11	Horizontal Speed	Refers to the current horizontal flight speed of the aircraft.
12	Aircraft Battery	Displays the real-time remaining battery level of the aircraft in the dynamic circular battery bar.

6.7 "Map" Interface

In dual screen mode, tap the "◪" icon at the corner or tap the "Map" mini window in the lower-left corner after entering the "Wide Angle Camera" interface, "Infrared Camera" interface, to enter the "Map" full-screen interface.

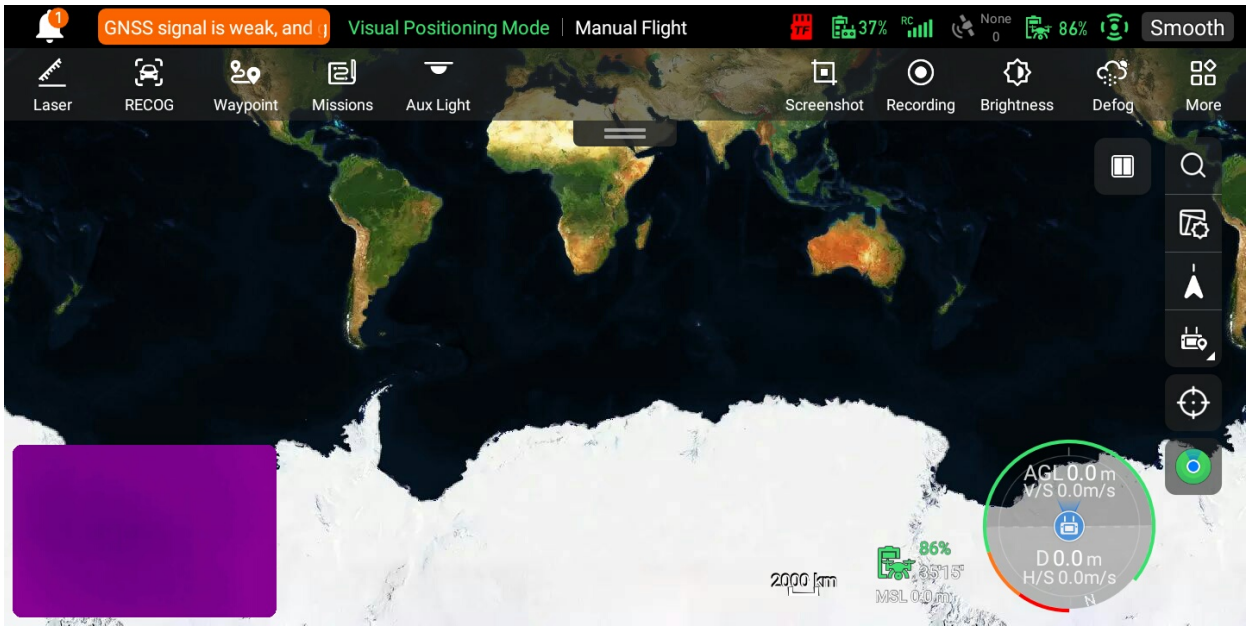

Fig 6-12 "Map" Interface

Table 6-7 Interface Button Details

No.	Icon	Name	Description
1		Search Map	When the remote controller is connected to the Internet, tap this icon and enter the desired location name in the "Search Map" edit box. Based on the selected location, the map interface will switch to display the map of the corresponding location.
2		Map Management	Tap this icon to adjust the map display style to a standard map or a hybrid map, as well as to set "Display/Clear Flight Path" and import GEO-fence. It also supports offline map download and management. ➢ Standard: 2D map. ➢ Hybrid: 2D map and satellite map combined.

3		Orientation Lock	This icon indicates that the display direction of the map is locked. When the remote controller is rotated, the display direction of the map will not change accordingly. Tap this icon to unlock the display direction of the map of the current remote controller.
4		Orientation Unlock	This icon indicates that the display direction of the map is unlocked. When the remote controller is rotated, the display direction of the map will change accordingly. Tap this icon to lock the display direction of the map of the current remote controller.
5		Overview	Tap this icon to simultaneously locate the positions of the remote controller, the home point, and the aircraft on the map.
6		Remote Controller Location	Tap this icon to locate the position of the remote controller on the map.
7		Home Point Location	Tap this icon to locate the position of the home point on the map.
8		Aircraft Position	Tap this icon to locate the position of the aircraft on the map.
9		Re-center	If the map is moved from the current positioning point to another location, this icon will appear on the right side of the screen. Tap this icon, and the map will quickly return to the current positioning point.
10		Aircraft Search	When the aircraft is lost, you can tap this icon to query the location information of the lost aircraft.

6.8 Camera Interfaces

6.8.1 Camera Function Area

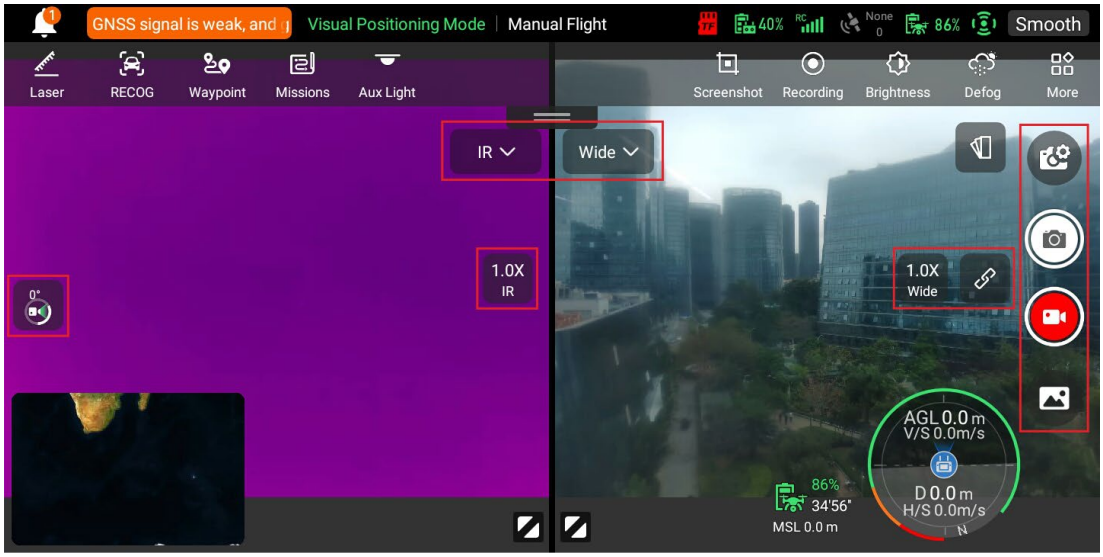

Fig 6-13 Camera Function Area

Table 6-8 Camera Menu Details

No.	Icon	Meaning	Description
1	IR	Switch to Thermal Camera	On wide-angle camera interface or map screen split interface, tap this icon to enter the thermal camera interface.
2	Wide	Switch to Wide Angle Camera	On thermal camera interface or map screen split interface, tap this icon to enter the wide-angle camera interface.
3		Camera Settings	Tap this icon to view and set parameters related to the gimbal camera.
4		Photo	Tap this icon to take a photo.
5		Video	Tap this icon to start recording.
6		Album	Tap this icon to view materials from the aircraft's album and the local album and download or delete them.
7	IR 1.0X	Thermal Camera Zoom	On the "Thermal Camera" interface, tap this dynamic icon to adjust the zoom factor of the infrared thermal imaging camera.

8	Wide 1.0X	Wide Angle Camera Zoom	On the "Wide Angle Camera" interface, tap this dynamic icon to adjust the zoom factor of the wide-angle camera.
9		Linked Zoom	When using EVO Lite 640T Enterprise aircraft, tap this icon to adjust the zoom factor of any camera, and other cameras will also adjust their zoom factors simultaneously, resulting in the synchronous enlargement or reduction of camera images. The wide-angle camera needs to be adjusted to 1.4x before the thermal camera starts to zoom synchronously; The wide-angle camera can be adjusted to a maximum of 16x, the thermal camera can be zoomed synchronously up to 11x.
10	0°	Gimbal 0°	Tap this icon, and the gimbal returns to the horizontal centering state.
11	45°	Gimbal 45°	Tap this icon, and the gimbal rotates obliquely downward, forming an angle of 45° with the horizontal direction.
12	90°	Gimbal 90°	Tap this icon, and the gimbal rotates directly downward, forming an angle of 90° with the horizontal direction.

On any camera interface, tap the "" icon to enter the "Camera Settings" interface. On the “Camera Settings” interface, you can perform the following operations:

■ View Photo Properties

On the “Camera Settings” interface, tap the "" icon to view the size and format of wide-angle camera photos.

■ Set Video Properties

On the “Camera Settings” interface, tap the "" icon to view the resolution, frame rate of the wide-angle camera videos, and to set the video encoding and format.

- ➢ Video encoding options are H.264 and H.265. The default option is H.264.
- ➢ Video format options are MOV and MP4. The default option is MP4.

■ Set Infrared Shooting

On the “Camera Settings” interface, tap the "IR" icon to view the size and format of infrared photos or videos and set the image mode and radiometric measurement function.

- Set Image Mode

Two image modes are available, that is, “Manual” and “Auto”.

- ➢ If the “Manual” mode is set, you can adjust the "Contrast" and "Brightness" by entering a value or tapping the numbers on the left and right sides.

- Turn On/Off Radiometric Measurement

Tap the button to the right of "Radiometric Measurement" to turn on or off the radiometric measurement function.

- If this function is turned on, you can set the image enhancement, isotherm, emissivity, and temperature alarm.
- If this function is turned off, both "Radiometric Measurement Mode" and "FFC " cannot be set.

1. Turn On/Off Image Enhancement

Tap the button to the right of "Image Enhancement" to turn on or off the image enhancement function.

- If this function is turned on, you can enter a value in the edit box below or drag the slider left or right to set the image enhancement value. The larger the value, the clearer the image details.

2. Set Isotherm

Four isotherm statuses are available, that is, “Off”, “Human”, “Fire”, and “Custom”.

- If “Custom” is selected, you can set the minimum and maximum temperature of the radiometric measurement range.

3. Set Emissivity

Enter a value in the edit box to the right of "Emissivity" or drag the slider below left or right to adjust the emissivity value.

4. Turn On/Off Temperature Alarm

Tap the button to the right of "Temperature Alarm" to turn on or off the temperature alarm function.

- You can set the minimum and maximum temperature for temperature alarms.

■ Advanced Settings

On the “Camera Settings” interface, tap the "•••" icon to perform advanced settings for the camera:

- Select Camera

Tap "Select Camera" to select the lens used for shooting from the list of lenses of the gimbal camera. You can select one or more lenses.

- After a shooting lens is selected, when you tap the "📷" or "🎥" icon, the selected lens will simultaneously take photos or record videos. For unselected lenses, the shooting function will be unavailable.
- Set Grid

Three grid styles are available, which can assist with picture composition during shooting. You can select one or more grid styles.

- When multiple grid styles are selected, the grid styles will be superimposed and displayed on all camera interfaces.
- Set Defog

Defogging can make the shooting or recording scene more transparent and enhance color contrast and is used to eliminate the "fogging phenomenon" in the picture or the lack of picture clarity caused by smog.

- Three defog intensities are available, that is, “Weak”, “Medium”, and “Strong”. The stronger the defog intensity, the darker the image.
- Turn On/Off Stamps/Subtitles

Tap the button to the right of "Stamps/Subtitles" to turn on or off the stamps/subtitles function.

- If this function is turned on, you can set the time stamp, latitude and longitude & MSL, and aircraft SN. Once this function is enabled, the shot images will include the set stamp.
- Turn On/Off Pre-recording

Tap the button to the right of "Pre-recording" to turn on or off this function.

➢ If this function is turned on, the aircraft will start recording 15 seconds in advance (tap the " " icon).

Tip
● The pre-recording function can prevent missing important shots when the aircraft is flying rapidly.

● Turn On/Off Histogram

Tap the button to the right of "Histogram" to turn on or off the histogram function. The histogram can display the distribution of pixels in the images captured by the camera, thereby reflecting the exposure of the images.

➢ If the histogram function is turned on, a floating "Histogram" window will be generated on the screen of the remote controller, and you can drag the "Histogram" window to any area on the screen. Tap the "Close" button in the upper-right corner of the window to turn off the histogram function.

● Set Storage Location

You can choose "SD Card" or "Internal Storage" as the storage location. Also, you can view the storage status of "SD Card" and "Internal Storage" and tap "Format" on the right side to format the corresponding storage location.

● Reset Camera Parameters

Tap the "Reset" button to the right of “Camera Reset” to restore the camera parameters to default settings.

● View Camera Model

You view the gimbal camera model.

6.8.2 “Thermal Camera” Interface

In dual screen mode, tap the " " icon AT the corner or tap the " " icon after entering the "Wide Angle Camera" interface, to enter the "Thermal Camera" full-screen interface.

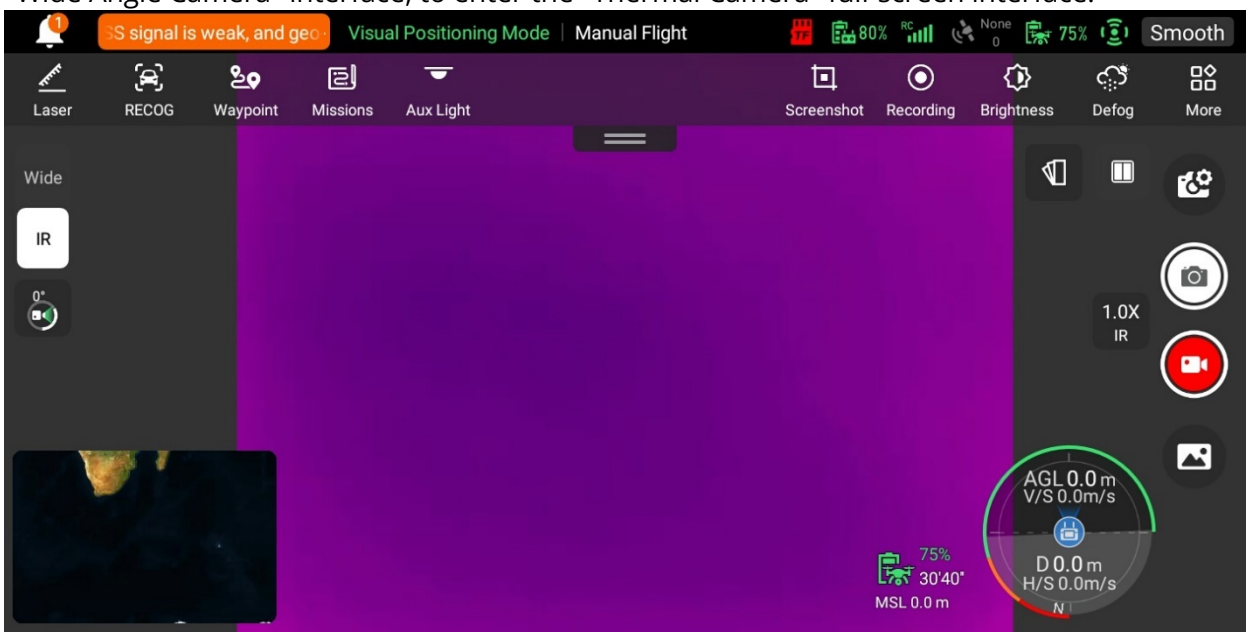

Fig 6-14 "Thermal Camera" Interface

Table 6-9 "Thermal Camera" Interface Details

No.	Icon	Meaning	Description
1		Thermal Color	Tap this icon, and the drop-down list of "Thermal Color" pops up. You can scroll up and down in the list to select a color palette.
2	-20-150 Mode	Radiometric Measurement Mode	High gain mode (-20°C to 150°C), which enables more accurate radiometric measurement.
3	0-550 Mode	Radiometric Measurement Mode	Low gain mode (0°C to 550°C), which has a larger radiometric measurement range.
4	FFC	FFC Calibration	Flat-Field Calibration. After calibration, the image quality of thermal imaging will be optimized, and temperature changes will be easier to observe.

⚠ Warning

- While shooting, do not aim the infrared thermal imaging camera at strong energy sources such as the sun, lava, laser beams, and molten metal, to avoid damaging the infrared detector.
- The temperature of the measured target should be within 600°C. Over-temperature measurements can cause burns and damage to the infrared detector.

■ Set Thermal Color

After tapping the " " icon, you can scroll up and down in the pop-up drop-down list to select a color palette.

➢ After selection, the images from the thermal camera will be displayed in the color style of the selected color palette.

■ Set Infrared Shooting

Tap the " " icon to enter the "Camera Settings" interface and perform relevant settings. For more information, see "6.8.1 Camera Function Area" in this chapter.

■ Set Radiometric Measurement Mode

Tap the " -20-150 Mode " icon or the " 0-550 Mode " icon to switch between radiometric measurement modes.

➢ High gain mode (-20°C to 150°C): This mode has higher radiometric measurement accuracy but a smaller radiometric measurement range compared with the low gain mode.

➢ Low gain mode (0°C to 550°C): This mode has a larger radiometric measurement range but lower radiometric measurement accuracy compared with the high gain mode.

■ FFC Calibration

Tap the " FFC " icon to enable the FFC calibration function.

Note

- The radiometric measurement mode and FFC calibration functions can be used only after the infrared radiometric measurement function is enabled in the camera settings.

■ Adjust the Infrared Zoom Factor

While shooting, tap the "IR 1.0X" dynamic icon, and the infrared zoom factor setting window will pop up. You can drag up or down to zoom in or out on the picture captured by the thermal camera, so as to flexibly shoot objects at different distances.

Tip

- The thermal cameras of EVO Lite 640T Enterprise aircraft support up to 16x digital zoom, while the thermal cameras of EVO Lite 6K Enterprise aircraft do not support infrared camera function.

6.8.3 “Wide Angle Camera” Interface

In dual screen mode, tap the " " icon at the corner or tap the "Wide" icon after entering the “Thermal Camera” interface, to enter the "Wide Angle Camera" full-screen interface.

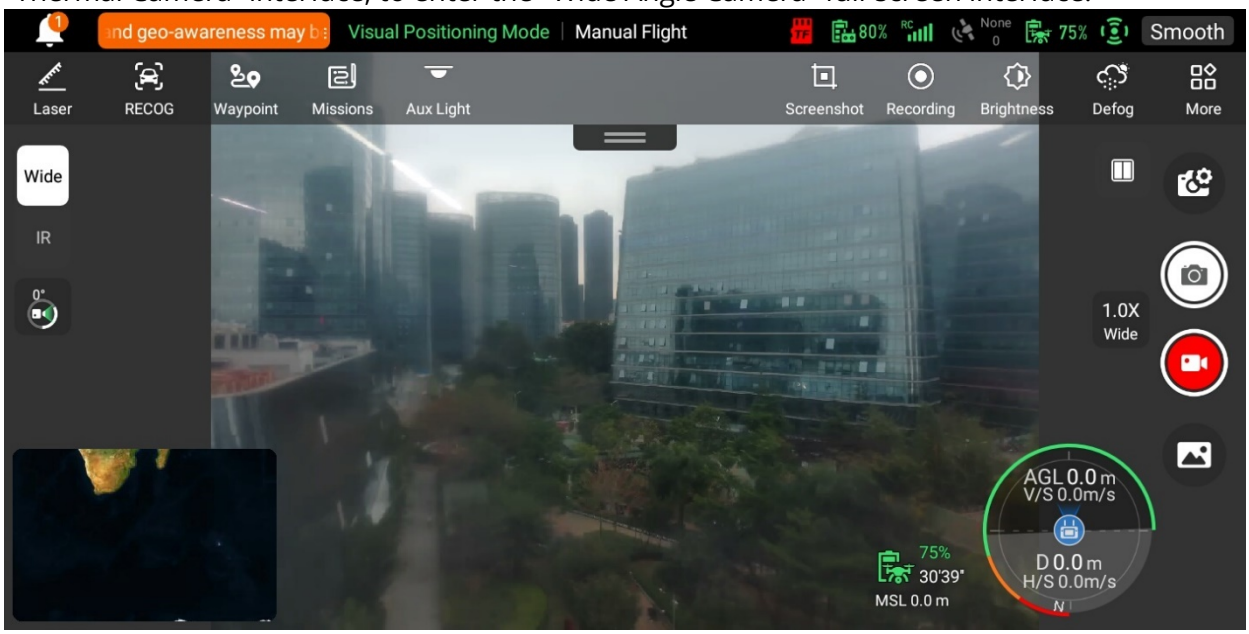

Fig 6-15 “Wide Angle Camera” Interface

■ Adjust the Wide Angle Zoom Factor

While shooting, tap the "Wide 1.0X" dynamic icon, and the wide angle zoom factor setting window will pop up. A maximum of 16x digital zoom is supported. You can drag up or down to zoom in or out on the picture captured by the wide angle camera, so as to flexibly shoot objects at different distances.

■ Camera Settings

Tap the "" icon to enter the "Camera Settings" interface and perform relevant settings. For more information, see “6.8.1 Camera Function Area” in this chapter.

Tip

- EVO Lite Enterprise Series Aircrafts can display the wide-angle camera interface after connecting to the remote controller.

6.9 Flight Missions

Flight missions are divided into waypoint missions, rectangle missions, and polygon missions in terms of type. You can tap the corresponding icon in the shortcut toolbar or toolbox to enter the relevant mission editing interfaces.

Important

If any of the following conditions are detected, the flight mission will end automatically, and the aircraft will perform other operations according to the following conditions:

- Low battery power: A notification will pop up on the Autel Enterprise Application to inform you that the aircraft will return to the home point automatically.
- Critically low battery power: The aircraft will end its mission and automatically land at its current position.
- During a flight mission, if the remote controller is powered off, the aircraft will execute the lost action that you set.

Tip

- When the aircraft is in visual positioning mode, it cannot execute waypoint missions, rectangle missions, or polygon missions.

6.9.1 Waypoint

In the shortcut toolbar (or Shortcuts), tap the "" icon to enter the "Waypoint" mission interface. You can add multiple waypoints on the map. Every two neighboring waypoints connect to form a flight segment and one or more flight segments form a route. By setting the flight altitude, flight speed, camera action, and waypoint actions of each waypoint for each route and each waypoint, the aircraft will automatically fly according to the route and perform corresponding actions at each waypoint.

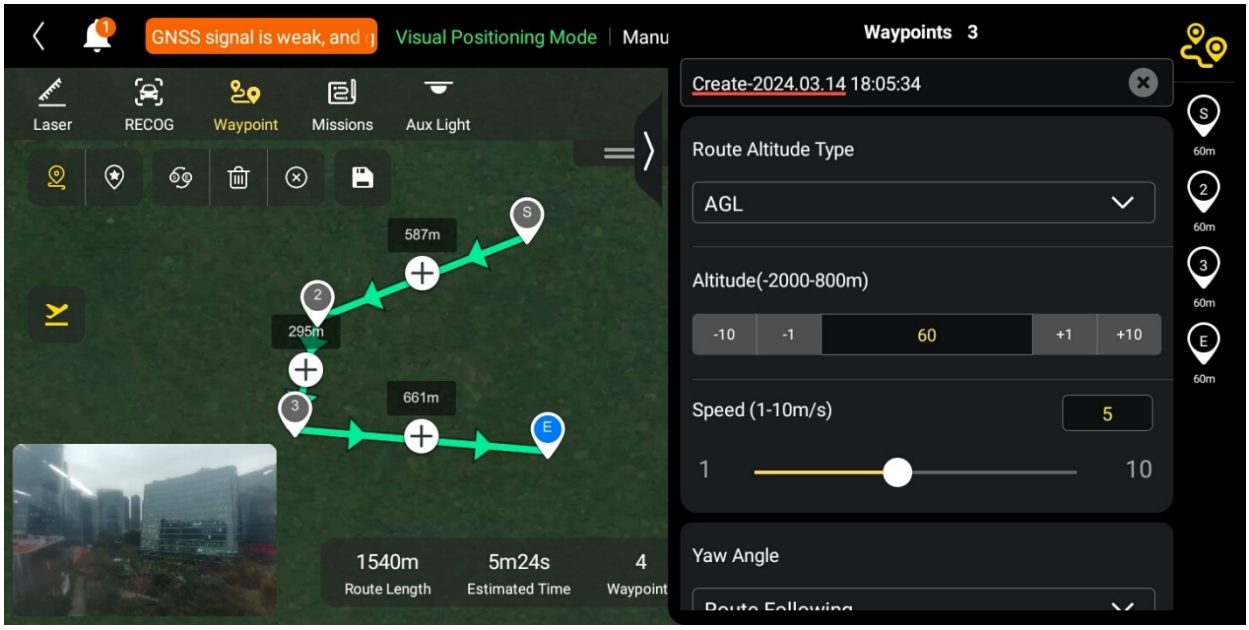

Fig 6-16 Waypoint

Table 6-10 "Waypoint Mission" Terms and Details

Term	Definition
Relative Height	Refers to the vertical height of the aircraft relative to the take-off point.
Altitude	Refers to the vertical height of the aircraft relative to sea level.
Yaw Angle	It is used to set the position where the nose of the aircraft is facing. The default is to follow the route. When the point of interest has been added, it is often set in conjunction with the point of interest, that is, the yaw angle of the aircraft is set to turn to the point of interest.
Gimbal pitch	The observable range of the gimbal camera, that is, the angle from the top to the bottom (0° ~ 90°).
Finish Action	Refers to the actions that the aircraft will perform after finishing the waypoint mission.
Lost Action	Refers to the actions that the aircraft will perform when disconnected from the remote controller for more than 4 seconds during flight.
Segment Action	Refers to the actions performed by the camera, the gimbal, and the aircraft during the flight segment formed between the current waypoint and the next waypoint.
Waypoint Action	Refers to the actions performed by the camera, gimbal, and aircraft at a specific waypoint.

Table 6-11 "Waypoint Mission" Icons and Details

No.	Icon	Meaning	Description

1		Waypoint Settings	Tap this icon to add a waypoint on the map as needed. Every two neighboring waypoints connect to form a flight segment and one or more flight segments form a route.
2		POI Settings	Tap this icon to add a point of interest on the map as needed.
3		Heading Switch	Tap this icon, and the starting point and ending point of the whole route will change direction.
4		Delete	When the aircraft is in waypoint setting status, tapping this icon once will delete the waypoint selected but cannot delete points of interest. When the aircraft is in POI setting status, tapping this icon once will delete the latest point of interest selected but cannot delete waypoints.
5		Clear	Tap this icon and then tap the "Confirm" button to clear all waypoints and POIs.
6		Save Route	Tap this icon, and the currently edited waypoint mission will be saved to “Mission”.
7		Edit Route	Tap this icon to edit the saved route missions.
8		Execute Mission	Tap this button, and the aircraft will enter the "Pre-flight Check" interface. After the check is completed, the aircraft will take off to perform the waypoint mission.
9		Pause Mission	When executing a waypoint mission, tap this icon, and the aircraft will pause the waypoint mission and hover at the current position.
10		Exit Mission	Tap this icon, and the aircraft will abort the current waypoint mission and automatically return.

■ Add Waypoints

On the waypoint mission interface, tap the “ ” icon, find the starting point for the mission on the map and tap it to create the first waypoint, and then repeat the previous operation to create multiple waypoints as required.

When adding waypoints, the waypoint mission settings interface will pop up on the right side of the waypoint mission interface.

Tip

- A route must include at least two waypoints: a starting point ( ) and an ending point ( ).
- To set a waypoint position more precisely, you can enter the waypoint coordinates under "Waypoint Coordinates" on the waypoint settings interface.

Tap the "" icon in the upper-right corner of the waypoint settings interface to enter the route settings interface.
Tap the waypoint icon on the right side of the waypoint settings interface to enter the corresponding waypoint settings interface.

■ Set Route Name and Route Altitude Type

On the route settings interface:

- ➢ Tap the "Route Name" edit box and enter the name as required to set the name of a route.
- ➢ Tap the drop-down list of "Route Altitude Type" and select “AGL” or “MSL” to set the altitude type of the entire route.

■ Set Flight Altitude

In the "Flight Altitude" edit box on the route settings interface, directly enter the flight altitude value or tap the shortcut buttons on the left and right sides to adjust the integer value. This way, you set the flight altitude of the entire route.
On the waypoint settings interface, the flight altitude is set to “Align Route” by default. After deselecting “Align Route”, in the "Flight Altitude" edit box, directly enter the flight altitude value or tap the shortcut buttons on the left and right sides to adjust the value. This way, you set the flight altitude of the aircraft at the current waypoint.

Tip

- The maximum value for the flight altitude setting will be dynamically adjusted according to the altitude limit set in the "Flight Control Parameter Setting".

■ Set Flight Speed

In the "Flight Speed" edit box on the route settings interface, directly enter the flight speed value or move the slider below left or right to adjust the value. This way, you set the flight speed of the entire route.
On the waypoint settings interface, the flight speed is set to “Align Route” by default. After deselecting “Align Route”, in the "Flight Speed" edit box, directly enter the flight speed value or move the slider below left or right to adjust the value. This way, you set the flight speed of the aircraft at the current waypoint.

Tip

- The flight speed setting ranges from 1 to 10 m/s.

Note

- After take-off, the aircraft will gradually adjust its "flight altitude" and "flight speed" to the set values while flying to this waypoint.

■ Set Yaw Angle

On the route settings interface, tap the drop-down list of "Yaw Angle" to set the yaw angle of the aircraft in the entire route to “Route Following”, “Manual”, or “Custom”.

On the waypoint settings interface, the yaw angle of the aircraft is set to “Align Route” by default. After deselecting “Align Route”, tap the drop-down list of "Yaw Angle" to set the yaw angle of the aircraft at the current waypoint to “Route Following”, “Manual”, “Custom”, or “Turn to Point of Interest” (the waypoint should be associated with the point of interest).

- Route Following: If it is set to “Route Following”, the nose of the aircraft will follow the direction of the waypoint change, that is, turn from the current waypoint to the next waypoint according to the set route.
- Manual: If it is set to “Manual”, you need to use the remote controller to control the nose direction of the aircraft during the flight.
- Custom: If it is set to “Custom”, the "Yaw Angle (0°-360°)" setting item will be displayed. You can directly enter the value or tap the shortcut buttons on the left and right sides to adjust the value. After setting, the aircraft nose will be adjusted according to the set value.
- Turn to Point of Interest: If it is set to “Turn to Point of Interest”, the nose of the aircraft will always face the set POI during the flight segment where the yaw angle of the aircraft is set to "Turn to Point of Interest" when the waypoint mission is executed.

■ Set Obstacle Avoidance Mode

On the route settings interface, the obstacle avoidance mode can be set to "Bypass" or "Off".

- If "Bypass" is selected, the aircraft will automatically bypass obstacles.

⚠ **Warning**
● If the obstacle avoidance mode is turned off, the obstacle avoidance system of the aircraft will not be enabled. In this case, please try to choose an open area to control the aircraft.

■ Set Camera Action

On the route settings interface, tap the drop-down list of "Camera Action" to set the camera action of the entire route to “Start Recording”, “Stop Recording”, “Shoot”, “Stop Shooting”, “Timelapse”, “Distance Lapse”, and “No Action”.

On the waypoint settings interface, the segment action is set to “Align Route” by default. After deselecting “Align Route”, tap the drop-down list of "Camera Action" to set the camera action of the current flight segment to “Start Recording”, “Stop Recording”, “Shoot”, “Stop Shooting”, “Timelapse”, “Distance Lapse”, and “No Action”.

- When it is set to "Timelapse", the “Photo Interval” will be displayed. At this time, you can move the slider left or right to adjust the value.
- When it is set to "Distance Lapse", the “Photo Distance” will be displayed. At this time, you can move the slider left or right to adjust the value.

■ Set Gimbal Pitch Angle

On the route settings interface, enter the value in the edit box to the right of "Gimbal Pitch Angle (0°-90°)", or move the slider below left or right to adjust the gimbal pitch angle of the entire route.

On the waypoint settings interface, the gimbal pitch angle (segment action) is set to “Align Route” by default. After deselecting “Align Route”, enter the value in the edit box to the right of "Gimbal Pitch Angle (0°-90°)", or move the slider below left or right to adjust the gimbal pitch angle of the current segment.

■ Add a Waypoint Action

On the waypoint settings interface, tap the "Add Action" button under “Waypoint Action” to set the camera action, gimbal pitch angle, and yaw angle for the current waypoint. You can add a maximum of 10 waypoint actions for one waypoint.

■ Set Finish Action

On the route settings interface, tap the drop-down list of "Finish Action" to set the flight action of the aircraft after completing the waypoint mission.

- If “Auto RTH” is selected, the aircraft will automatically return to the home point after completing the mission.
- If “Hovering” is selected, the aircraft will hover at the end point after completing the mission.

■ Set Signal Loss Action

On the route settings interface, tap the drop-down list of "Signal Loss Action" to set the flight action of the aircraft after losing connection with the remote controller for 4 seconds.

- If "Continue" is selected, the aircraft will continue to execute the mission and perform the "Finish Action" after completing the mission.
- If “Auto RTH” is selected, the aircraft will automatically return to the home point.

■ Set Waypoint Coordinates

After adding a waypoint, you can automatically obtain the longitude and latitude parameters of the waypoint. You can also manually enter and modify the longitude and latitude of the waypoint.

- Under “Waypoint Coordinates” on the waypoint settings interface, the waypoint coordinates can be set in three formats: WGS84/DD, WGS84/DMS, and WGS84/MGRS. Tap the "Longitude" and "Latitude" edit boxes below and enter the longitude and latitude of the waypoint to complete the modification of the waypoint coordinates.
- When using the DD (Decimal Degrees) format, you can use the arrow keys located on the right side of the editing field to make fine adjustments to the longitude and latitude.

Table 6-12 Fine Adjustment of Latitude and Longitude

Parameter Type	Tap Up Arrow	Tap Down Arrow	Tap Left Arrow	Tap Right Arrow
Longitude	/	/	-0.000005	+0.000005
Latitude	+0.000005	-0.000005	/	/

■ Add Point of Interest

On the waypoint mission interface, tap the "" icon, find the specific location on the map where the POI needs to be set and tap it to create the first POI, and then repeat the previous operation to create multiple POIs as required.

When adding POIs, the POI setting interface will pop up on the right side of the waypoint mission interface.

■ Set POI Altitude

On the POI settings interface, you can set the POI altitude. POI altitude refers to the altitude of the point of interest relative to the take-off point. In the "Altitude (0-800m)" edit box, directly enter the altitude value of the point of interest or tap the shortcut buttons on the left and right sides to adjust the value to set the POI altitude.

Important

- When the point of interest is higher than the waypoint, the gimbal camera cannot look at the point of interest above.

■ Set Associated Waypoints

On the POI settings interface, tap the waypoints to be associated under "Link Waypoint(s)" to associate the current point of interest with the selected waypoints. To associate all waypoints, check the "Select All" box on the right side.

After a waypoint is associated with a point of interest, the yaw angle of the aircraft at the waypoint will not be set to “Align Route” by default. If the “Yaw Angle” of the aircraft at the waypoint is set to “Turn to Point of Interest”, the nose of the aircraft will always face the associated point of interest during the flight segment from this waypoint to the next waypoint when the waypoint mission is executed.

■ Start Pre-flight Check

After the completion of all settings for a route, relevant flight mission data will be synchronously displayed at the bottom center of the waypoint mission interface, including the route length, estimated time, waypoints, and photos to be taken. Tap the “” icon on the left side to enter the "Pre-flight Check" interface.

■ Upload a Route and Start a Mission

After completing the pre-flight check, press the “Slide to takeoff” icon at the bottom of the "Pre-flight Check" interface, and the aircraft will automatically take off to execute the mission. The estimated completion time, current photo count, current altitude, current wind speed, and other basic information will be synchronously displayed at the bottom center of the waypoint mission interface. The lower-left mini screen displays the current view observed by the gimbal camera. Tap to enlarge it to full screen for viewing.

When the aircraft completes the waypoint mission, the relevant flight mission data of this route will be displayed at the bottom center of the map, including the route length, estimated time, waypoint, the number of photos taken, and the number of flights.

6.9.2 Rectangle Mission

In the shortcut toolbar (or Shortcuts), tap the "" icon to enter the "Rectangle" mission interface. You can add a rectangular area on the map and perform operations such as dragging, scaling, and rotating to adjust the position and size of the area. After adjustments, the Autel Enterprise Application will automatically generate a continuous series of equidistant flight routes within the rectangular area based on the side overlap and course angle settings. The aircraft will then automatically fly to execute the shooting mission according to these flight routes and relevant settings.

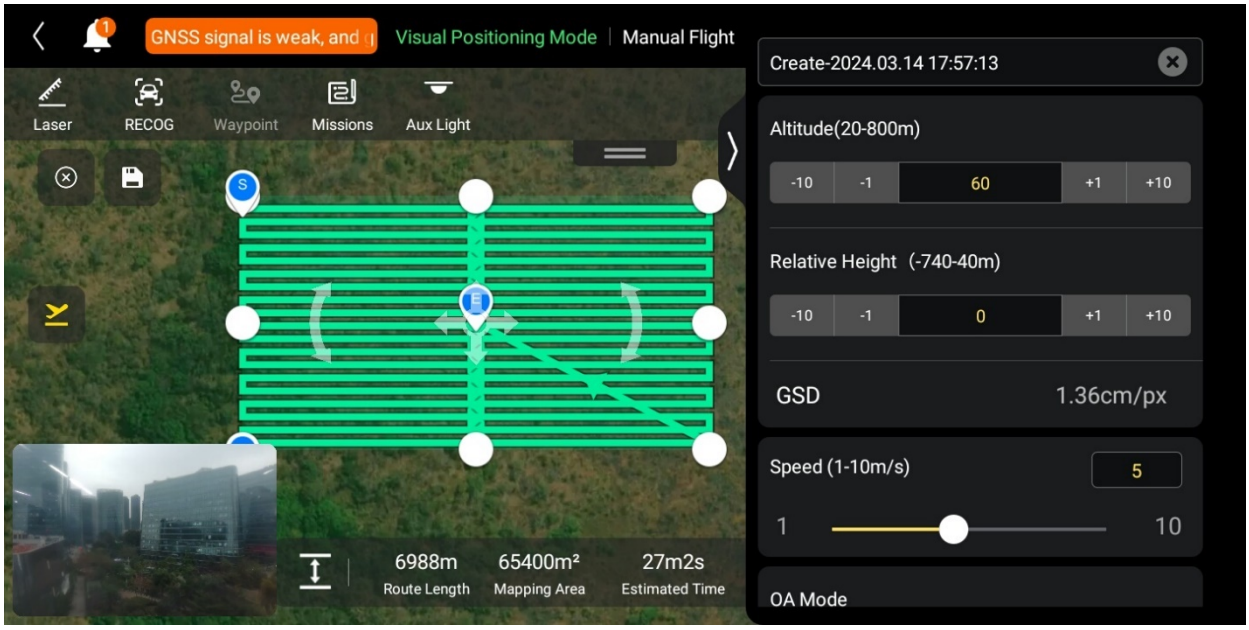

Fig 6-17 Rectangle Mission

Table 6-13 "Rectangle Mission" Terms and Details

Term	Definition
Relative Height	Refers to the vertical altitude of the work surface of the shot object relative to the take-off point of the aircraft.
GSD	Ground Sampling Distance.
Finish Action	Refers to the action that the aircraft will perform after completing a rectangle mission.
Lost Action	Refers to the actions that the aircraft will perform when disconnected from the remote controller for more than 4 seconds during flight.
Front Overlap	Refers to the image overlap rate between two consecutive photos taken when capturing images along the flight heading.
Side Overlap	Refers to the image overlap rate between two consecutive photos taken when capturing images along two adjacent flight routes.
Main Course Angle	Refers to the course angle between the main route and the latitude line (horizontal line) when the flight routes are automatically generated.
Gimbal pitch	The observable range of the gimbal camera, that is, the angle from the top to the bottom (-30° ~ 90°).
Coordinated Turns	When enabled, the aircraft will switch from one main route to an adjacent main route along the optimal arc-shaped path.

Table 6-14 "Rectangle Mission" Icons and Details

No.	Icon	Meaning	Description
1		Clear	Tap this button, and then tap the "Confirm" button in the pop-up window to reset the rectangle mission.
2		Save Route	Tap this icon, and the currently edited rectangle mission will be saved to “Mission”.
3		Edit Route	Tap this icon to edit the saved rectangle mission.
4		Execute Mission	Tap this button, and the aircraft will enter the "Pre-flight Check" interface. After the check is completed, the aircraft will take off to perform the rectangle mission.
5		Pause Mission	When executing a rectangle mission, tap this icon, and the aircraft will pause the rectangle mission and hover at the current position.
6		Exit Mission	Tap this icon, and the aircraft will abort the current rectangle mission and automatically return.

■ Add a Rectangular Area

On the map of the rectangle mission interface, find the center point of the mission to be executed and tap it to automatically generate a rectangular area. You can adjust the area of the rectangle by dragging the eight white points at the edges of the rectangle. You can drag the "cross arrow" in the center of the rectangle to move the rectangle or drag the "curved arrow" on both sides of the rectangle to rotate the rectangle around the center point.
When adding a rectangular area, the rectangle mission settings interface will pop up on the right side of the rectangle mission interface.

Tip

- A rectangular area includes two waypoints, that is, the starting point ( ) and the end point ( ).

■ Set Mission Name

On the rectangle mission settings interface:

➢ Tap the "Mission Name" edit box and enter the name as required to set the name of a rectangle mission.

■ Set Flight Altitude and Relative Height

In the "Flight Altitude (20-800m)" edit box on the rectangle mission settings interface, directly enter the flight altitude value or tap the shortcut buttons on the left and right sides to adjust the value. This way, you set the flight altitude of the rectangle mission.
The setting range of "Relative Height" will automatically be dynamically adjusted according to the flight altitude setting. In the edit box, directly enter the mission altitude value or tap the

shortcut buttons on the left and right sides to adjust the value. This way, you set the relative altitude of the rectangle mission.

Tip

- The maximum value for the flight altitude setting will be dynamically adjusted according to the altitude limit set in the "Flight Control Parameter Setting".
- GSD varies with different flight altitude values.

■ Set Flight Speed

In the "Flight Speed" edit box on the rectangle mission settings interface, directly enter the flight speed value or move the slider below left or right to adjust the value. This way, you set the flight speed of the rectangle mission.

Tip

- The flight speed setting ranges from 1 to 10 m/s.

■ Set Obstacle Avoidance Mode

On the rectangle mission settings interface, the obstacle avoidance mode can be set to "Bypass" or "Off".

➢ If "Bypass" is selected, the aircraft will automatically bypass obstacles.

Warning

- If the obstacle avoidance mode is turned off, the obstacle avoidance system of the aircraft will not be enabled. In this case, please try to choose an open area to control the aircraft.

Tip

- When flying at a high altitude, if there are no obstacles, it is recommended to disable the obstacle avoidance mode.

■ Set Finish Action

On the rectangle mission settings interface, tap the drop-down list of "Finish Action" to set the flight action of the aircraft after completing the rectangle mission.

➢ If “Auto RTH” is selected, the aircraft will automatically return to the home point after completing the mission.

➢ If “Hovering” is selected, the aircraft will hover at the end point after completing the mission.

■ Set Signal Loss Action

On the rectangle mission settings interface, tap the drop-down list of "Signal Loss Action" to set the flight action of the aircraft after losing connection with the remote controller for 4 seconds.

➢ If "Continue" is selected, the aircraft will continue to execute the mission and perform the "Finish Action" after completing the mission.

➢ If “Auto RTH” is selected, the aircraft will automatically return to the home point.

■ Advanced Settings

On the rectangle mission settings interface, tap “Advanced Settings” to enter the advanced settings interface and set the front overlap, side overlap, main course angle, and gimbal pitch angle for the rectangle mission.

- Set Front Overlap

In the "Front Overlap(%)" edit box on the advanced settings interface, directly enter the value or move the slider below left or right to adjust the value to set the front overlap of the rectangle mission.

- Set Side Overlap

In the "Side Overlap(%)" edit box on the advanced settings interface, directly enter the value or move the slider below left or right to adjust the value to set the side overlap of the rectangle mission.

Tip
● The setting range of the front overlap and side overlap is 10%-90%, and the default value is 70%.

- Set Main Course Angle

On the advanced settings interface, you can set the main course angle (0-359°) in two ways: “Custom” or “Auto”.

➢ If “Custom” is selected, you can directly enter the value or tap the shortcut digital buttons on the left and right sides to adjust the angle between the main route of the rectangle mission and the latitude line.

- Set Gimbal Pitch Angle

On the advanced settings interface, enter the value in the edit box to the right of "Gimbal Pitch Angle (-30°-90°)", or move the slider below left or right to adjust the gimbal pitch angle of the entire route.

■ Turn On/Off Elevation Optimization

➢ If this function is turned on, the aircraft will create a route along the center point of the rectangle for re-shooting after completing the shooting of the main route. This helps optimize the overall shooting accuracy of the mission.

■ Turn On/Off Double Grid

➢ If this function is turned on, the aircraft will change its heading by 90° and shoot the rectangle mission area again after completing the shooting of the main route. The two routes have a 90° overlap.

■ Turn On/Off Route Extension

Due to the limited gimbal pitch angle and flight altitude, some areas on the outer edges of the rectangle mission area might not be captured by the camera. In such cases, you need to turn on route extension to extend the rectangle mission area so as to ensure complete coverage of the target area.

■ Turn On/Off Coordinated Turns

After this function is turned on, the aircraft will follow the optimal arc-shaped path for turns when switching from one main route to an adjacent one.

Tip

- When the obstacle avoidance mode is set to “Bypass”, the coordinated turns function does not take effect.

■ Photo Compatibility Settings

Set the data structure compatible with photos, which can be imported into third-party modeling software for processing. Available format options are ‘Pix4d” and “Standard”.

■ Start Pre-flight Check

After the completion of all settings for a rectangle mission, relevant flight mission data will be synchronously displayed at the bottom center of the rectangle mission interface, including the route length, mapping area, estimated time, and photos to be taken. Tap the “” icon on the left side to enter the "Pre-flight Check" interface.

■ Upload a Route and Start a Mission

After completing the pre-flight check, press the “Slide to takeoff” icon at the bottom of the "Pre-flight Check" interface, and the aircraft will automatically take off to execute the mission. The estimated completion time, current photo count, current altitude, current wind speed, and other basic information will be synchronously displayed at the bottom center of the rectangle mission interface. The lower-left mini screen displays the current view observed by the gimbal camera. Tap to enlarge it to full screen for viewing.

■ Complete Route Missions

When the aircraft completes the rectangle mission, the relevant flight mission data of this route will be displayed at the bottom center of the map, including the route length, mapping area, estimated time, the number of photos taken, and the number of flights.

6.9.3 Polygon

In the shortcut toolbar (or Shortcuts), tap the "" icon to enter the "Polygon" mission interface. You can add a square area on the map and perform operations such as dragging, adding side boundaries, and dragging corner points to adjust the position and size of the area. After adjustments, the Autel Enterprise Application will automatically generate a continuous series of equidistant flight routes within the polygonal area based on the side overlap and course angle settings. The aircraft will then automatically fly to execute the shooting mission according to these flight routes and relevant settings.

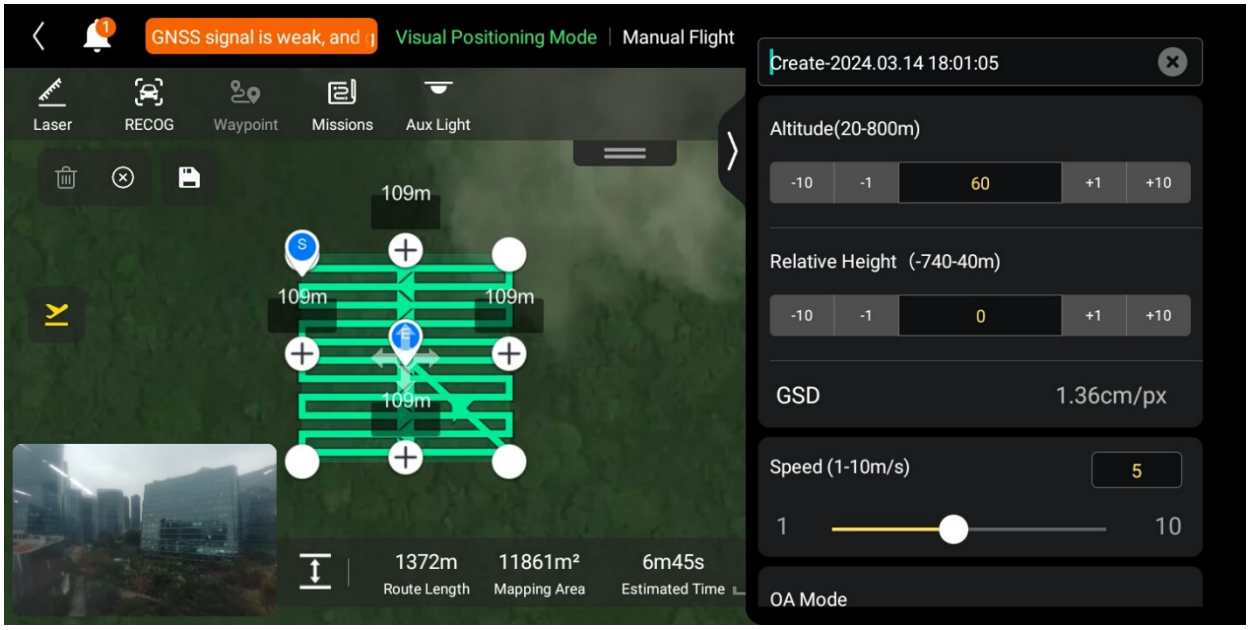

Fig 6-18 Polygon

Table 6-15 "Polygon Mission" Terms and Details

Term	Definition
Relative Height	Refers to the vertical altitude of the work surface of the shot object relative to the take-off point of the aircraft.
GSD	Ground Sampling Distance.
Finish Action	Refers to the action that the aircraft will perform after completing a polygon mission.
Lost Action	Refers to the actions that the aircraft will perform when disconnected from the remote controller for more than 4 seconds during flight.
Front Overlap	Refers to the image overlap rate between two consecutive photos taken when capturing images along the flight heading.
Side Overlap	Refers to the image overlap rate between two consecutive photos taken when capturing images along two adjacent flight routes.
Main Course Angle	Refers to the course angle between the main route and the latitude line (horizontal line) when the flight routes are automatically generated.
Gimbal pitch	The observable range of the gimbal camera, that is, the angle from the top to the bottom (-30° ~ 90°).
Coordinated Turns	When enabled, the aircraft will switch from one main route to an adjacent main route along the optimal arc-shaped path.

Table 6-16 “Polygon Mission” Icons and Details

No.	Icon	Meaning	Description
1		Clear	Tap this button, and select points of the polygon selected.
2		Save Route	Tap this icon, and the currently edited polygon mission will be saved to “Mission”.
3		Edit Route	Tap this icon to edit the saved polygon mission.
4		Execute Mission	Tap this button, and the aircraft will enter the "Pre-flight Check" interface. After the check is completed, the aircraft will take off to perform the polygon mission.
5		Pause Mission	When executing a polygon mission, tap this icon, and the aircraft will pause the polygon mission and hover at the current position.
6		Exit Mission	Tap this icon, and the aircraft will abort the current polygon mission and automatically return.

■ Add a Polygonal Area

On the map of the polygon mission interface, find the center point of the mission to be executed and tap it to automatically generate a square area. You can tap the "+" icon between two white points to add side lines for the area. You can drag the white points to adjust the positions of the corner points of the polygon, which allows you to modify the area of the polygon. You can also drag the "cross arrow" in the center of the polygonal area to move the polygon.
When adding a polygonal area, the polygon mission settings interface will pop up on the right side of the polygon mission interface.

Tip

- A polygonal area includes two waypoints, that is, the starting point ( ) and the end point ( ).
- For the settings of other operations for a polygon mission, see “”6.9.2 Rectangle Mission” in this chapter.

6.9.4 Pre-flight Check

Before the aircraft starts to execute a mission, a pre-flight check is required. On the "Pre-flight Check" interface, you can preview the current status (such as battery level, battery temperature, and SD card memory) and route data of the aircraft and perform some settings such as flight parameters and obstacle avoidance settings.

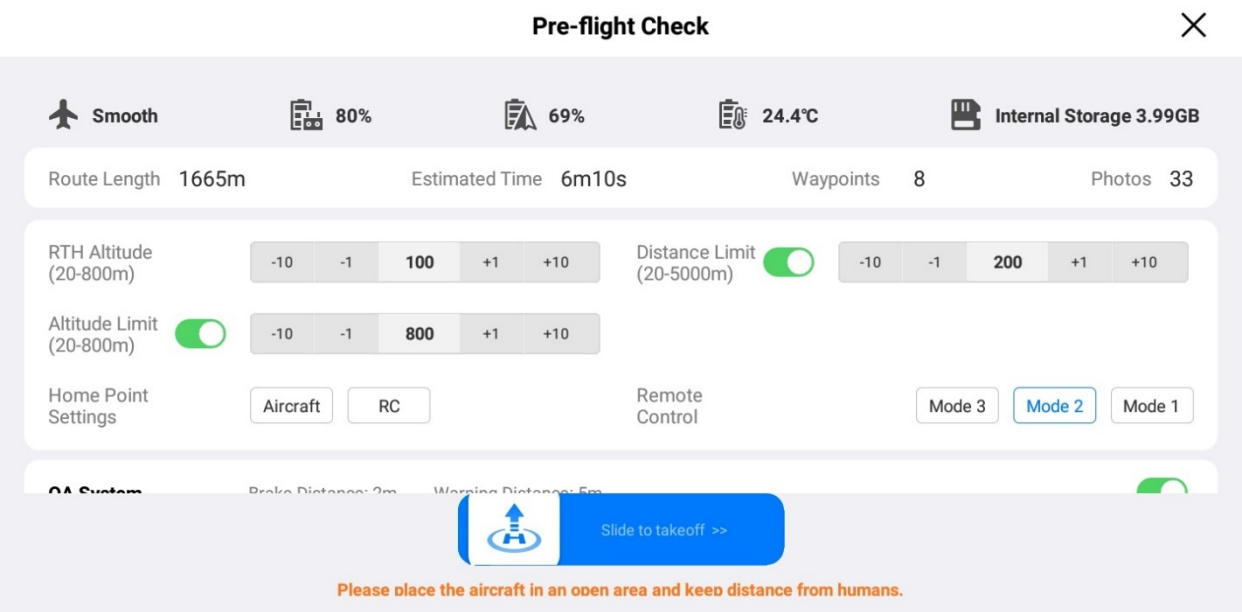

Fig 6-19 Pre-flight Check for a Flight Mission

1. On the ongoing flight mission interface, tap the "" icon on the left, and the "Pre-flight Check" interface will pop up. Please make sure that there is no fault or abnormal alarm, otherwise, you need to follow the tips to solve it.
2. Confirm aircraft status and route preview data.
3. According to different types of flight missions, set the corresponding flight parameters. If not set, the "RTH Altitude", "Distance Limit", "Altitude Limit", "Home Point Settings", and "Remote Controller" settings are based on general settings.
4. Select to enable or disable obstacle avoidance.
5. After completing the above operations, press the “Slide to takeoff” icon at the bottom of the interface.

6.9.5 Resume Mission

When an abnormal situation such as an abnormal exit occurs during a flight mission, tap the " " icon to enter the "Mission" interface. This will trigger the “Resume Mission” function, and a prompt window “Detect a paused mission. Would you like to resume it?” will pop up.

■ Resume Mission Options

- Tap the "Continue" button. The position where the aircraft stopped will be displayed, and the aircraft will fly to this position to continue the last mission.
- Tap the "Cancel" button. After closing the pop-up window, the mission will no longer be executed from the last point.

6.9.6 Mission and Favorites

On the "Mission/Favorites" interface, you can query, edit, favorite, and delete previously saved flight missions.

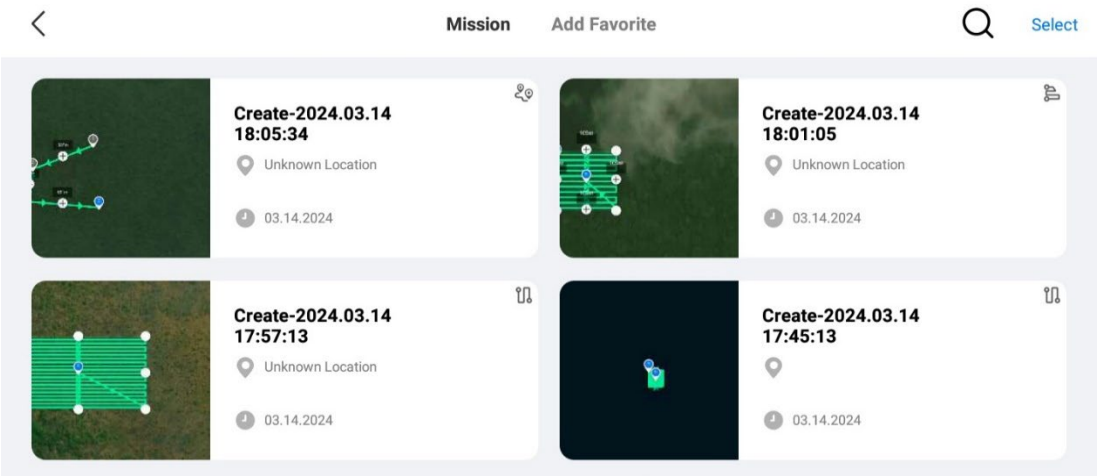

Fig 6-20 Mission/Favorites Interface

■ **Query**

Tap the "🔍" icon in the upper-right corner of the "Mission" interface and enter the desired content to quickly locate the corresponding historical flight mission.

■ **Edit**

Tap a historical flight mission on the "Mission" interface to enter the waypoint mission editing interface. Tap the "✎" icon to edit the flight mission.

■ **Favorite**

Tap the "Select" button in the upper-right corner of the "Mission" interface, then single-select, multi-select, or select all the missions to be favorited, and then tap the "☆" icon to complete the favoriting action. Favorited missions will be displayed on the "Favorites" interface for easy access.

■ **Delete**

Tap the "Select" button in the upper-right corner of the "Mission" interface, then single-select, multi-select, or select all the missions to be deleted, and then tap the "🗑" icon. After a dialog box pops up, tap the "Confirm" button. This way, the selected flight missions are deleted.

■ **Export**

Tap the "Select" button in the upper-right corner of the "Mission" interface, then single-select, multi-select, or select all the missions to be deleted, and then tap the "📤" icon. After a dialog box pops up, tap the "Confirm" button. This way, the selected flight missions are deleted.

Tip
● The current version only supports exporting waypoint missions.

6.9.7 Personal Center

Tap the "⊛" icon (in the shortcut toolbar or Shortcuts) to enter the "Personal Center" interface. When using the product for the first time, you need to register and log in to the Autel Enterprise Application.

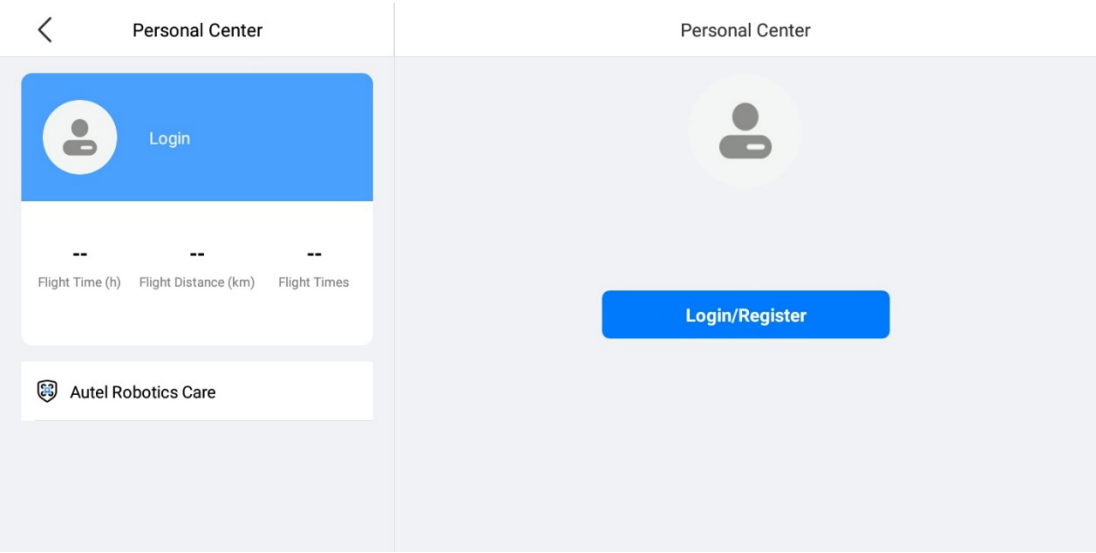

Fig 6-21 "Personal Center" Interface

On the "Personal Center" interface, you can perform the following operations:

■ Query Flight Data

On the "Personal Center" interface, you can query the flight time, flight distance, and the number of flights.

■ Purchase "Autel Robotics Care"

On the "Personal Center" interface, you can purchase the "Autel Robotics Care" value-added service for your aircraft (within 48 hours of activation).

Tip
● If you do not register and log in to the Autel Enterprise Application, you cannot use cloud-related functions. ● You have the right to use a registered account, but the account ownership belongs to Autel Robotics. Please read the "User Agreement" carefully when registering.

Chapter 7 Firmware Updates and Maintenance

In order to ensure the reliability and overall performance of the aircraft and relevant parts, as well as to obtain the best flight experience, the aircraft, remote controller, and parts need to be updated to the latest firmware version.
Use the Autel Enterprise Application to perform firmware updates for the aircraft, remote controller, smart battery, and other parts.

Important

- Online upgrade requires ensuring that the RC can normally access the Internet.

7.1 Aircraft and Remote Controller Firmware Updates

1. Power on the remote controller and aircraft. Make sure that the aircraft and remote controller are already paired, both have a battery level of more than 25%, and the network connection of the remote controller is normal.
2. Open the Autel Enterprise Application. If there is a version update available, you will receive a pop-up notification on the main interface of the App or you can manually select the update in the settings of the App.
3. Tap "Update All", and the Autel Enterprise Application will automatically download and update the firmware for the remote controller and aircraft.
4. After the update is complete, follow the pop-up instructions to restart the remote controller and aircraft.

Important

- During the update process, do not power off the aircraft and keep it connected to the remote controller.
- The update process is expected to take about 15 minutes (depending on the network that the remote controller is connected to).
- Do not move the command sticks before and after the update to ensure that the propellers remain stationary.
- Make sure that the aircraft has a micro SD card inserted and that the aircraft and remote controller have sufficient storage space for the firmware update packages.
- After the update is completed, the RC might disconnect with the RC. If you need to repairing them, please refer to “4.9 Frequency Pairing with the Remote Controller” in chapter 4.

7.2 Aircraft Parts Maintenance

To ensure that the aircraft maintains optimal performance, all parts of the aircraft need to be maintained regularly. For details, please refer to the Maintenance Manual. If you have any questions, please contact Autel Robotics.

Table 7-1 Aircraft Consumable Parts list

No.	Part	Quantity	Note
1	Propeller CW	2	Each aircraft is equipped with 2 CW propellers and 2 CCW propellers.
2	Propeller CCW	2	
3	Power motor	4	
4	Front arm tripod	2	
5	Rear arm tripod	2	
6	Gimbal shock absorbing ball	4	
7	Smart battery unlock button	2	
8	Air outlet dust screen	1	

Table 7-2 User-Replaceable Parts List

NO.	Part	Quantity	Part Number	Manufacturer information
1	Propeller CW	2	EAN: 6924991102533 UPC: 889520012270	Autel Robotics
2	Propeller CCW	2		
3	smart battery	1	EAN: 6924991132158 UPC: 889520212151	Autel Robotics

Tips

- Users can contact Autel Robotics to purchase the above parts and replace them by themselves according to the operating instructions.
- If you need to replace parts that are not in the list, please contact Autel Robotics. Damage caused by unauthorized disassembly and assembly will not be covered by the warranty.
- Please refer to the "Maintenance Manual" for the service life cycle of each component.

7.3 Troubleshooting Guide

Tip

- The following troubleshooting measures are only limited to failures resulting from normal usage.
- For failures resulting from abnormal usage, please contact Autel Robotics for handling.

1. The remote controller cannot power on:
   - Check whether the remote controller has sufficient power. If the battery level is too low, it may result in a power-on failure after shutdown. In this case, fully charge the remote controller and then power it on.
   - Check whether the ambient temperature is suitable, as low temperatures can affect battery output performance, resulting in a power-on failure.
   - If the remote controller was accidentally powered off during an update, it may not power on normally. In this case, contact Autel Robotics.
   - If the remote controller has not been subjected to external impacts, liquid submersion, or other destructive behaviors and does not have any conditions mentioned above, it may have a hardware failure. In such cases, contact Autel Robotics.

2. The aircraft cannot power on:
   - Check whether the smart battery has sufficient power. If the battery level is too low, it may result in a power-on failure after shutdown. In this case, fully charge the smart battery and then power the aircraft on.
   - If the smart battery has sufficient power, check whether the battery makes proper contact with the aircraft's fuselage. Dirt or rust at the battery connector can lead to poor contact and must be cleaned before being re-inserted into the battery for power-on.
   - Check whether there are any missing or damaged metal contacts at the aircraft battery connector and the smart battery connector. If yes, please contact Autel Robotics.
   - Check whether the ambient temperature is suitable, as low temperatures can affect battery output performance, resulting in a power-on failure.
   - If the aircraft or the smart battery is unexpectedly powered off during a firmware update, it may result in a power-on failure. In this case, contact Autel Robotics.
   - When none of the above conditions apply, if the aircraft can power on after the smart battery is replaced, it may be a hardware failure of the smart battery; if the aircraft still cannot power on after the smart battery is replaced, it may be a hardware failure of the aircraft itself. In this case, contact Autel Robotics.

3. The aircraft reports a fault during startup self-check:
   - Check the gimbal camera. If the gimbal camera has no response, re-start the aircraft, if there is still no response, please contact Autel Robotics.
   - If the gimbal camera successfully passes the self-check, but the aircraft still reports a fault, it may be a hardware failure of the aircraft. In this case, contact Autel Robotics.

4. There is no response from the remote controller when pairing it with the aircraft:
   - Confirm that the distance between the aircraft and the remote controller is within 50 centimeters.

- Check whether there is a metal object, mobile device, signal interference device, or another remote controller nearby.

5. After the aircraft powers on, the motors do not start:
   - Check whether the remote controller is paired with the aircraft.
   - Check whether the command sticks of the remote controller are functioning correctly and whether the remote controller has been correctly calibrated.
   - Check whether the aircraft's battery has sufficient power.
   - Check whether the aircraft's compass has been correctly calibrated.
   - If none of the above conditions apply, it may be a hardware failure of the aircraft itself. In this case, contact Autel Robotics.

6. After the motors start, the aircraft does not take off:
   - Check whether the aircraft is in a No-Fly Zone.
   - Check whether the aircraft is placed on a flat surface.
   - Check whether there are obstacles near the aircraft and whether the obstacle avoidance system of the aircraft is enabled.

7. The aircraft has shortened flight time:
   - During flight, factors such as low ambient temperatures, flying against the wind, air turbulence, and carrying a mount all may lead to a shortened operating time of the aircraft.
   - Make sure that the smart battery has fewer than 200 cycles. During the normal use of the smart battery, the battery capacity naturally decreases over time.

8. The remote controller has unstable image transmission (e.g., image lag, image loss, or frequent disconnection):
   - Check whether the remote controller's antennas are securely connected and whether they are adjusted to an appropriate direction.
   - Check whether there is any strong magnetic field or signal interference source near the aircraft and remote controller.
   - Confirm that the distance between the aircraft and the remote controller falls within the effective communication range and promptly reduce the flight radius if needed.

9. The gimbal camera automatically turns off during recording:
   - Do not immediately remove the microSD card from the aircraft. Instead, restart the camera and wait for the video file to be stored as much as possible.
   - Check whether the memory of the microSD card is full; if it is, replace it with a new microSD card or transfer the media files.
   - Check whether the gimbal camera is securely connected to the aircraft. If the gimbal camera is not securely locked during installation, the gimbal camera connector may become loose due to flight vibrations, leading to poor contact and thus malfunctions.

10. When the aircraft is flying beyond the visual line of sight, image transmission fails:
    - Enable auto-return to let the aircraft return to the home point.

11. What precautions should I follow when using the omnidirectional visual sensing system?
    - Before flying, make sure that the visual sensing camera lens is clean and not blocked

("Omnidirectional" means that the system can sense objects in six directions, including front, rear, left, right, up, and down).

- When flying, pay attention to the surrounding environment and safety prompt messages of the Autel Enterprise Application.
- Obstacles can be detected by checking the texture of their surfaces. The detection function cannot work properly for objects with no texture, repeated texture, a surface of pure color, moving objects, or tiny objects. It also cannot work properly in a strong light or weak light environment.

12. The accurate landing/landing protection function cannot work properly:
    - The accurate landing function can be implemented by the visual sensing lens on the rear of the aircraft. The camera detects the ground texture when the aircraft takes off or lands.
    - However, if the ground does not have any texture or the visual sensing lens on the rear of the aircraft is damaged, this function cannot work properly.

13. The omnidirectional visual sensing system cannot work properly:
    - Restart the aircraft and check whether the system can work properly this time.
    - Check whether the ambient light illuminance is suitable for the operation of the visual sensing system.

14. When recording video during flight, the image tilts:
    - Place the aircraft horizontally and keep it stationary. Use the "Gimbal Calibration" function in the Autel Enterprise Application to calibrate the gimbal.
    - If the problem persists, adjust the gimbal according to the instructions described in the "Gimbal Adjustment" section.

15. The camera lens of the aircraft is dirty:
    - Please use dry soft cloth to clean the lens gently.

16. The aircraft or remote controller experiences unexpected shutdown during firmware updates:
    - Restart the device. If it can power on normally, make sure that the device is sufficiently charged before proceeding with the update.
    - If the device cannot power on, contact Autel Robotics.

17. Restore the factory setting of the remote controller:
    - Tap the "Settings" app on the main interface of the remote controller, tap Backup & reset, and tap "Factory data reset" to restore the factory settings. Please backup important data before the resetting operation.

18. Forcefully restart the remote controller after lag:
    - Press and hold the power button on the right side of the remote controller for more than 6 seconds to forcefully power off the remote controller.
    - Restarting the remote controller during flight will trigger the lost action of the aircraft.

Appendix A Product Specifications

A.1 Aircraft

Aircraft	
Weight of EVO Lite Enterprise Series Aircraft	866 g
Maximum takeoff weight of EVO Lite Enterprise Series Aircraft	866 g
Dimensions	Folded: 210×123×95mm Unfolded: 433×516×95mm
Max. rotation speed	8000 rpm
Wheelbase	368 mm
Maximum ascent speed	Slow:3 m/s Smooth:3 m/s Standard: 5 m/s Ludicrous: 6 m/s
Maximum descent speed	Slow: 3 m/s Smooth: 2 m/s Standard: 3 m/s Ludicrous: 4 m/s
Maximum horizontal flight speed (no wind near sea level)	Slow :3 m/s Smooth:5 m/s Standard: 10 m/s Ludicrous: 18 m/s
Maximum Service Ceiling Above Sea Level	2000 meters
Maximum flight altitude	800 meters (Altitude limit in the App)
Maximum flight time (no wind)	40 minutes
Maximum flight mileage	24 km
Maximum hover time (no wind)	38 minutes
Maximum wind resistance level	Fresh breeze
Maximum tilt angle	Slow: 15°

	Smooth: 30° Standard: 30° Ludicrous: 33°
Maximum rotation angular speed	Smooth: 60°/s Standard: 120°/s Ludicrous: 200°/s
Working temperature	0~40℃
Battery hot replacement	not support
Internal storage	Onboard storage: 6GB
Wi-Fi Operating Frequency	2.4G: 2.400 – 2.4835 GHz* 5.1G: 5.15 - 5.25 GHz** 5.8G: 5.725 - 5.829 GHz***, 5.725 - 5.850GHz *Only applies to MIC regions **Only applies to FCC and MIC regions ***Only applies to SRRC regions Note: Some frequencies are only available in some regions and some frequencies are only allowed for indoor use. Check local laws and regulations for details.
Wi-Fi Effective transmitter power (EIRP)	2.4G： ≤12.14dBm（MIC） 5.1G： ≤30dBm（FCC）：≤10mW（MIC） 5.8G： ≤30dBm（FCC/ISED/RCM/SRRC）；≤14dBm（CE）
Wi-Fi transfer	20MB/s
GNSS	GPS/Galileo/GLONASS
Hover accuracy	Vertically: ±0.1 meters (when visual positioning is working normally) ±0.5 meters (when GNSS is working normally) Horizontally: ±0. 3 meters (when visual positioning is working normally) ± 1.5 meters (when GNSS is working normally)
Image Transmission	
Operating Frequency	2.4G: 2.400 – 2.476 GHz*; 2.400 – 2.4835 GHz 5.7G: 5.65 – 5.755GHz***

	5.8G: 5.725 - 5.829 GHz*, 5.725 - 5.850GHz *Only applies to SRRC regions **Only applies to FCC regions ***Only applies to MIC regions Note: Some frequencies are only available in some regions and some frequencies are only allowed for indoor use. Check local laws and regulations for details.
Maximum signal effective distance (No interference, no obstruction)	FCC: 10 kilometers CE: 6 kilometers
Effective transmitter power (EIRP)	2.4G: ≤30dBm（FCC）；≤20dBm（CE/SRRC）; 5.1G: ≤30dBm（FCC） 5.7G: ≤30dBm（MIC） 5.8G: ≤30dBm（FCC/SRRC）; ≤14dBm（CE）
Visual Perception System	
Sensing range	Forward: 0.5~18 meters Effective obstacle avoidance speed: ＜12m/s Backward: 0.5~18 meters Effective obstacle avoidance speed: ＜12m/s Downward: 0.5~22 meters visual hover range: 0.5~40m
FOV	Forward: 70° horizontally, 88° vertically Backward: 40° horizontally, 30° vertically Downward: 40° horizontally, 30° vertically
Effective use of the environment	Front, rear: The surface has rich texture and sufficient lighting conditions (>15 lux, normal indoor fluorescent lighting environment) Below: The ground is richly textured and the lighting conditions are sufficient (>15 lux, normal indoor fluorescent lighting environment) The surface is made of diffuse reflective material and the reflectivity is >20% (such as walls, trees, people, etc.)

A.2 Gimbal Camera

A.2.1 EVO Lite 6K Enterprise Aircraft Gimbal Camera

Zoom camera	
Image sensor	1 CMOS, 20 million pixels
Lens	Field of view: 82° Focal length: 29 mm Aperture: f/2.8-f/11 Focus distance: 0.5 meter ~ ∞
ISO range	Video: ISO100 ~ ISO6400 Photo: ISO100 ~ ISO6400 Night scene mode: Maximum video ISO48000
Shutter speed	Photo mode: 1/8000 ~ 8 seconds Others: 1/8000 ~ 1/30 seconds
Defog mode	Support
Zoom	1 - 16x digital zoom Lossless zoom: 4K: 1.3 times at most; 1080p: 3 times at most
Maximum photo size	5472×3076（16:9） 3840×2160 （16:9）
Photo format	JPG
Photo shooting mode	Single shooting
Video resolution	3840×2160 P30 1920×1080 P30
Video format	MP4 / MOV
Video coding format	H.265/H.264
Video maximum bit rate	120Mbps
Support file system	FAT32/exFAT
Gimbal	
Mechanical scope	Pitch: -135°~45° Roll: -45°~45° Yaw: -90°~90°

Controllable rotation range	Pitch: -90°~30°
Stable system	Three-axis stabilization
Maximum control speed (pitch)	100°/s
Angualr vibration range	±0.003°

A.2.2 EVO Lite 640T Enterprise Gimbal Camera

Zoom camera	
Image sensor	1/2 inch CMOS, 48 million pixels
Lens	Field of view: 83.4° focal length: 24 mm Aperture: f/2.8 Focus distance: 0.5 meter ~ ∞ Focus: FF (Fixed Focus)
ISO range	Auto Mode: ISO100 ~ ISO6400 Manual Mode: Video: ISO100 ~ ISO6400 Photo: ISO100 ~ ISO6400 Night scene mode: ISO100 ~ ISO32000
Shutter speed	Photo mode: 1/8000 ~ 0.5 seconds Others: 1/8000 ~ 1/30 seconds
Defog mode	Support
Zoom	1 - 16x digital zoom
Maximum photo size	3840×2160 P30 1920×1080 P30
Photo format	JPG
Photo shooting mode	Single shooting
Video resolution	3840×2160 P30 1920×1080 P30
Video format	MP4 / MOV
Video coding format	H.265/H.264
Video maximum bit rate	100Mbps
Support file system	FAT32/exFAT

Infrared Thermal Imaging Camera	
Image Sensor	Uncooled VOx Microbolometer
Lens	FOV: 61° Focal length: 9.1 mm Aperture: f/1.0 Focusing distance: 2.2 m ~ ∞
Sensitivity	≤50mK@f/1.0, 25°C
Pixel Pitch	12um
Wavelength	8-14um
Radiometric Measurement Method	Center measurement/Pot measurement/Rectangular measurement
Radiometric Temperature Range	-20°C to 150°C (high gain mode); 0 to 550°C (low gain mode)
Radiometric Measurement Accuracy	±3°C or reading ±3% (using the larger value) @ ambient temperature ranges from -20°C to 60°C
Accurate Temperature Measurement Distance	1 ~ 25 m
Digital Zoom	16x digital zoom
Temperature Alert	High and low temperature alarm thresholds, Reporting coordinates and temperature values
Palette	White Hot/Black Hot/Searing/ Rainbow/Grey/Ironbow/Cold and Hot
Photo Size	640×512
Photo Format	JPG (the images contain temperature information and are parsed by dedicated SDK and PC tools)
Photo Taking Mode	Auto
Video Resolution	640×512 @30FPS
Video Format	MP4
Gimbal	
Mechanical scope	Pitch: -135°~45° Roll: -50°~50° Yaw: -90°~90°

Controllable rotation range	Pitch: -90°~30°
Stable system	Three-axis stabilization
Maximum control speed (pitch)	100°/s
Angualr vibration range	±0.003°

A.3 Remote Controller

Autel Smart Controller SE V2	
Material	PC+ABS
Dimensions	226.3×137.7×31.5 mm (antennas folded) 226.3×215.4×31.5 mm (antennas unfolded)
Weight	607 g
Operating Temperature	-10°C to 40°C
Storage Temperature	+15°C ~ +25°C (within a year) 0°C ~ +30°C (within three months) -20°C ~ +45°C (within a month)
Protection Rating	IP43
Internal Storage	24GB
microSD Extension	Supported
Operating System	Based on Android 6.0.1
Application Installation	Supports the installation of third-party Android apps
USB-C	Charging: supports PD/QC fast charging, up to 65W
USB-A	USB2.0
GNSS	GPS+Galileo+BeiDou+GLONASS
Wi-Fi Protocol	802.11a/b/g/n/ac
Wi-Fi Operating Frequency	2.4G: 2.400 – 2.476GHz*, 2.400 – 2.4835GHz 5.8G: 5.725 - 5.829GHz*, 5.725 - 5.850GHz *Only applies to SRRC regions

	Note: Some frequencies are only available in some regions or only used in door. For details, please refer to local law and regulations.
Wi-Fi Effective Isotropic Radiated Power (EIRP)	2.4G: ≤30dBm（FCC）; ≤20dBm（CE/SRRC） 5.8G: ≤30dBm（FCC/SRRC）; ≤14dBm（CE）
Bluetooth	Bluetooth 5.0
Bluetooth Operating Frequency	2.400 - 2.4835 GHz Note: some regions have specified frequency range. For details, please refer to local law and regulations
Bluetooth Effective Isotropic Radiated Power (EIRP)	≤20dBm（SRRC/CE）；≤21dBm (FCC）
Image Transmission	
Antenna	Dual antennas, 1T2R, detachable design
Operating Frequency	900M：902 - 928MHz* 2.4G：2.400 – 2.476GHz**，2.400 – 2.4835GHz 5.7G：5.65 – 5.755GHz*** 5.8G：5.725 - 5.829GHz**，5.725 - 5.850GHz *Only applies to FCC regions **Only applies to SRRC regions ***Only applies to MIC regions Note: Some frequencies are only available in some regions or only used in door. For details, please refer to local law and regulations.
Effective Isotropic Radiated Power (EIRP)	900M: ≤30dBm（FCC） 2.4G: ≤30dBm（FCC）；≤20dBm（CE/SRRC）；≤12.14dBm（MIC） 5.7G: ≤30dBm（MIC） 5.8G: ≤30dBm（FCC/SRRC）；≤14dBm（CE）
Maximum Transmission Distance	FCC: 15 km CE/SRRC: 8 km

(Without Interference and Blocking)	
Display	
Resolution	1440×720
Refresh Rate	60Hz
Touch Control	Supports 10-point touch
Battery	
Battery Type	Li-Po
Rated Capacity	1900 mAh
Voltage	7.7V
Battery Energy	14.63 Wh
Charging Time	About 90 minutes
Battery Endurance	2 hours (Max brightness) 3 hours (50% brightness)
Battery Replacement	Supported

A.4 Smart battery

Smart Battery MDXM_6175_1113	
Operating Temperature	0~+40℃
Battery Type	LiPo 3S
Rated Capacity	6175 mAh
Battery energy	68.7 Wh
Voltage	11.13 V
Charging Voltage Limit	12.75V
Rated Charging Power	63.75W
Maximum charging power	78W
Weight	309g

Battery charging temperature	+5-+45℃ (When the battery temperature is below 5℃, the battery stops charging. When the battery temperature is above +45℃, the battery stops charging.)
Battery Storage	
Ideal storage environment	+ 22℃ ~ +28℃
Storage temperature and humidity	- 10℃ ~ +30℃, 65 ± 20%RH
Battery Charger	
power input	100-240V ~ 50/60 Hz, 1.5 A
Output port	Battery charging interface/USB-A
Battery charging interface	12.75V⎓5A
USB charging port	5V⎓3A, 9V⎓2A, 12V⎓1.5A
Rated power	63.75W Max

Appendix B Declaration of Conformity

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Appendix C Drone Pilot Information Notices

When flying this aircraft product in the territory of EU Member States, please comply with the following EASA regulations.

EASA
European Union Aviation Safety Agency

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This drone is an aircraft.
Aviation law applies.

As a drone pilot, you are responsible for flying your drone safely.

Before flying, as a drone pilot, you must

- make sure the drone owner is registered at his or her national authority (unless already registered)
- make sure the owner registration number is displayed on the drone and uploaded onto the remote identification system
- read and follow the manufacturer's instructions
- complete the mandatory online training and pass the test

Check how to register, train and where you are allowed to fly:

www.easa.europa.eu/drones/NAA

Offences are punishable by law.

You can visit the EASA official website to get other language versions: https://www.easa.europa.eu/en/document-library/general-publications/drones-information-notices.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

For Aircraft

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

For Remote Controller

Specific Absorption Rate (SAR) information:

This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies.

The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. FCC RF Exposure Information and Statement the SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: device has also been tested against this SAR limit. This device was tested for typical body-worn operations with the back of the device kept 0mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain an 0mm separation distance between the user's body and the back of the device. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

ISED Statement

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

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

French: Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada.

L'exploitation est soumise aux deux conditions suivantes :

(1) Cet appareil ne doit pas provoquer d'interférences.

(2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

l'appareil numérique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 2.5 du cnr - 102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs rf et la conformité.

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme aux limites d'exposition aux rayonnements du Canada établies pour un environnement non contrôlé.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed with the maximum permissible gain indicated. Antenna types not included in this list, having again greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio a étéapprouvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

For Aircraft

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Cet équipement doit être installé et utilisé à une distance minimale de 20cm entre le radiateur et votre corps.

For Remote Controller

Specific Absorption Rate (SAR) information:

This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. ISED RF Exposure Information and Statement the SAR limit of Canada(ISED) is 1.6 W/kg averaged over one gram of tissue. Device types: Tablet has also been tested against this SAR limit. This device was tested for typical body-worn operations with the back of the device kept 0mm from the body. To maintain compliance with ISED RF exposure requirements, use accessories that maintain an 0mm separation distance between the user's body and the back of the device. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with ISED RF exposure requirements, and should be avoided.

Informations sur le débit d'absorption spécifique (DAS):

Cet appareil répond aux exigences du gouvernement en matière d’exposition aux ondes radio. Les lignes directrices sont fondées sur des normes élaborées par des organismes scientifiques indépendants à la suite d’une évaluation périodique et approfondie d’études scientifiques. Les normes comportent une marge de sécurité importante conçue pour assurer la sécurité de toutes les personnes, quel que soit leur âge ou leur état de santé. Énoncé et Information sur l’exposition aux RF de l’ed la limite du das du Canada(ed) est de 1,6 W/kg en moyenne pour un gramme de tissu. Types d’appareils: la tablette a également été testée par rapport à cette limite de das. Cet appareil a été testé pour des opérations typiques d’usure du corps avec le dos de l’appareil à 0mm du corps. Pour maintenir la conformité avec les exigences d’exposition aux RF isées, utilisez des accessoires qui maintiennent une distance de séparation de 0mm entre le corps de l’utilisateur et l’arrière de l’appareil. L’utilisation de clips de ceinture, de étuis et d’accessoires similaires ne doit pas contenir de composants métalliques dans son assemblage. L’utilisation d’accessoires qui ne satisfont pas à ces exigences peut ne pas être conforme aux exigences en matière d’exposition aux RF, et doit être évitée.