

Tap the **Start** button to fly the drone towards the waypoint. If you tap the **Start** button when the drone is on the ground, the drone rises to the waypoint altitude, and then flies horizontally towards the waypoint.

Parameter name	Unit	Range	Default value
WP ALTITUDE	m (or ft)	-100 m to 1000 m / -328 ft to 3,281	Current drone altitude
RADIO LINK		All, Backup, or None	All

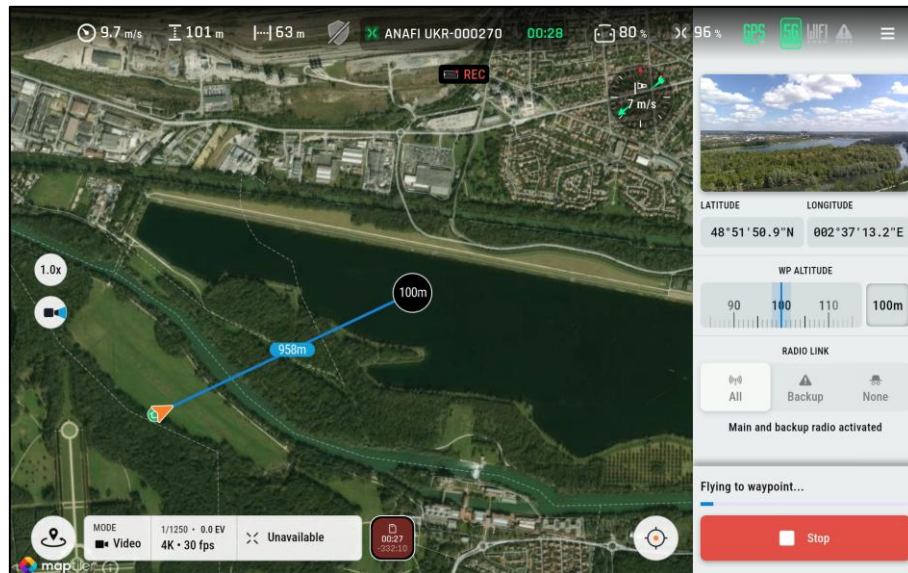


Figure 57: Fly towards a waypoint

The drone flies to the waypoint at the optimal speed. The optimal speed is estimated by the drone software in order to minimize battery energy consumption.

You can reduce the drone speed during the flight towards the waypoint. The speed reduction can be commanded with a negative pitch command, which converges linearly to zero as the stick moves to the lowest location. The speed dynamically adapts to the stick position. Positive pitch commands have no effect on the speed.

12.3.2. Set a waypoint in the streaming view

You can set a waypoint through a short tap in the streaming view.

The waypoint is positioned at a distance of 500 m / 1640 ft from the drone in the direction defined by the user. Keep in mind that the waypoint may be created at an altitude different from the current drone altitude when it is created in the streaming view.

The waypoint can be moved by dragging it horizontally in the streaming view:

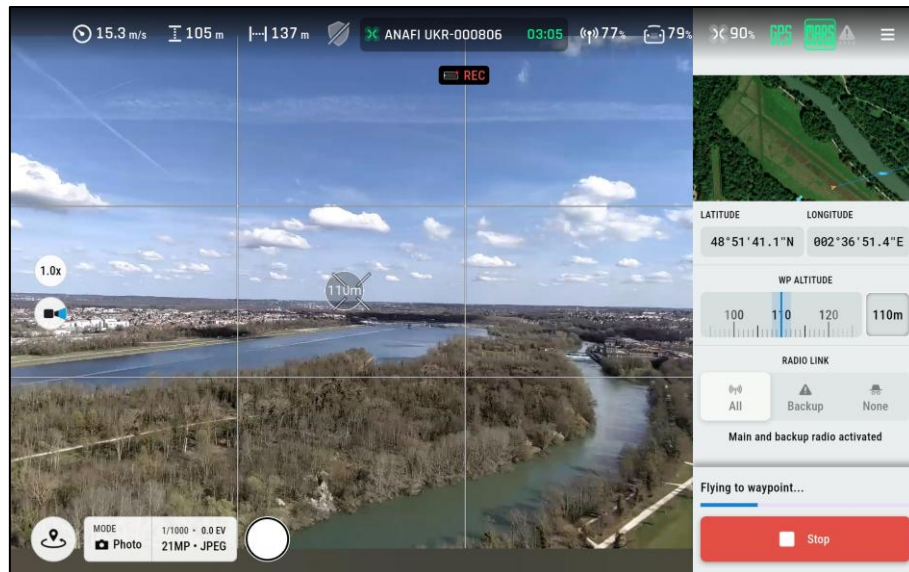


Figure 58: Move a waypoint in the streaming view

12.4. Flight plan

12.4.1. Creating a flight plan

FreeFlight 8 prompts the user to create a new project when entering the **Flight Plan** piloting mode without any existing Flight Plan project stored locally:

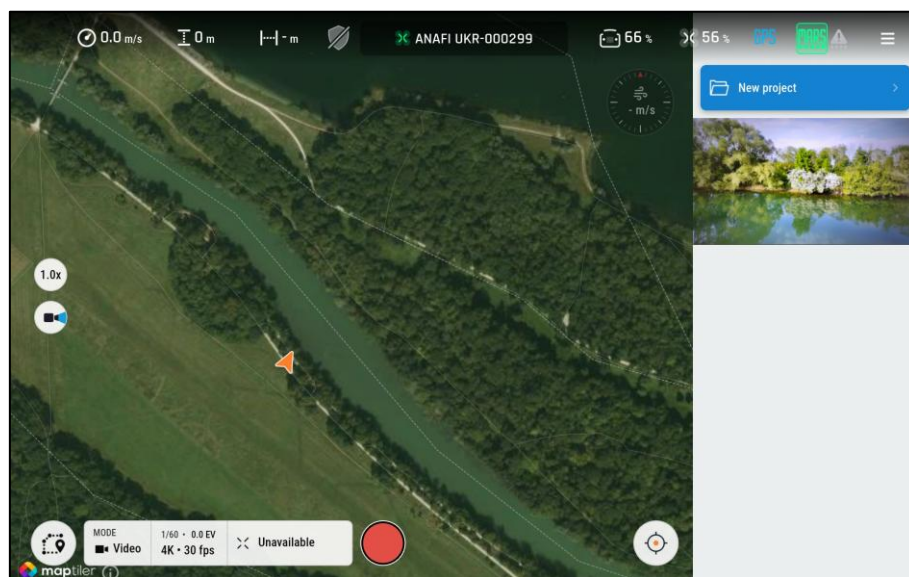


Figure 59: Create your new project

12.4.2. Flight Plan HUD

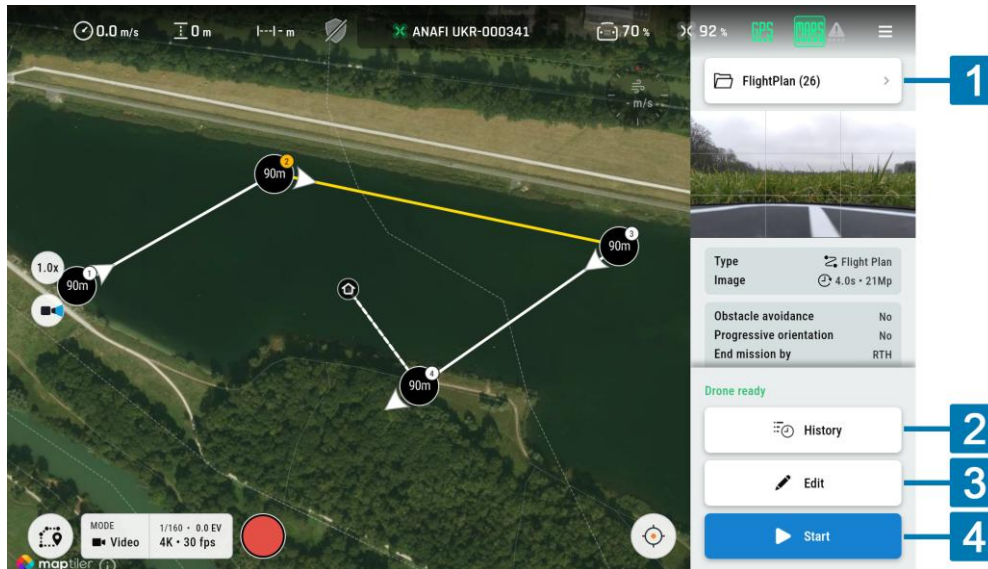


Figure 60: Project name button

1. **Project name** button
2. **History** of the project executions
3. **Edit** the project
4. **Start** a project execution

Tap the **Project name** button to open the **Projects** screen.

The **Projects** screen lists all projects synchronized with the current Parrot account.

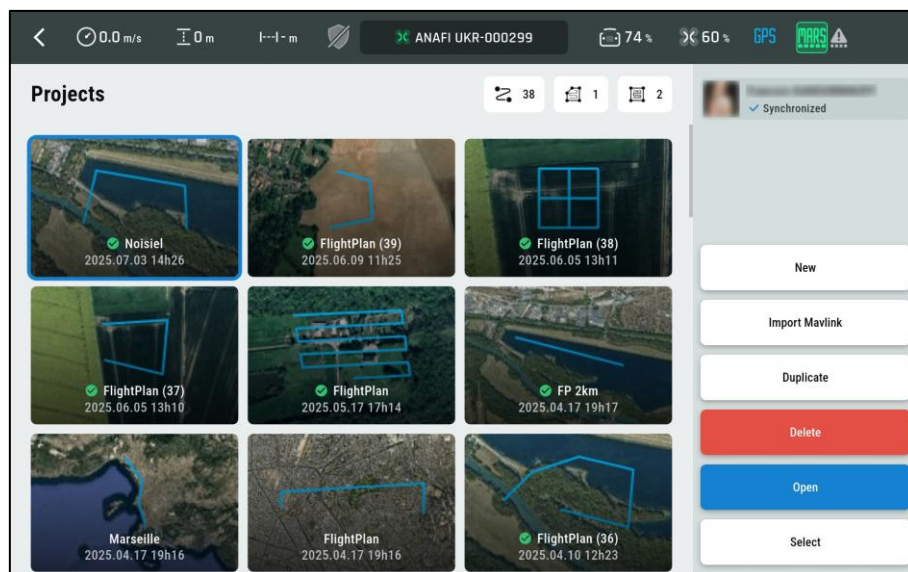


Figure 61: Projects screen

From the **Projects** screen, users can:

- Create a **New** project.
- **Import Mavlink**.
- **Duplicate** a project.
- **Delete** a selected project.
- **Open** an already created project.
- Enter **Select** mode to select multiple projects for deletion.

Import Mavlink allows users to import a Mavlink file into FreeFlight 8. That Mavlink file may have been generated with software such as Mission Planner. After it has been imported the Flight Plan can be edited into FreeFlight 8 and it can be executed on the drone.

12.4.3. Flight plan editor

Tap the screen in the map view to create a waypoint:

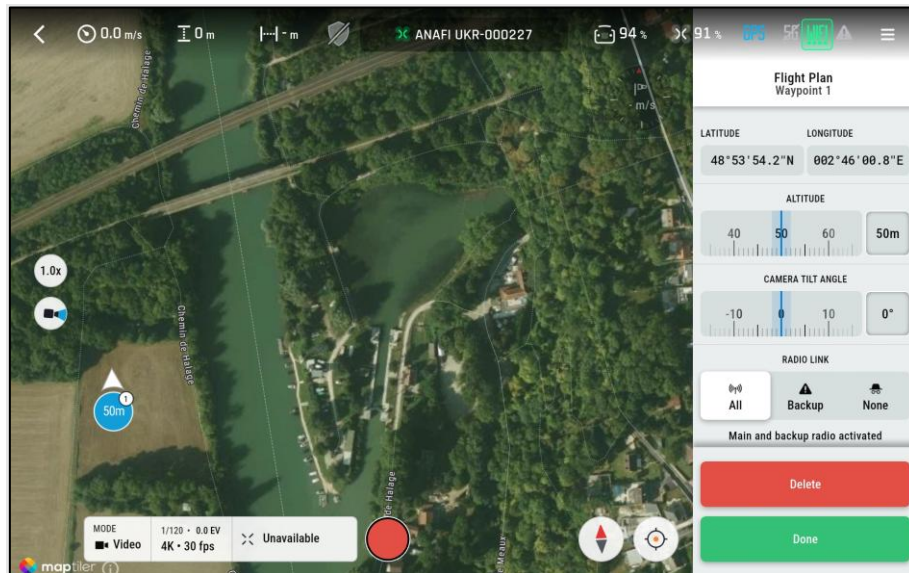


Figure 62: Edit first waypoint

Drag and drop the waypoint to move it. You can also manually edit the WP coordinates thanks to a virtual keyboard by clicking the coordinates in the right panel:

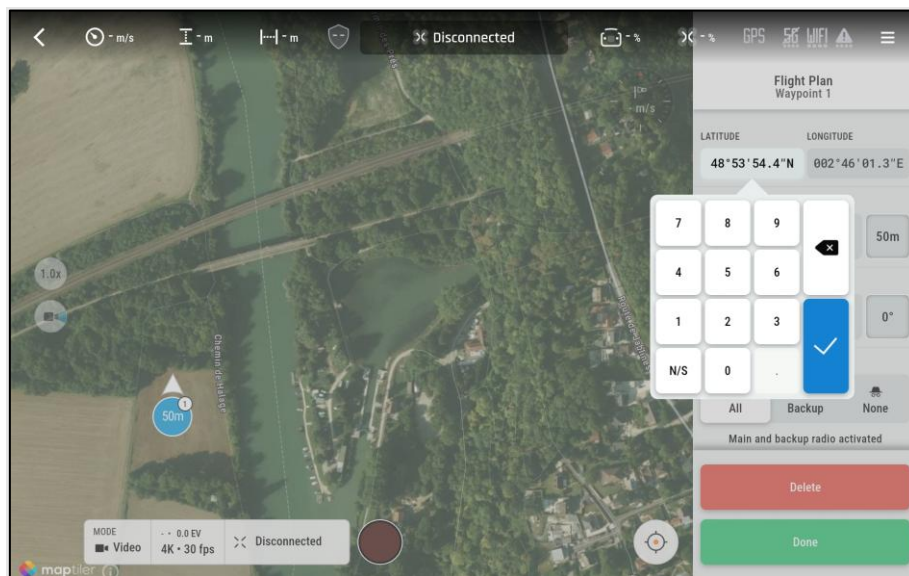


Figure 63: WP coordinates manual edition

Modify the drone orientation by a single tap on the waypoint to select it and then rotate the white arrow around the waypoint.

Edit the waypoint parameters:

Parameter name	Description	Unit	Range	Default value
Position	Longitude and latitude coordinates			
ALTITUDE	WP altitude in ATO reference	m (or ft)	-100m to 1000m	50m
CAMERA TILT ANGLE	Negative when oriented downwards	Degree	-90° to 90°	0°
RADIO LINK	Selects used radio link(s)		All, Backup, or None	All

Three options are available for the radio link:

- **All:** The user receives the video feed during the flight.
- **Backup:** The user receives only basic telemetry.
- **None:** Radio silence mode, the drone does not transmit any radio signal.

The radio option will be applied on the segment between the selected WP and the next one.

The segment between two waypoints is represented in a different color depending on the radio link setting:

All: segment is white

Backup: segment is yellow

None: segment is red



Figure 64: Color of the segment function of WP radio link setting

The radio option configured on the latest WP will be applied during the Return to home.

Add more waypoints in the flight plan by a short touch on the screen. The new waypoint inherits the properties of the previous waypoint.

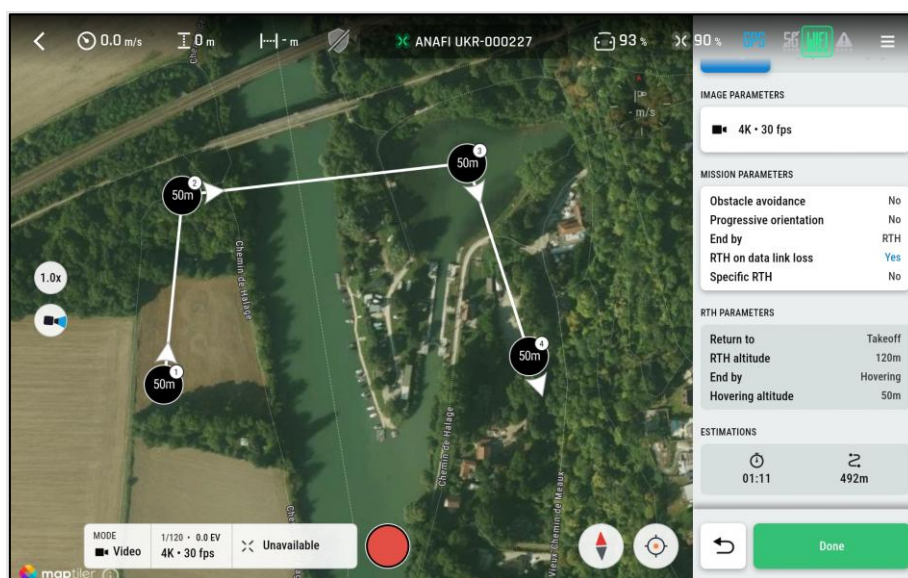


Figure 65: Add more waypoints in the flight plan

Edit the segment between two waypoints:

- Tap the segment to select it, the segment turns blue.
- Tap **+ Add** to insert a waypoint in the middle of the segment:

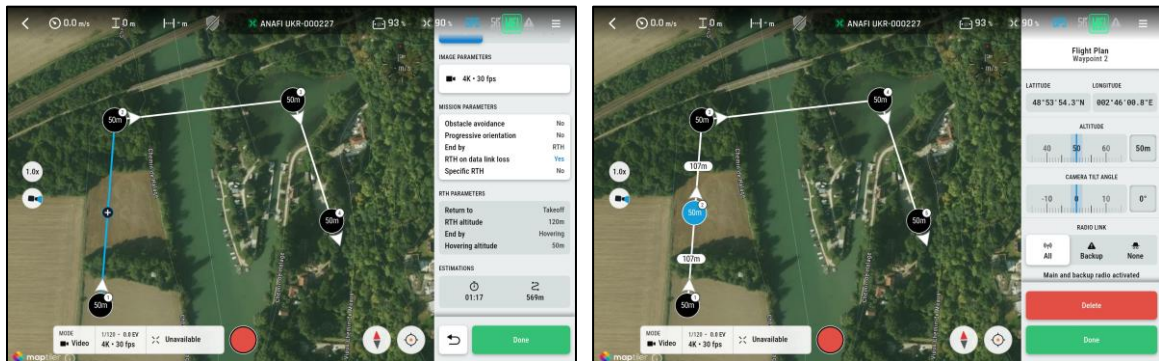


Figure 66: Insert a waypoint on a segment

Create a Point of Interest (POI) by a long touch in the map view:

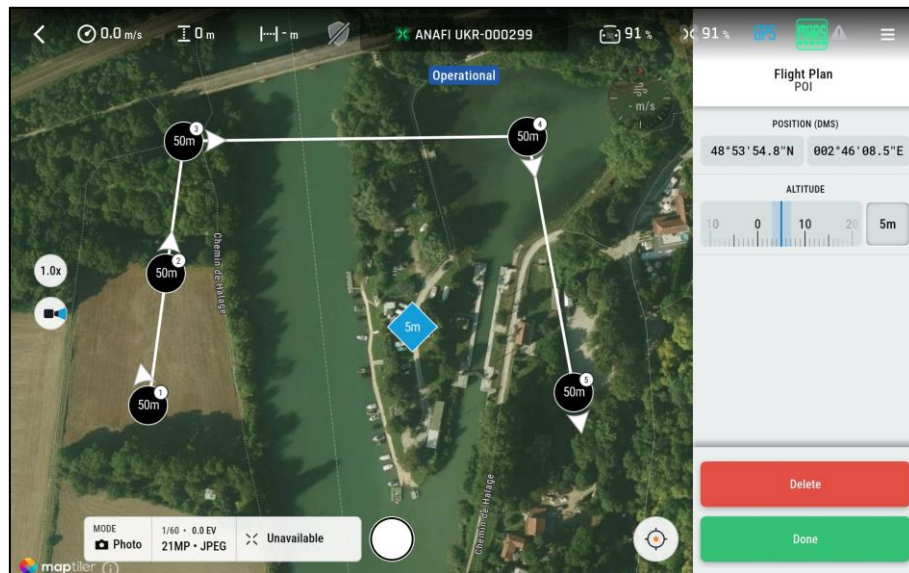


Figure 67: Add a POI in the flight plan

- POI only has 1 altitude parameter:

Parameter name	Description	Unit	Range	Default value
Position	Longitude and latitude coordinates			
ALTITUDE	POI altitude in ATO reference	m (or ft)	-100 to 1,000 m, -300 to 3,500 ft	5 m / 16 ft

- Single tap on a POI to select it. The selected POI appears in blue.
- When a POI is selected, any new waypoint is associated with that POI
- When a POI is selected, tap a waypoint to assign the WP to the selected POI:

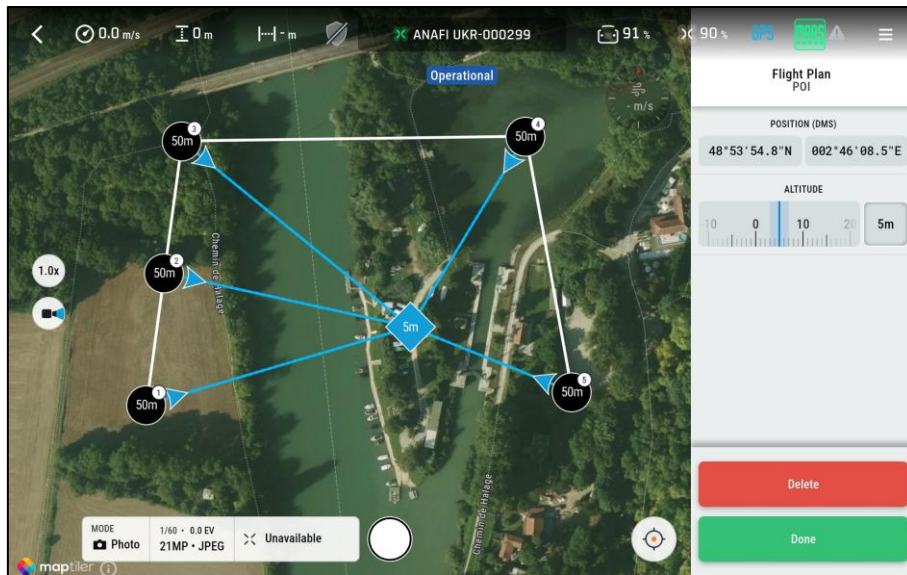


Figure 68: Assign a POI to one or more waypoints

12.4.4. Photogrammetry simple grid editor

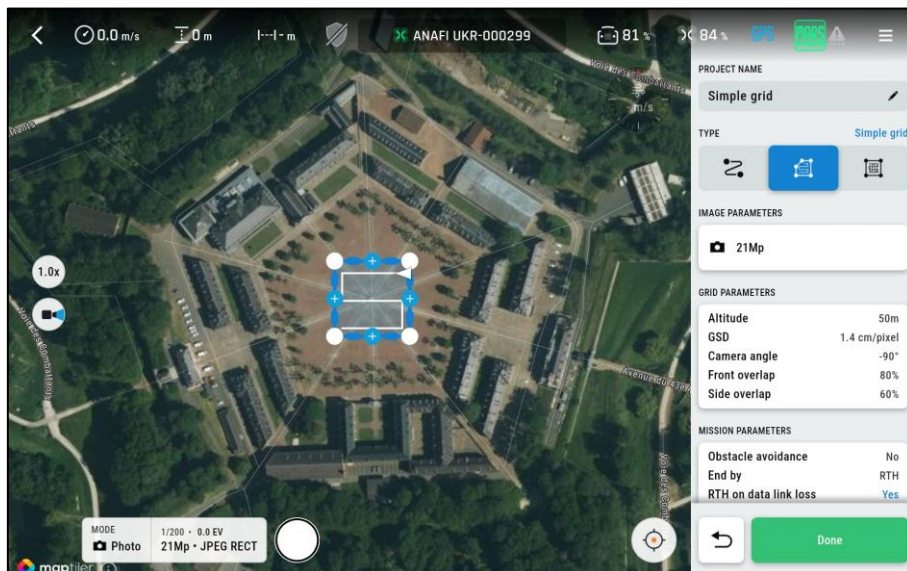


Figure 69: Photogrammetry simple grid

Create the grid by scrolling the map and touch it at the desired mission location.

The simple grid will be created in the form of a square of 50m on each side.

The drone trajectory is marked by the solid white line. The starting point of the trajectory is marked by the white arrow.

Users can modify the mission trajectory through various actions:

- Move the whole mission in any direction by dragging and dropping the blue grid.
- Rotate the whole mission:
 - a. Place two fingers on the blue grid.
 - b. Rotate your fingers to rotate the mission.
- Move a segment (solid blue line) by dragging and dropping the blue line edge segment.

- Move a mission corner by dragging and dropping a white dot corner on the blue grid.
- Add a mission waypoint (**Plus +** icon)

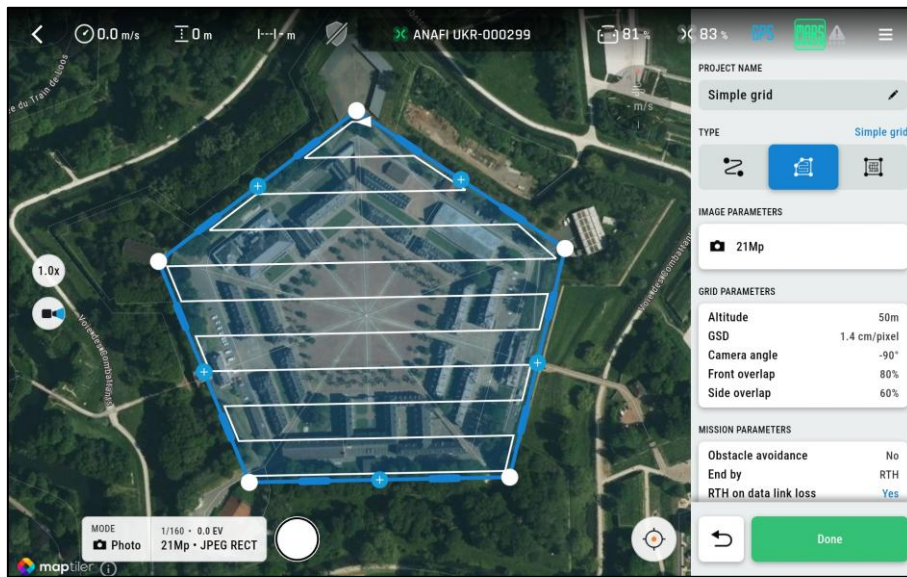


Figure 70: Simple grid after edition is completed

12.4.5. Photogrammetry double grid editor

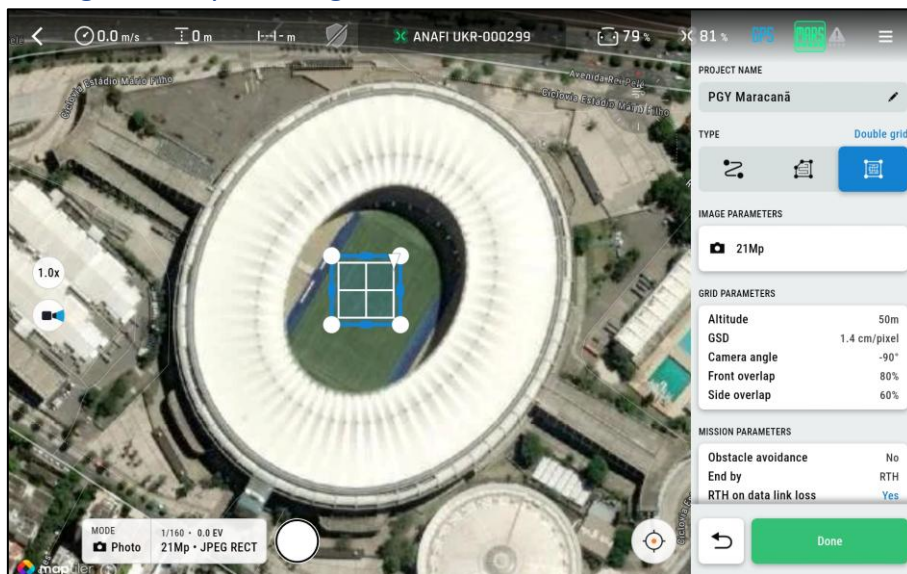


Figure 71: Photogrammetry double grid editor

Create the grid by scrolling the map and touch it at the desired mission location.

The double grid will be created in the form of a square of 50m on each side.

The drone trajectory is marked by the solid white line. The starting point of the trajectory is marked by the white arrow.

User can adjust the mission trajectory through various actions:

- Move the whole mission in any direction by dragging and dropping the blue grid.
- Rotate the whole mission:
 - a. Place two fingers on the blue grid.

- b. Rotate your fingers to rotate the mission.
- Translate a segment by dragging and dropping blue line edge segment.
- Move a mission corner by dragging and dropping a white dot corner on the blue grid.

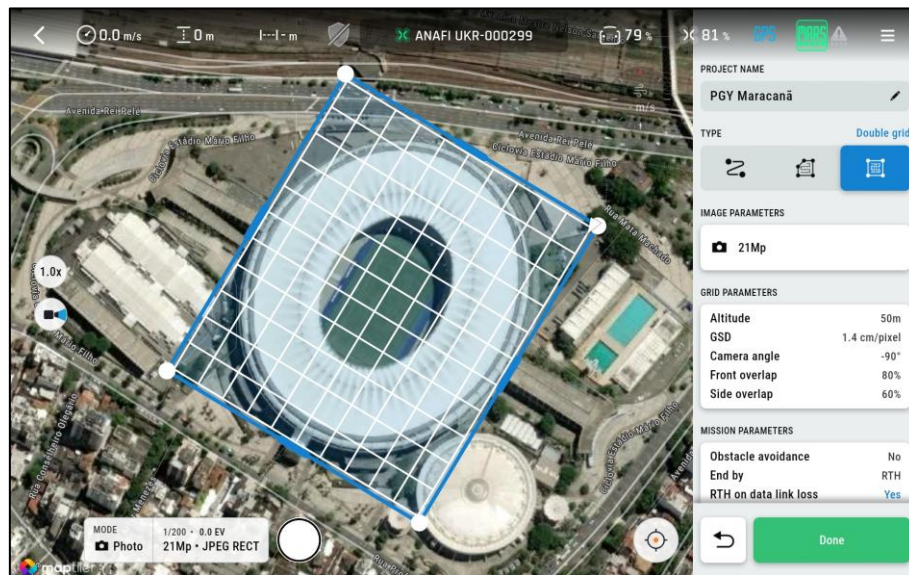


Figure 72: Double grid after edition is completed

12.4.6. Flight plan parameters

Users can edit Flight Plan imaging, mission and custom RTH parameters.

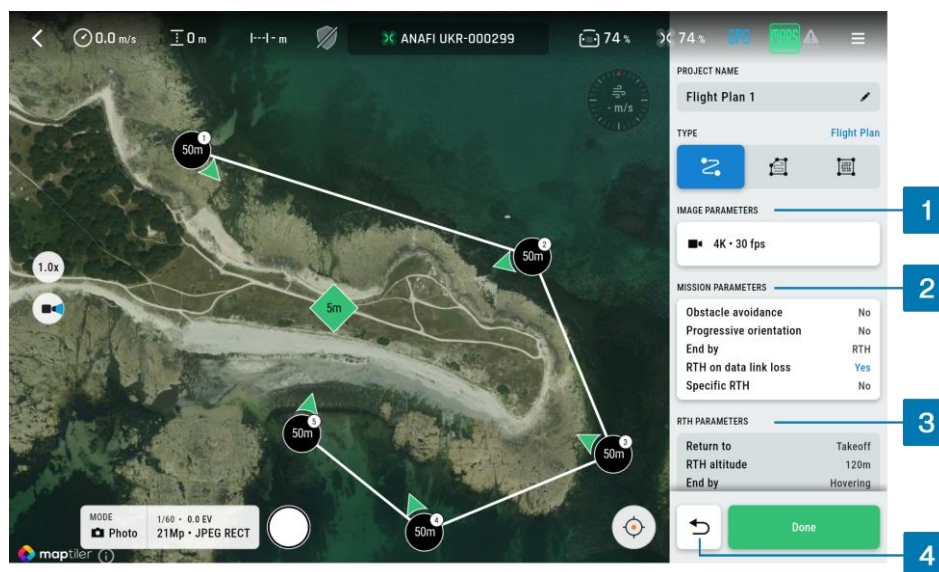


Figure 73: Flight plan parameters

1. IMAGE PARAMETERS
2. MISSION PARAMETERS

3. Custom RTH PARAMETERS
4. Undo button

12.4.6.1. Image parameters

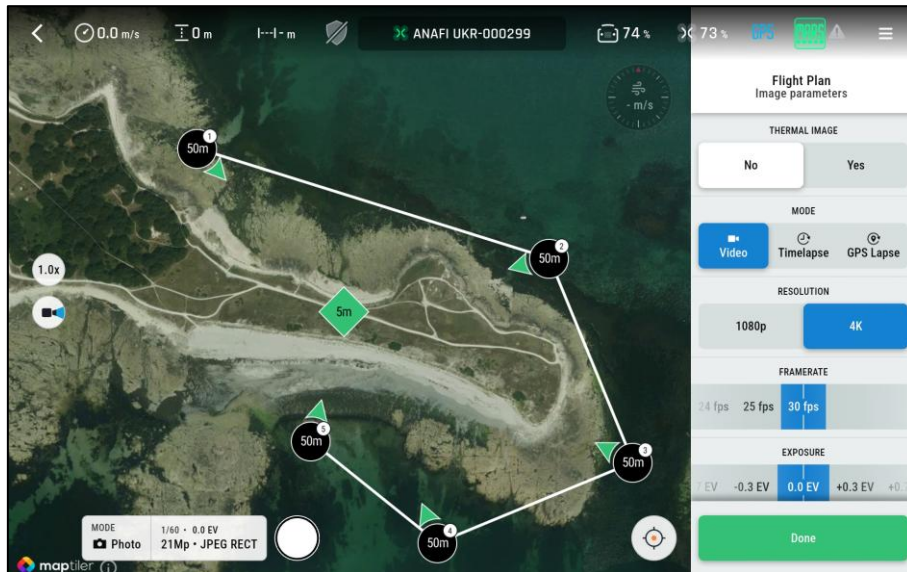


Figure 74: Flight plan image parameters

Parameter name	Description	Range	Default value
THERMAL IMAGE	Thermal imaging mode configuration	Yes / No	No
MODE	Configure imaging mode	Video / Timelapse / GPS Lapse	Video
RESOLUTION	Configure video resolution (video mode only)	1080p / 4K	4K
FRAMERATE	Configure video framerate (video mode only)	24 / 25 / 30 / 48 / 50 / 60 fps	30 fps
EXPOSURE	Configure exposure correction	-3.0 to +3.0 EV	0.0 EV
WHITE BALANCE	Configure white balance	Auto / Sunny / Cloudy	Auto
Timelapse period	Delay between 2 photos (timelapse mode)	1 to 60 seconds	2 seconds
GPS Lapse distance	Distance between 2 photos (gpslapse mode)	0.5 to 200 m	10 m
Photo resolution	Photo resolution (photo mode only)	21 MP	21 MP

12.4.6.2. Mission parameters

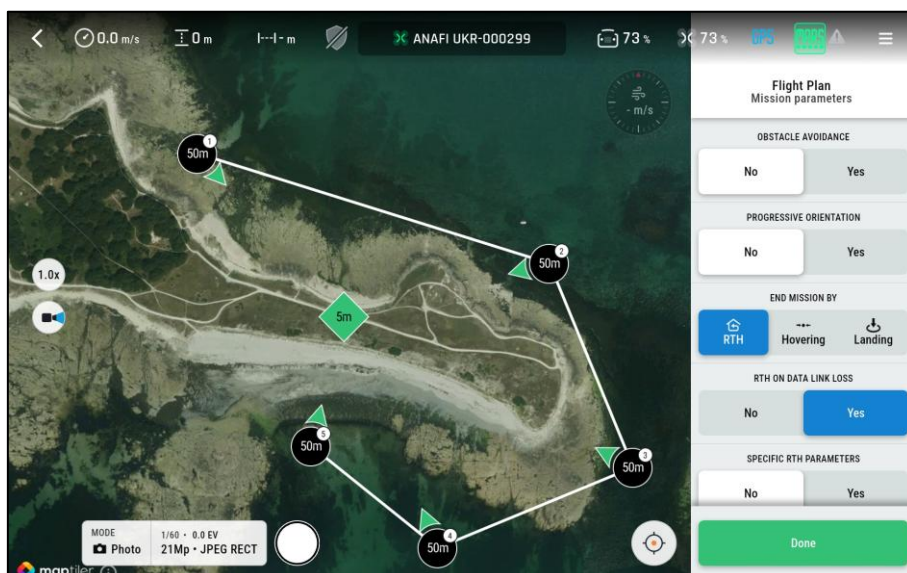


Figure 75: Flight plan Mission parameters

Parameter name	Description	Range	Default value
OBSTACLE AVOIDANCE	Enable/Disable obstacle avoidance	Yes / No	No

PROGRESSIVE ORIENTATION	Yaw angle management between 2 waypoints	Yes / No	No
END MISSION BY	Set the drone behavior at the end of the flight plan	RTH / Hovering / Landing	RTH
RTH ON DATA LINK LOSS	Set the drone behavior when a radio link disconnection occurs	Yes / No	Yes
SPECIFIC RTH PARAMETERS	Apply specific RTH parameters for the flight plan's final RTH	Yes / No	No

12.4.6.3. Custom RTH parameters

If the user sets the **Custom RTH parameters** to **Yes**, he can edit RTH parameters specific to that flight plan:

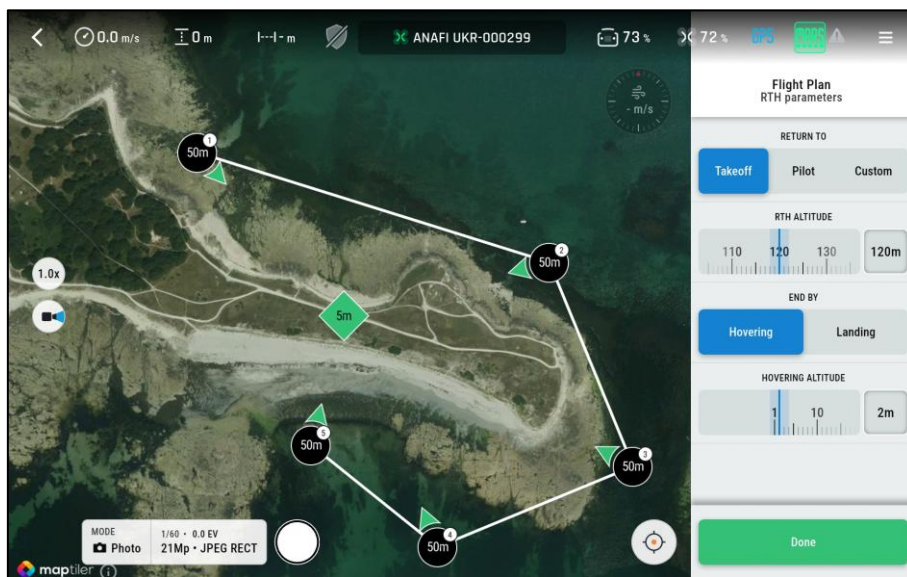


Figure 76: Flight plan RTH parameters

Parameter name	Description	Range	Default value
RETURN TO	Set the RTH final destination	Take-off / Pilot / Custom	Take-off
RTH ALTITUDE	Set the RTH minimum altitude	1 m to 500 m	120 m
END BY	Set the drone behavior at the end of the RTH	Hovering / Landing	Hovering
HOVERING ALTITUDE	Set the drone hovering altitude (End by hovering only)	1 m to 500 m	2 m

NOTE: Hovering altitude setting cannot be set at a higher value than RTH altitude setting.

12.4.6.4. Grid parameters

In the case of a Photogrammetry simple or double grid project type, **GRID** parameters are available:

Parameter name	Description	Range	Default value
ALTITUDE	Drone altitude (ATO reference)	3 m to 500 m	50 m
CAMERA ANGLE	Negative when oriented downwards	-90 ° to 0 °	-90 °
FRONT OVERLAP	Overlap between 2 pictures on a segment	20 % to 90 %	80 %
SIDE OVERLAP	Overlap between pictures of 2 segments	20 % to 90 %	60 %

Ground Sampling Distance (GSD) is displayed in the **Grid parameters**. It is a read-only value which depends on the Altitude and Camera angle grid parameters.

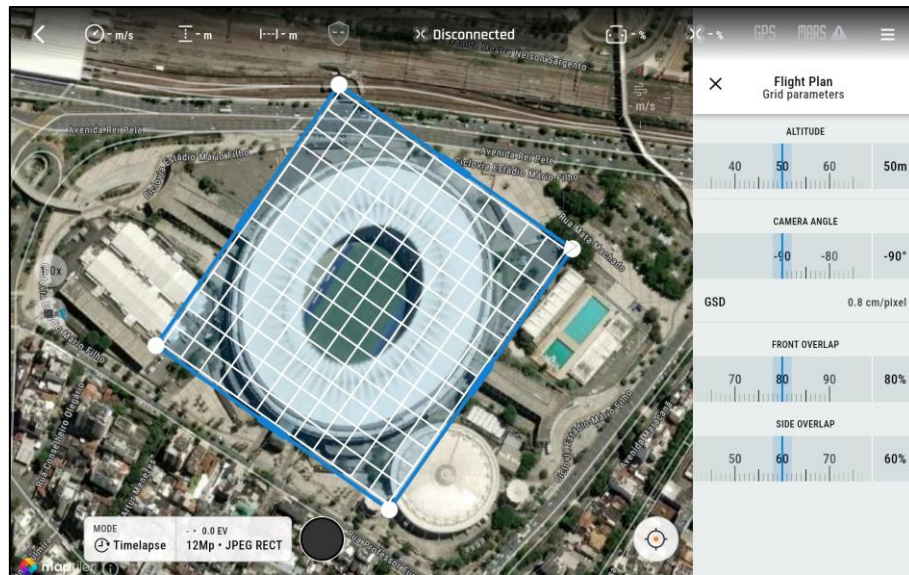


Figure 77: Photogrammetry grid parameters

12.4.7. Executing a flight plan



Figure 78: Executing a flight plan

Tap **Start** to launch the flight plan execution.

The drone performs the **Flying to starting point**. The drone is shown on the map.

NOTE: While flying towards the first way point, the drone flies at the altitude defined in the **RTH altitude** setting if it is higher than the altitude of the first way point. Otherwise, the drone flies at the first way point altitude. Refer to [chapter 13.5. RTH](#) for more information

The drone travels from waypoint to waypoint until the drone reaches the final waypoint.

You can stop the flight plan and take the manual control of the drone manually at any time.

12.4.8. Project history

You can access to all the executions of a project by clicking on the **History** button in the Flight Plan HUD:

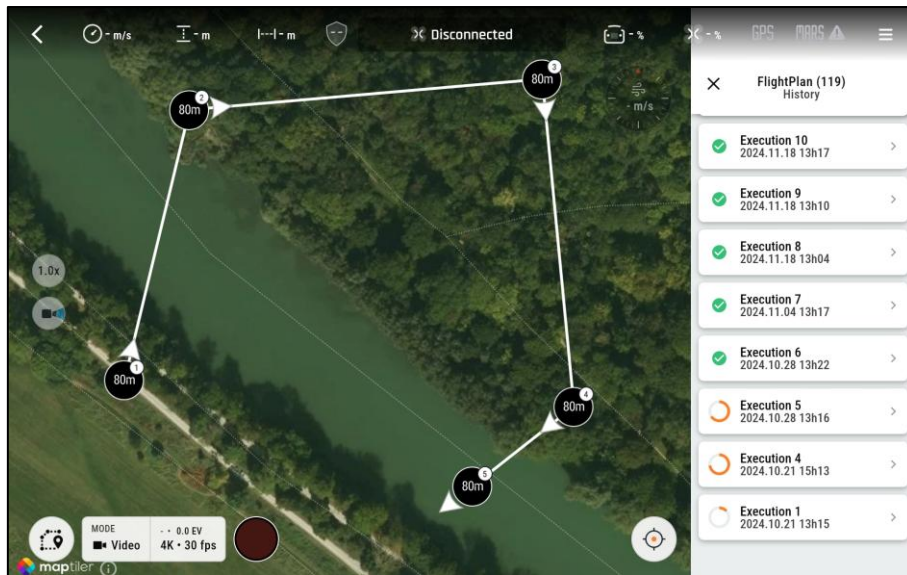


Figure 79: Project history

All the executions of a project are listed in the project **History**.

Executions completed are tagged with a green tick. Executions interrupted before their end are tagged with an orange progress bar.

You can access the details of an execution by clicking on it in the list:

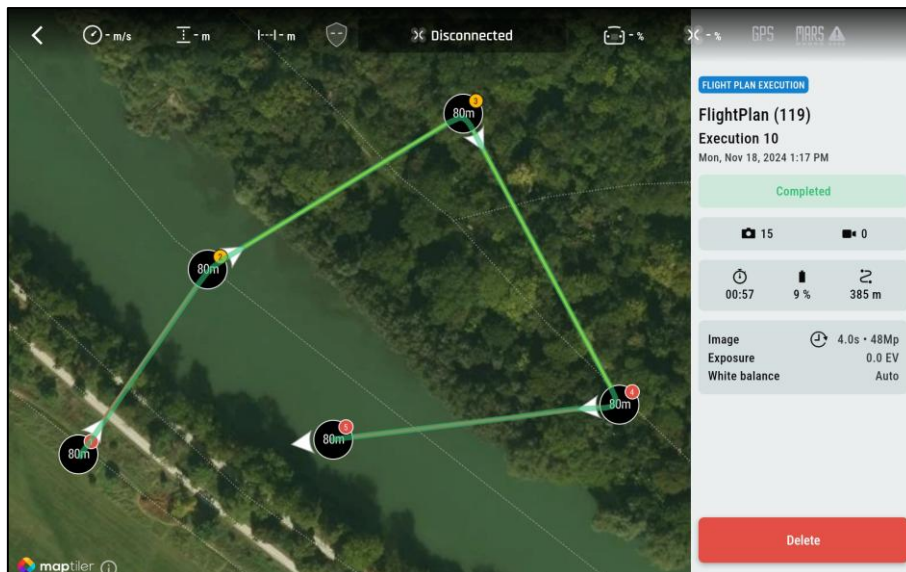


Figure 80: Details of a project execution

In case the execution was not completed, you can resume it to where it was interrupted:

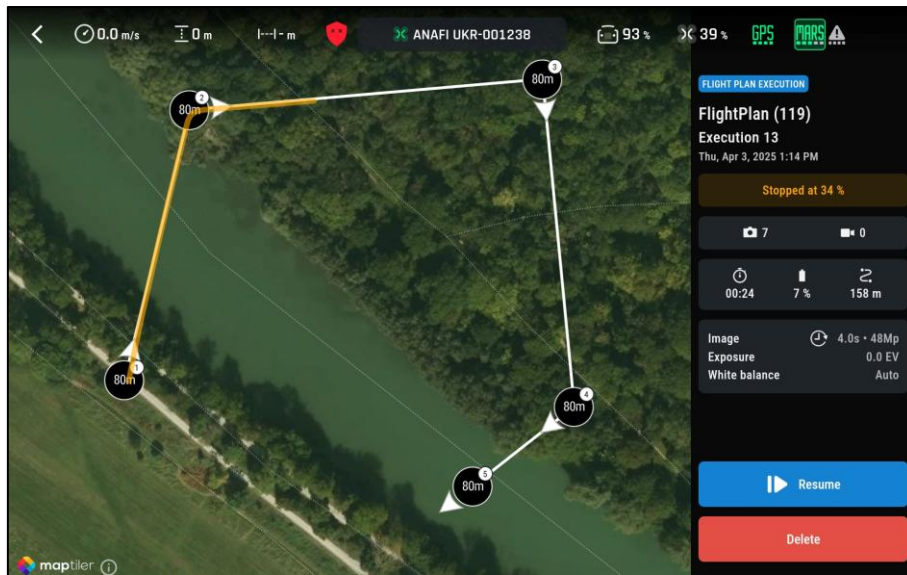


Figure 81: Resuming an execution which was interrupted

13. Settings

Settings are available via the menu button on the top, right-hand side of the screen.

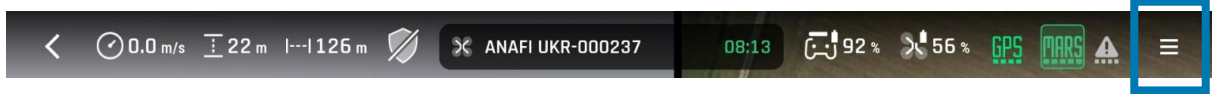


Figure 82: FreeFlight 8 top menu bar

13.1. Quick settings

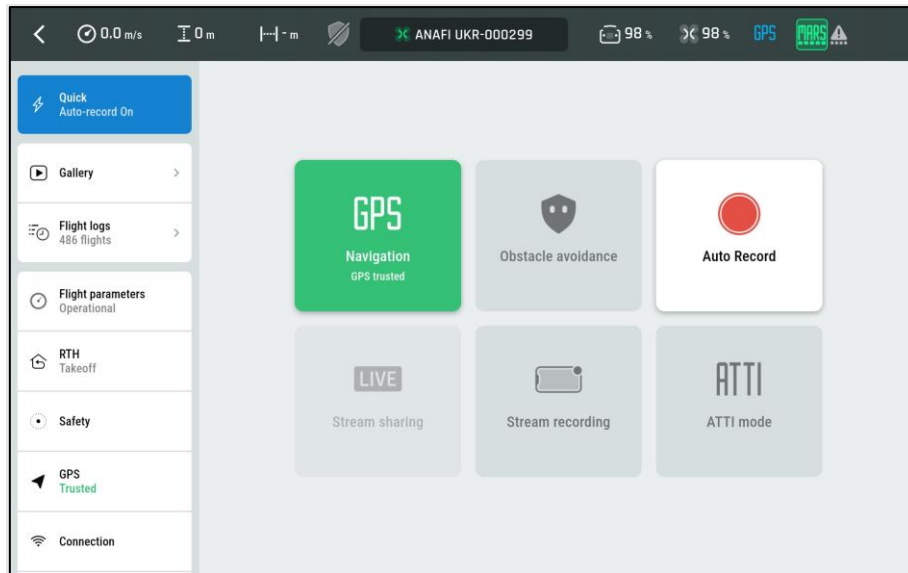


Figure 83: Settings – Quick

13.1.1. GPS

Tap the **GPS** tile to toggle the aircraft navigation system between GPS navigation (GPS trusted) and Optical navigation (GPS not trusted). Refer to [chapter 13.7.1. GPS navigation](#) for more information.

13.1.2. Obstacle Avoidance

Tap the **Obstacle avoidance** tile to toggle the obstacle avoidance on and off.

When the user enables the Obstacle avoidance feature, the supervision starts and the system evaluates environmental conditions. The aircraft's altitude, the obstacles density in close vicinity and the user piloting commands are used to evaluate a risk of collision. For example, at high altitude, obstacle avoidance will mostly be deactivated automatically. This intelligent control allows the aircraft to engage obstacle avoidance only when truly necessary, balancing safety with flight performance.

Visual feedback is provided through the obstacle avoidance pictogram in status bar:

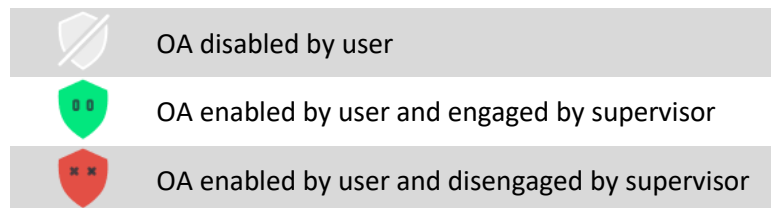




Figure 84: Drone able to detect obstacles

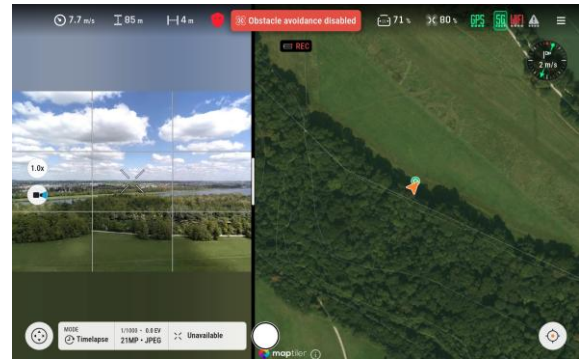


Figure 85: Drone unable to detect obstacles

A blind zone is an area that:

- Is outside the field of view of the stereo cameras, and
- Has not been previously mapped by the aircraft.

When Obstacle Avoidance is enabled and the pilot commands the aircraft to move toward a blind zone, the aircraft attempts to stay inside mapped space.

The aircraft can:

- Modify the requested trajectory, or
- Apply automatic corrections similar to obstacle avoidance behavior, even if no obstacle is detected.

During precision maneuvers, this behavior may feel unexpected, and cause small, unwanted movements.

Parrot recommends that before users perform precision maneuvers:

- Explore the environment as much as possible.
- Rotate the aircraft 360° in yaw to map the surrounding area.

If the environment is clearly safe and you must enter an unmapped area, disable Obstacle Avoidance for that part of the flight.

13.1.3. Auto Record

Tap the **Auto Record** tile to activate video recording automatically when the drone takes off.

13.1.4. Stream sharing

Tap the **Stream sharing** tile to broadcast the video stream to an RTMP server (Refer to [chapter 13.12. Stream sharing](#) for more information).

WARNING: To activate **Stream sharing** through **Quick** settings, you must have set a valid URL in the **Stream sharing** setting page.

13.1.5. Stream recording

Stream recording is enabled by default. Tap the **Stream recording** tile to stop recording the video stream on the tablet (Refer to [chapter 13.12. Stream sharing](#) for more information).

13.1.6. ATTI mode

ATTI mode (Attitude mode) stabilizes the aircraft's altitude, but does not hold its Horizontal position. ATTI mode does not use GPS, cameras, or obstacle avoidance to fly or hold position. In ATTI mode, the aircraft can drift with wind as there is no wind compensation, and the pilot must control all horizontal movement.

WARNING: In ATTI mode, the aircraft cannot hold its position or stop automatically, and there is no optimal speed. ATTI mode must only be used by experienced pilots, during extreme conditions. ATTI mode requires extreme care. The pilot has absolute control and is responsible for their decisions and outcomes.

ATTI mode is available in Manual piloting mode. ATTI mode does not apply to autonomous flight modes such as Touch & Fly, Flight Plan or RTH.

ATTI mode is available in both GNSS navigation and Optical navigation flight. ANAFI UKR automatically activates ATTI mode during Optical navigation flight if the required conditions for Optical navigation flight are not respected. Refer to [*chapter 13.7.2 Optical navigation*](#) for more information.

Select **ATTI mode** when the aircraft behaves erratically, for example in case of GPS spoofing.

In ATTI mode, the user has full control over the aircraft's tilt angle. Therefore, in that mode the aircraft can exceed its optimal speed (14 m/s) and can fly up to 17 m/s with standard battery or 20 m/s with XLR battery.

In ATTI mode, the aircraft is more sensitive to environmental conditions. Wind and other environmental factors can cause the aircraft to drift.

CAUTION: ATTI mode may require higher battery current. This may cause the battery state of charge (SOC) to decrease faster and trigger low-battery procedures such as RTH or autoland. Avoid using ATTI mode when the battery SOC is below 30%.

13.2. Gallery

Manage the media recorded on the drone or on the device in the **Gallery**.

Medias can be displayed in the FreeFlight 8 application. They also can be downloaded locally on the device.

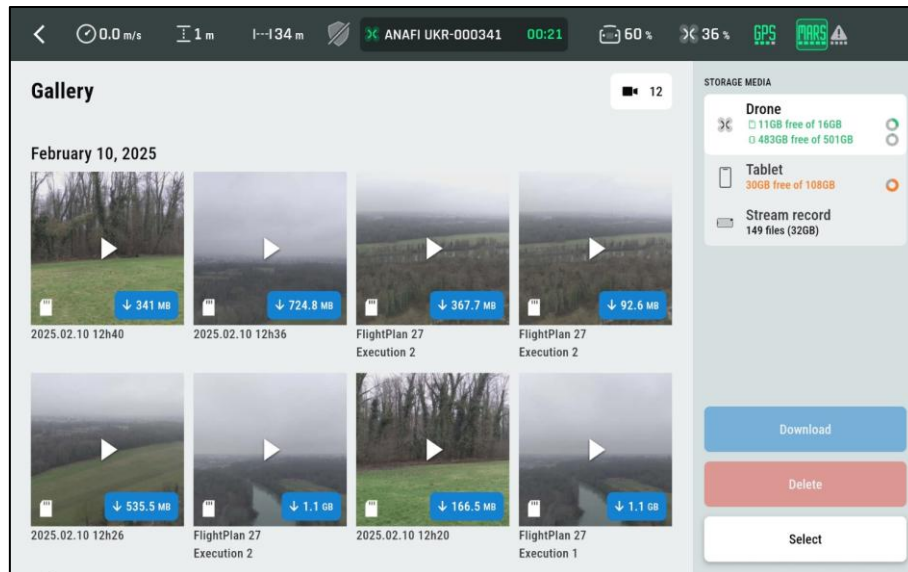


Figure 86: Settings - Gallery

13.3. Flight logs

Flight logs are available through the **Settings/Flight logs** page.

Flight logs are always downloaded locally on the device unless the sharing option is configured to **Private mode**. Flight logs are downloaded immediately after the drone has landed.

Flight logs show the data of previous flights.

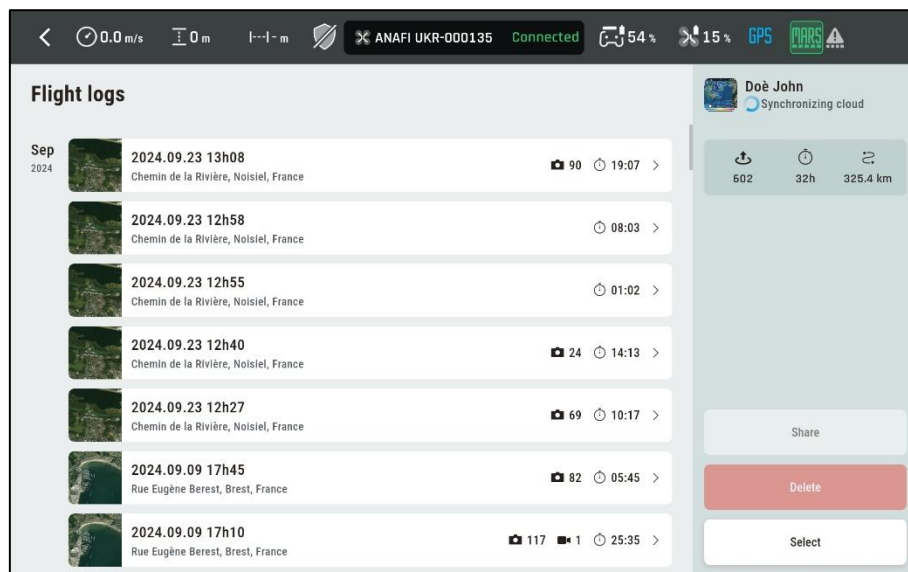


Figure 87: Settings - Flight logs

Tap a flight in the **Flight Logs** list to view the flight path between the take-off and the landing point, and the location of media recorded during the flight:

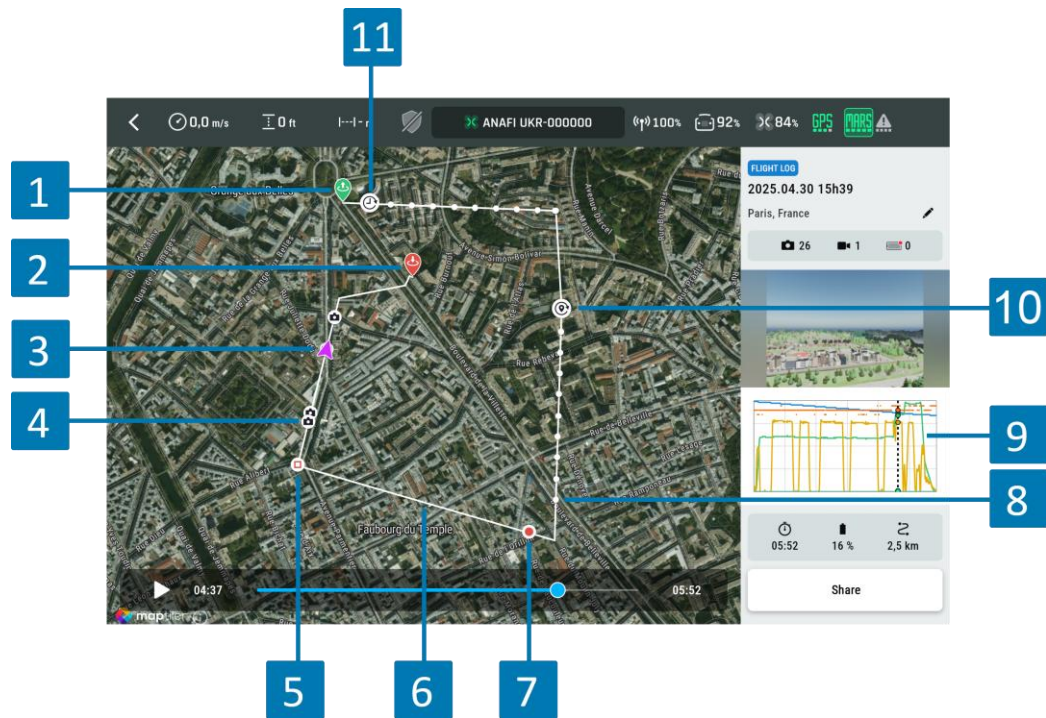


Figure 88: Flight log details

- | | |
|----------------------------|------------------------------|
| 1. Take-off location | 7. Start recording location |
| 2. Landing location | 8. GPS lapse/Timelapse photo |
| 3. Drone location | 9. Flight log graph preview |
| 4. Photo location | 10. GPS lapse start location |
| 5. Stop recording location | 11. Timelapse start location |
| 6. Flight path | |

Tap the Flight log graph preview or media preview on the side panel to display the graphs or media in the main view:



Figure 89: Flight log graphs

The main flight parameters are displayed in the top bar. **Battery (%)** and **Altitude (m)** are selected and displayed on the graph by default. Users can select and deselect the main flight parameters to display more detail on the graph:

Parameter	Line color	Details displayed
Battery (%)	Blue	Battery life percentage as a function of time
Altitude (m)	Pink	Aircraft altitude as a function of time
Speed (m/s)	Yellow	Aircraft ground speed as a function of time
GPS (Sat.)	Green	Number of GNSS satellites used for the fix as a function of time
Radio	Turquoise, Purple, Orange, Cyan	Radio link bitrate (MARS, 5G, Backup or Wi-Fi) as a function of time
MARS	Turquoise	Rx & Tx frequencies, and RSSI as a function of time
5G	Purple	RSSI & Frequencies as a function of time
Backup	Orange	RSSI as a function of time
Wi-Fi	Cyan	RSSI as a function of time

NOTE: Available radios depend on individual configurations.

Use the slider at the bottom of the screen to display the details at specific timestamps during the flight.

Medias are also replayed synchronously with the flight log:

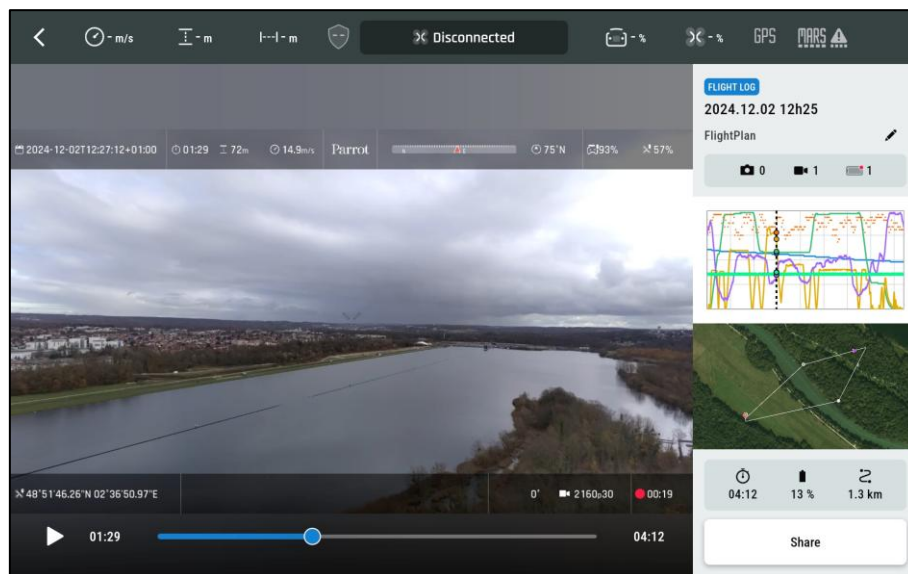


Figure 90: Medias replay

If a stream recording was recorded during the flight then it will be replayed in priority even though medias (videos or photos) recorded by the drone during that flight are also available.

Tap **Share** to build and share a flight report document in PDF format.

An archive containing the flight report in PDF format and the GUTMA log file (Global UTM Association) in both json and csv formats is created. The archive can optionally be encrypted. It can be shared with any application (Gmail, Outlook, etc.) installed on the device.

The GUTMA log file is compliant with the flight logging exchange protocol. That protocol is open to public comments and contributions. The protocol's purpose is to harmonize flight telemetry data logs

(such as GPS location, speed, battery voltage...). Logs can then be used by UAV pilots, third-party drone management software providers, governments, and authorities interested in using these data.

The log file is saved as a JSON (JavaScript Object Notation) file which is also an open standard file format.

You can combine and share multiple flight logs into one single PDF document. Start selecting a flight log either by long click on one of them or clicking on the **Select** button. Then select up to 10 flights and click **Share**.

To share multiple logs:

1. Press and hold on a log,
2. Tap each individual log you want to share.

Users can also generate a single PDF document including up to 10 flight logs by selecting the flights in the flight log list and tapping **Share**.

13.4. Flight parameters

Flight parameters allows the user to program the flight behavior of the drone.

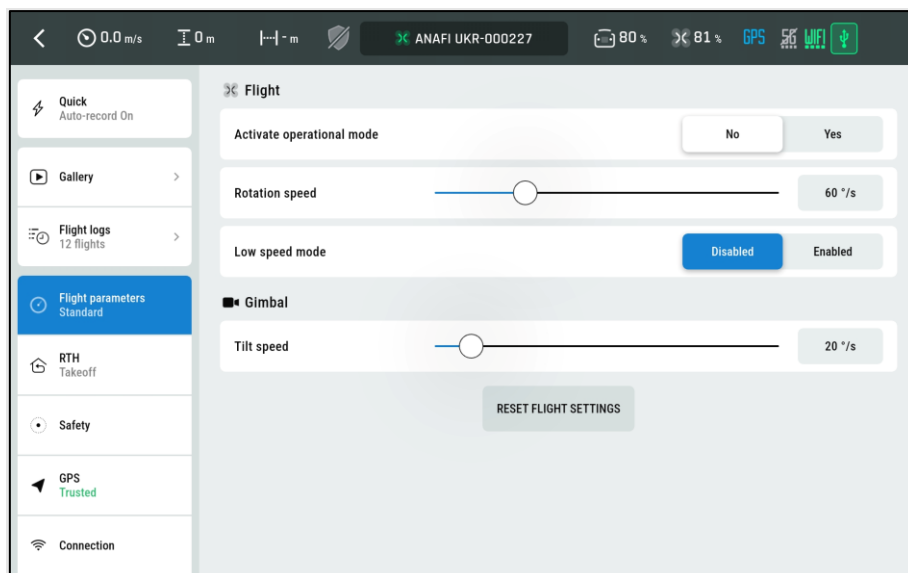


Figure 91: Settings - Flight parameters

Users can toggle between 2 flight modes: **Standard mode**, and **Operational mode**.

WARNING: Operational mode must only be activated by experienced pilots, and only during emergencies. Safety features are disabled by default. All sensors and checks performed by the aircraft that block take off are disabled, including alerts about battery charge level, damaged parts etc.

- **Activate operational mode**
 - No - Standard mode**
 - Safety features are enabled.
 - Yes - Operational mode**
 - Safety features are disabled.

- **Rotation speed:** Use the slider to configure the yaw speed from **10°/s** to **200°/s**. The default value is **60°/s**.
- **Low speed mode:** Tap **Enabled** to limit the drone speed to 3m/s in manual piloting modes.
- **Camera tilt speed:** Use the slider to configure the camera tilt speed from **1°/s** to **180°/s**. The Default value is **20°/s**.

13.5. RTH

The **RTH** page allows the user to configure the **Return to Home (RTH)** parameters:

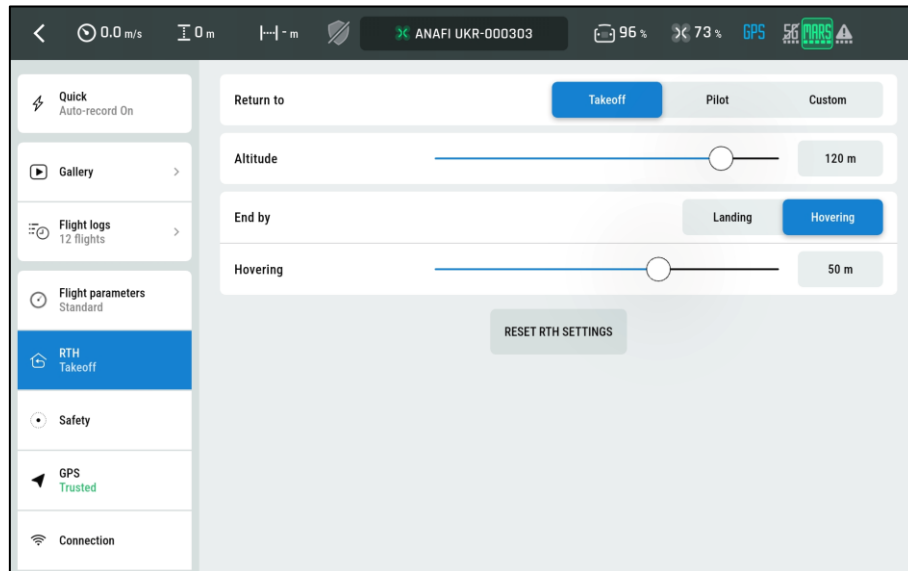


Figure 92: Settings - RTH

13.5.1. Return Home (RTH)

13.5.1.1. Return to

- **Takeoff:** Home position is the position of the drone at take-off.
 - If the drone's GPS position is not available at take-off, the home position is set to the controller position.
- **Pilot:** Home position is the controller position.
 - If the controller GPS position is not available, the home position is set to custom home position (if it was defined) or to the take-off position.
- **Custom:** Home position is defined by the user. To define the Custom position:
 1. Tap **Define position**.
 2. Drag and drop the home icon, or tap anywhere in the map to set the custom home at the desired location, or edit manually the home position by clicking on the coordinates.
 3. Tap **Define** to validate the custom home position.

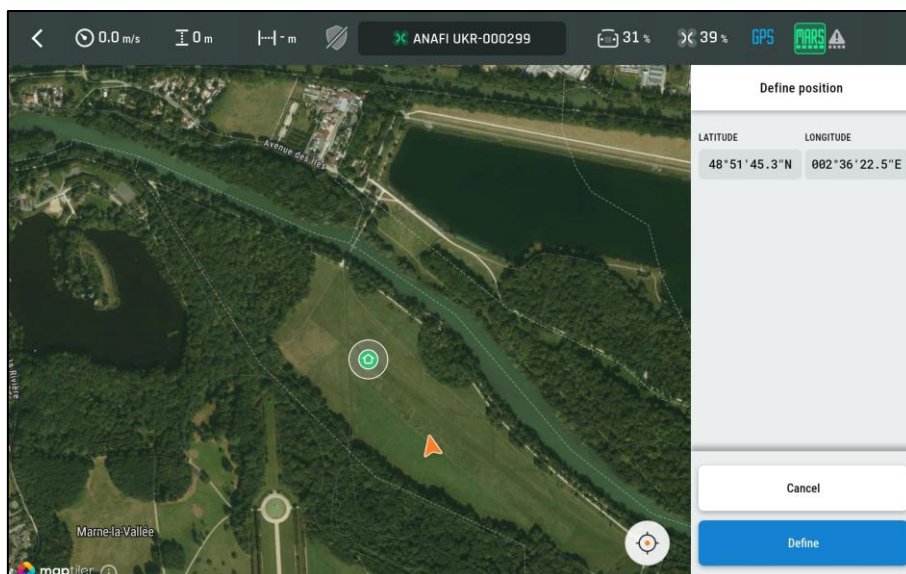


Figure 93: RTH - Define custom home position

13.5.1.2. Altitude

This is the minimal Return to Home altitude. It can be set from **1 m** to **500 m** (default value **120 m**).

13.5.1.3. End by

This setting defines the drone's behavior at the end of the RTH:

- **Landing:** The drone lands on the ground.
- **Hovering:** The drone hovers on top of the home point at the **Hovering** altitude described below.

13.5.1.4. Hovering

This is the altitude at which the drone will hover when End by is set to **Hovering**. It can be set from **1 m** to **500 m** (default value **50 m**).

NOTE: Hovering altitude cannot be set at a value higher than the RTH altitude value.

13.5.2. Drone RTH trajectory

The trajectory that the aircraft follows during the RTH depends on:

- The RTH and Safety settings,
- The aircraft position when the RTH is initiated,
- The aircraft altitude when the RTH is initiated.

13.5.2.1. Case 1

If the drone is at a horizontal distance lower than 5 m from the Home position at the moment the RTH is initiated, then the aircraft does not move horizontally. It adjusts its altitude depending on the **End by** and **Hovering** settings.

If the aircraft is at a horizontal distance higher than 5 m from the Home position at the moment the RTH is initiated, then the aircraft flies autonomously to reach the Home position.

If the aircraft is flying at an altitude higher than the RTH altitude setting, it flies straight towards the point located on top of the Home position at an altitude equals to RTH altitude setting (Refer to [Figure 94](#) below).

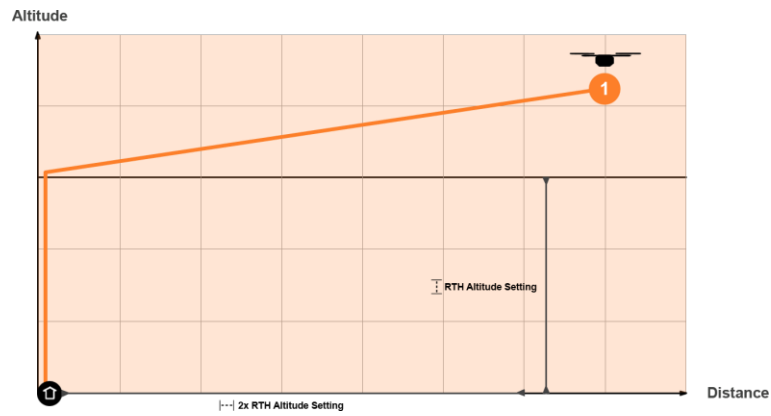


Figure 94: Aircraft flies at an altitude higher than the RTH altitude setting

13.5.2.2. Case 2

If the aircraft is flying at an altitude lower than the RTH altitude setting, it first flies upwards to reach the RTH altitude, and then flies horizontally to reach the Home position (Refer to [Figure 95](#) below).

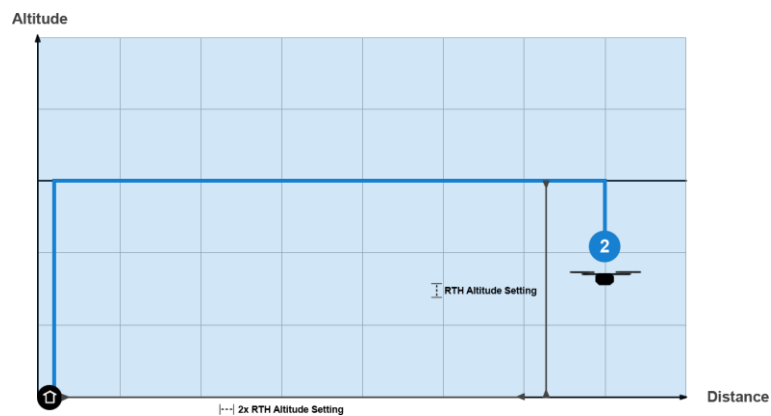


Figure 95: Aircraft flies at an altitude lower than the RTH altitude setting

13.5.2.3. Case 3

If the distance to Home is less than half of the RTH altitude setting, the RTH trajectory is modified so that the aircraft avoids flying at high altitude at a short distance from its Home position (Refer to [Figure 96](#) for case 3 and [Figure 97](#) for case 4 below).

- $\text{Altitude} > (\text{distance} / 2)$

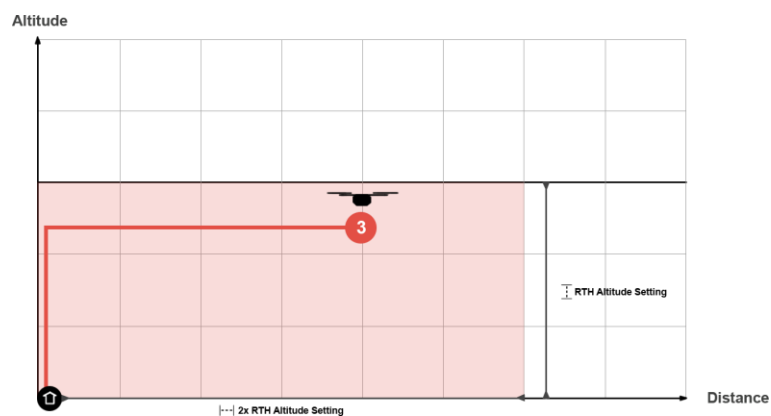


Figure 96: Distance to Home is less than half of the RTH altitude setting

13.5.2.4. Case 4

- Altitude < (distance / 2)

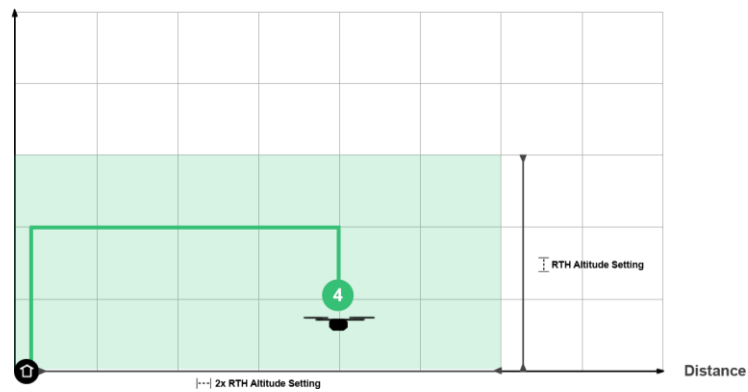


Figure 97: Distance to Home is more than half of the RTH altitude setting

Figure 98 below shows a summary of all 4 RTH trajectory cases.

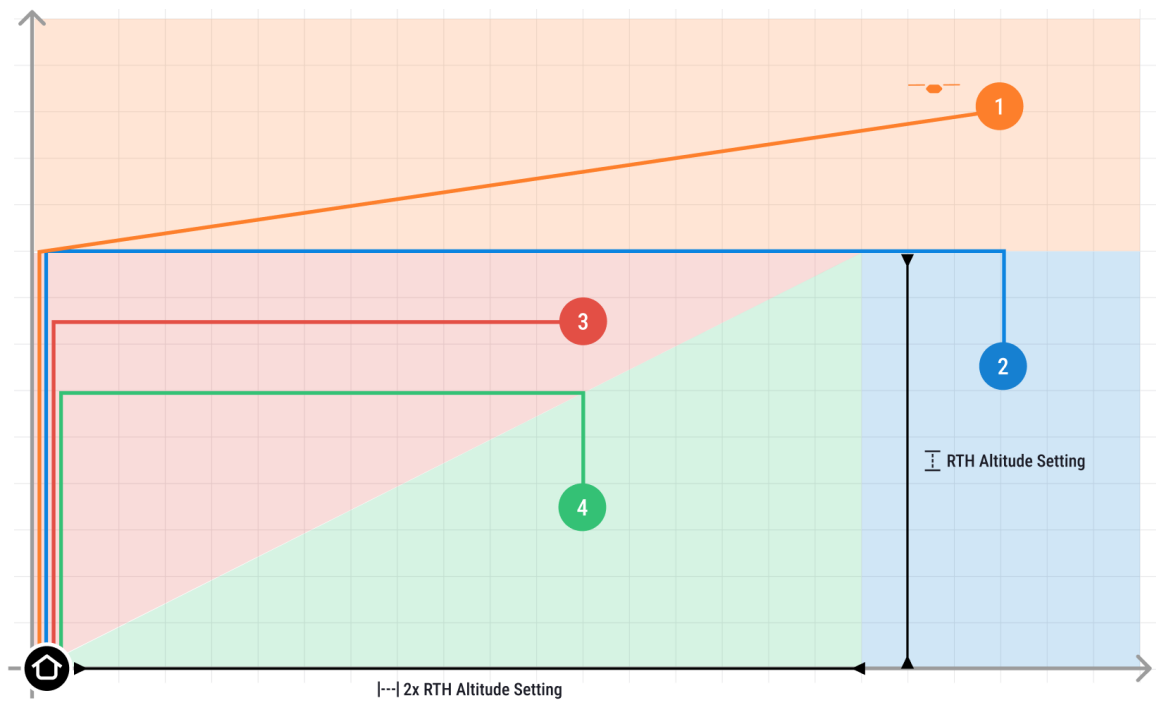


Figure 98: Summary of all RTH trajectories

13.6. Safety

The **Safety** page allows the user to configure the safety parameters:

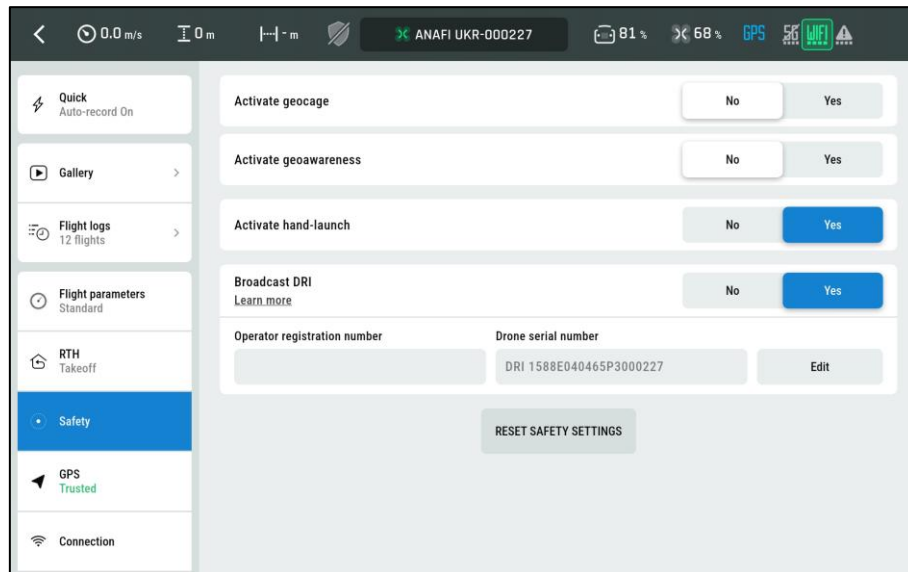


Figure 99: Settings – Safety

Geocage and geoawareness are disabled by default but can be activated any time.

13.6.1. Activate geocage

Geocage is defined as a cylinder centered on the drone take-off position.

Maximum horizontal distance and Maximum altitude are defined by the user according to the range described below:

	Min	Max
Geocage Max distance	10m	15km
Geocage Max altitude	10m	1000m

The drone is not allowed to fly outside from the geocage cylinder volume in manual piloting modes. If the drone reaches the limit of the geocage in manual piloting modes it will be blocked. An alert will be displayed.

The geocage volume is displayed in the FreeFlight 8 map:

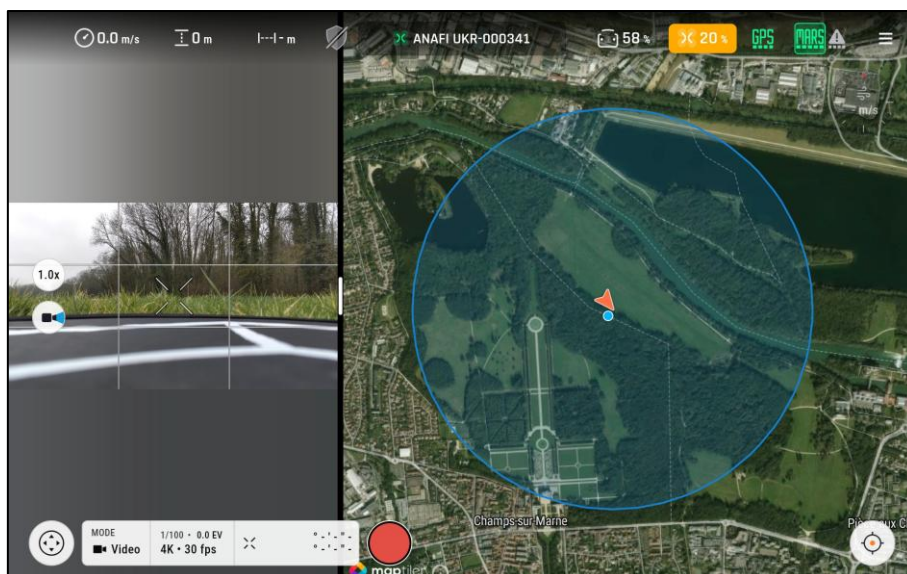


Figure 100: Geocage volume in FreeFlight 8 map

NOTE: The geocage does not apply to autonomous flying modes (Flight plan or Touch & Fly).

13.6.2. Activate geoawareness

Geoawareness helps the pilot to make sure the drone is flying in an area in which it is allowed by local regulations. Geoawareness is only informational, the flight is not blocked but an alarm raises when the drone is flying into a regulated zone.

When geoawareness is activated No Fly Zones will be displayed in FreeFlight 8 map:



Figure 101: No Fly Zones

No Fly Zones are displayed in FreeFlight 8 map by different colors:

- Red: flight is not allowed by regulation
- Orange: flight is allowed up to a given altitude above ground (ATO reference)
- Yellow: flight is regulated, and altitude limits are defined in AMSL reference

An alert appears in the HUD in 4 situations:

1. The drone is flying inside a No Fly Zone
2. The drone is about to enter a No Fly Zone
3. The drone is flying less than 16m above or below a No Fly Zone
4. The drone is flying above or below a No Fly Zone

NOTE: No Fly Zones displayed in FreeFlight 8 are stored on a database on a Parrot server. Therefore, the Geoawareness feature needs an internet connection on the tablet to be operational.

13.6.3. Activate hand-launch

- **No:** Hand-launch functionality disabled.
- **Yes:** Hand-launch functionality enabled.

It may be helpful to disable hand-launch functionality in certain situations, for example to take off the drone from the deck of a boat or from a moving vehicle.

13.6.4. Digital remote identification (DRI)

When DRI is enabled, the drone broadcasts its identity and telemetry in compliance with regional regulations including EN 4709, ASTM F3411, and French 2019. Data is transmitted either through the drone's integrated Wi-Fi or via an external accessory (Dronetag Beacon) connected to the USB port. The broadcast includes the following information:

- Drone data:
 - Identification: Serial number (ANSI/CTA-2063 format), UAS category (Open) and drone classification (EU Class C1/C2).
 - Location & Altitudes: Real-time GPS coordinates (latitude/longitude), altitudes (geodetic WGS84 and barometric) and height above takeoff.
 - Flight vector: Horizontal and vertical speeds, heading (track), and flight status (ground, airborne, or emergency).
 - Accuracy & Quality: Horizontal/vertical position accuracy, speed accuracy, barometric accuracy, and timestamp precision.
- Pilot data:
 - Identification: UAS Operator ID
 - Location: Real-time GPS coordinates, geodetic altitude, and location type (dynamic station, takeoff point, or fixed location).

13.7. GPS

Tap the **GPS** tile to open the **Navigation Settings** screen.

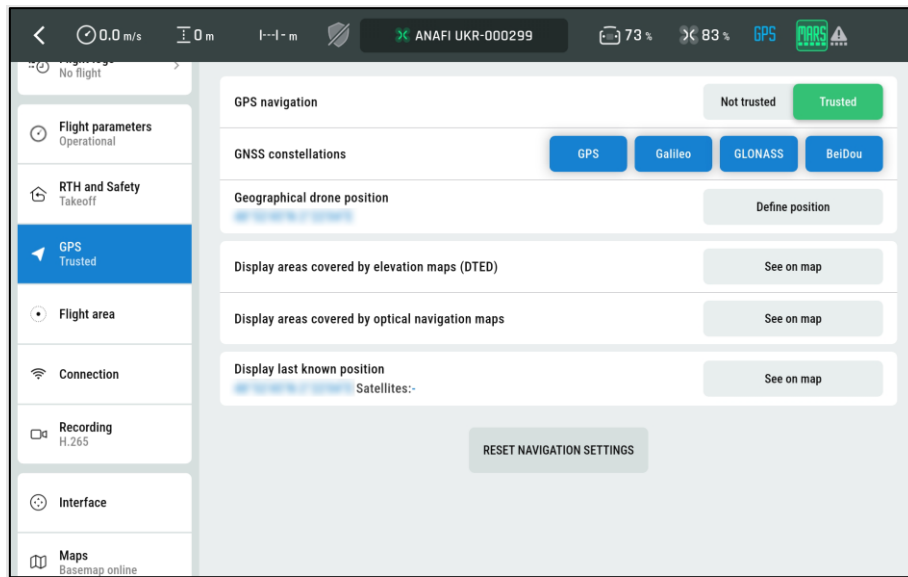


Figure 102: Settings – GPS

13.7.1. GPS navigation

Beside **GPS navigation**, the user can toggle between two settings.

Tap **Trusted** to enable GNSS services which allows the GNSS receiver to acquire satellite signals.

Tap **Not trusted** to disable GNSS services which prevents the GNSS receiver from acquiring satellite signals.

This setting is valuable for ensuring maximum stealth capability and complete immunity to GNSS jamming/spoofing attacks.

When the drone flies in an environment at risk of GNSS jamming/spoofing, disabling this setting ensures that the drone navigation algorithm is not impacted by the attack.

WARNING: When **GPS navigation** is set to **Not trusted**, the user must manually define the position of the drone before take-off.

When **GPS navigation** is **Trusted**, a GNSS quality algorithm constantly monitors the GNSS quality. It automatically and instantly switches autopilot mode to GNSS-denied flight whenever GNSS is considered:

- Lost,
- Spoofed,
- Jammed

13.7.2. Optical navigation

Optical navigation is enabled when the user selects **Not trusted** for **GPS navigation** or when a GNSS jamming/spoofing attack has been detected.

The **GPS** pictogram in the FreeFlight telemetry bar turns blue when optical navigation is enabled.

For optimal performance, optical navigation requires:

- The drone to fly at an altitude between 100 m and 500 m above ground level (best performance is achieved at 350 m)
- Optical Navigation maps uploaded to the drone.
- DTED maps uploaded to the drone (mandatory when flying in areas with variations in elevation over 20 m).
- Flight above textured ground.

NOTE: The drone can drift if all the conditions above are not respected.

The ANAFI UKR user guide details how to generate optical navigation maps and DTED maps, and how to install them onto a drone.

CAUTION: Optical navigation enhances flight stability using vision-based technology. For optimal performance, ensure the drone flies over well-contrasted terrain. Surfaces with low contrast, such as snowy fields without distinct features, may reduce accuracy. For best results, avoid flying in clouds, heavy fog, or low-light conditions.

The GNSS denied algorithm estimates the geo-coordinates using a neural network that detects roads, borders (fields, lake, sea), and all structural elements visible from high altitude. To maximize the performance, Parrot advises adapting the flight path to fly above recognizable features such as roads, lakes, buildings, forest edges etc. and avoiding flight over terrain with repetitive patterns, and non-textured ground.

Figure 103 shows the recommended flight path compared to a sub optimal path:



Figure 103: Optimal flight path for optical navigation

- | | |
|-------------------------------|----------------------------|
| 1. Drone start point | 4. Drone end point |
| 2. Road intersection (1 of 3) | 5. Sub optimal flight path |
| 3. Optimal flight path | 6. Non textured ground |

To avoid miscalculations, the algorithm does not recalibrate when flying over a straight road with no identifiable features to determine the exact position.

13.7.3. GNSS Constellations

The user can select the satellite constellations in order to avoid using constellations that are known (or potentially known) to be spoofed/jammed.

Beside **Constellations**, select the constellations that you want to be used by the GNSS receiver to estimate the position:

- **GPS** - developed by the United States (Global Positioning System).
- **GLONASS** – Developed by Russia (Global Navigation Satellite System).
- **Galileo** – Developed by the European Union.
- **BeiDou** – Developed by China.

13.7.4. Geographical Drone position

When **GPS navigation** is **Not trusted**, the user must set the initial geographical position of the drone before take-off.

To manually set the drone position, tap the **Define position** button.

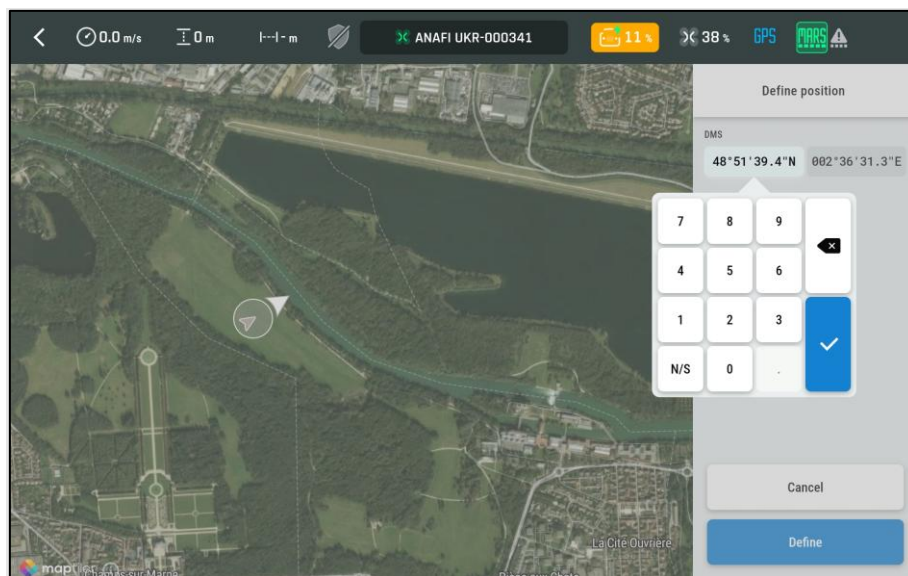


Figure 104: Define initial drone position and orientation

You must define:

- The initial position of the drone on the map – move the drone pictogram on the map or edit the coordinates with the virtual keyboard.
- The initial orientation of the drone on the map - rotate the arrow around the drone pictogram.

13.7.5. Display last known position

If the connexion between the drone and the Skycontroller is lost, FreeFlight 8 records the coordinates of the drone's last known position.

Tap **See on map** to open the map and see the drone's last known position:

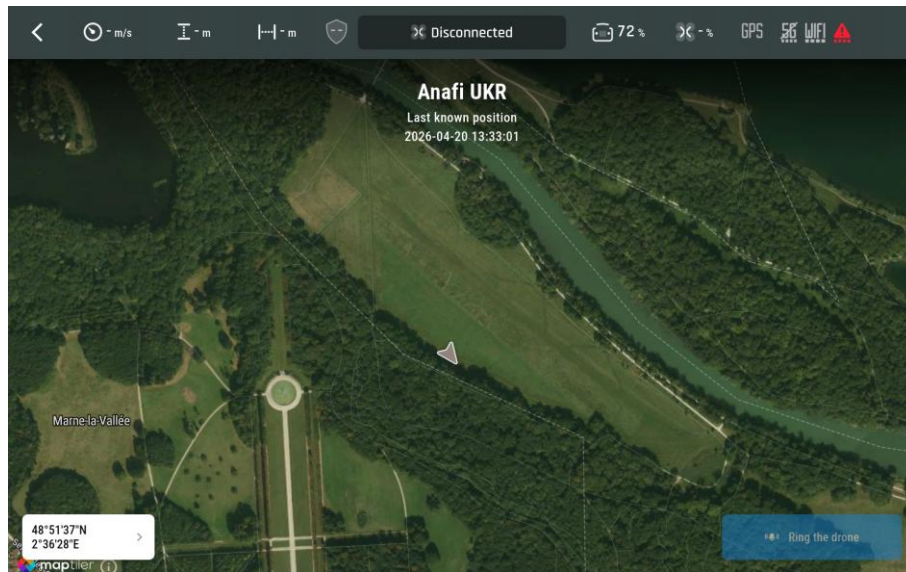


Figure 105: Last known position

The position of the drone can be displayed in the map application (e.g Google maps) installed on the tablet by clicking on the widget in the bottom left corner.

The **Ring the drone** button can be used to help find the drone if it has been lost after an automatic landing for example. A sound signal will be emitted by the drone's motors. The drone must be connected to be able to ring.

13.7.6. Display area covered by elevation maps (DTED)

If terrain elevation (DTED) maps are stored on the drone, you can tap **See on map** to check the perimeter covered those DTED maps.

The perimeter covered by the DTED maps is displayed in three colors depending on their spatial resolution:

- DTED2 (spacing of 30m): green overlay
- DTED1 (spacing of 90m): orange overlay
- DTED0 (spacing of 900m): white overlay

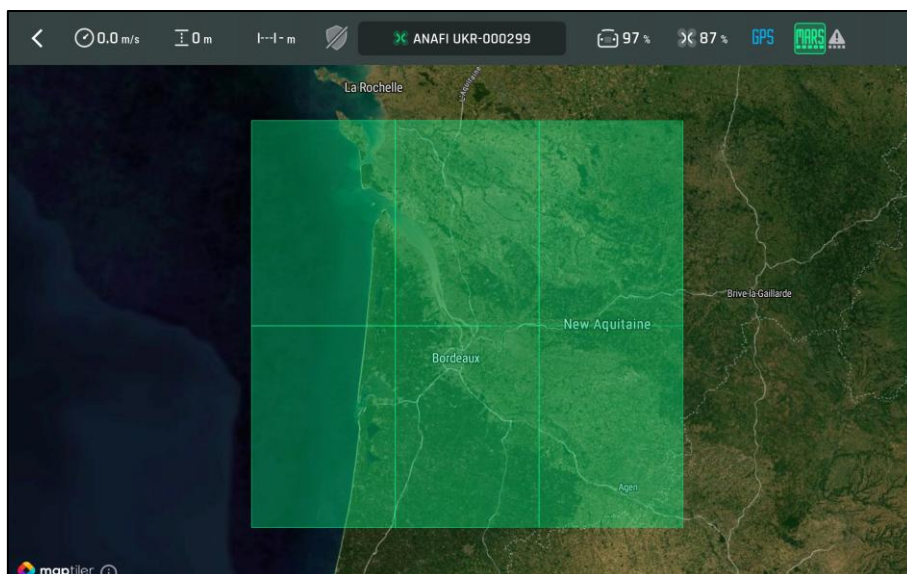


Figure 106: DTED2 map with green overlay

13.7.7. Display areas covered by optical navigation maps

If optical navigation maps are stored on the drone, you can tap **See on map** to check the perimeter covered by optical navigation maps.

Up to date optical Navigation maps stored on the drone are displayed with a blue overlay whereas it is displayed with an orange overlay if it is not up to date. In case the optical map version is unknown, it will be displayed with a red overlay.

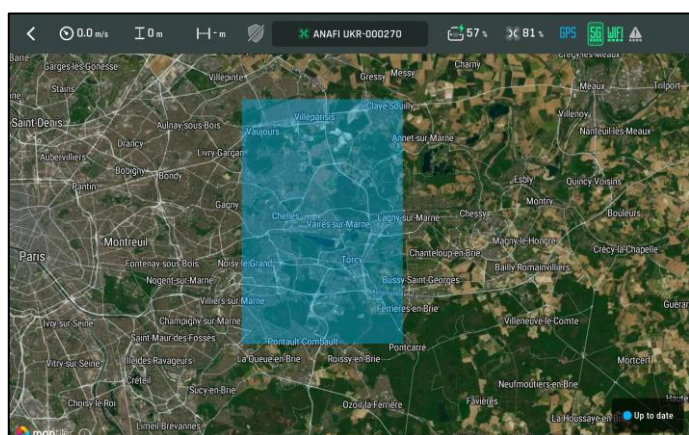


Figure 107: Up to date optical navigation map

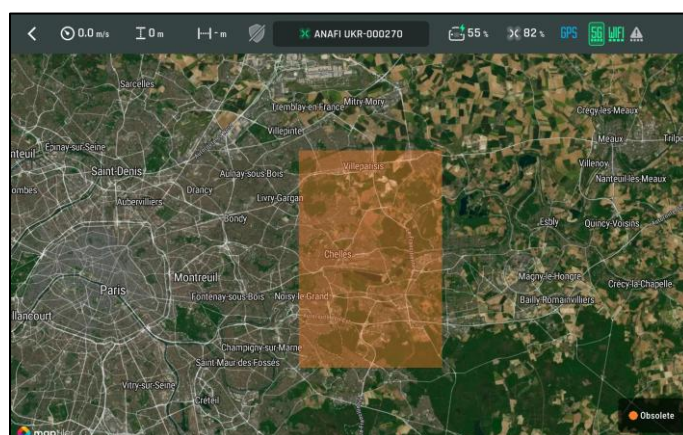


Figure 108: Obsolete optical navigation map

In case the optical navigation map stored on your drone become obsolete, you must generate again an optical navigation map using the latest version of FlightCharts software.

13.8. Connection

The **Connection** setting provides access to the frequency settings for:

- **MARS radio** (Military Adaptive Radio System)
- **Cellular**
- **Wi-Fi**
- **LoRa backup radio**

NOTE: Available radios, and radio tabs in the **Connection** settings page, depend on individual system configuration.

13.8.1. MARS radio

Tap the **MARS radio** tab to access the MARS radio options.

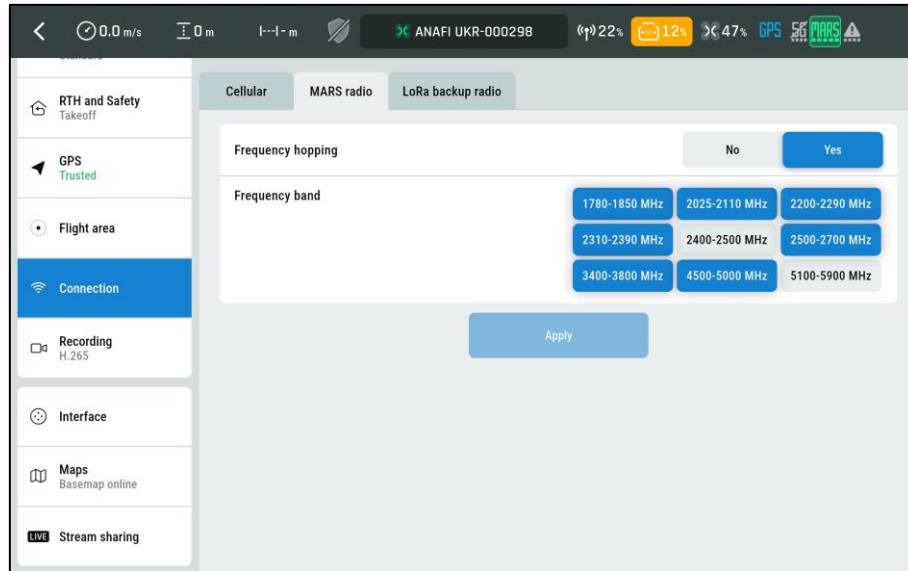


Figure 109: MARS radio tab in Settings/Connection

MARS radio can be used in fixed band or frequency hopping band.

Frequency hopping:

- **No** - The **Frequency band**, and the **Channel** inside the selected band are available.
- **Yes** - Only the **Frequency band** is available, it is not possible to select the **Channel**.

The algorithm regularly and randomly switches from one band to another within the selected bands, making the system resistant to radio link jamming.

In addition to the high-rate frequency hopping mechanism every 400 ms on single or multiple bands, the drone actively monitors in-band interference and automatically switches channels or frequency bands to find the best-performing frequencies (commonly known as Adaptive Frequency Hopping).

Frequency band (MHz)	Channel range	Number of channels
1780-1850	106 to 168	63
2025-2110	177 to 254	78
2200-2290	263 to 345	83
2310-2390	354 to 426	73
2400-2500 ^[1]	435 to 527	93
2500-2700	536 to 728	193
3400-3800	737 to 1129	393
4500-5000	1138 to 1630	493
5100-5900 ^[2]	1639 to 2431	793

NOTE: Available bands depend on system configuration.

[1] The **2400-2500 MHz** frequency bands are available for all configurations.

[2] The **5100-5900 MHz** frequency bands are available for XLR configurations.

NOTE: The **MARS Radio** tab in **Settings / Connection** displays 9 frequency band buttons, but the **5100–5900 MHz** button contains two bands merged into one.

Other bands depend on individual configurations. For more information on specific configurations, refer to [*chapter 13.19. Certificates*](#).

13.8.2. Cellular

Tap the **Cellular** tab to access the 5G options.

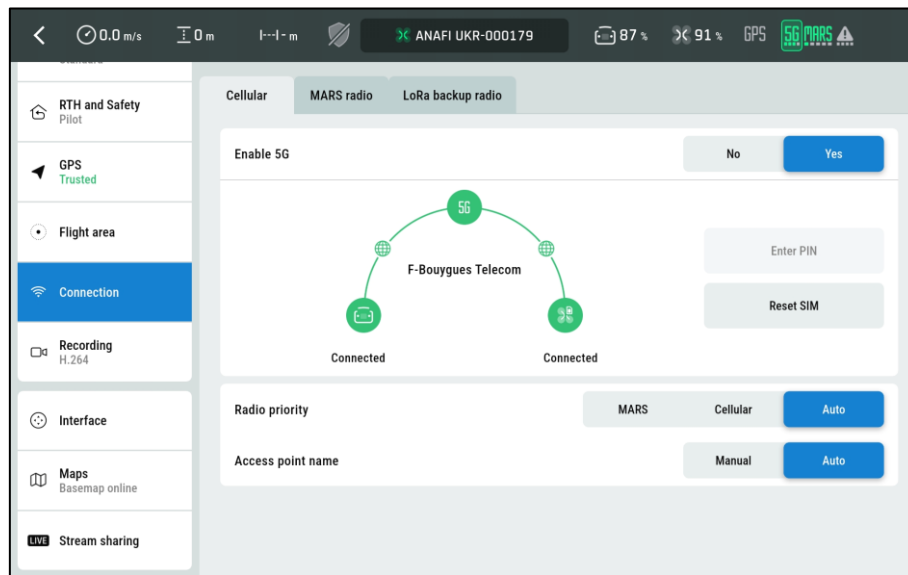


Figure 110: Cellular tab in Settings/Connection

5G connectivity requires the tablet running FreeFlight 8 to be connected to the internet.

5G connectivity requires a nano SIM card inserted into the aircraft.

To connect the tablet and the aircraft through the internet network, you need first to establish a connection using the alternative main radio link (MARS or Wi-Fi depending on your product configuration). If the SIM card is locked, you will be prompted to enter the PIN code:

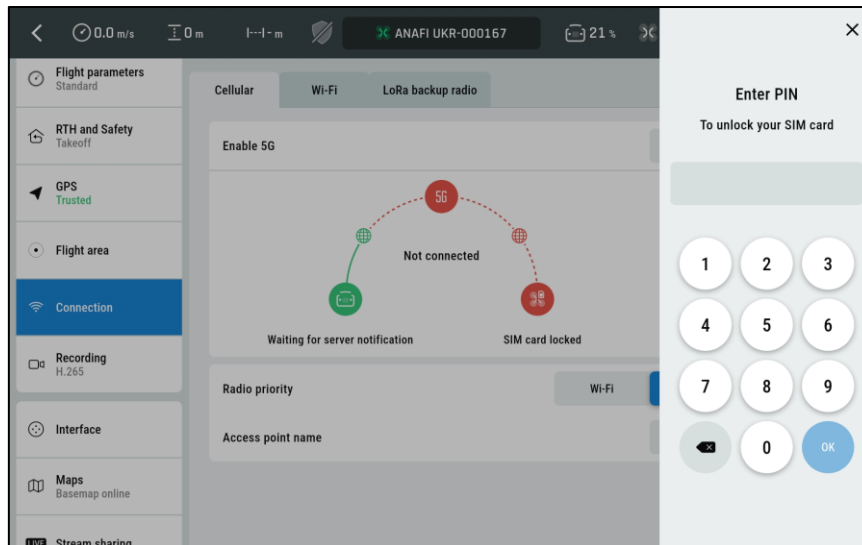


Figure 111: Enter SIM card PIN code

After you have entered the PIN code once, it will be persistently saved by the drone software and you won't have to type it again.

If you select **Reset SIM** from this interface and then **confirm**, the PIN code persistently saved into the drone software will be erased. The drone reboots and you will be prompted to enter the PIN code again.

NOTE: 5G connection and in flight 5G data sharing may generate a charge, according to the 5G data plan associated with your nano SIM card.

There are 3 options for **Radio priority**:

- **Wi-Fi** (or **MARS** depending on the product configuration) - Relies on the Wi-Fi (or MARS) radio link as long as it is available.
- **Cellular** - relies on the 5G network as long as it is available.
- **Auto** - The drone manages the network connection.

The **Access point name** (APN) is the configuration that the drone uses to connect to the mobile data network:

- **Manual** - The user enters the APN values from the mobile network provider.
- **Auto** - The drone uses the default APN settings from the nano SIM card.

13.8.3. Wi-Fi

Tap the **Wi-Fi** tab to access the Wi-Fi options.

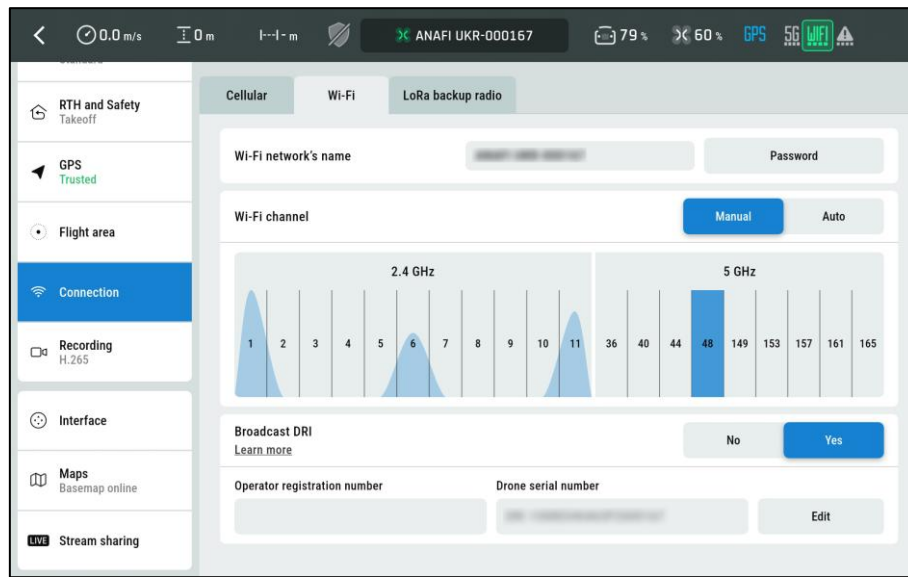


Figure 112: Wi-Fi tab in Settings/Connection

Enter the **Wi-Fi network's name** in the text field.

Tap **Password** to define the Wi-Fi key shared by the aircraft and the Skycontroller UKR. Parrot defines a unique random password for each aircraft and Skycontroller UKR package, but Parrot highly recommends the pilot to define a personal password. The password must be robust: 10 characters long or more and using at least 3 types of characters among uppercase, lowercase, digits, and special characters. The security of the ecosystem and data depends on the security of this password.

There are 2 options for **Wi-Fi channel** selection mode:

- **Manual** – The user selects a channel.
 - Use the **2.4 GHz** band for longer-range flights.
 - Use the **5GHz** band for better signal stability and high-quality video streaming.
- **Auto** – The drone automatically selects a channel.

Tap **Yes** beside **Broadcast DRI** to transmit the following information directly from the aircraft:

- Unique aircraft ID (serial number and operator registration number)
- Aircraft's current position, altitude, velocity
- Position of the Skycontroller UKR (takeoff location)
- Time stamp
- Emergency status (if applicable)

The DRI electronic signal is compliant with both European & American drone regulations.

IMPORTANT: According to European for open category or American drone regulation, ensure that the DRI function is activated during in-flight operation. For additional information, consult the regulations in force.

13.8.4. LoRa backup radio

Tap the **LoRa backup radio** tab to access the LoRa radio options.

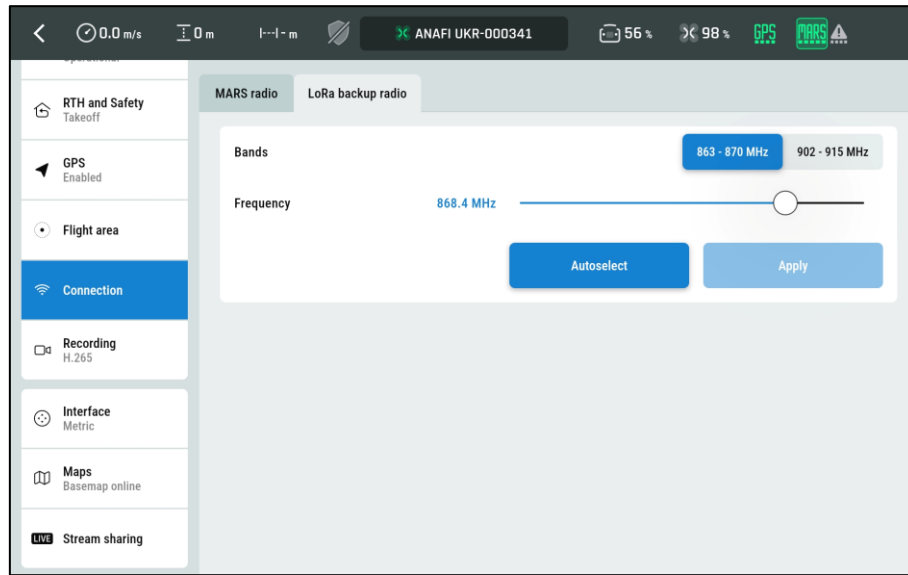


Figure 113: LoRa backup radio tab in Settings/Connection

The user can select the **LoRa backup radio** frequency manually or automatically.

For manual configuration:

1. Beside **Bands**, tap either:
 - **863 – 870 MHz** or;
 - **902 – 915 MHz**.
2. Use the **Frequency** slider to select the channel frequency inside the selected band.

For automatic configuration:

1. Tap **Autoselect**

The LoRa frequency is selected automatically.

NOTE: Available bands depend on system configuration.

When using the LoRa backup datalink, operation from the pilot is limited to manual piloting commands and RTH / landing function. The drone provides a limited dataset of telemetry including position, heading, altitude, battery level, flight state. The video stream from the drone is not available.

13.9. Recording

The **Recording** setting group is dedicated to recording options:

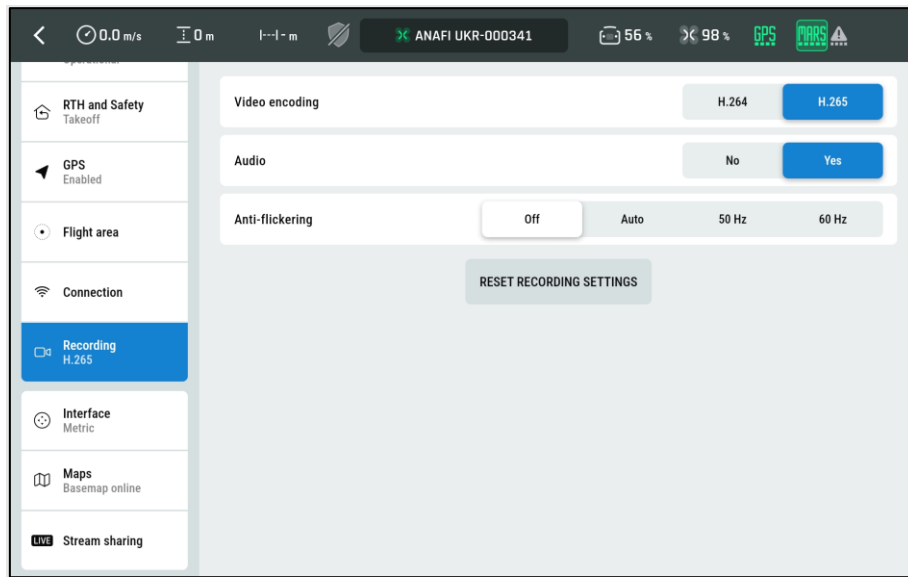


Figure 114: Settings – Recording

13.9.1. Video encoding

- **H.264**
- **H.265**

Parrot recommends using the more recent **H.265** encoding which has a higher compression efficiency with a better compression rate and better quality.

13.9.2. Audio

- **No** - No audio track is recorded with the videos.
- **Yes** - An audio track is recorded with the videos.

13.9.3. Anti flickering

- **Off** - No anti-flicker compensation. The camera uses any shutter speed it chooses, which can cause flicker in artificial lighting. Fine for daylight shooting.
- **Auto** - The drone detects the lighting frequency automatically (using sensors or scene analysis) and sets shutter speeds to avoid flickering.
- **50 Hz** - Locks the camera's shutter timing to match 50 cycles per second lighting.
- **60 Hz** - Locks the shutter to match 60 cycles per second lighting.

13.10. Interface

The **Interface** settings group is dedicated to the FreeFlight 8 display.

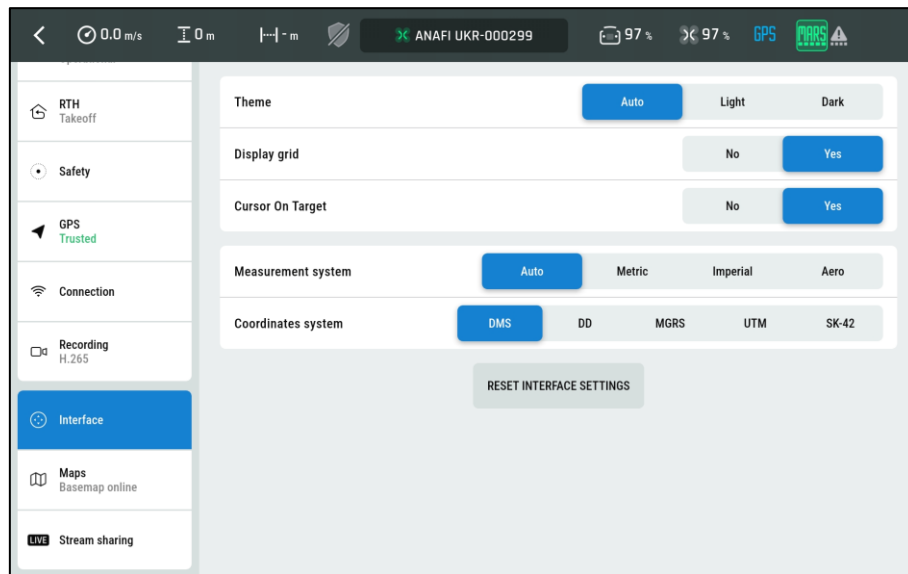


Figure 115: Settings - Interface

13.10.1. Theme

- **Auto** - FreeFlight 8 applies the device's setting.
- **Light** - Dark text/icons on a white background, better in bright environments.
- **Dark** - Light text/icons on a black background, better in dark environments.

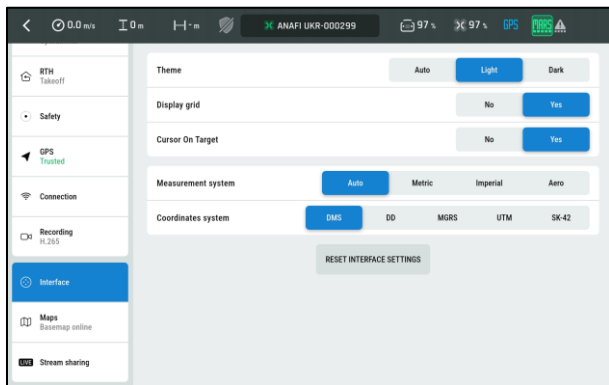


Figure 116: Light theme

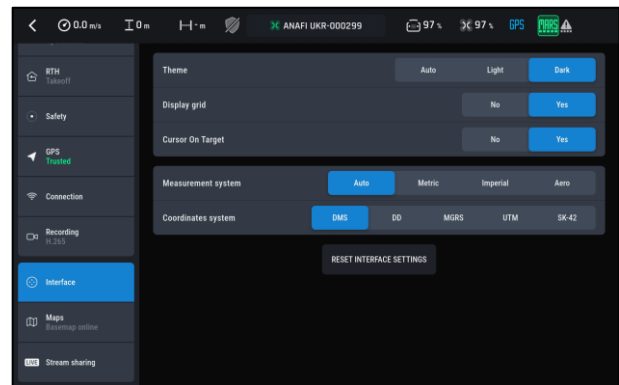


Figure 117: Dark theme

13.10.2. Cursor On Target

- **No** – Cursor On Target is disabled.
- **Yes** – Cursor On Target is enabled.

Cursor on Target is enabled by default.

Refer to [chapter 11.1 Cursor on Target](#) for more information on how to use the Cursor On Target feature.

13.10.3. Display grid

- **No** - No grid is displayed in the streaming view.
- **Yes** - A 3x3 grid is displayed as an overlay on in the streaming view.

13.10.4. Measurement system

- **Auto** - FreeFlight 8 applies the device's setting.
- **Metric** - Displays drone/wind speed in m/s, and distances/altitude in m.
- **Imperial** - Displays drone/wind speed in mph, and distances/altitude in ft.
- **Aero** - Displays drone/wind speed in m/s, altitude in ft, and distance in m.

13.10.5. Coordinates system

- **DMS** - Degrees, Minutes, Seconds.
- **DD** - Decimal Degrees.
- **MGRS** - Military Grid Reference System.
- **UTM** - Universal Transverse Mercator.
- **SK-42** - Soviet Geodetic Datum 1942.

13.11. Maps

The **Maps** page is dedicated to configuring the information displayed in the FreeFlight 8 map view:

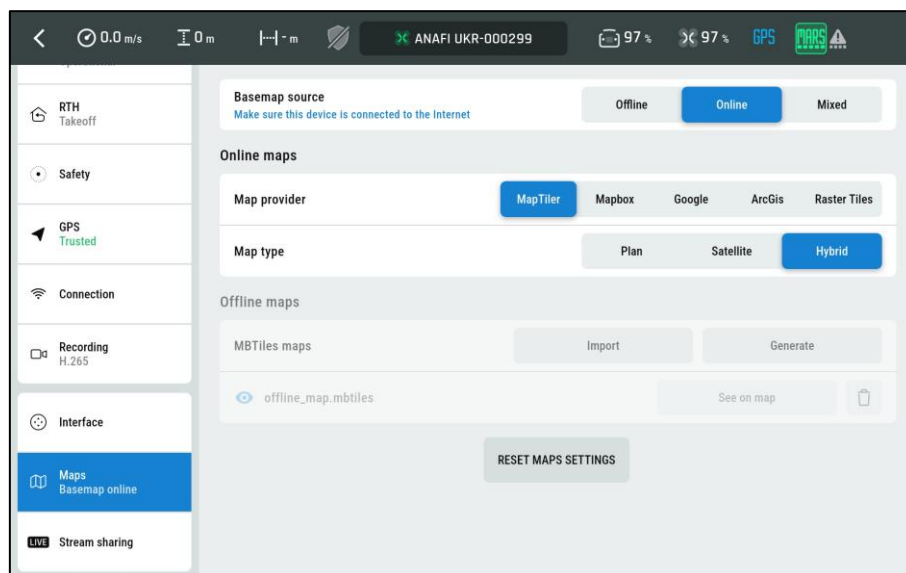


Figure 118: Settings – Maps

Users have 3 options for the **Basemap source**:

- **Offline**
- **Online** (default option)
- **Mixed**

13.11.1. Online maps

Online maps require an internet connection on the tablet. Basemap tiles are downloaded from the basemap provider server.

By default, FreeFlight 8 uses a **MapTiler**® license for the online **Map provider**, but **Mapbox**, **Google**, **ArcGIS**, and **Raster Tiles** are also available.

If the user chooses an alternative Map provider, an additional **Access token** text field appears:

Map provider	Additional text field	Access token required
MapBox®	Enter the Access token	Access token
Google®	Enter the API Key	API key
ArcGIS®	Enter the Access token	Access token
Raster Tiles	Custom URL	Enter a URL to download basemap tiles.

IMPORTANT: The user must determine the most suitable Map provider, subscribe to the appropriate license and comply with the terms and conditions of the license. It is the user's responsibility to ensure they have the correct licenses and/or subscriptions. Refer to [chapter 18 Appendix 3 disclaimer](#), Section 8 *Third-party licenses for online and offline maps*.

13.11.2. Offline maps

Offline maps can be used without an internet connection to the tablet. **Offline maps** mode requires at least one MBTiles package to be imported into FreeFlight 8.

There are 2 methods to create an MBTiles package for offline maps:

- Via FreeFlight 8
- Via an open-source tool

13.11.2.1. Offline maps generation via FreeFlight 8

To create **MBtiles maps** via FreeFlight 8:

1. For the **Basemap source**, tap **Offline**.

The **Offline maps** menu becomes available.

2. Tap **Generate**

The map generation screen opens:

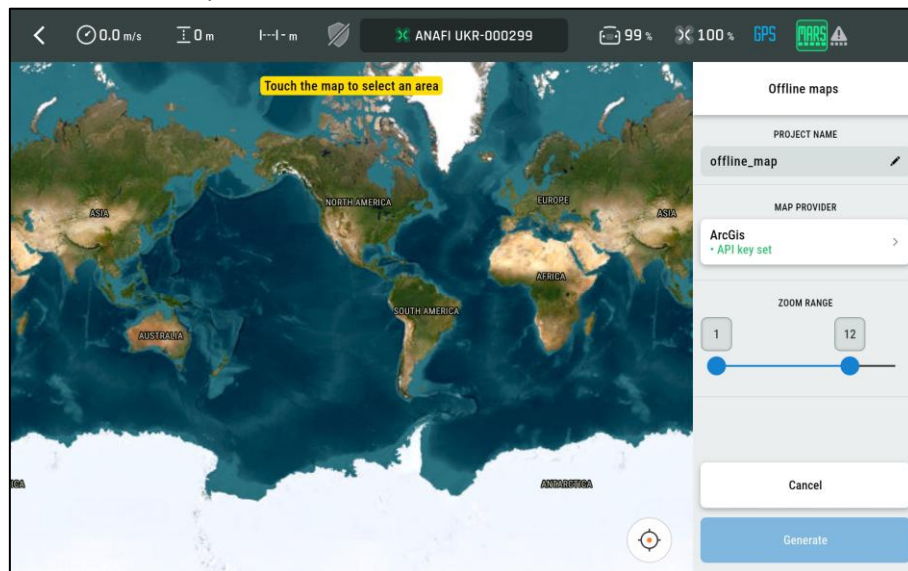


Figure 119: Offline map generation

3. In the **Offline maps** menu (on the right), tap the text field and enter a **PROJECT NAME**.
4. Under **MAP PROVIDER**, tap the drop-down menu and select a map provider.

5. Enter one of the following:
 - a. An **ACCESS TOKEN** (for **MapTiler**, **MapBox**, or **ArcGis**),
 - b. A **MAP TILES API KEY** (for **Google**), or,
 - c. A **CUSTOM URL** (for **Raster Tiles**).

NOTE: A token or key is required to display a map on the map generation screen. If **API key missing** shows under the **MAP PROVIDER**, the map workspace shows a dark background with a square grid overlay.

6. Use the **ZOOM RANGE** slider to define the map zoom levels:

FreeFlight 8 uses a double-ended slider to select the minimum and maximum zoom levels to include in the map.

- The **minimum zoom level** (left slider handle) determines how much of the map is visible when zoomed out. Lower levels (e.g., 1 or 2) show larger areas with less detail.
- The **maximum zoom level** (right slider handle) defines the level of detail available when zoomed in. Higher levels (up to 18) show more detail (e.g., fields, roads, or buildings).

7. Use 2 fingers to zoom to the area of interest on the map.
8. Tap the map.

A blue Area of Interest grid appears on the map:

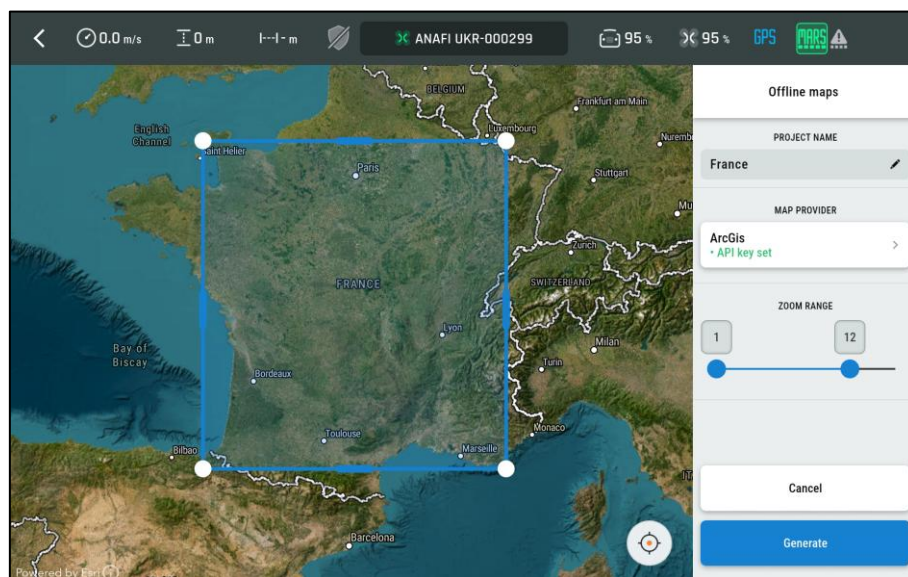


Figure 120: Blue Area of Interest grid - ArcGis MAP PROVIDER

The user can:

- Drag the grid to a different location,
- Drag the white circular corners, or the blue bars on each side to resize the grid.

9. Tap **Generate** to start generating the map:

The map generation process starts. A progress bar indicates the number of tiles generated.

10. Tap **Stop** at any time to cancel the map generation process.

The larger the blue grid the user creates in step 8, the longer FreeFlight 8 requires to create the map.

When the map generation process is complete, FreeFlight 8 displays **Generation successful**.

11. Tap **Done**

12. Tap **< Back** in the top bar to return to the **Maps** settings screen.

If you tap **< Back** before the map generation process completes, the process continues on the **Maps** settings screen. A progress bar appears in the **Offline maps** menu, under **MBTiles maps**.

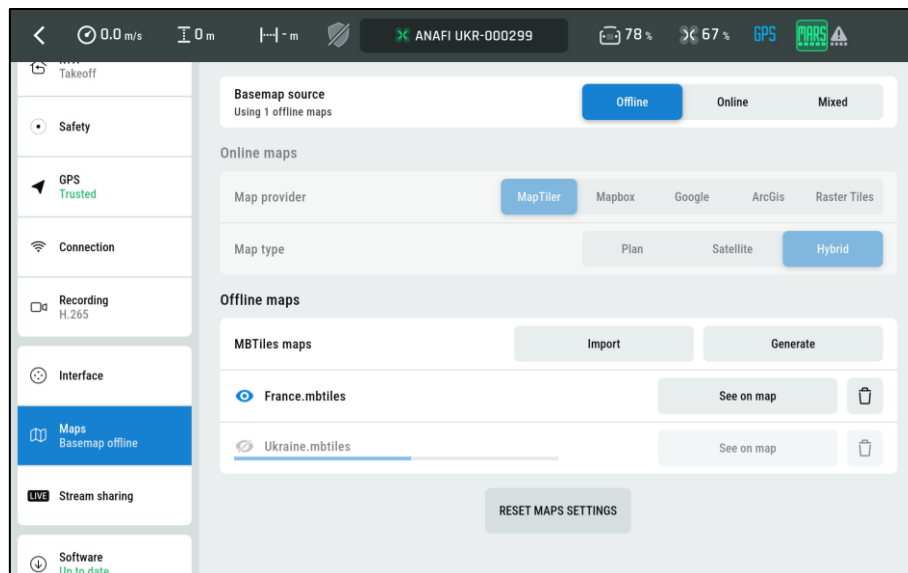


Figure 121: Offline maps generation via FreeFlight 8

13. (Optional) After the map generation process is complete, tap **See on map** beside the generated map to visualize the offline map limits.

14. (Optional) Tap the **Trash** can icon to delete the map.

NOTE: Offline maps created via FreeFlight 8 from ArcGis basemap contain satellite images only. Offline maps created from Mapbox, Maptiler and Google are satellite hybrid maps including place names, streets, or other labels.

13.11.2.2. Offline maps generation via an open-source tool

To create **MBtiles maps** via an open-source tool such as QGIS:

1. Follow the [QGIS online documentation](#) to learn how to create an MBTiles package.
2. Copy the MBTiles package onto a microSD card,
3. Insert the microSD Card into the tablet,
4. Open FreeFlight 8 to import the offline map,
5. Navigate to the **Maps** setting,
6. Under **Offline maps**, tap **Import**.
7. (Optional) After the map importation process is complete, tap **See on map** beside the imported map to visualize the offline map limits.
8. (Optional) Tap the **Trash** can icon to delete the map.

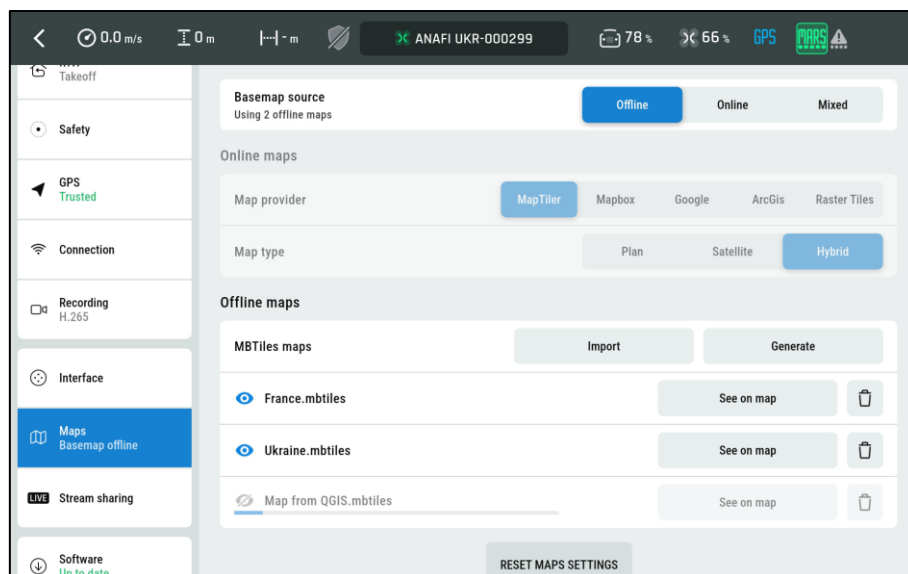


Figure 122: MBTiles package importation in progress

NOTE: For the import procedure to be successful, the available space on the storage media must be larger than the size of the *.mbtiles package to be imported. For example, in order to import a *.mbtiles package of 100 GB from a microSD card, you need a 256 GB or 512 GB microSD card, a 128 GB microSD card is not enough.

An alternative procedure is to copy the *.mbtiles package directly on the microSD card in the *Android/data/com.parrot.freeflight8/files/OfflineMaps* directory, insert the microSD card into the tablet and launch FreeFlight 8 application. The *.mbtiles package is then directly imported into FreeFlight 8 without any additional user action.

Another alternative procedure is to copy the *.mbtiles packages directly into the tablet internal memory following this path */storage/emulated/0/OfflineMaps* or copying it at the root of the sdcard with the same folder name (i.e. */OfflineMaps*). The sdcard path will be read in priority. In addition for these paths to be read, the user has to manually grant the app the All files access permission. It is available following this path : Android settings -> Apps -> Three dots on the top right -> All files access.

IMPORTANT: The choice of the tool to generate *.mbtiles package is the sole responsibility of the user. The user must determine the most suitable tool, which may not be QGIS, and comply with the terms and conditions of the applicable license. Refer to [chapter 18 Appendix 3 disclaimer](#), Section 8 *Third-party licenses for online and offline maps*.

13.11.3. Mixed maps

In **Mixed** mode both offline and online maps are displayed simultaneously. Offline maps are displayed on top of online maps.

13.12. Stream sharing

The **Stream sharing** setting group is dedicated to streaming options:

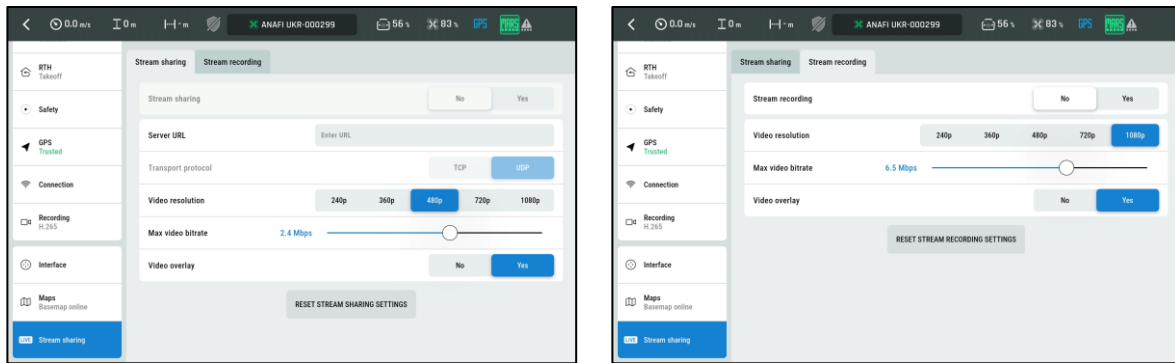


Figure 123: Settings – stream sharing and Stream recording tabs

Stream **Recording** allows the user to record the video stream on the tablet. Stream recording is enabled by default. Recordings are saved in the internal memory of the device, with the following file path:

/Internal storage/DCIM/Parrot/Recordings/

Recordings are also visible in the gallery.

Stream sharing allows the user to stream via the tablet's internet access (Wi-Fi or cellular data) the video stream to an RTMP or RTSP server.

- Enter the **Server URL**

Set the

- **Video resolution: 240p, 360p, 480p, 720p or 1080p** (default value is **720p**)
- **Max video bitrate** (default value depends on the chosen resolution)
- Enable the **Video overlay** for telemetry information.

13.12.1. How to set up stream sharing

To set up a stream sharing session, you must configure a third-party stream ingest session with the provider of your choice.

This feature has been successfully tested with Wowza Video and YouTube Live. It may also work with other providers.

NOTE: Before you start a streaming session in FreeFlight 8, you must configure the settings with the third-party provider. When you stop the stream sharing session on FreeFlight 8, the third-party provider terminates the streaming session on its side.

Before you restart the stream sharing session on FreeFlight 8, you must check the third-party provider user interface to ensure that the stream sharing session is still live, and restart the session from the third-party provider side if necessary. FreeFlight 8 does not detect if the stream sharing session times-out on the third-party provider side.

13.12.1.1. Platform Setup

Choose the platform you wish to stream to:

- A. Wowza via RTMP

Follow this procedure for the initial configuration:

1. Create an account with your Parrot email on wowza.com.
2. Open video.wowza.com/en/manage
3. log in.
4. Click **Add Live Stream** in the left side panel.
5. Click the **Live Stream Setup** tab.
 - A. Enter a name in the text field: **What is the name of your live stream?**
 - B. Select your closest location the dropdown: **Which location is closest to where you're broadcasting from?**
6. Click **Next**.
7. Click the **Video Source and Encoder** tab.
 - o Click **Disable authentication on the video source**.
8. Click **Next**.
9. Click the **Playback Settings** tab.
10. Click **Next**.
11. Click the **Hosted Page Settings**.
12. Click **Next**.
13. Click **Start Live Stream**.

Follow this procedure for subsequent uses:

1. Open video.wowza.com/en/manage
2. log in.
3. Select your stream from the **Available Streams** list.
4. Click **Start Live Stream**.

B. Wowza via RTSP:

Follow this procedure for the initial configuration:

1. Click **Add Live Stream** in the left side panel.
2. Click the **Live Stream Setup** tab.
 - A. Enter a name in the text field: **What is the name of your live stream?**
 - B. Select your closest location the dropdown: **Which location is closest to where you're broadcasting from?**
3. Click **Next**.
4. Click the **Video Source and Encoder** tab.
5. Select **RTSP** in the dropdown **What camera or encoder will you use to connect to Wowza Video?.**
 - o To stream without password: Check **Disable authentication on the video source**.
 - o To stream with security (Digest): Leave the box unchecked. Make a note of the **Source Username** and **Source Password** provided by Wowza once the stream is created.

6. Click **Start Live Stream**.

Follow this procedure for subsequent uses

1. Open video.wowza.com/en/manage
2. log in.
3. Select your stream from the **Available Streams** list.
4. Click **Start Live Stream**.

The **LIVE** icon in FreeFlight 8's HUD indicates that stream sharing is currently in progress.

C. YouTube (RTMP only)

1. On YouTube, click + **Create**.
2. Click **Go live**.
3. Click **Request** to request streaming access.

You may have to wait up to 24 hours until you can stream.

4. Enter the following URL in FreeFlight 8:

server URL + '/' + the stream key

(e.g. "rtmp://a.rtmp.youtube.com/live2/xxxx-xxxx-xxxx-xxxx-xxxx").

RTMP URLs contain a private stream key and should not be shared. The public viewers HTTP URL that can be shared is available in the third-party provider configuration. The supported protocols are RTMP (*rtmp://*) and RTMPS i.e. RTMP over TLS (*rtmps://*), and RTSP (*rtsp://*) and RTSP over TLS (*rtsp://*).

WARNING: The RTMP/RTSP stream offers no guarantee of stream confidentiality. When confidentiality is required, use the RTMPS protocol. Remember to stop the stream sharing in FreeFlight 8 when you no longer require it.

13.12.1.2. FreeFlight 8 Configuration

IMPORTANT: You must start the Live Stream on Wowza (or your destination platform) BEFORE toggling the stream sharing button in FreeFlight 8. If the platform is not **Ready/Live**, the connection fails immediately.

Regardless of the chosen platform, the setup in the app is as follows:

1. Open the **Stream sharing** settings in FreeFlight 8.
2. Enter the destination URL using the following format:

For RTSP URL construction

- **Without Authentication:**
rtsp://[Primary Server Address]:[Port]/[App Name]/[Stream Name]
- **With Authentication (Secured):**
rtsp://[Username]:[Password]@[Primary Server Address]:[Port]/[App Name]/[Stream Name]

RTSP vs RTSPS (Security and TLS)

- **RTSP (usually port 1935):** The standard protocol. Credentials and video data are sent in plain text (though Digest authentication protects the password itself).
- **RTSPS (usually port 443):** This is **RTSP over TLS**. It wraps the entire communication in an encrypted tunnel (SSL/TLS), preventing any eavesdropping on the video stream or metadata.

Use **RTSPS** if you are streaming over public Wi-Fi or sensitive networks where video privacy is mandatory.

Examples of RTSP URL Construction

If Wowza provides these values:

- **Primary Server:** a1b2c3d4e5f6.entrypoint.cloud.wowza.com
- **Host Port:** 1935
- **App Name:** app-z9y8x7w6
- **Stream Name:** f1e2d3c4
- **Username:** client123456
- **Password:** password789

The URL to enter in FreeFlight 8 will be:

- **Standard RTSP (Authenticated):**
rtsp://client123456:password789@a1b2c3d4e5f6.entrypoint.cloud.wowza.com:1935/app-z9y8x7w6/f1e2d3c4
- **Secured over TLS (RTSPS):**
rtsp://client123456:password789@a1b2c3d4e5f6.entrypoint.cloud.wowza.com:443/app-z9y8x7w6/f1e2d3c4

Choice of Transport Protocol (UDP vs TCP)

Protocol	Advantages	Disadvantages
UDP	Faster: Lowest latency	Firewalls: Often blocked (requires port opening). Unreliable in case of packet loss (visual artifacts).
TCP	Reliable: Passes through firewalls and ensures data integrity (secure).	Latency: Higher delay due to packet acknowledgement mechanism.

1. Toggle the "**Sharing**" button to **ON**.

13.12.1.3. Viewing the Stream (Client)

To view the feed for testing or demonstration:

1. Copy the **Playback URL** from the platform's interface (Wowza or other).
2. Launch **VLC Media Player**.
3. Go to **Media > Open Network Stream**.
4. Paste the URL and click **Play**.

Note: Remember to stop the **Live Stream** on the platform (e.g., Wowza) once your session is over to avoid unnecessary resource consumption.

13.13. Software

The **Software** page indicates the firmware versions installed on both the drone and the controller. It also indicates the FreeFlight 8 application version installed on the device.

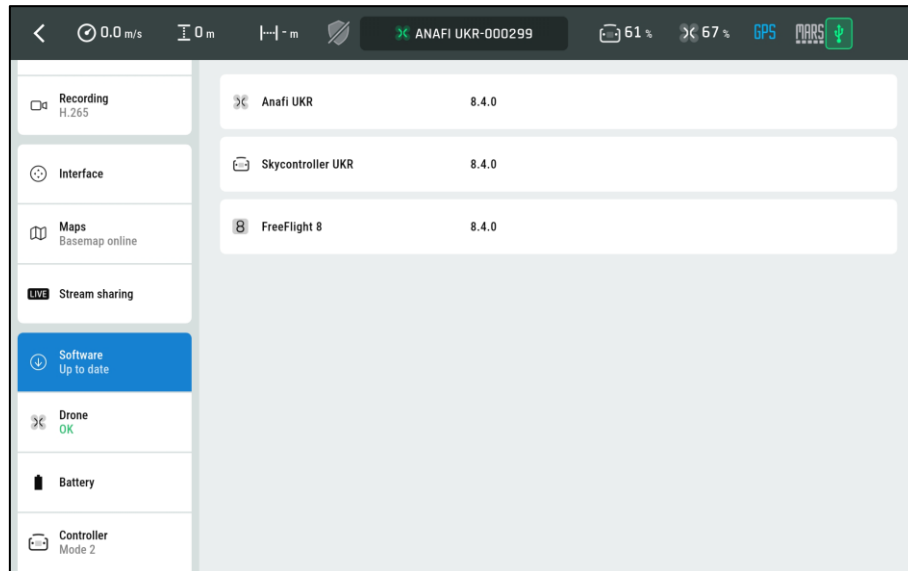


Figure 124: Settings - Software

Through this screen, you can update the drone firmware, the controller firmware and the FreeFlight 8 application.

13.13.1. Online drone firmware update by FreeFlight 8

FreeFlight 8 checks for firmware updates when the device is connected to the internet. If a new version is available, the update is suggested on this page.

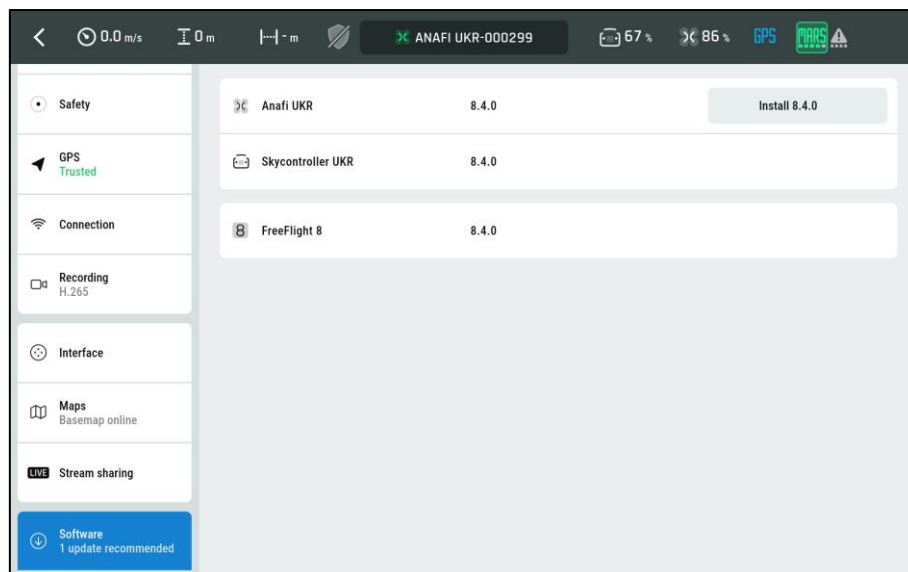


Figure 125: Online drone firmware update by FreeFlight 8

Tap **Install** button on the FreeFlight 8 **Software** screen.

13.13.2. Controller firmware update by FreeFlight 8

FreeFlight 8 checks for controller firmware updates when the device is connected to the internet. If a new version is available, the update is suggested on this page.

In order to update the controller firmware, click the install button on the FreeFlight 8 **Software** screen:

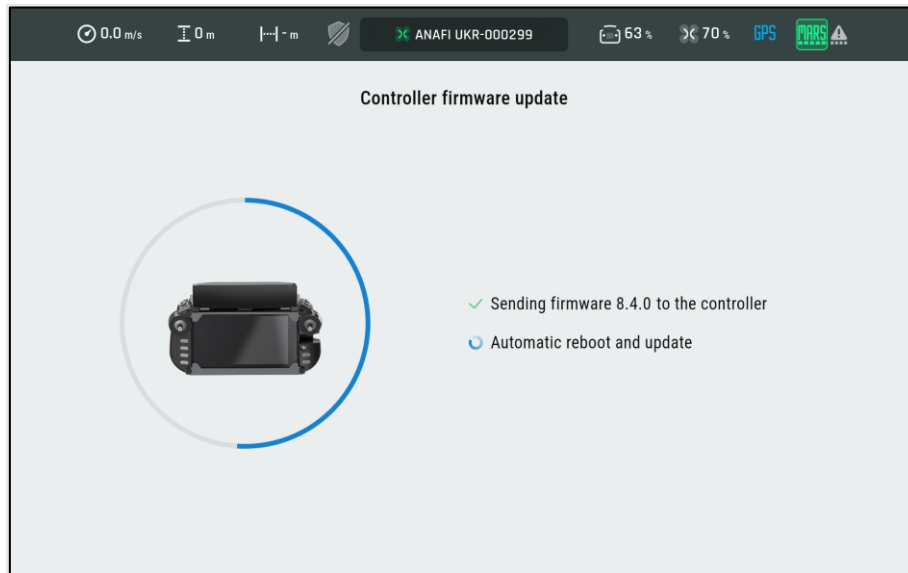


Figure 126: Controller firmware update

13.13.3. Offline controller firmware update

If the device is to be operated strictly offline, an alternative offline update procedure is available. Your Parrot reseller can provide the update file to be saved on and executed on the device.

Perform an offline update via the webserver feature. To access the webserver, connect Skycontroller UKR to a computer with an Ethernet (RJ45) cable.

On the webserver:

1. Click on the **UPDATE** tab
2. Select the update file

13.13.4. FreeFlight 8 update

If the device is connected to the internet, FreeFlight 8 application may suggest to update the current version installed on the device with the latest one available on Parrot update server:

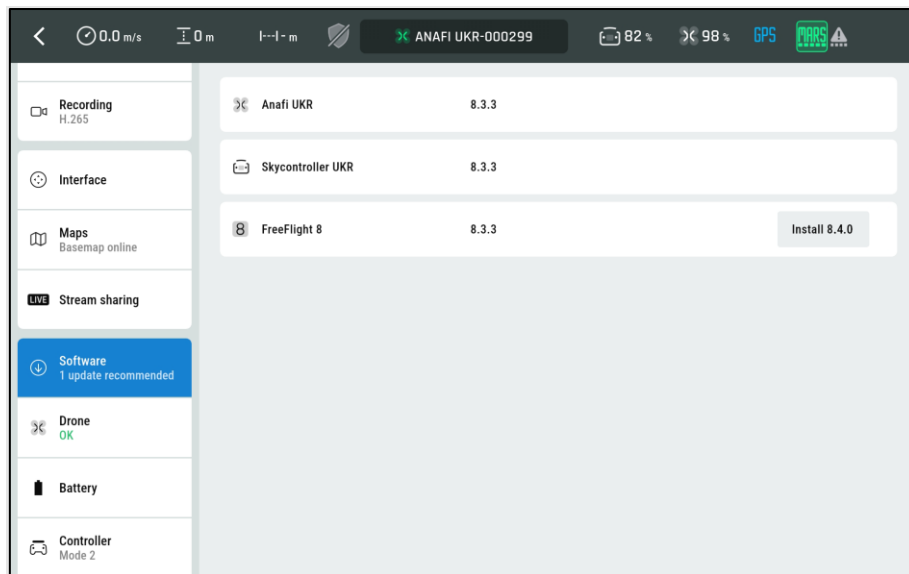


Figure 127: Invitation to update FreeFlight 8

First the new version will be downloaded from the Parrot update server:

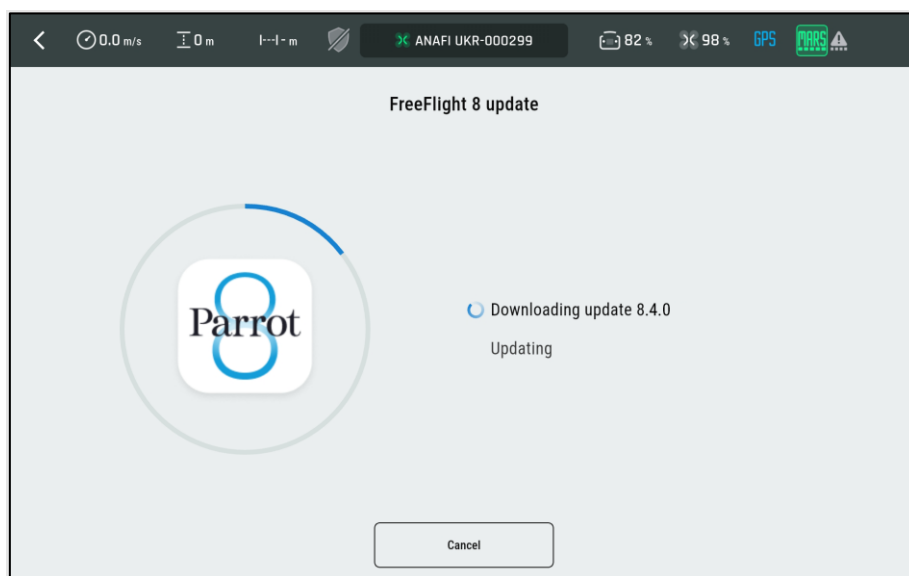


Figure 128: FreeFlight 8 download in progress

After the download is completed, you will be prompted by the Android system to authorize the application update:

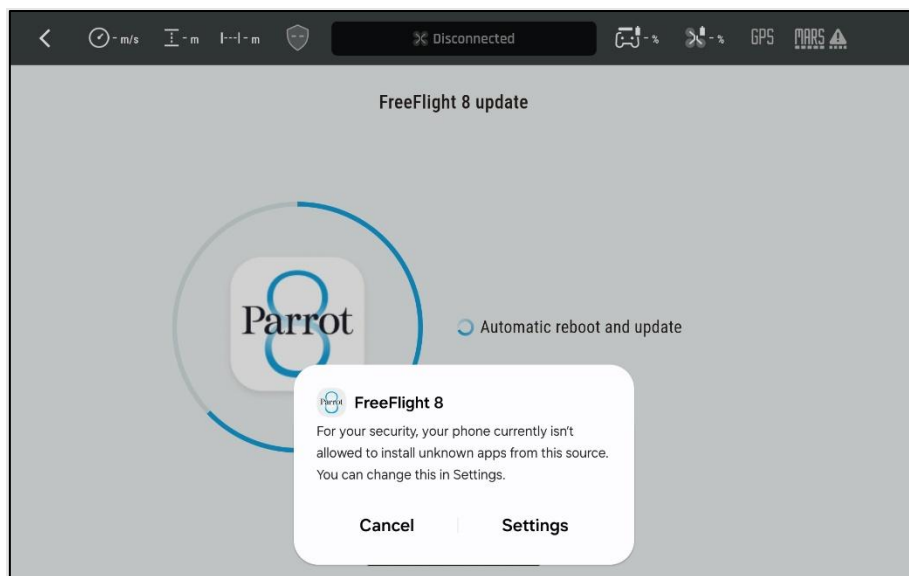


Figure 129: FreeFlight 8 update authorization

If the device is to be operated strictly offline, an alternative offline update procedure is available. Your Parrot reseller can provide .apk files to be saved and executed on the device to install a newer version of FreeFlight 8 embedding the latest drone and controller firmware.

13.14. Drone

The **Drone** information screen has 4 tabs:

- **Status.**
- **Battery.**
- **LEDs**
- **USB power.**

13.14.1. Status

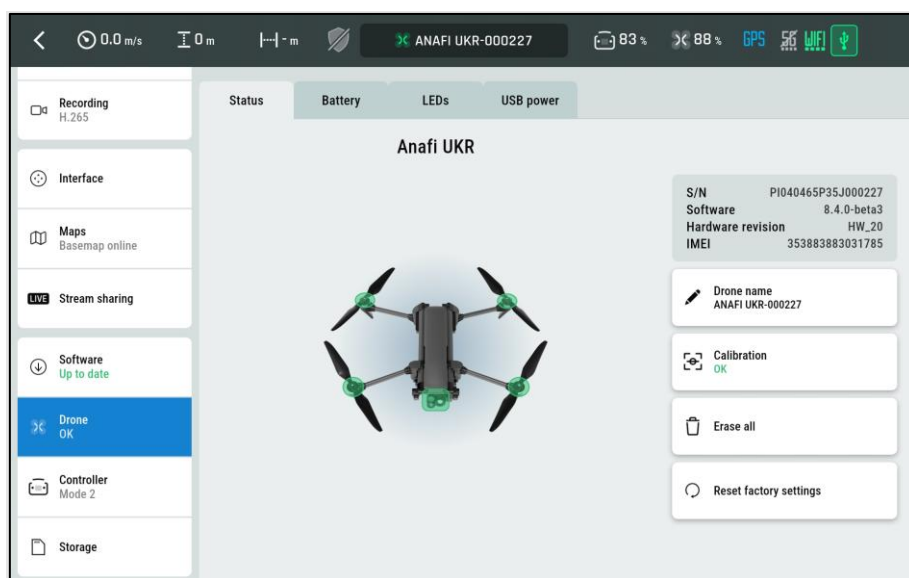


Figure 130: Settings - Drone

Tap **Drone name** to enter a custom name for the aircraft.

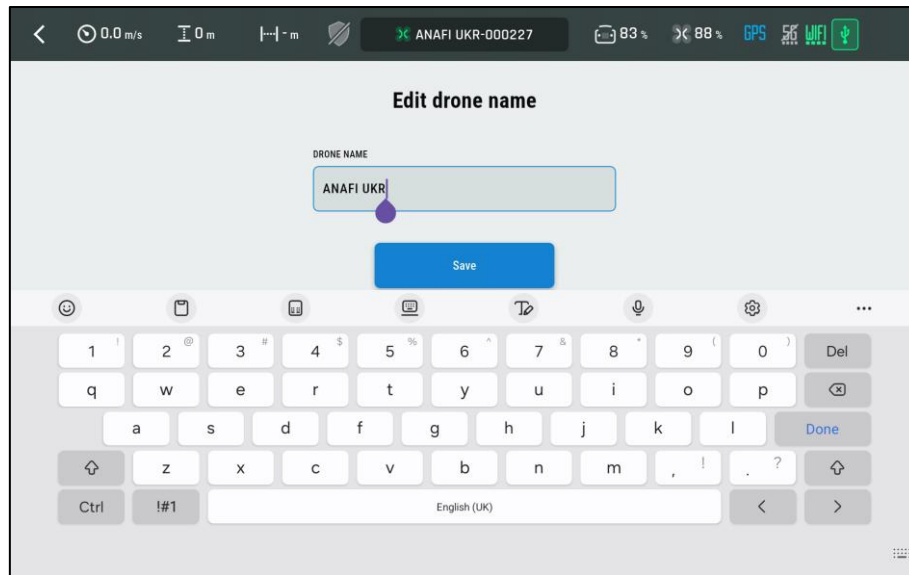


Figure 131: Edit drone name

The **Calibration** tile notifies the user if a calibration is required.

Tap **Erase all** to erase all media and logs.

Tap **Reset factory settings** to revert the aircraft's most recent firmware to its original state.

13.14.1.1. Calibrations menu

The **calibrations** screen shows the calibration status of:

- The **Gimbal**
- The **Magnetometer**
- The **Thermal** camera
- **Cursor On Target**
- **Horizon**
- **Cameras alignment**

When a calibration process is required, the corresponding tile is highlighted in red.

When a calibration process is recommended, the corresponding tile is highlighted in orange.

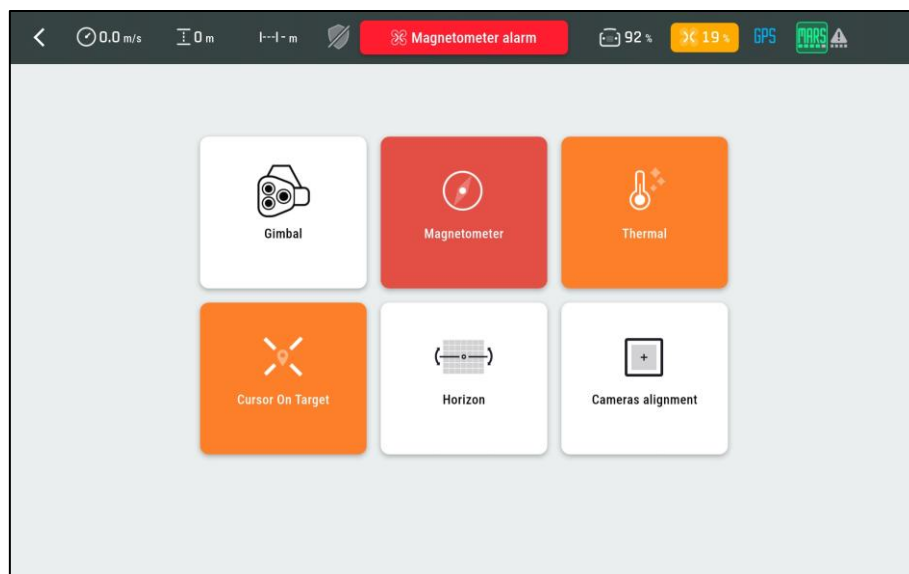


Figure 132: Calibration menu screen

IMPORTANT: ANAFI UKR's warranty is void if you fly the drone without the required calibrations.

13.14.1.2. Gimbal calibration

Gimbal calibration allows the user to initialize the gimbal calibration and evaluate the hall effect motors offsets to improve gimbal control.

If the Gimbal is not calibrated, the calibration button appears in red in the **Calibration** menu.

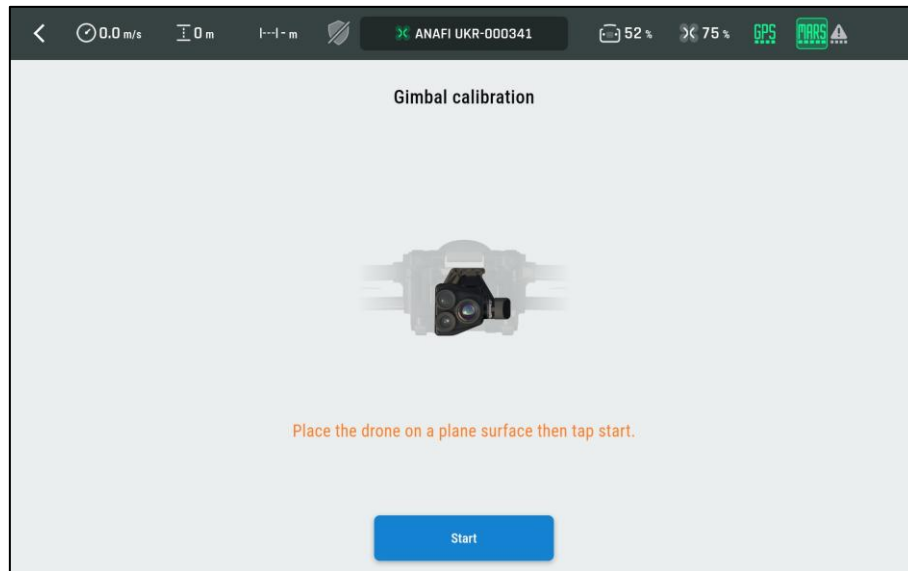


Figure 133: Gimbal calibration

Place the drone on a plane surface and then press the **Start** button.

The gimbal calibration process time is 30 seconds.

13.14.1.3. Magnetometer calibration

Magnetometer calibration allows the user to calibrate the magnetometer sensor on the drone.

If the drone magnetometer becomes uncalibrated, the magnetometer button appears in red in the **Calibration** menu.

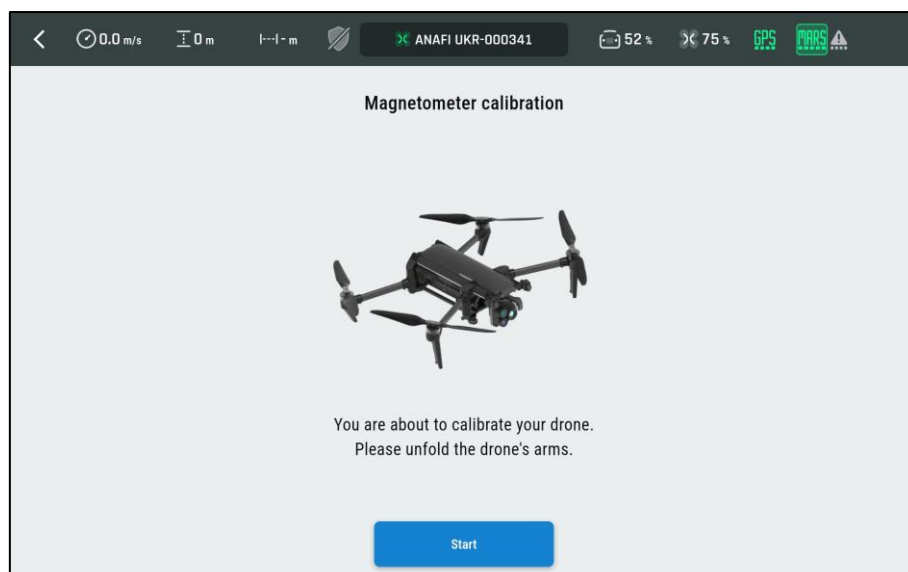


Figure 134: Magnetometer calibration start

Unfold the drone's arms and press the **Start** button. Follow the onscreen instructions; rotate the drone around all 3 axes:

- **Z-axis (Yaw)**
- **Y-axis (pitch)**
- **X-axis (Roll)**

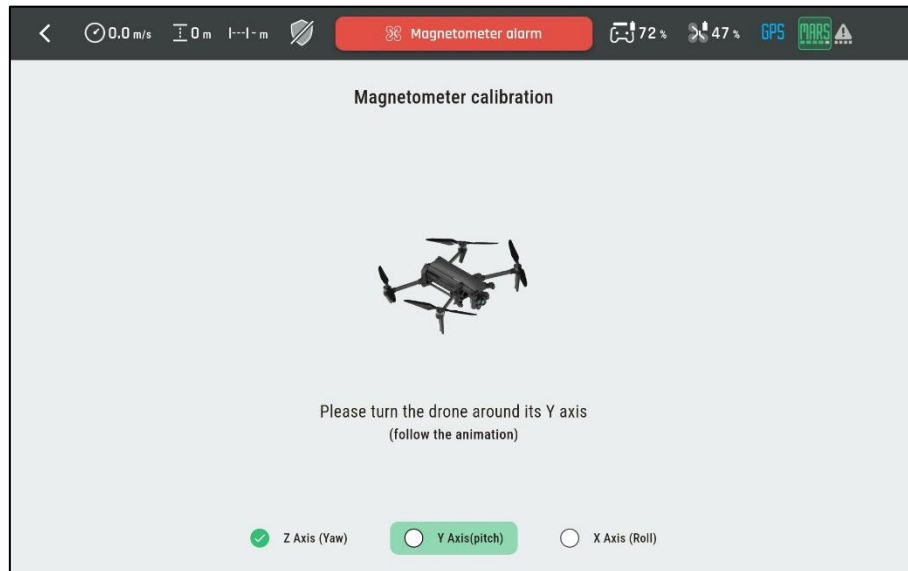


Figure 135: Magnetometer calibration in progress

13.14.1.4. Thermal calibration

Thermal calibration allows the user to correct any non-uniformity error on the thermal sensor.

Perform thermal calibration regularly to maintain optimum thermal imaging quality. Parrot recommends repeating this calibration every 7 days.

In FreeFlight 8, the thermal calibration tile turns orange when the last thermal calibration was performed more than 7 days ago.

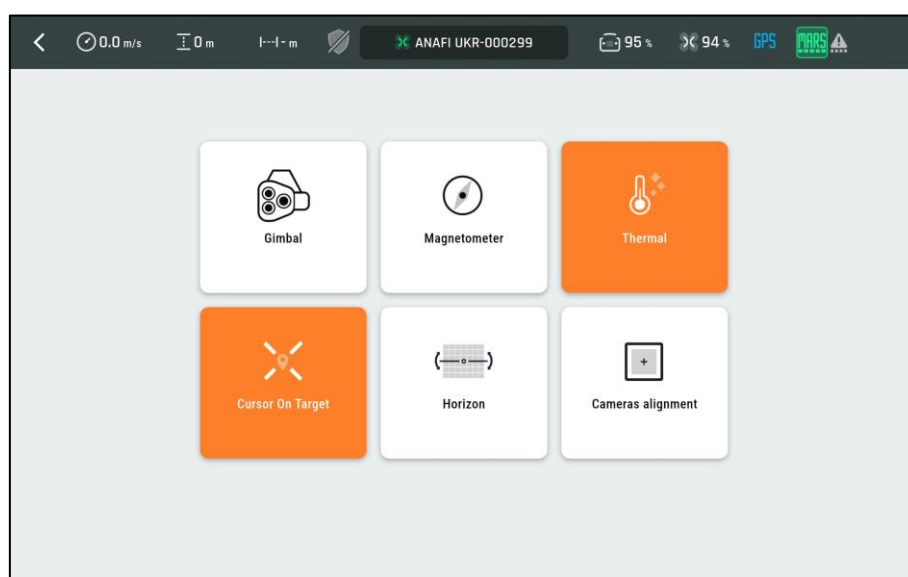


Figure 136: Thermal calibration recommended