

AirgainConnect® Fleet™ 5G Vehicle Gateway Quick Start Guide

Airgain, Inc Updated: September 2024



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1. Introduction

The AC-Fleet 5G Vehicle Gateway is an integrated 5G modem, Wi-Fi 6 router, Gigabit Ethernet, and high-performance antenna solution designed for mounting to the roof of any vehicle. Please ensure the device is only installed by a professional following Airgain's installation instructions.

Local configuration of AC-Fleet is done using the device GUI with a LAN or WLAN connection, while remote configuration and management is available from AC-Cloud. Please note that eSIM profiles must first be configured in AC-Cloud in order to be activated on a device.

2. Device Information

Important device information is provided on the following labels and in a a. separate csv file.

Product Label (attached to the Ethernet cable)

www.airgain.com AirgainConnect® Fleet™ Model Name: CY-AF5G-B-NAT Input: 12-24V == 2A IP67 & IP69K FCC ID: 2AVNXCYAF5G

IC: 25852-CYAF5G Contains FCC ID: RI7FN990A28 Contains IC: 5131A-FN990A28

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.

MADE IN TAIWAN

SN: 031YYMMDDD

IMEI: XXXXXXXXXXXXXXXX

EID: XXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXX

VZ ICCID: XXXXXXXXXXXXXXXXXXXXXX

LAN MAC: XXXXXXXXXX WiFi MAC: XXXXXXXXXX IP Address: 192.168.1.1 ID: admin/XXXXXXXXXX 2.4G SSID: acfleet XXXXXX 5G SSID: acfleet_XXXXXX_5G Password: XXXXXXXXXXXXXXXXX

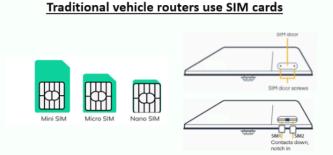
Device Package Label



- i. Device serial number (SN).
 - 1. Unique identification number for each device.
 - 2. Will also be included on purchase invoice for warranty and adding devices to AC-Cloud.
- ii. International Mobile Equipment Identify (IMEI)
 - 1. Unique identification number for the cellular module inside each device.
 - 2. Needed to activate service with your chosen carrier.
- iii. Embedded Identity Document (EID)
 - 1. Unique identification number for the eSIM chip inside each device.
 - 2. Needed to activate service with your chosen carrier.
- iv. Verizon (VZ) Integrated Circuit Card Identification (ICCID)
 - 1. Unique identification number for the preloaded Verizon eSIM profile.
 - 2. Needed to activate service with Verizon.
- v. IP Address
 - 1. Web address for accessing local device GUI after connecting to AC-Fleet.
- vi. ID
 - 1. Credentials for logging in to the local device GUI.
- vii. 2.4G SSID and Password.
 - 1. Credentials for connecting to the device 2.4 GHz Wi-Fi Access Point.
- viii. 5G SSID and Password.
 - 1. Credentials for connecting to the device 5 GHz Wi-Fi Access Point.

3. Mobile Network Operator (MNO) Activation

a. AC-Fleet uses eSIM technology with the following benefits vs traditional routers and SIM cards.





Problems in fleets:

- A physical SIM must be installed in EVERY vehicle.
- · Switching carriers requires EVERY vehicle to be touched.
- · SIM cards can fail due to vibration or heat.
- SIM card "doors" on externally mounted routers can leak.

Benefits for fleets:

- · Cellular eSIM download. No physical installation.
- Up to 4 MNO eSIM profiles installed simultaneously.
- · No vibration/heat failures.
- Completely sealed unit. No doors. Tested to IP67 & IP69K.

b. Verizon Activation

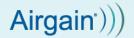
- iii. AC-Fleet includes a preloaded Verizon eSIM profile that is already downloaded and ready for activation.
- iv. Contact your account representative at Verizon to ask about available data plans.
- v. You will need to provide the IMEI and VZ ICCID for each device to be activated.
- vi. A default APN of **v5ga01internet** is typically used, but please confirm with Verizon.

c. T-Mobile Activation

- i. Contact your account representative at T-Mobile to ask about available data plans.
- ii. You will need to provide the IMEI and EID for each device to be activated.
- iii. Please confirm with T-Mobile which APN to connect with:
 - If the data plan connects with APN fast.t-mobile.com then the universal Activation Code for downloading T-Mobile eSIM profiles is LPA:1\$T-MOBILE.GDSB.NET\$
 - 2. If the data plan connects with APN **iot.t-mobile.com** then the universal Activation Code for downloading T-Mobile eSIM profiles is **LPA:1\$T-MOBILE.IDEMIA.IO\$**

d. AT&T and FirstNet Activation

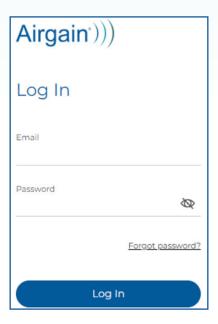
 Contact your account representative at AT&T/FirstNet to ask about available data plans.



- ii. You will need to provide the IMEI and EID for each device to be activated.
- iii. A physical card with QR code will be shipped to you for each eSIM profile.
 - 1. The QR code contains a unique Activation Code assigned to a specific ICCID.
 - 2. Please request that this ICCID match the ICCID assigned to each IMEI/EID pair.
 - a. WARNING: If the ICCIDs do not match, then the eSIM profile will not work.
 - b. We recommend asking that they provide the last 4 digits of the corresponding IMEI with each physical card to avoid ICCID mismatching.
 - 3. The Activation Code cannot be extracted using a smart phone camera, must use a web QR reader tool such as https://webgr.com/.
- iv. A default APN of **broadband** is typically used for AT&T and **firstnet-broadband** for FirstNet, but please confirm.

4. Configuration on AC-Cloud

a. Logging In



- ii. Navigate to https://ac-cloud.airgain.com/ in an internet browser.
- iii. Enter the email and password from your AC-Cloud activation email and click Log In.
 - If your organization does not already have an AC-Cloud account, please contact support@airgain.com to request one be created and provide the following:
 - a. Organization name
 - b. Organization address



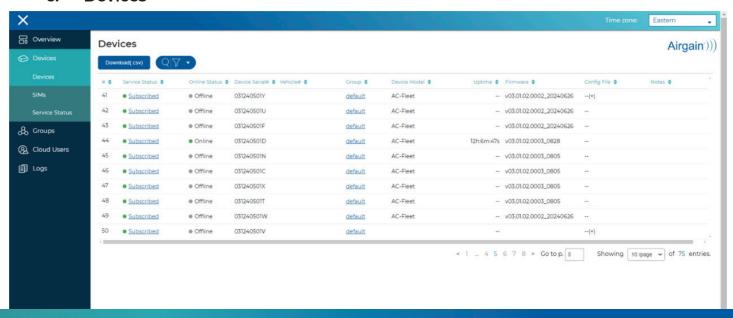
- c. Admin name
- d. Admin email address
- e. Admin phone number
- 2. If your organization already has an AC-Cloud account, please request that your admin grant you access.
- iii. Password can be changed by clicking on Forgot password?

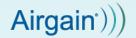
b. Overview



i. Dashboard with summary of and access to the various AC-Cloud features.

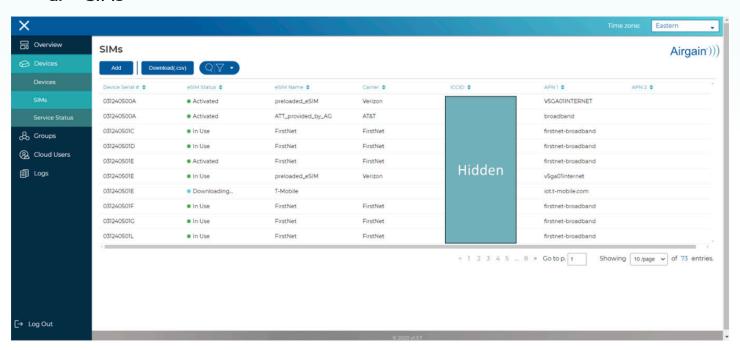
c. Devices





- Ensure all AC-Fleet devices are registered to the organization's AC-Cloud account.
 - 1. If you need to have new devices added to your account, please contact support@airgain.com with organization name and a copy of the invoice.
 - 2. Service Status
 - a. **Subscribed** indicates the device has an active AC-Cloud subscription
 - b. **Unsubscribed** indicates the AC-Cloud subscription has expired for this device and cannot be managed remotely, please contact support@airgain.com to renew.
 - 3. Online Status
 - a. **Online** indicates the device is connected to AC-Cloud.
 - b. **Offline** indicates the device is not connected to AC-Cloud.
 - 4. **Uptime** shows how long the device has been Online.

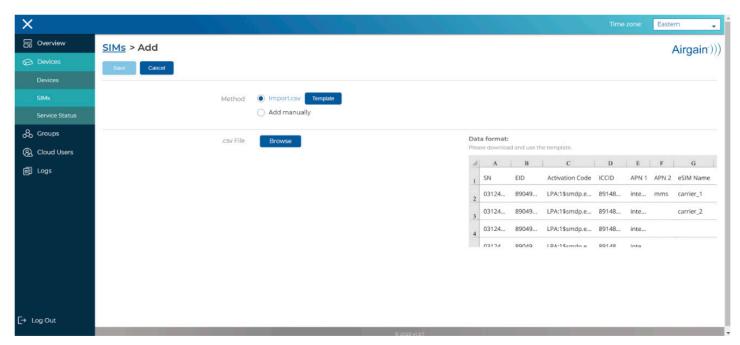
d. SIMs



- i. Browse eSIM profiles that have been activated for each device.
 - eSIM Status
 - a. In Use indicates the device is currently connected with this profile.
 - AC-Cloud will retain the last value reported by the device, so some profiles will show as In Use even when the device is offline.
 - b. **Activated** indicates this profile is available for cellular connection.



- c. **Assigning** indicates this profile has been submitted and is pending device reboot for download/activation.
- d. **Downloading** indicates the download/activation process has started for this profile.
 - i. The entire process of downloading and activating might take around 3 minutes.
- e. **Retry Downloading** indicates the previous download attempt failed and requires device reboot to try again.
- f. **Fail To Download** indicates this profile has reached its limit of 3 failed download attempts and would need to be resubmitted for download/activation.
- g. **Activating** is specific to the preloaded Verizon profile since downloading is not relevant and indicates the activation process has started.
- h. **Fail To Activate** indicates the preloaded Verizon profile activation failed and would need to be resubmitted.
- i. **Updating** indicates configuration changes have been made to this profile which require device reboot for implementation.
- j. **Deleting** indicates this profile will be deleted from AC-Fleet upon next reboot.
- ii. Click on Add to configure a new device eSIM.
- iii. Click on a device SN for eSIM configuration options.
 - 1. Additional eSIM profiles can be added manually.

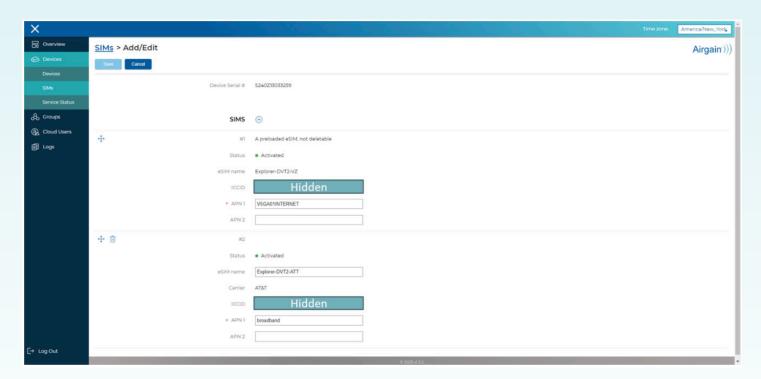


- iv. If clicking on Add, there is an option for bulk upload using csv template.
 - 1. Click on **Template** to download the Import.csv template and then

Browse to upload.

- 2. Bulk upload is only for adding new eSIM profiles, not for editing existing profiles.
- 3. Activating preloaded Verizon profile requires entering serial number (SN), EID, "preload" for Activation Code, ICCID and APN 1.
 - a. For bulk uploads it is recommended to copy the SN, EID and Verizon (VZ) ICCID info from the device csv file that will be provided with your purchase.
 - b. Ensure the VZ ICCID has an active data plan with Verizon beforehand.
 - c. A default APN of **v5ga01internet** is typically used, but please confirm with Verizon.
- 4. Downloading and activating all other profiles requires entering SN, EID, Activation Code and APN 1.
 - a. For bulk uploads it is recommended to copy the SN and EID info from the device csv file that will be provided with your purchase.
 - b. Please ensure an eSIM profile with active data plan has been assigned to the EID and confirm with T-Mobile which APN to connect with:
 - i. If connecting with APN fast.t-mobile.com the Activation Code for downloading eSIM profiles is LPA:1\$T-MOBILE.GDSB.NET\$
 - ii. If connecting with APN iot.t-mobile.com the Activation Code for downloading eSIM profiles is LPA:1\$T-MOBILE.IDEMIA.IO\$
 - c. AT&T and FirstNet will send a physical QR card for extracting the Activation Code.
 - i. Cannot extract using smart phone camera, must use web QR reader tool such as https://webqr.com/.
 - ii. A default APN of **broadband** is typically used for AT&T and **firstnet-broadband** for FirstNet, but please confirm.
 - d. ICCID is optional as it will be pulled from the activated profile.
- 5. APN 2 would only be entered for split/dual APN scenarios which are not yet supported.
- 6. eSIM Name is to help with identification of the profile if desired.
- v. Manually adding new eSIMs will require first entering SN and EID, followed by the remaining required information which is the same as above for bulk upload.
 - 1. The SN, EID and VZ ICCID are also located on product label and device package label.

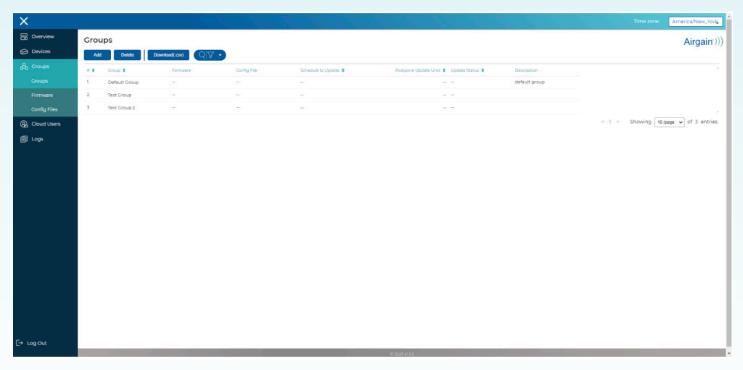




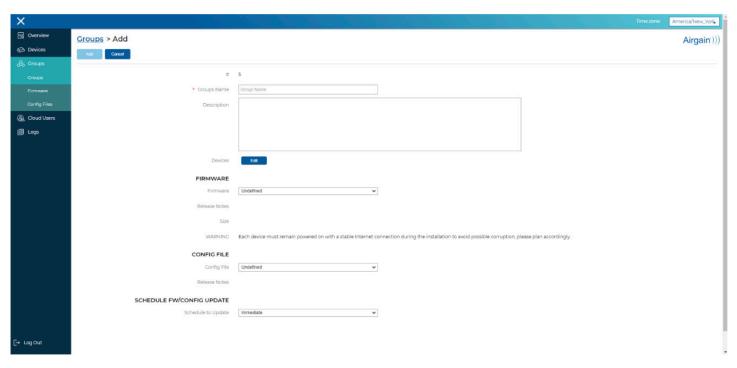
- vi. Click on the + button to manually add additional eSIM profiles with required information.
 - 1. Only 4 eSIM profiles are allowed at a time, including the preloaded Verizon profile.
- vii. If a profile fails download/activation it can then be updated and resubmitted.
- viii. Delete eSIM profiles if no longer needed to make space for other eSIM profiles.
 - 1. Preloaded Verizon profile cannot be deleted.
 - 2. Also not available during Assigning, Downloading or Retry Downloading.
- ix. Activated eSIM profiles allow for configuring APN(s) and desired eSIM name.
- x. Prioritize eSIM profile connectivity by dragging to desired position.
- xi. Remember to click Save and then reboot the device for any changes to take full effect.
 - 1. AC-Fleet will require rebooting twice for eSIM profile priority changes.



e. Bulk Update Device Firmware with Groups



- i. Once each device has an Activated eSIM profile, it is recommended to confirm the firmware is up to date by performing a bulk Group update.
- ii. All devices will initially belong to the Default Group.
 - 1. Click **Add** to create a new Group.





- iii. Modify Group Name and Description.
- iv. Click **Edit** to transfer devices from the Default Group.
- v. Select the last available firmware from drop down and schedule for update.
- vi. After clicking **Save** all devices in the Group will be updated as scheduled.
 - 1. A similar process can also be used to bulk configure devices with Config Files.

5. Confirm Device Settings in Local GUI

a. Logging In

- i. Refer to the product label attached to the ethernet cable or device package label for relevant information.
 - 1. IP address for accessing local GUI is 192.168.1.1
 - 2. Username is admin.
 - 3. Default admin password is listed after admin/ (fmbct7tkf7 in example device package label).
 - 4. SSID and corresponding password for 2.4G and 5G Wi-Fi are on consecutive lines.
- ii. Establish a LAN or WLAN connection after booting up the device.
 - 1. LAN connection is available through ethernet cable exiting the device.
 - 2. WLAN connection is available over 2.4G or 5G Wi-Fi.

- iii. Enter the IP address into an internet browser to access the local GUI and log in.
 - 1. Username is set to admin by default.
 - 2. Enter the default admin password and press Login.
 - 3. Admin Password Reset is for resetting to default admin password.

b. Syncing with AC-Cloud

a. AC-Fleet will automatically sync with AC-Cloud after booting up as long as the device is added to the customer organization account and has an active subscription.



- i. If booting up for the first time, AC-Fleet will need to download/activate an eSIM profile using the preloaded bootstrap profile or by connecting to Wi-Fi through Depot Mode.
 - Depot Mode can only be enabled if the bootstrap profile fails to establish a connection as indicated by below pop-up notification.

eSIM Flow State

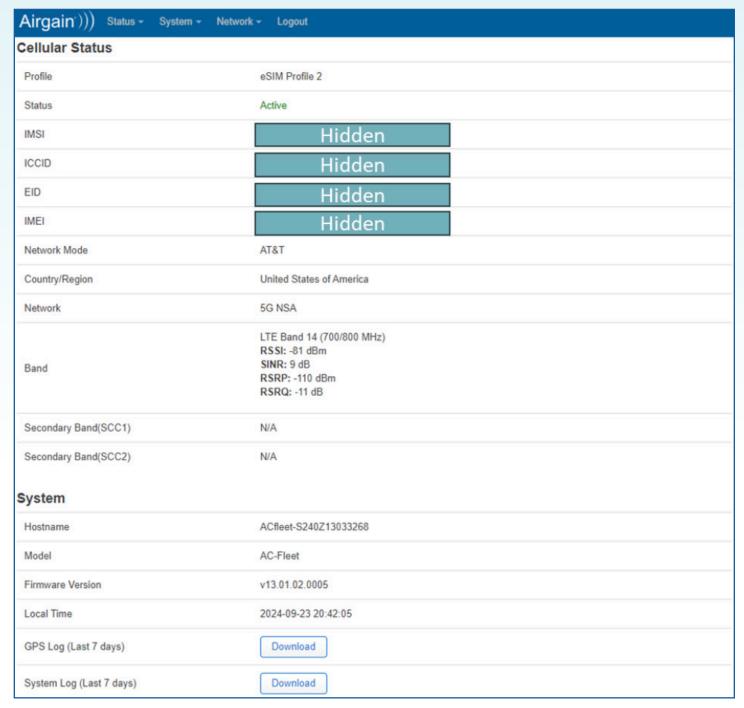
Initialization State: Currently, the bootstrap profile cannot establish Cellular WAN, please enable Depot Mode at Network/Wireless/Depot Mode Setting page with correct Access Point Name and Password to start profile downloading.

Confirm

- 2. Please allow up to 10 minutes for this initial syncing process to complete.
- 3. The bootstrap profile will go dormant once an eSIM profile is connected.
- 4. Downloaded/activated eSIM profiles will be visible in Network > Cellular Settings.
- b. If updates are made to a device's eSIM configuration in AC-Cloud, a reboot will be required for them to take effect.
 - i. The device will continue cycling through all available eSIM profiles in order of priority until cellular connectivity is confirmed.

c. Status

a. Overview



b. Cellular Status

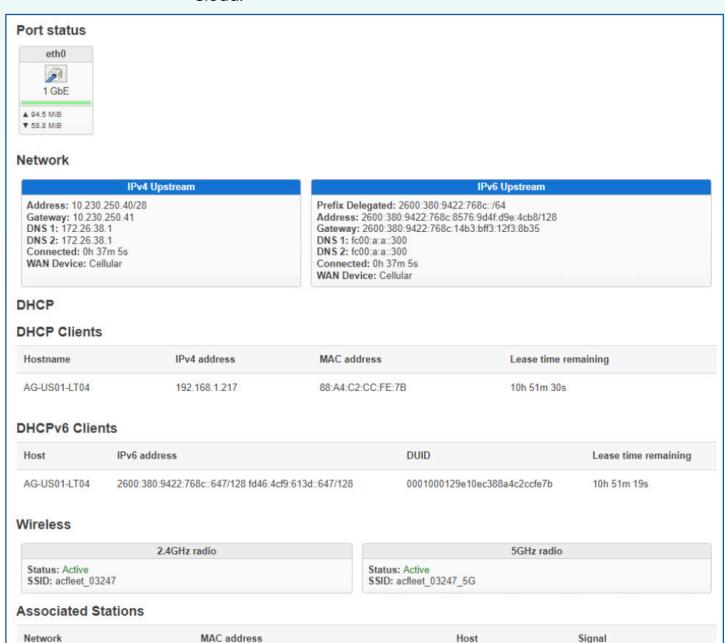
- Profile will indicate the current eSIM profile, with more details in Cellular Settings.
- ii. Status will indicate current eSIM profile connectivity with corresponding details underneath.
 - 1. **Active** indicates the specified eSIM profile is in use.



- 2. **Loading** indicates the device is in the process of switching to a new eSIM profile.
- 3. **Inactive** indicates the device failed to establish a cellular connection.

c. System

- Relevant device information and options for downloading GPS and System Logs.
 - 1. Confirm the Firmware Version matches last available from AC-Cloud.



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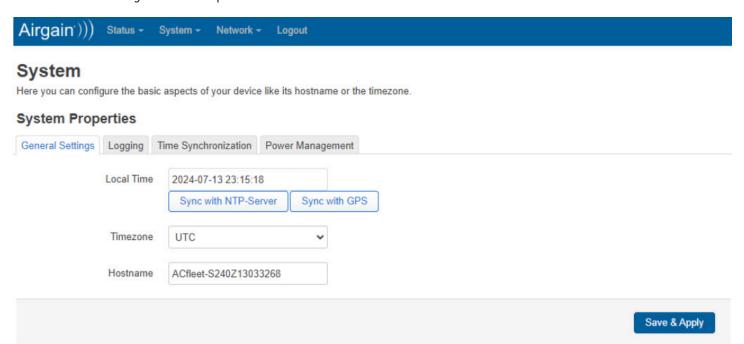
- d. Port status
 - i. Relevant LAN information, hover mouse over bottom of box for additional data.
- e. Network
 - i. Internet Protocol (IP) address info for IPv4 and IPv6.
 - ii. WAN Device will indicate if connected over Cellular or WLAN if in Depot Mode.
- f. Dynamic Host Configuration Protocol (DHCP)
 - i. Relevant information for device clients.
- g. Wireless
 - i. Active status indicates AC-Fleet is broadcasting as an Access Point.



- ii. Inactive status indicates AC-Fleet is behaving as a client in Depot Mode.
- h. Associated Stations
 - i. Relevant information for active clients.

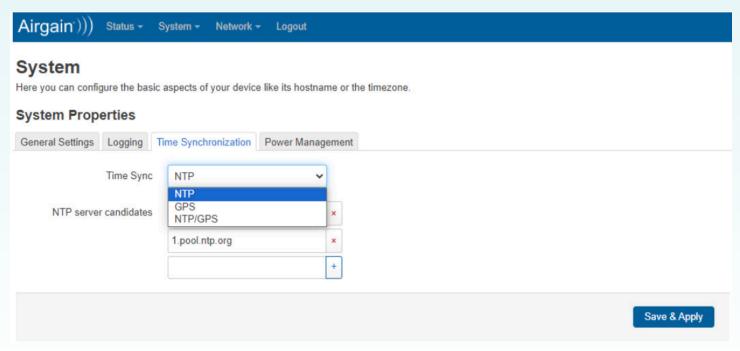
d. System

a. System Properties

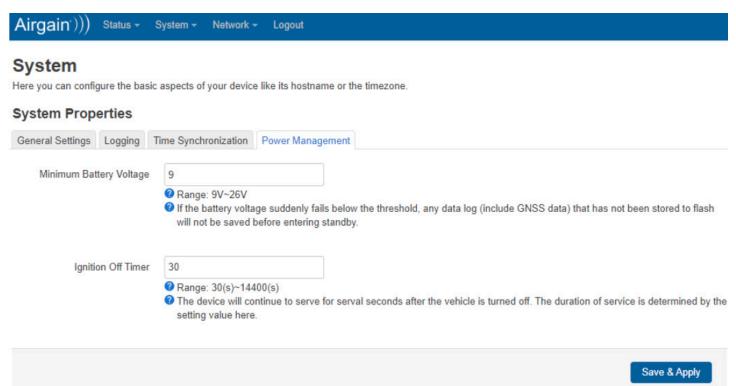




- i. General Settings
 - 1. Select Timezone to configure Local Time.
 - a. Click Sync with NTP-Server or Sync with GPS to manually sync UTC time.
 - 2. Option for configuring Hostname.

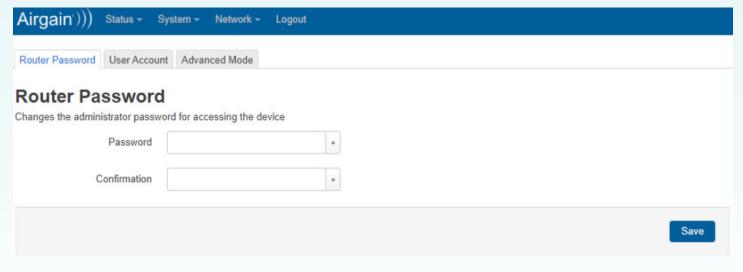


- ii. Time Synchronization
 - 1. Configure automatic UTC time synchronization to NTP or GPS.





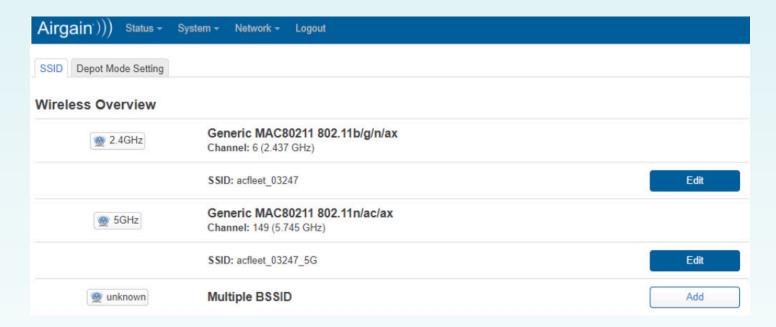
- iii. Power Management
 - 1. Define Minimum Battery Voltage before AC-Fleet enters standby mode to avoid draining low vehicle battery.
 - 2. Configure Ignition Off Timer for how long after vehicle is turned off before AC-Fleet enters standby mode.
- b. Administration



- i. Router Password
 - 2. Customize the admin password for accessing local GUI.

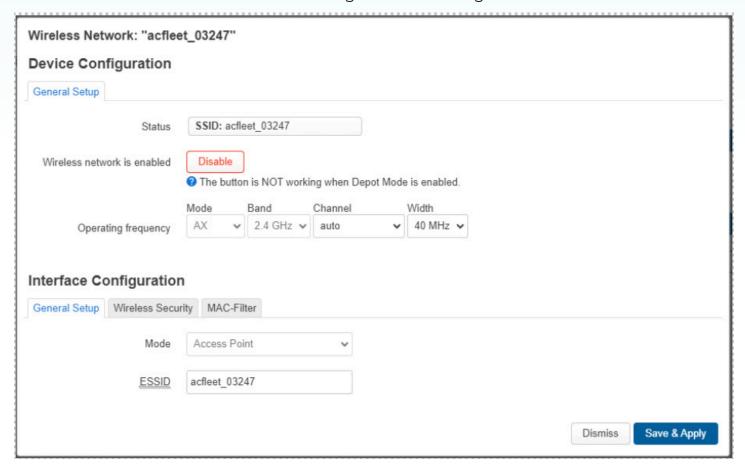


- c. Reboot
 - i. Reboot the device in order to sync with AC-Cloud.
- e. Network
 - a. Wireless



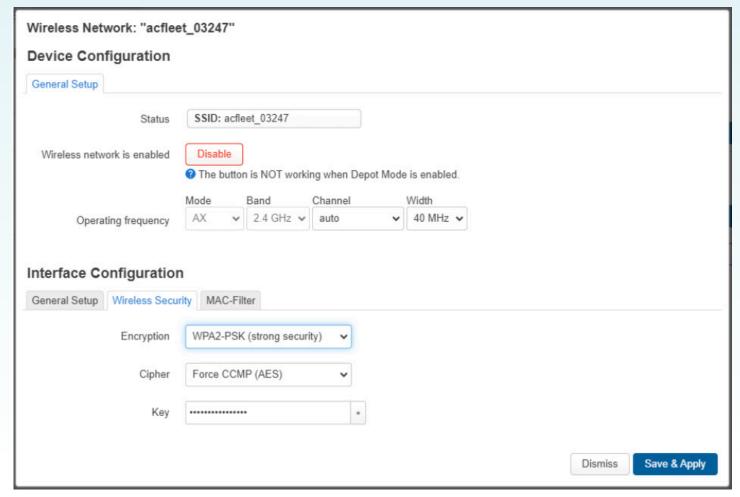
i. SSID

1. Click **Edit** to configure SSID settings.

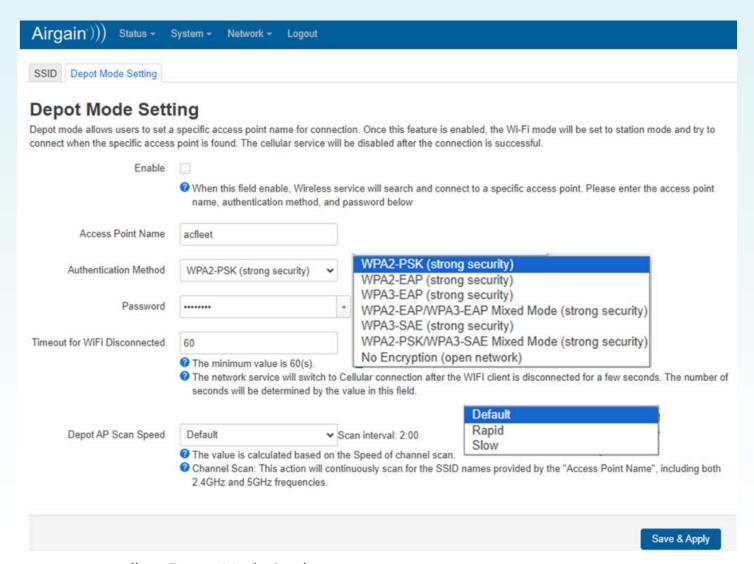




- 2. General Setup
 - a. Customize SSID in the **ESSID** field.

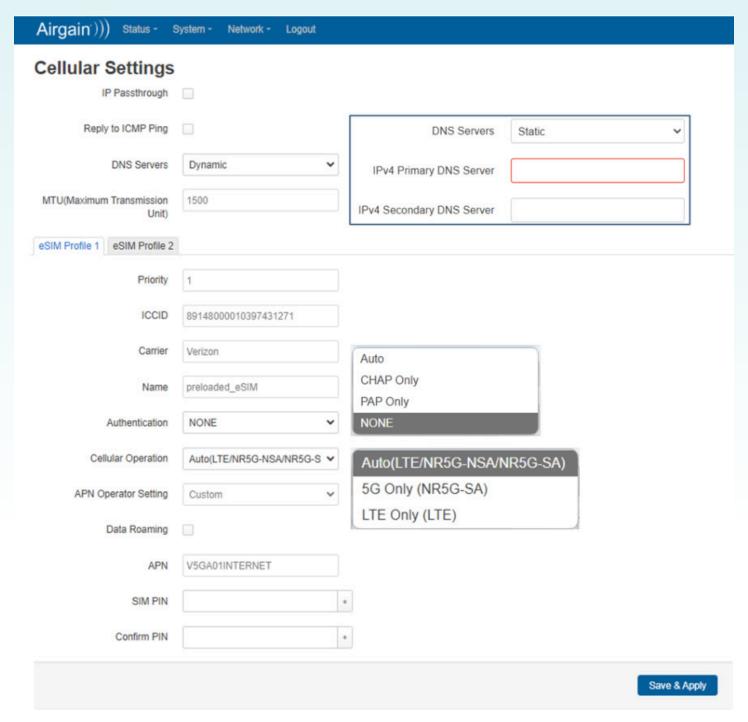


- 3. Wireless Security
 - a. Customize SSID password in the **Key** field.



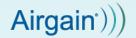
ii. Depot Mode Setting

- Enable Depot Mode for AC-Fleet to automatically connect to a desired Wi-Fi Access Point (AP) once in range and disconnect once out of range.
 - a. AC-Fleet will temporarily lose WAN connectivity as it switches between cellular and Depot Mode.
 - b. SSID from AC-Fleet will be disabled while in Depot Mode, except during initial syncing process.
 - i. Wi-Fi clients will need to switch to the Depot Mode AP.
 - c. Note that AC-Fleet cannot connect to a hidden AP.
- 2. Configure the amount of time after losing connection to Depot Mode AP before switching to cellular network.
- 3. Select how frequent AC-Fleet will scan for the Depot Mode AP.
 - a. Default interval is every 2 minutes.
 - b. Rapid interval is every 1 minute.
 - c. Slow interval is every 3 minutes.



b. Cellular Settings

- Certain settings are universal and will be applied for all cellular connectivity.
 - 1. **IP Passthrough** can be enabled for assigning to the first IP-requesting host.
 - 2. **Reply to Internet Control Message Protocol (ICMP) Ping** can be enabled for reporting errors and performing network diagnostics.
 - 3. **Domain Name System (DNS) Servers** is set to Dynamic by default to keep the domain name associated with an ever-changing IP

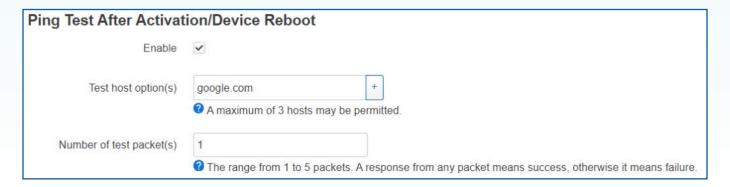


address.

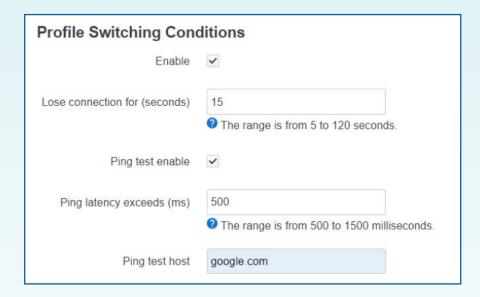
- a. Change to Static if using a static IP address and enter DNS server(s).
- 4. **Maximum Transmission Unit (MTU)** size of WAN interface is fixed at 1500 bytes.
- ii. Each downloaded/activated eSIM profile will have its own tab and settings.
 - 1. **Priority, Name** and **APN** can only be updated from syncing with AC-Cloud.
 - 2. **CCID, Carrier** and **APN Operator Setting** are fixed.
 - 3. **Authentication** can be enabled for extra security.
 - 4. **Cellular Operation** is set to Auto by default with options for 5G only and LTE only.
 - 5. **Data Roaming** can be enabled for roaming to other network operators.
 - 6. **SIM PIN** can be entered if needed.
- iii. After rebooting the device, changes cannot be made to cellular settings until after the syncing process with AC-Cloud is completed.
 - 1. If changes are needed in order to establish a cellular connection then try enabling Depot Mode to complete the syncing process.

Airgain*))) Status - S	System - Network - Logout
eSIM Setup Flow	
AC Cloud Subscription	1
Status	Subscribed
	The following settings are only accessible within a subscription.
Ping Test After Activat	ion/Device Reboot
Enable	
Profile Switching Cond	ditions
Enable	
Revert to Initialization	State
downloading	
	Save & Apply

- c. eSIM Setup Flow
 - i. AC-Cloud Subscription will indicate status of subscription.
 - ii. Enable Ping Test for additional confirmation the eSIM profile is connected to the cellular network.
 - 1. Device will always check for an IP address by default which is displayed under Network on the Overview page.
 - iii. Enable Profile Switching Conditions for configuring how long after the current eSIM profile loses connectivity before automatically switching to the next priority.
 - iv. The Revert button activates the bootstrap profile for syncing with AC-Cloud if a connection cannot be established with existing eSIM profiles or Depot Mode.
 - 1. The bootstrap profile is limited to 500MB of data so should only be used if necessary, please contact support@airgain.com for adding more data.



- v. Enabling Ping Test After Activation/Device Reboot requires that an eSIM profile satisfy the ping test settings to confirm cellular connectivity after booting up.
 - 1. Test host options(s)
 - a. Will accept IPv4, IPv6 or a hostname such as google.com.
 - 2. Number of test packet(s)
 - b. Define number of ping test requests that must respond within 2 seconds.



- vi. Enabling Profile Switching Conditions will allow for the device to automatically switch to the next priority eSIM profile if cellular connectivity is lost.
 - 1. Lose connection for (seconds)
 - a. Device will check for a loss of IP every 5 seconds and trigger a switch if the configured time limit is reached.
 - 2. Ping test enable requires that an eSIM profile satisfy the ping test settings to confirm cellular connectivity.
 - Ping test host will accept IPv4, IPv6 or a hostname such as google.com.

6. Customer Support

For any questions, please contact Airgain Support: support@airgain.com