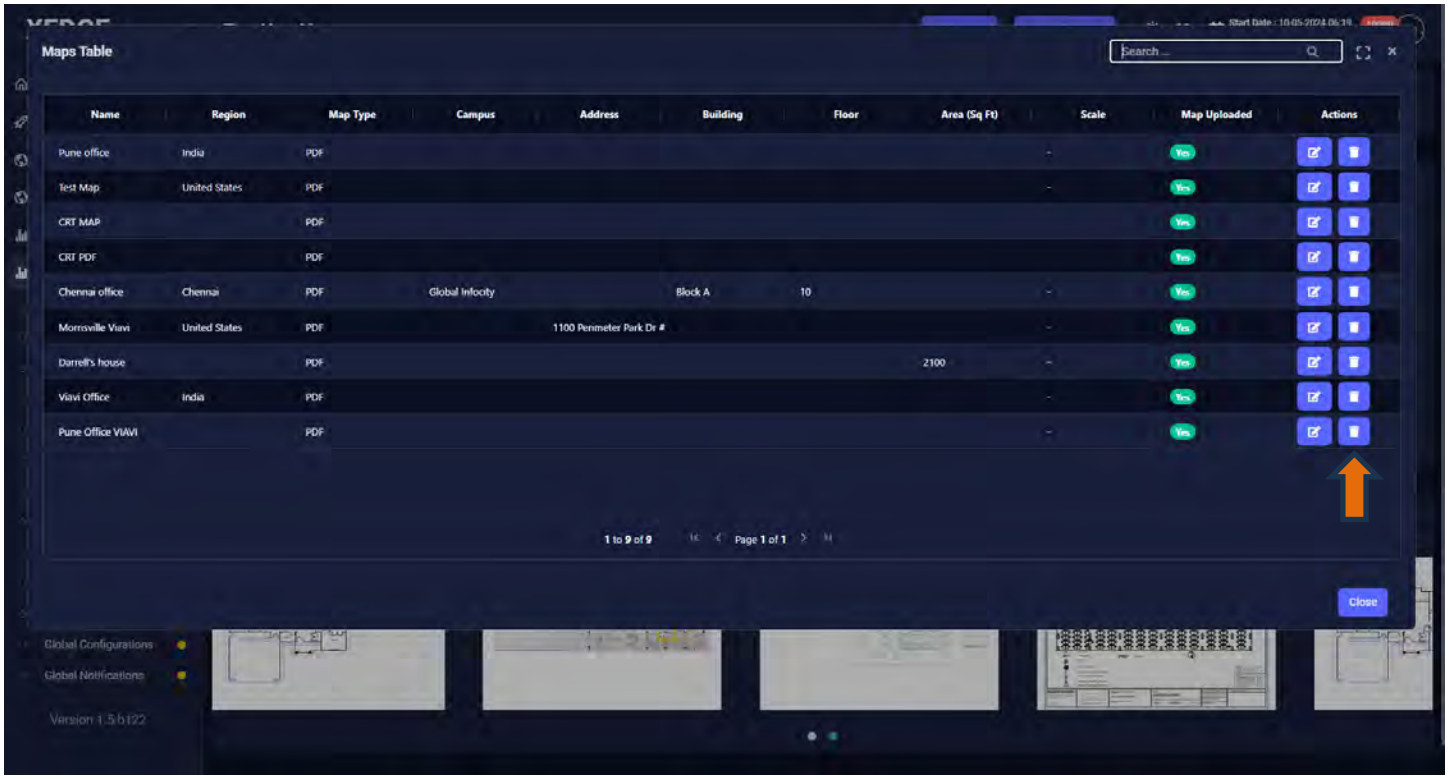
8. Click on the ‘Inline view’ button to see the detailed line-by-line maps.



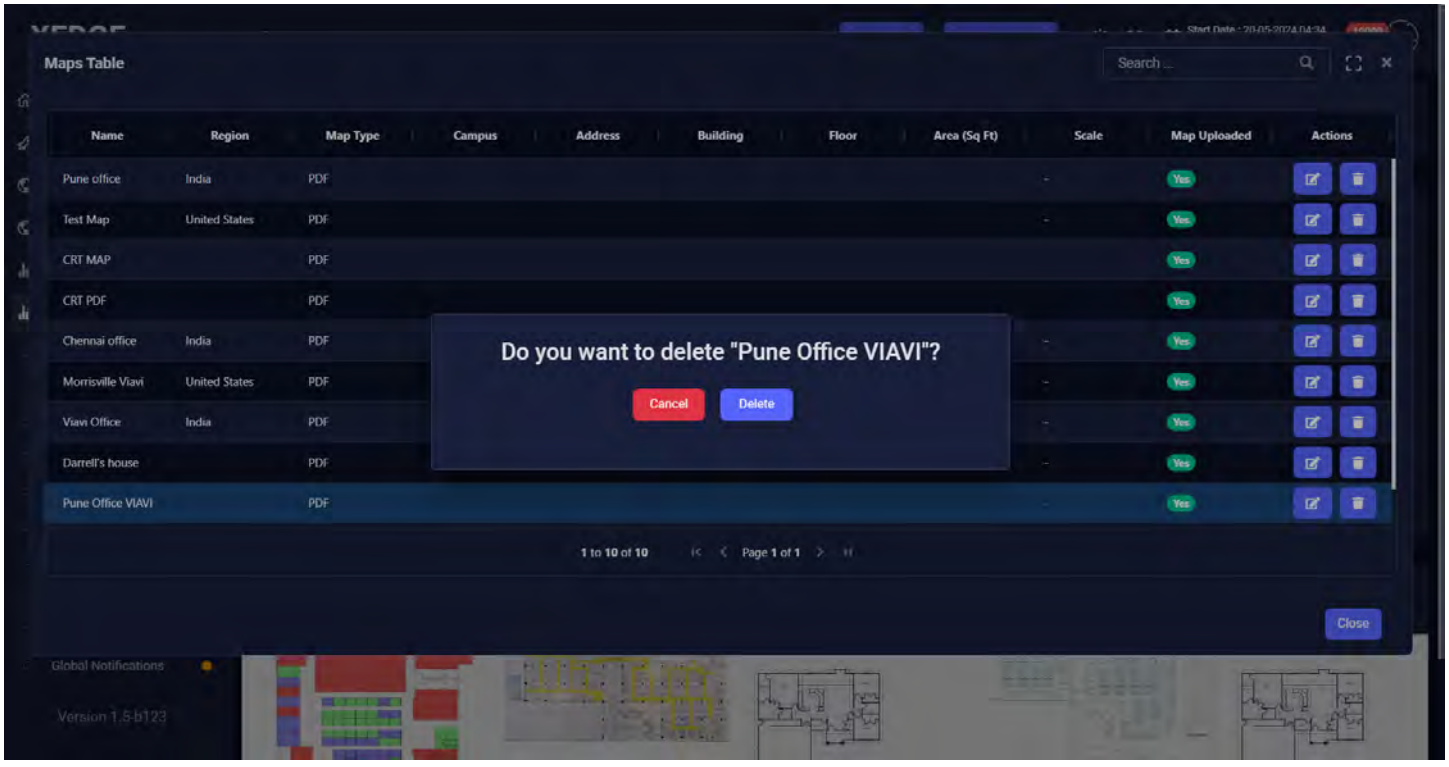
9. View Results.



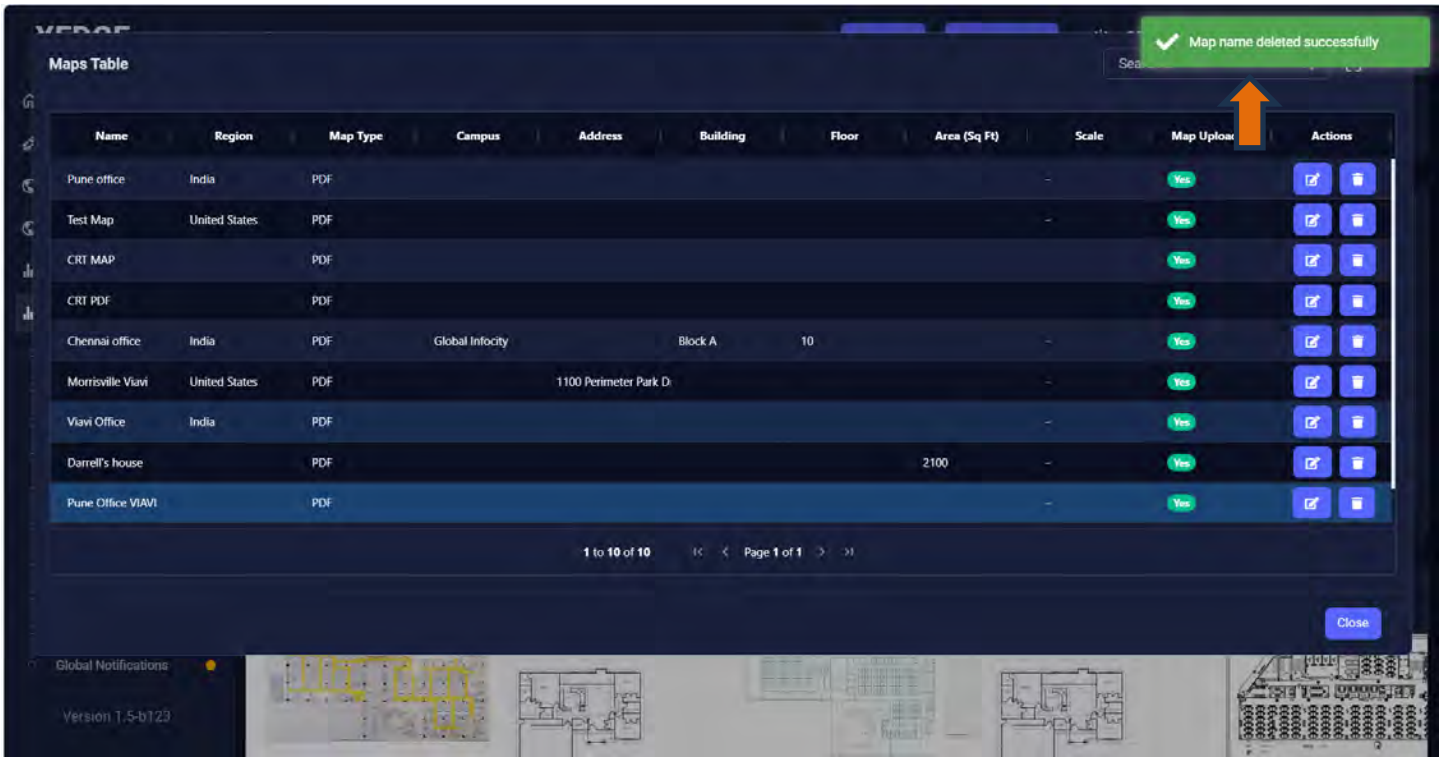
10. Click on the trash icon for the map you want delete.



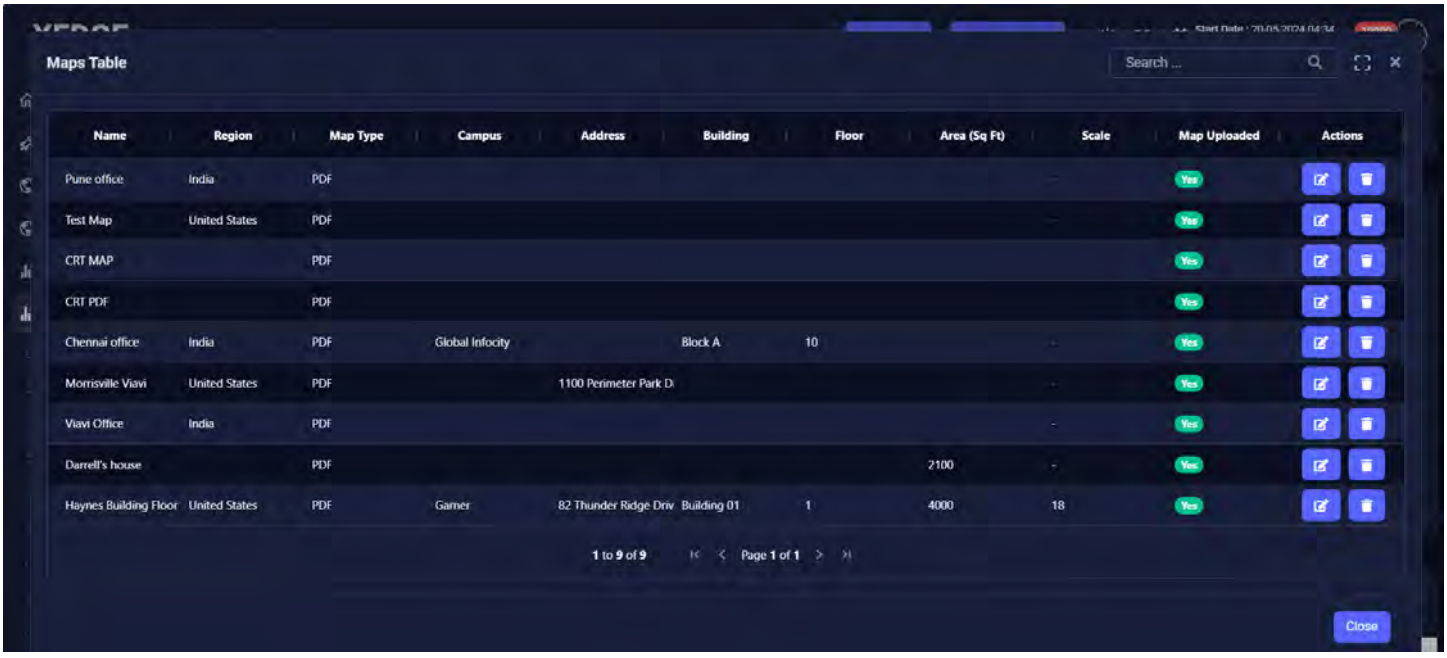
11. View results



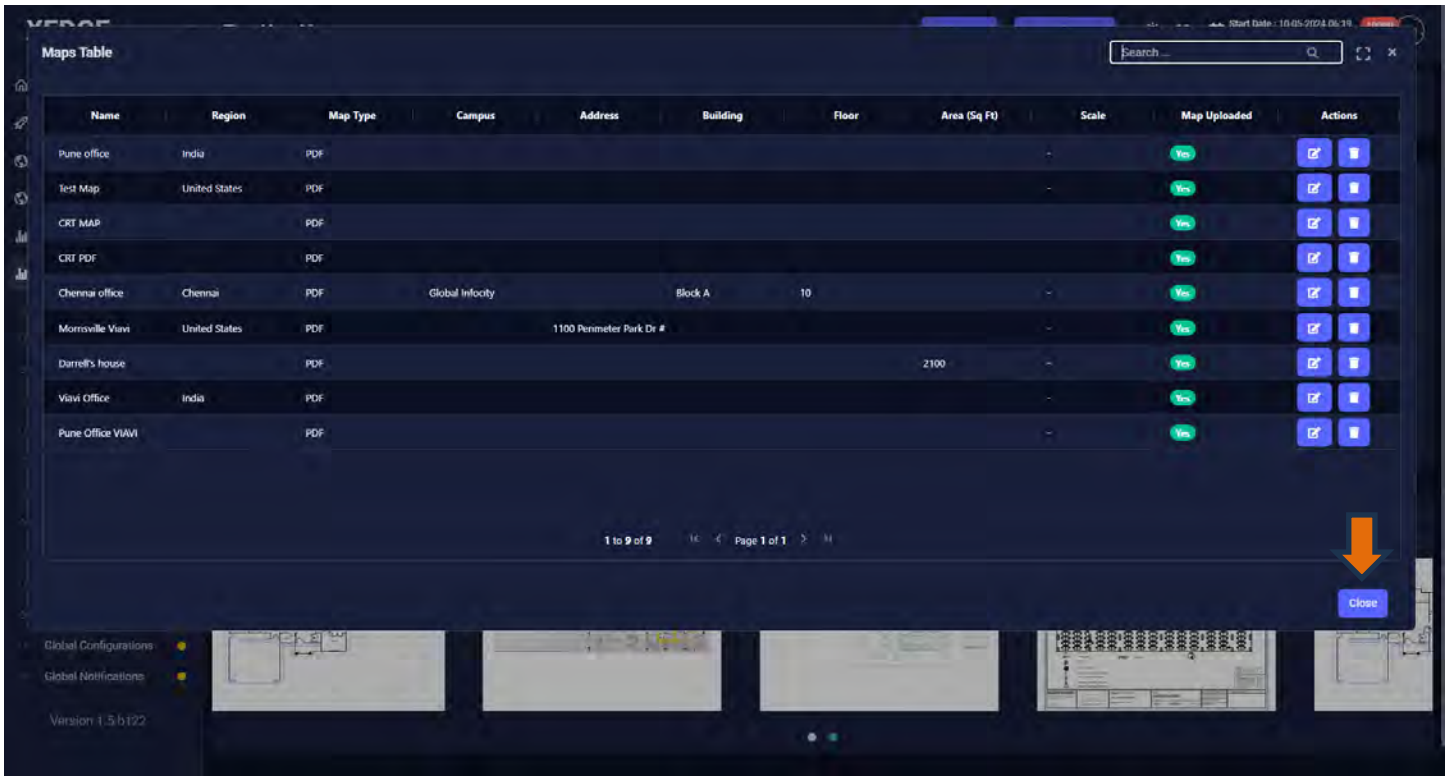
12. Click the “Delele” button. The following message appears:



13. View results. The map has been deleted.



14. Click **Close**.



15. Click 'Import from CSV' to import the region/campus/building information from the CSV.