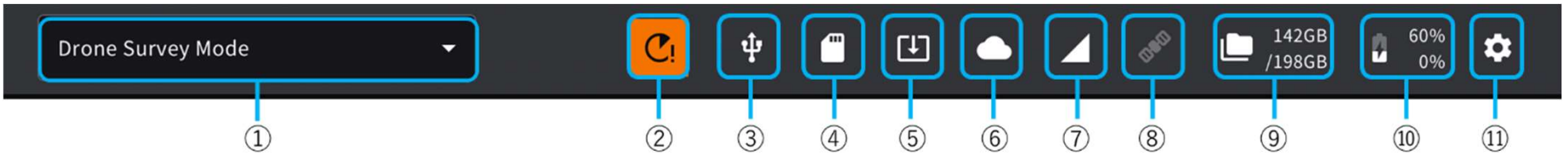
Edge Quick Manual
-RTK Droneflight-

NAME OF EACH PART OF Edge app top icon



1) mode switching
   Tap to switch between drone survey mode and base station mode.
2) Running job icon
   Tap to list the jobs running in the background.
3) USB Memory Icon
   Displays whether USB memory is recognized. Tap this icon when removing USB memory.
4) SD card icon.
   Displays whether SD card is recognized. Tap this icon when removing SD card.
5) Exported data list Icon
   Shows the exporting status to USB memory.
6) Upload List Icon
   Shows the uploading status to the SMART CONSTRUCTION dashboard.
7) LTE icon
   Displays the status of the LTE.
8) GNSS icon
   Displays the status of GNSS reception. Tap to view the Acquired Satellite list.
9) Storage
   Displays the amount of storage remaining on the unit. If remaining storage is getting low, delete old drone, edge data from here.
10) Battery icon
   Shows the amount of battery life for each of the two batteries.
11) Settings icon
   Tap to open the Settings dialog.

Edge2 Quick Manual

Edge Workflow

RTK

Edge operation and upload to SC Dashboard

1. Connect iPad to SC Edge
2. Create Project From Dashboard
3. Select Edge Point ※Create SC Dashboard Project first
4. Broadcast RTK correction
5. Drone Flight ※Please refer to the manual for the drone flight
6. Process Drone Data
7. Verify Data
8. Upload to SC Dashboard
9. Import Data to Dashboard

1 Turn on Edge and connect iPad

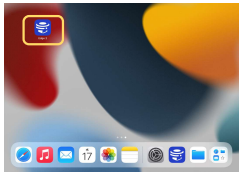
①Press the power button for 4 seconds
②Connect iPad to [EDXXXX] in Wifi Settings
③Launch Edge2 app on iPad

❶Boot Action LED
❷Status LEDs
❸Power button
❹Remaining Battery Usage

iPad Wifi Settings

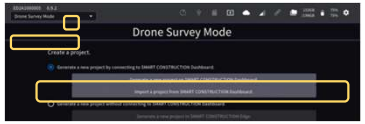
*XXXX is serial number
*Default PW: “edge2-ap”

SC Edge 2 App

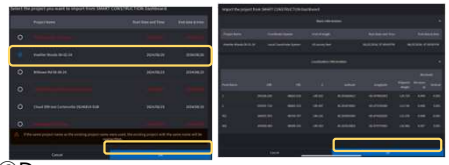


2 Create Project on Edge

①Set **Base Station Mode**
②Create a new project from Import from Dashboard



③Select project from Dashboard, OK
④Confirm Localization, OK

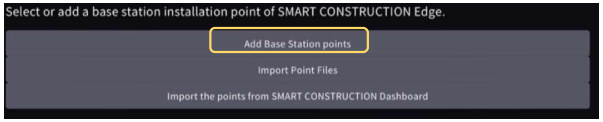


⑥Done

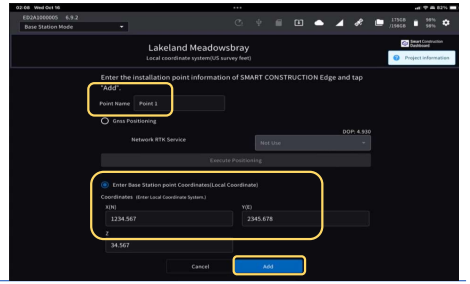
3 Select Edge Point

1) Select “Add Base Station Points”

- **Add Base Station Points – Use Network RTK or Manual input(XYZ)**
- Import Point Files – CSV import
- ~~Import from Dashboard – Download Control points from Dashboard~~



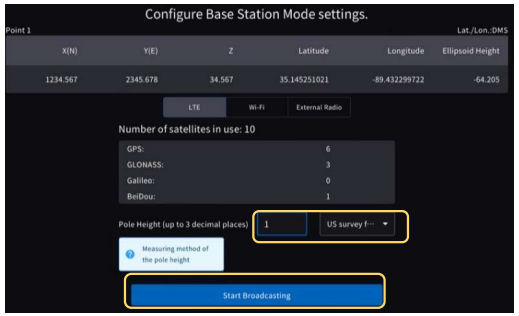
2) Name Points then Select “Enter Base Station points(Local Coordinate)”
3) Add



4. Broadcast RTK correction

1) Confirm information of SC Edge location
2) Input Edge height from point
3) Start Broadcasting via LTE

Green LED starts flashing=Broadcasting



5 Drone Flight

① Connect Drone to Wi-Fi hotspot
② Connect Drone to Edge RTK and Fly

*See next page ~ for Drone setup

Edge2 Quick Manual

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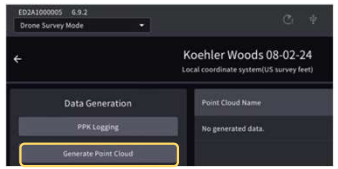
※Create SC Dashboard Project first

※Please refer to the manual for the drone flight

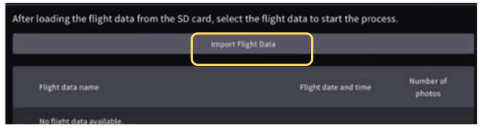
6 Process Drone Data

① Insert the microSD card from the drone to SC Edge2 using SD Card adaptor

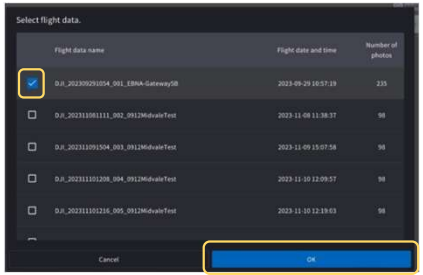
② Select Generate Point Cloud on project



③ Import Flight Data



④ Select Flight to import



⑤ Select Flight to process

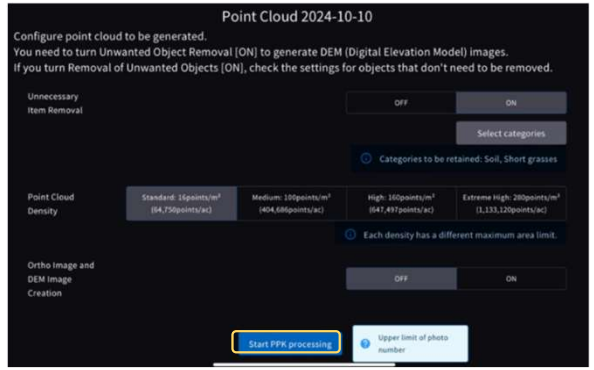
⑥ Press “Next” button

⑦ Set process setting

- ☐ Object removal
- ☐ Point Cloud Density

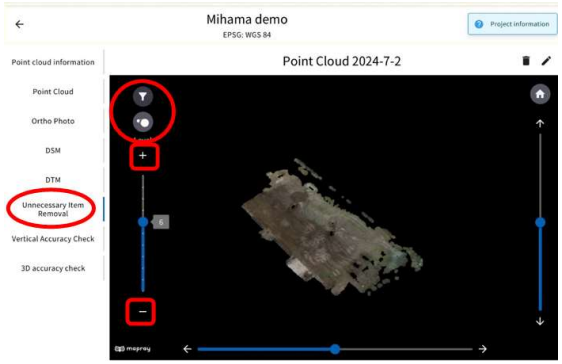
*Processing higher setting increase processing time

- ☐ DTM/Ortho generation



7 Confirm the Output

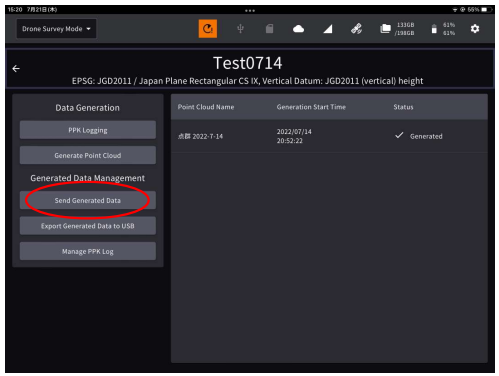
① Confirm the processed data
② Adjust Unnecessary object removal level as needed.
③ Accuracy check and height adjust by importing Checkpoint csv file



8 Send to SC Dashboard

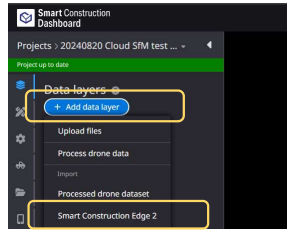
① Go to Send Generated Data in project
② Select Data, Dashboard project you are sending data to.
③ Upload

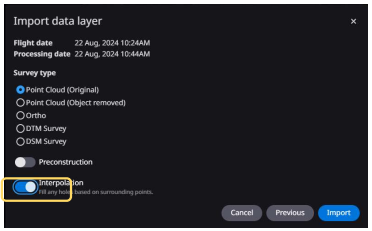
If you can’t see Dashboard Project, make sure you are logged in to Smart Construction under Setting tab.



9 Import Edge from Data(SC Dashboard)

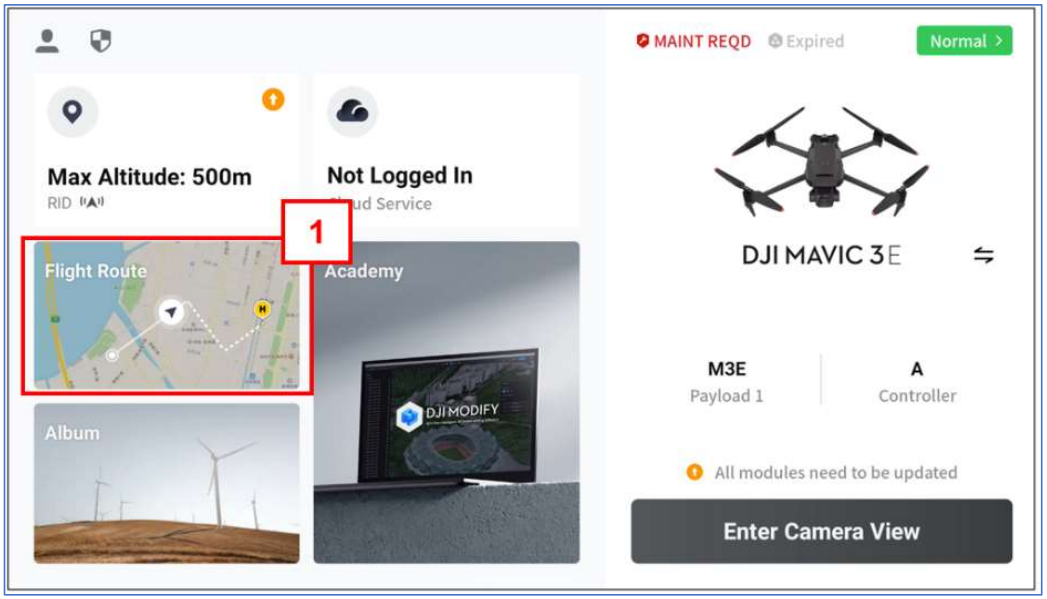
① Open SC Dashboard project
② ADD Layer
③ Import from Smart Construction Edge2

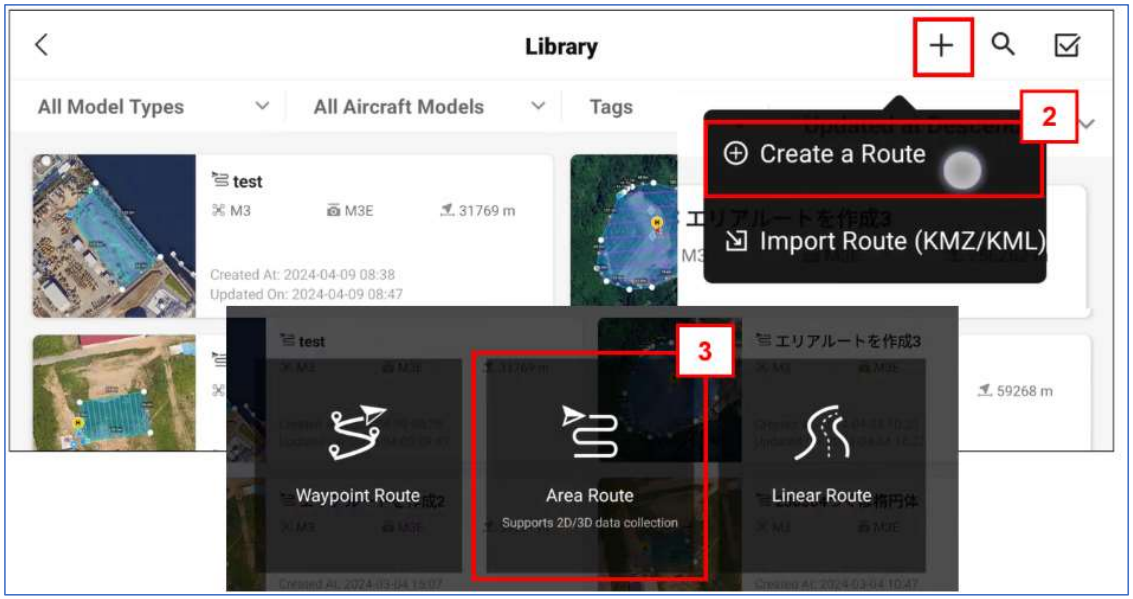




Turn on “Interpolate” to fill the filtered hole

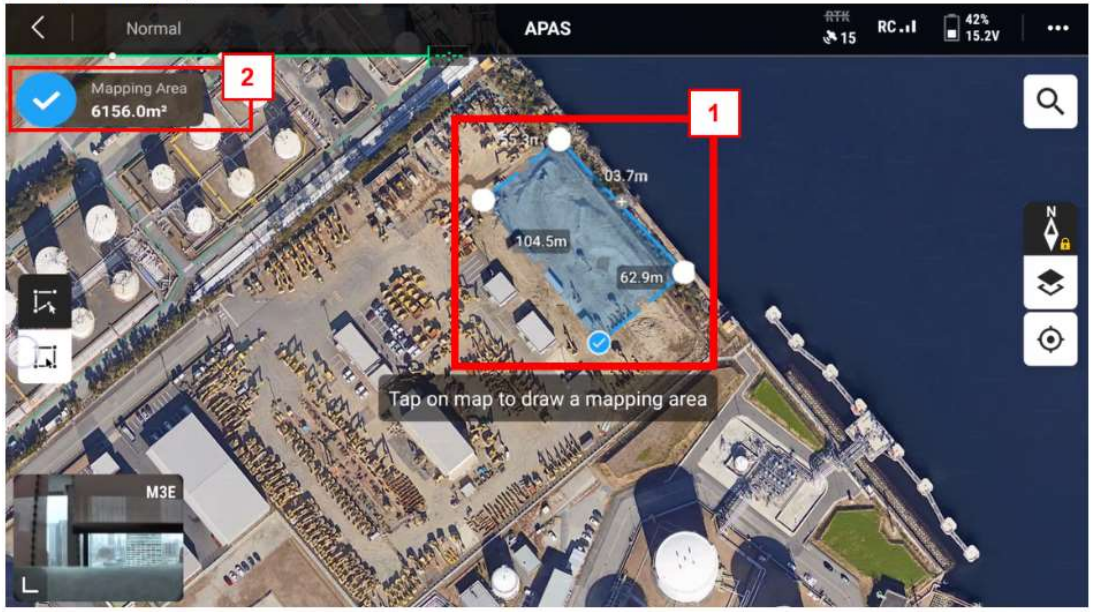
DJI Marvic3 Enterprise setup



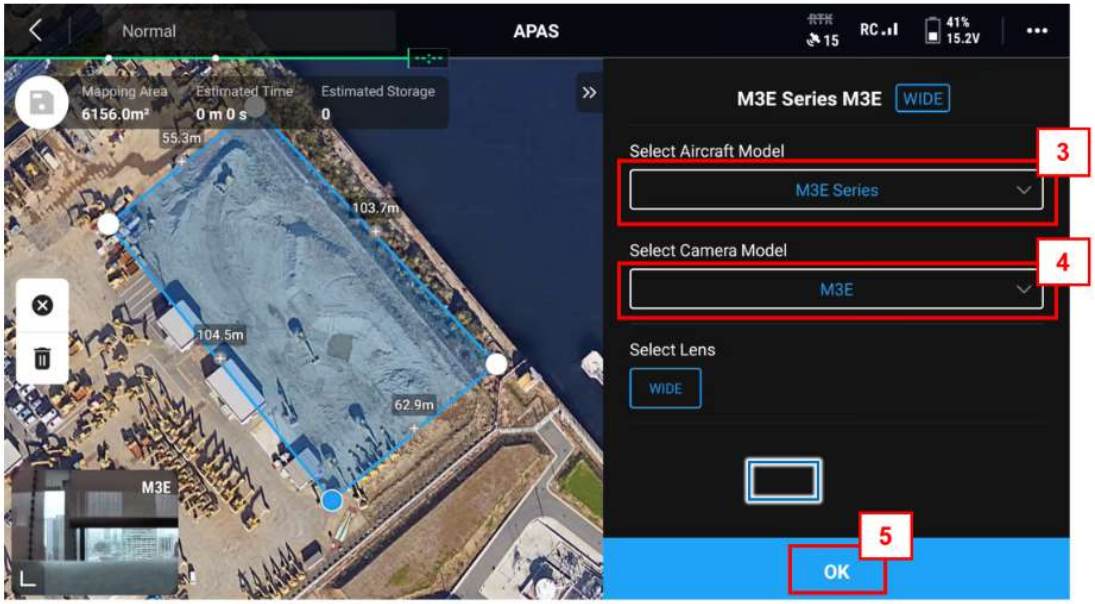


DJI Marvic3 Enterprise setup

1. Draw a mappint area.
2. tap the mapping area after determine.

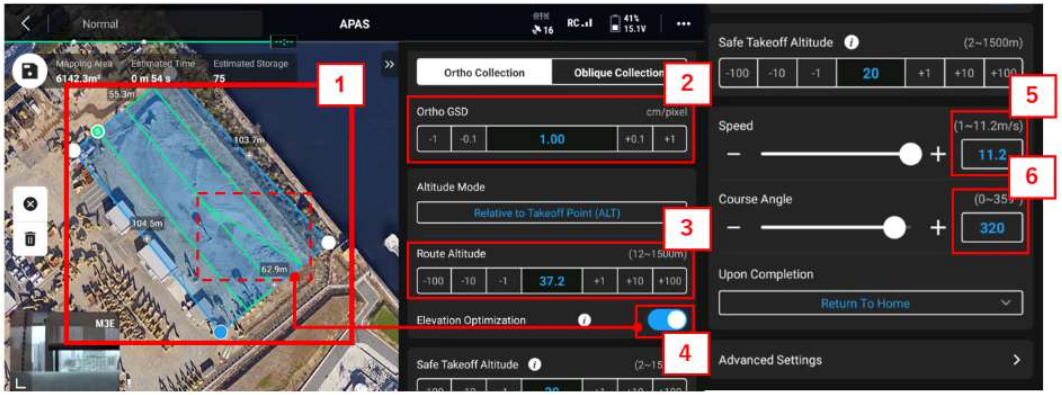


3. select the M3E Series.
4. select the M3E.
5. tap the OK button.

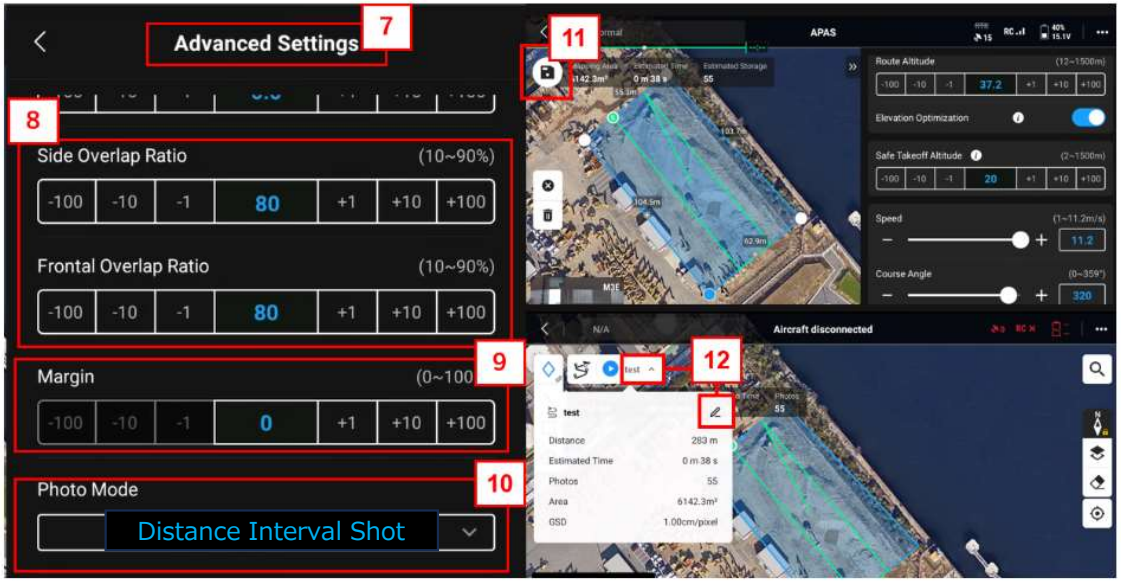


DJI Marvic3 Enterprise setup

1. The green line is the flight path.
This is automatically calculated based on the mapping area, GSD and photo wrap rate settings.
2. Change settings according to resolution
3. The altitude is automatically calculated according to the GSD.
If you change the flight altitude, the GSD is automatically calculated.
4. Setting for oblique flight.
Please switch ON for higher accuracy.
5. Maximum flight speed is not a problem. Higher speeds may cause the flight path to be rounded and the drone to shake more. If high accuracy is desired, the speed must be reduced.
6. The direction of the flight path can be changed.

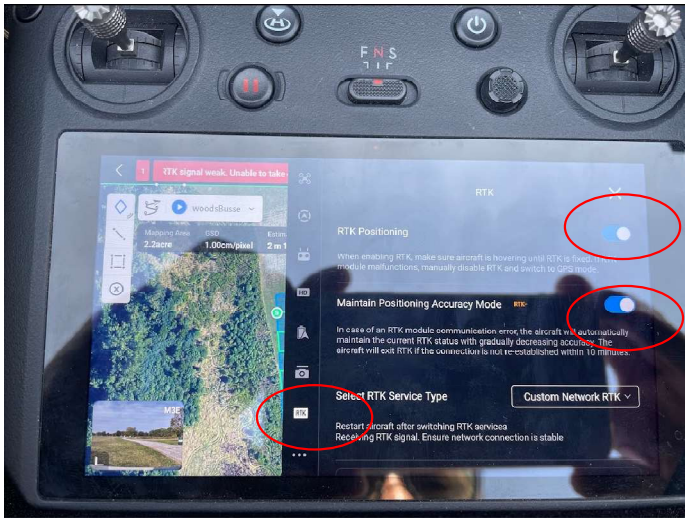


7. Tap the Advanced setting.
8. Set up Side overap Ratio and Frontal Overlap Ratio. (recommend Side 80% Frontal 80%)
9. Set up to fly wider around the perimeter of the mapping area.
10. The Distance Interval Shot is recommended as it reduces the number of unnecessary photos.

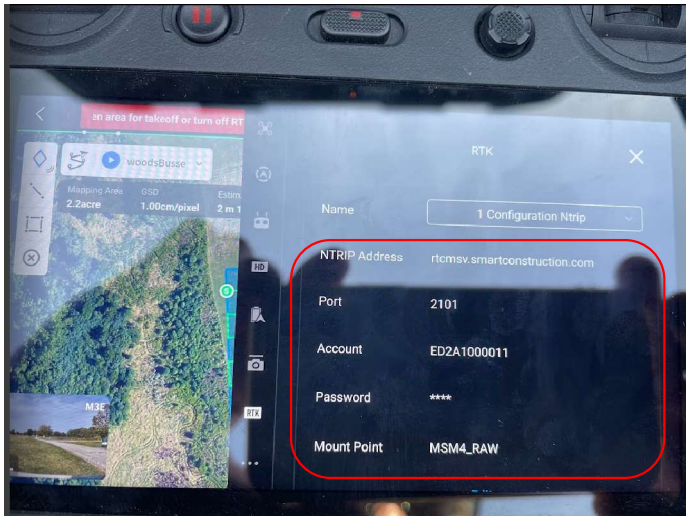


DJI Marvic3 Enterprise setup

RTK Setting to receive Edge RTK

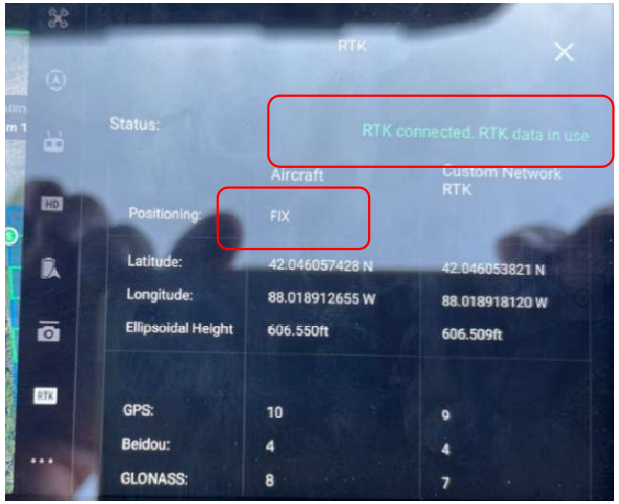


1 Go to RTK setting on controller
2. Turn ON RTK Positioning
3. Turn ON Maintain Positioning Accuracy Mode



Register below RTK configuration

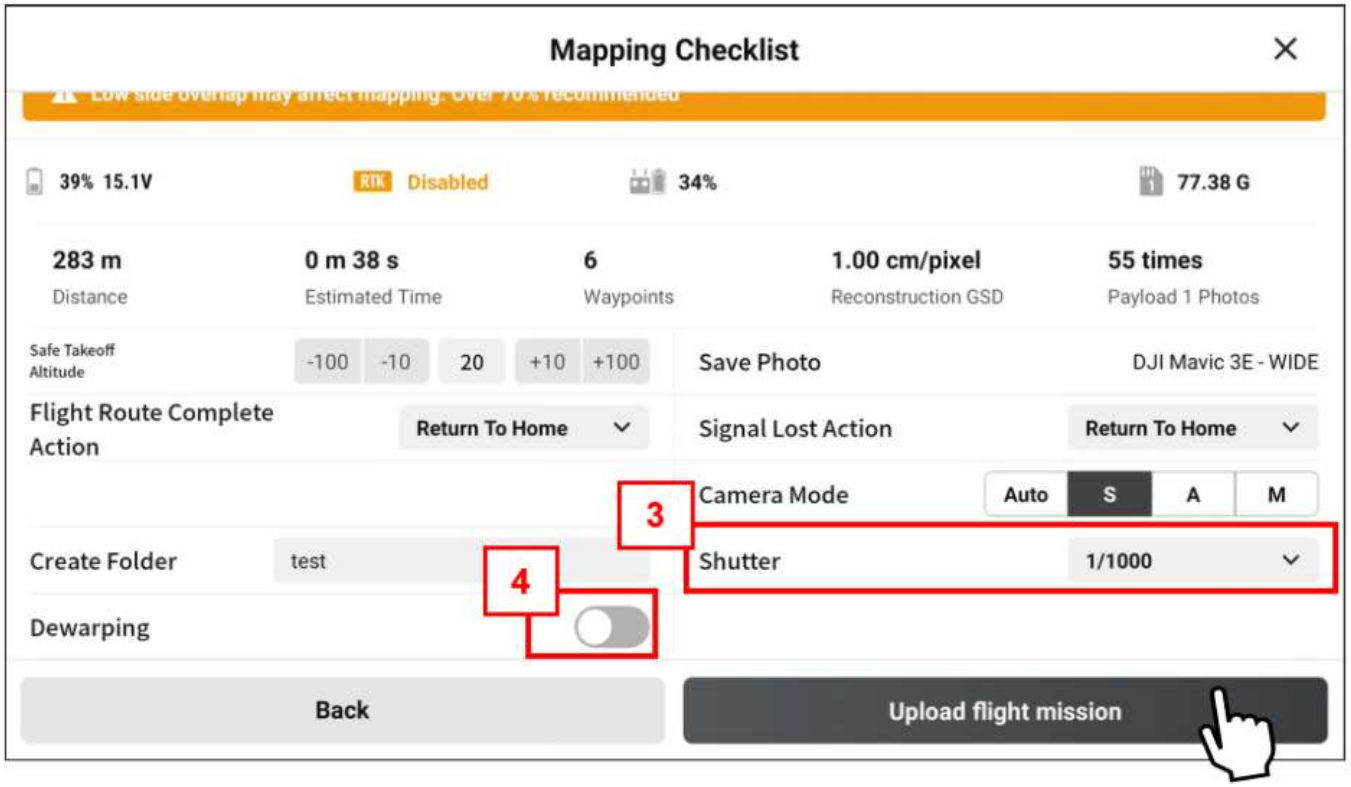
NTRIP Address: rtcmsv.smartconstruction.com
Port: 2101
Account: Edge serial (ED2A1xxxxx)
Password: SC21
Mount Point: MSM4_RAW



Confirm the connection
RTK Status: **Green**
Positioning: **FIX**

DJI Marvic3 Enterprise setup

3. Shutter speed: 1/1000
4. Dewarping : OFF



Reference of Rover side setting to connect Edge RTK

Ntrip setting on “Rover side” to receive Edge Ntrip RTK

Host: rtcmsv.smartconstruction.com
Port: 2101
(If there was no “Port” input, please make the host

URL : rtcmsv.smartconstruction.com/2101)
Mount: (See below Tips)
Username: EdgeBox Serial Number (Example: EB2A100XXXX)
Password: SC21

Recommended Mount Point

Komatsu MC-R3 i-machine	RTCM30_BIAS
Komatsu MC-i 4 i-machine	MSM4_BIAS
3DMG	MSM4_RAW
Topcon	MSM4_BIAS
Hiper-V	RTCM30_BIAS
Hiper-HR	MSM4_BIAS
SC Rover	MSM4_RAW
Drone	MSM4_RAW