FREQUENTLY ASKED QUESTIONS FOR AIRGAINCONNECT FLEET OR AC-FLEET

GENERAL SUPPORT

Where can I find AC-Fleet documentation like a Datasheet, Quick Start Guide, or Installation Instructions?

All the details and documentation for AC-Fleet can be found at the following link:

AirgainConnect® Fleet™ Product Page

Does AC-Fleet require a SIM card?

AC-Fleet does NOT require a physical SIM card to be installed. Instead, it contains an SGP.x2 compliant MFF2 that supports up to 4 software-based eSIM profiles. All major domestic carriers now support eSIM technology. Directions on downloading and activating your eSIM profiles can be found in the Quick Start Guide:

AirgainConnect® Fleet™ Quick Start Guide

What is the bootstrap eSIM profile?

Every AC-Fleet includes a preloaded bootstrap eSIM profile with limited cellular data for downloading and activating a given Mobile Network Operator (MNO) eSIM profile right out of the box. This simplifies deployment.

Note that the bootstrap profile will connect on either T-Mobile or AT&T network depending on signal strength.

What is a bench power up?

A bench power-up, or “bench test”, is a test of the AC-Fleet unit prior to permanent installation on a vehicle. Airgain recommends bench testing your AC-Fleet prior to installation.

AirgainConnect® Fleet™ Installation Instructions

What are the standard cable lengths of the AC-Fleet Ethernet, Power, Ground and Ignition Sense cables?

AC-Fleet ships with 1’ pigtail cables so customers can customize Ethernet and power/ground/ignition cable lengths for permanent installations as needed. An RJ45 female-to-female coupler is included for connecting any length Ethernet cable required.

What cable lengths are available for purchase from Airgain?

Accessory Ethernet (CY-AFE15) and power/ground/ignition (CY-AFP15) cables are currently available at 15’ lengths, with 3’, 10’ and 30’ lengths coming soon.

What minimum specifications are required for the Ethernet cable?

CAT-6 or higher

How do I physically install my new AC-Fleet?

Please follow the AC-Fleet Installation Instructions:

AirgainConnect® Fleet™ Installation Instructions

Please watch the AC-Fleet Installation Video:

AirgainConnect® Fleet™ Installation Video

Will the AC-Fleet work on a ribbed roof?

Yes, AC-Fleet includes compressible mounting foam that forms to the shape of the roof, but must be installed on top of the rib.

What is the duration of the AC-Fleet Warranty?

The first year of AC-Cloud subscription and limited hardware warranty are included with AC-Fleet. The warranty can be extended up to 5 years through the purchase of additional AC-Cloud subscriptions (CY-AFC1) if there is no lapse in duration. You can also purchase AC-Fleet with a 3-year (CY-AFC3) or 5-year (CY-AFC5) AC-Cloud subscription and warranty up front.

In what countries will AC-Fleet operate?

AC-Fleet is regulatory approved to operate in the United States and Canada. Regulatory and carrier approvals outside of North America are planned in the future as the 5G cellular system supports global bands.

Is AC-Fleet TAA compliant?

AC-Fleet was created in the United States and manufactured in Taiwan, a TAA compliant country using a TAA compliant modem.

What are the outdoor rating specifications for AC-fleet?

IP67 (dust tight and water immersion up to 1 meter).

IP69K (can sustain high pressure, high temperature water jets).

IEC 60068-2-52 and SAE J2334 salt spray related to corrosion.

WIRELESS

Does AC-Fleet support a physical SIM?

AC-Fleet supports eSIM only which prevents mechanical failures from vibration, heat or water ingress and allows for managing up to 4 MNO eSIM profiles on an entire fleet of vehicles without having to physically touch a single one.

Does AC-Fleet support single or multiple carriers?

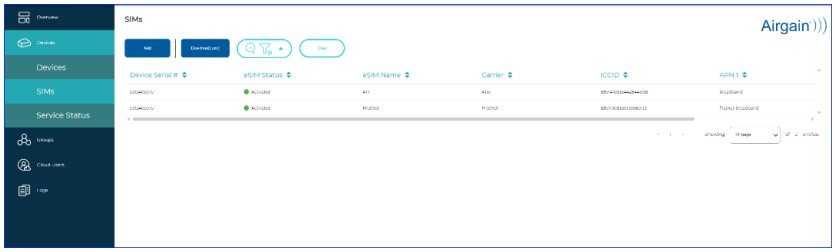
AC-Fleet can support up to a maximum of 4 MNO eSIM profiles at a given time.

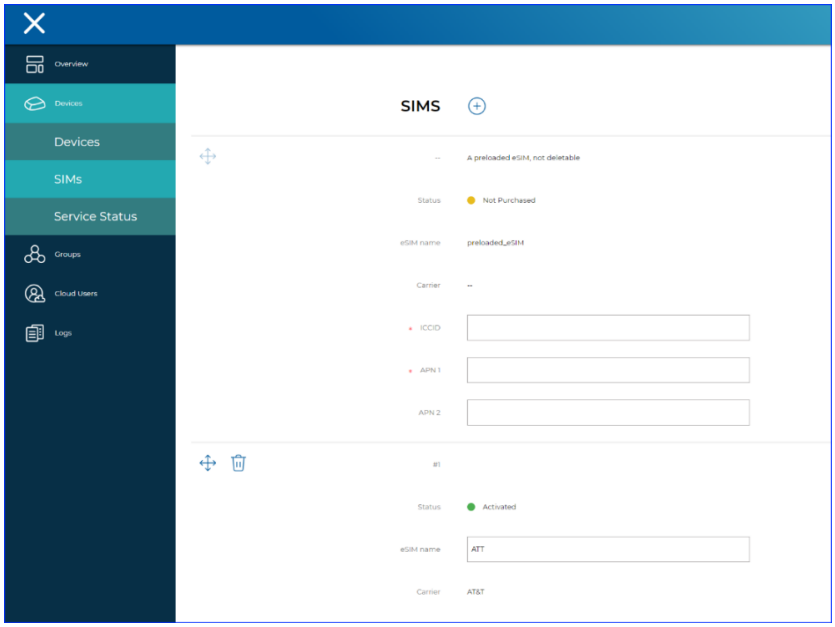
How does AC-Fleet select between operators (carriers)?

AC-fleet selects carriers based on priority level. Each carrier is assigned a priority level as per user preference and allocation.

How to assign priority level between operators (carriers)?

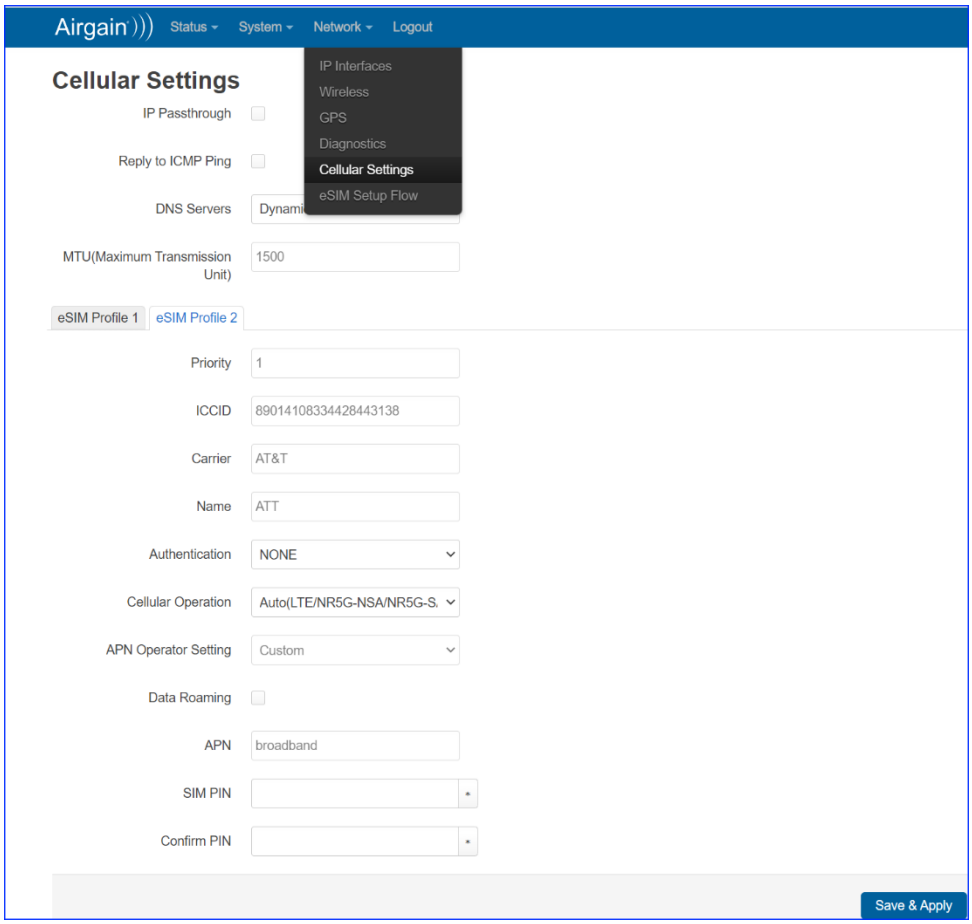
Priority assignments are made in AC-Cloud. Navigate to the Devices > SIMs menu. Select your device on the SIMs page. Your SIMs page now would show your eSIM profiles as per priority level. Arrange priority by dragging and dropping your eSIM profiles up/down. Save and then reboot device. Wait for it to establish connection and sync with AC-Cloud to download the new priority list. Then reboot the device again for the new priority list to take effect. If the AC-Fleet cannot connect to profile #1 then it will switch automatically to #2.





Where in the device User Interface (UI) does AC-Fleet manage eSIM profile settings?

On the Cellular Settings page where eSIM profiles are located. Navigate to Cellular Settings page under main menu Network tab drop down. The page contains a list of all activated operators (carriers) with priority number and APN assigned by AC-Cloud.

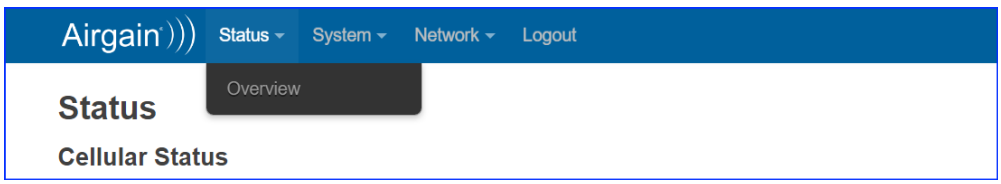


What is Depot Mode?

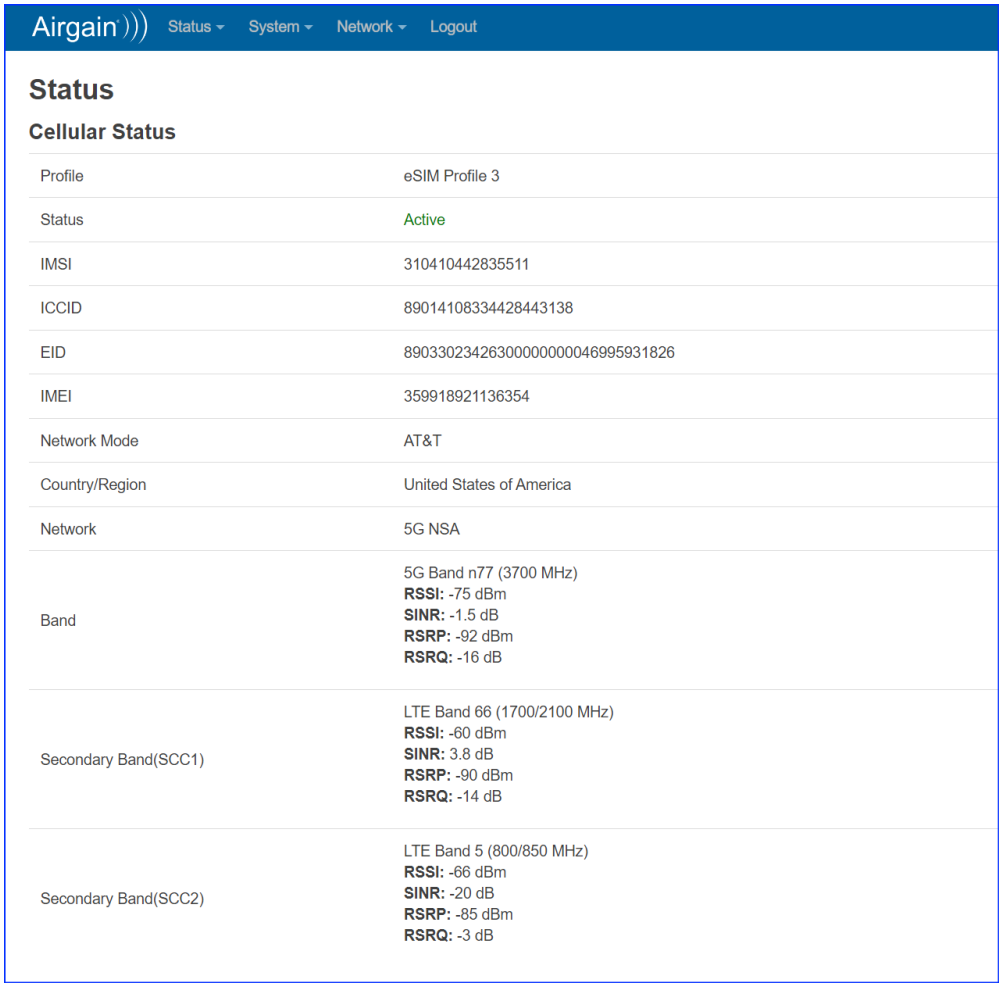
Depot mode transforms the default Wi-Fi Access Point into a Wi-Fi client for Wide Area Network (WAN) connectivity. In depot mode the AC-Fleet will automatically switch from cellular WAN whenever it is in range of the SSID configured in device UI. Once the device moves away from the Wi-Fi network, it will automatically switch back to cellular WAN and reactivate the device Wi-Fi Access Point.

Where can I find carrier, band, signal power & signal quality related information?

In the device UI navigate to Overview page that can be found in the main menu Status tab drop down.



The Status Overview page lists eSIM profile information, active carrier, network, band, signal level & quality per band along with secondary bands for carrier aggregation.



How many bands does AC-Fleet support and where are they located?

AC-Fleet supports all 4G LTE and 5G bands with the exception of band 30, refer to the product datasheet for a comprehensive list.

Does AC-Fleet support CBRS?

Yes, AC-Fleet can operate on Band 48.

How does AC-Fleet select between network (carriers) bands?

All AC-Fleet interactions with the base station are controlled by the carrier's Radio Access Network (RAN) and not by the unit itself.

What is the expected maximum throughput?

Maximum theoretical throughput is 3400Mbps downlink and 550Mbps uplink, but we have measured maximum speeds in optimal conditions up to 700Mbps downlink and 250Mbps uplink. Actual network speeds will vary.

Does AC-Fleet include a Wi-Fi Access Point?

Yes, AC-Fleet provides a Wi-Fi Access Point with the following specifications:

- Dual-band simultaneous Wi-Fi 6 (2.4 & 5-6 GHz)
- MIMO: 2x2 Multi-User (MU-MIMO)
- Supports up to 64 clients

What are the different characteristics of the 2.4GHz and 5GHz Wi-Fi Access Points?

Feature	2.4 GHz	5 GHz
Speed	Up to 300 Mbps (slower)	Up to 1300 Mbps (faster)
Range	Longer range	Shorter range
Interference	More interference	Less interference
Device Compatibility	Works with almost all devices	Works with most newer devices

Use 2.4 GHz for basic devices.

Use 5 GHz for streaming and gaming.

What are the benefits of Wi-Fi 6 over Wi-Fi 5?

Feature	Wi-Fi 5 (802.11ac)	Wi-Fi 6 (802.11ax)
Speed	Up to 3.5 Gbps	Up to 9.6 Gbps
Capacity	Handles fewer devices simultaneously	Supports more devices with better performance
Range	Good range, but less efficient	Improved range and efficiency
OFDMA	Not available	Yes, allows simultaneous data transmission to multiple devices
MU-MIMO	Up to 4 users (downlink)	Up to 8 users (uplink and downlink)
Target Wake Time (TWT)	Not available	Yes, improves battery life for connected devices
Interference Management	Basic management	Advanced features for reducing interference in crowded environments
Feature	Wi-Fi 5 (802.11ac)	Wi-Fi 6 (802.11ax)
Backward Compatibility	Compatible with older Wi-Fi standards	Compatible with Wi-Fi 5 and earlier standards

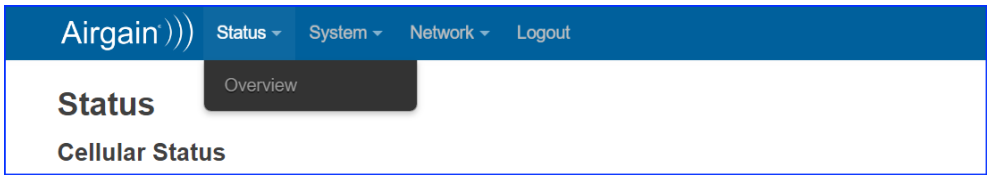
In summary, Wi-Fi 6 offers significant improvements over Wi-Fi 5 in terms of speed, capacity, range, and overall efficiency, making it better suited for modern, device-heavy environments.

What type of cellular radio module is inside AC-Fleet?

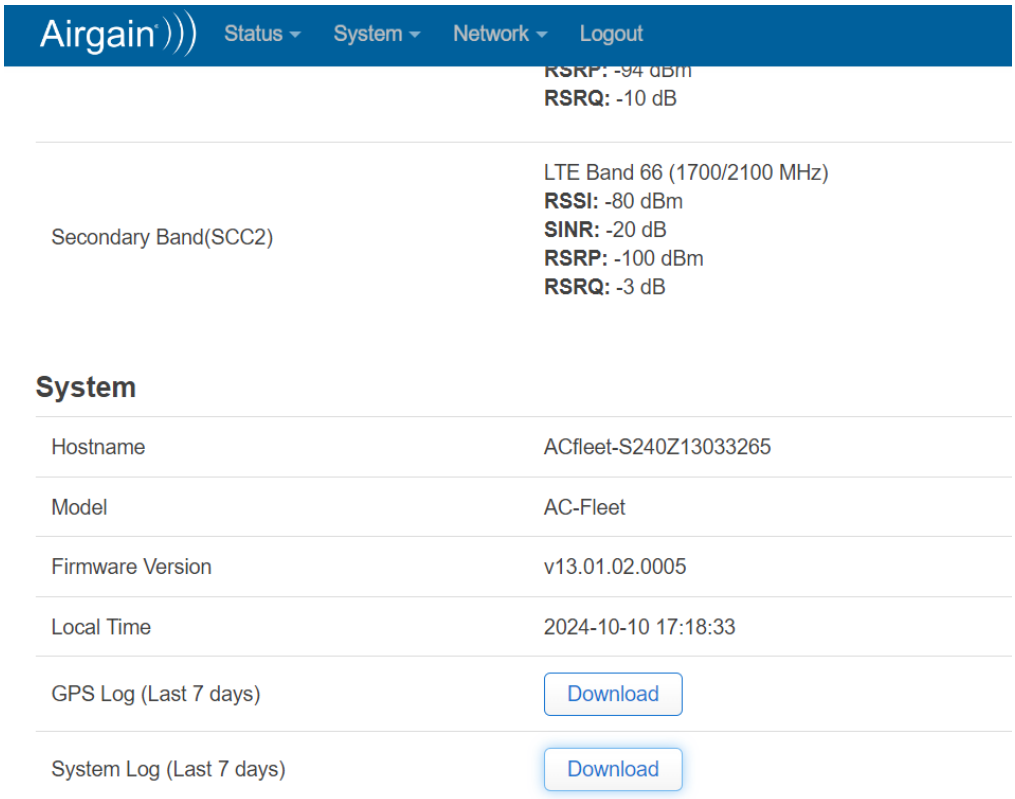
AC-Fleet uses a 5G NR sub-6GHz module with 4G LTE capability.

Where do I find local system and GPS logs?

AC-Fleet keeps detailed systems and GPS logs for the last 7 days. In the device UI navigate to **Overview** page that can be found in the main menu **Status** tab drop down.

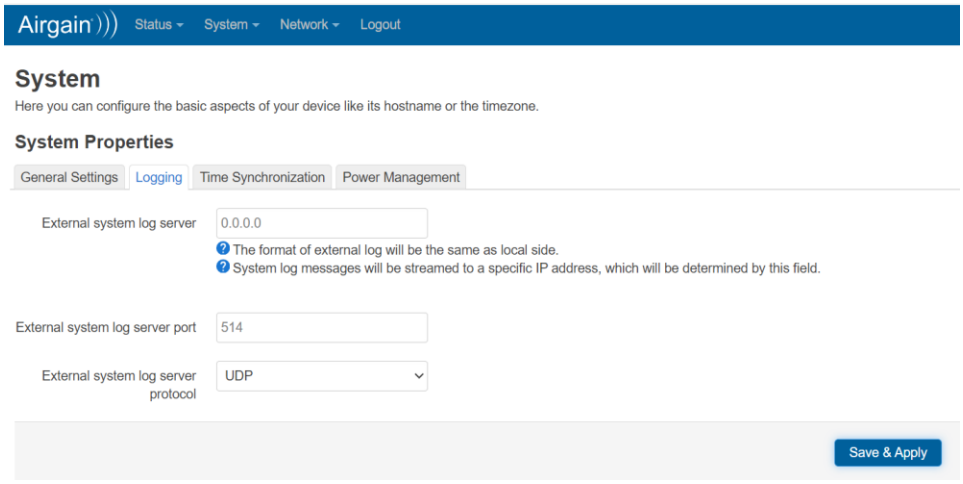


Scroll down until you find the System section. The logs can be acquired by clicking on the Download buttons.



How to enable external server logging?

The system log can be sent directly to an external server. To enable, enter the device UI, navigate to System > System Properties > Logging tab. Enter the IP address of your server then hit “Save & Apply”.



What do I do if a specific 3rd party application is not working properly?

Some 3rd party applications require ports to be opened in the router firewall. First, enable Advanced Mode in the device UI by navigating to System > Administration > Advanced Mode. Then navigate to Network > Firewall for configuration options.

Managing AC-Fleet through AC-Cloud

How to establish an AC-Cloud account?

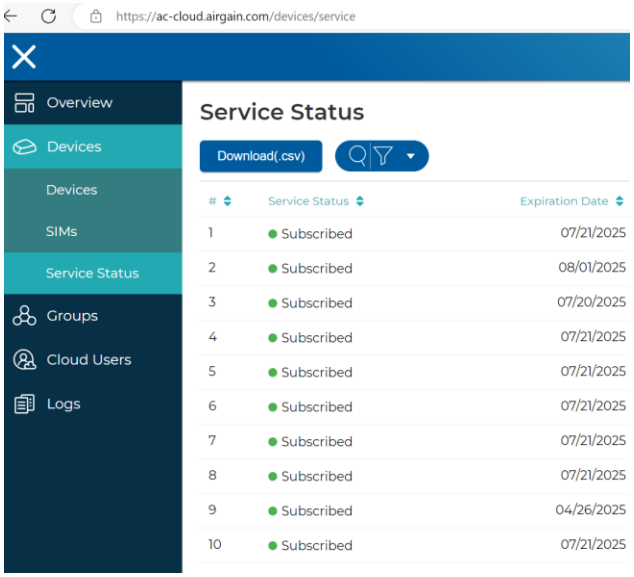
Contact support@airgain.com with the organization name and fleet administrator email address. We will establish the organization account and send you an activation email.

How to add devices to an AC-Cloud account?

Contact support@airgain.com with the organization name and product invoice. We will register the corresponding device serial numbers and subscription expiration dates to your organization account.

Where can I find the software subscription status of each device?

Log into your organization account on AC-Cloud then navigate to Devices > Service Status menu.



The service status can be found and sorted for each device.

How do I push firmware or configurations to multiple devices at once?

AC-Cloud has a group feature. Any devices added to a group will be updated with firmware and configurations selected and pushed to the group.

Where are the default user credentials?

The default user credentials will be provided in a csv file, and can also be found on the box label as well as on a white tag attached to the pigtail Ethernet cable. It is highly recommended that this information be stored by your organization.

How do I remotely reset the device password?

Navigate to the Devices menu on AC-Cloud and click on the device. There will be a “Reset PWD” button in the upper right.

How to track changes made inside AC-Cloud?

Every change made to AC-Cloud is recorded as an action tied to a user account. All changes can be found and downloaded by navigating to the “Logs” menu.

What is the difference between AC-Cloud log and AC-Fleet system log?

AC-Cloud log is for tracking changes in the remote management portal. It’s an administrative log. The AC-Fleet system log contains detailed output from the device.

Firmware update from AC-Cloud or AC-Fleet device UI?

There are three options for updating device firmware to the latest version: push over-the-air (OTA) from AC-Cloud using a group, or by navigating to System > Backup / Flash Firmware in the device UI and either pulling OTA from AC-Cloud or uploading a file locally.

Can AC-Cloud track other devices connected to AC-Fleet?

AC-Cloud can only remotely manage AC-Fleet devices with an active subscription in your organization account.

How to bulk activate multiple eSIMs?

Navigate to the Devices > SIMs menu and click on the “Add” button. The Import.csv option is selected by default for bulk activation. Download and fill out the template with required information and then click “Browse” to upload.

How to enable communication to AC-Cloud behind a private network?

If operating AC-Fleet exclusively on a private network environment, please configure the following firewall policies in order to access AC-Coud services (note that remote device access from a private network is not currently supported):

Service	Address	Port	Direction
NTP		UDP: 123	Outbound
DNS		UDP: 53	Outbound
Cloud Gateway Server	34.160.4.139	TCP: 443	Outbound
Cloud Bridge Server	35.225.205.232, 35.222.22.208, 35.236.24.142, 35.236.4.8	TCP: 997	Outbound
P2P rental Server	34.94.3.56	TCP: 443	Outbound
Application Service Server	34.173.19.249	TCP: 443	Outbound
P2P Connection Server	35.193.9.239	UDP: 65000	Inbound
P2P server	108.181.22.187 146.70.115.134	TCP: 80, 8000, 8080, 443, 21047 UDP: 10000 ~ 10512	Outbound
SM-DP+ Server	Specified in MNO eSIM profile Activation Code	TCP: 443	Outbound

What does each eSIM profile status indicate?

- **In Use** - This profile is currently used by the device for internet access. Given that in current design, AC Cloud will retain the last value reported by the device, the profile will be marked as In Use, even when the device is offline.
- **Activated** - The profile is ready to attempt cellular connection.
- **Assigning** - Indicates this profile has been added either manually or bulk CSV upload and is pending device reboot for download/activation.
- **Downloading** - Device has started the process of downloading and activating this profile, which might take around 3 minutes.
- **Retry Downloading** - Indicates the previous download/activation attempt failed and requires device reboot to try again.
- **Fail To Download** - Indicates this profile has reached its limit of 3 failed download attempts. Click the download icon to resubmit.
- **Activating** - Device has started the process of activating the preloaded Verizon profile.
- **Fail To Activate** – Indicates the preloaded Version profile failed to activate.

- **Updating** - Indicates configuration changes have been made to this profile which require device reboot for implementation.
- **Deleting** - Indicates this profile will be deleted from AC-Fleet upon the next reboot.

TRIALS

Is my trial unit waterproof?

AC-Fleet is IP67 and IP69K certified when permanently mounted to a vehicle. It is sealed against water in any weather conditions as well as certified to withstand high pressure streams of water. Trial units are not permanently mounted and therefore must accommodate a temporary magnetic or suction mount. These mounts leave the bolt exposed to the elements as opposed to a permanent installation where that bolt would be on the inside of the vehicle. We do not recommend that the trial units be used in the rain or in car washes.

How are the cables different on a trial unit?

A standard unit as 1’ pigtail cables for both power and data. The trial unit will come pre-configured with 15’ cables and a cigarette lighter power adapter.

How do I test AC-Fleet once it is installed on my vehicle?

We recommend that you drive test the AC-Fleet. Compare the coverage and throughput to other solutions in various geographic areas.