LUBA Robotic LawnMower

User Manual

V1.1

Thank you for choosing MAMMOTION as your garden carelawn mower.This Quick Start Guide will help you learn and operate MAMMOTION LUBA.

1. Safety andRegulations

Operating MAMMOTIONLUBA requests training and practice. Please readthroughthis document before operating it in your garden.

Do NOT charge the LUBA by third-party charger

Do NOT flip over the mower when it's running

Do NOT put your feet/hands under the mower when it's running

Do NOT push/pull the mower when it's running

Do NOT disassemble any parts when it's powered

Do NOT use hands to touch or replace the running blades

Do NOT use hands to touch the charging ports

Do NOT run mower in the puddle

Do NOT run mower on ground with sticks or rubbles

Clean the lawn before deploying the mower for work

Keep the charging port clean and dry

2.Introduction

2.1 About MAMMOTIONLUBA

MAMMOTIONLUBA is a 4-wheels-differential(4WD) robotic lawn mower.The 4WD enablesLUBAtobreakthelimitsofmowing jobs.

LUBA Robotic Mower

1. Stop button
2. Start button
3. Power button
4. Auto-return button
5. Grass cutting button
6. Ultrasonic sensor
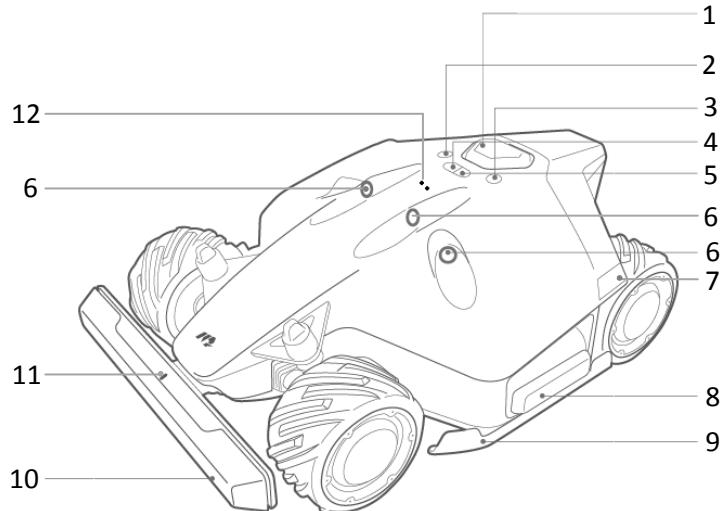
7. LED side light[1]
8. Side collision sensor
9. Protecting bracket
10. Front bumper
11. Bumper connecting indicator
12. Rain sensor

Note:

1. The LED side lights are: 1) constantly red when working; 2) breathing flash, when charging & upgrading & sleeping; 3) fast flash if there are any issues(with buzzing);

2. Switch on/off LUBA: long press Power button;

3. Continue mission & Unlock LUBA: press Grass cutting button, then press Start button;

4. Call back LUBA: press Auto return button, then press Start button;
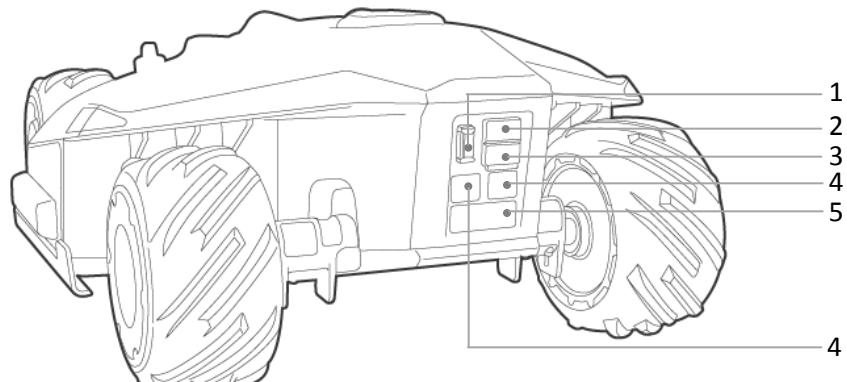
1. Secure key
2. SIM port（Reserved[1]）
3. USB port
4. Charging port
5. Infrared sensor

Note:

The reserved port might not function in some previous versions of mower.
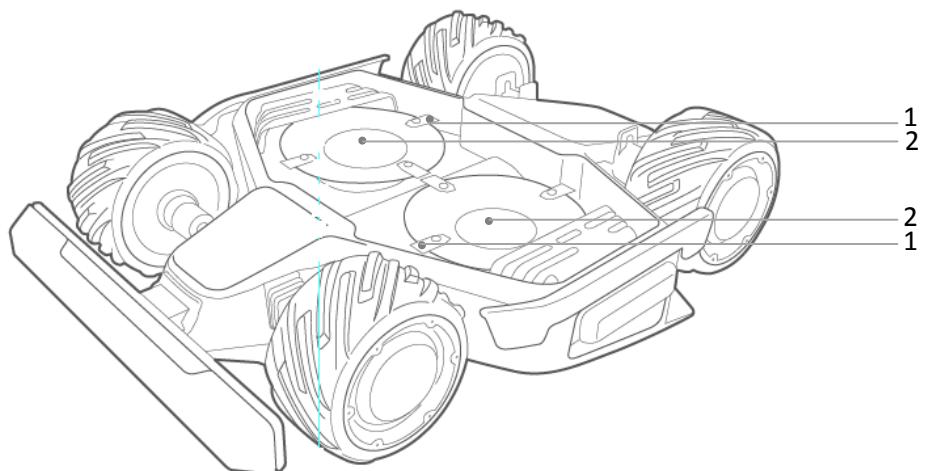
1. Cutting blade*8
2. Blade disk*2

Charging Station
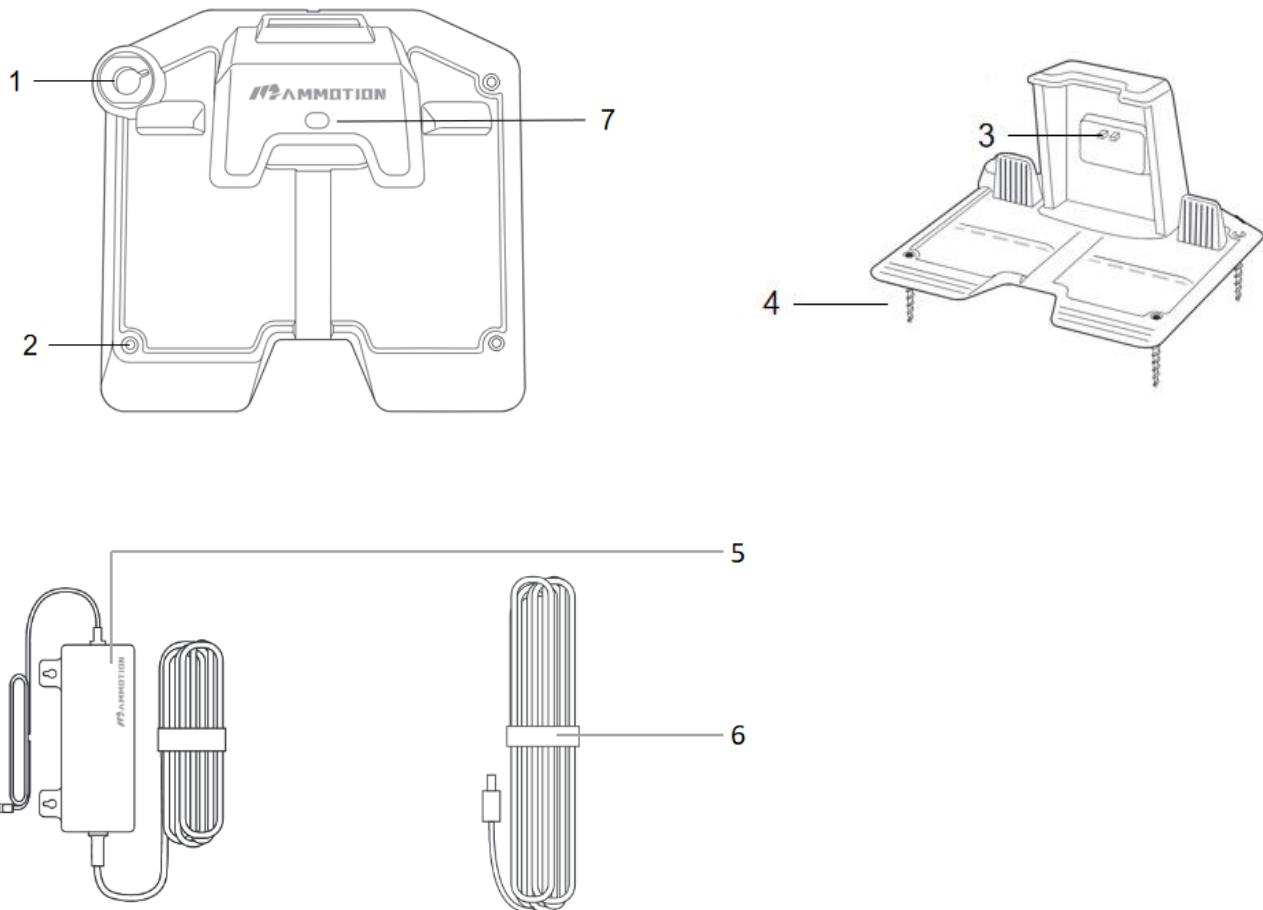
1.	Mounting hole for RTK base pole	5. Power adaptor
2.	Mounting holes*3	6. Extension wire（10meters）
3.	Charging ports for LUBA	
4.	Screws*3	7.LED light of charging station

Note:

When the LED indicator light on the charging station is red, please unplug the power supply and re-plug in to charge Luba.

When the LED indicator light on the charging station is green, meaning the charging station works properly.

RTK Reference Station
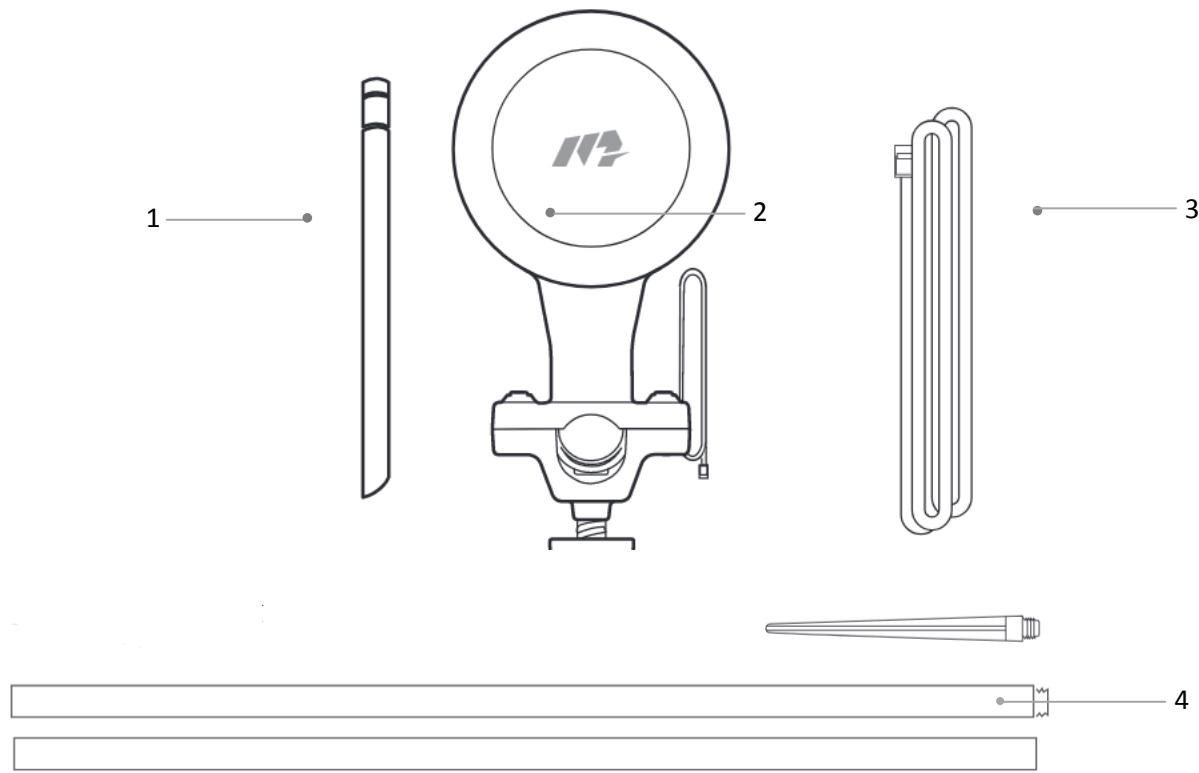
1. Radio Antenna

3. Wire（2.5meter）

2. RTK Reference Station

4. Mounting pole

Note:
The LED indicator light on the RTK Reference Station: 1) Working properly: green light(constant); 2) Initializing: blue light (constant)；3）Upgrading: blue light(flash); 4) With issues: red light(constant);

3. Preparation &Activation

3.1 MAMMOTIONAPPdownload & Installations

For beta testers, only Android App is available. Download the link below for the MAMMOTION App (For Android).

 Link：

Android App Download link (choose English version of APP): https://www.pgyer.com/5WVG
Version   0.9.6.5(release)
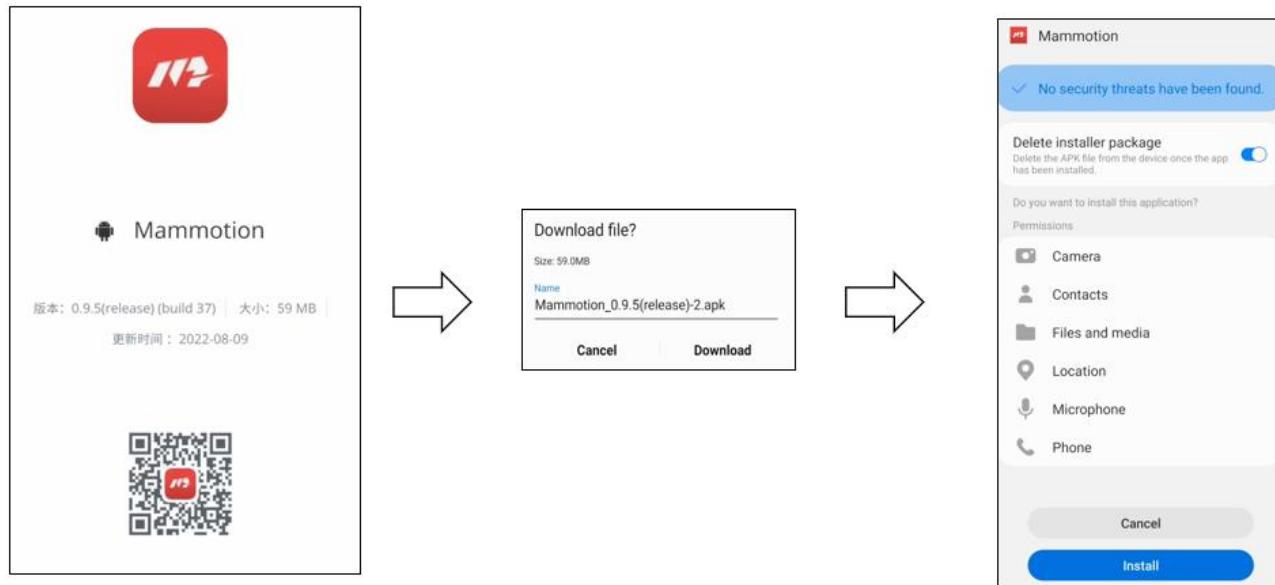
3.2 MAMMOTION account sign up and login

1. Switch on the Position and Bluetooth on your phone. Click Sign up and Select the country and input your email address.
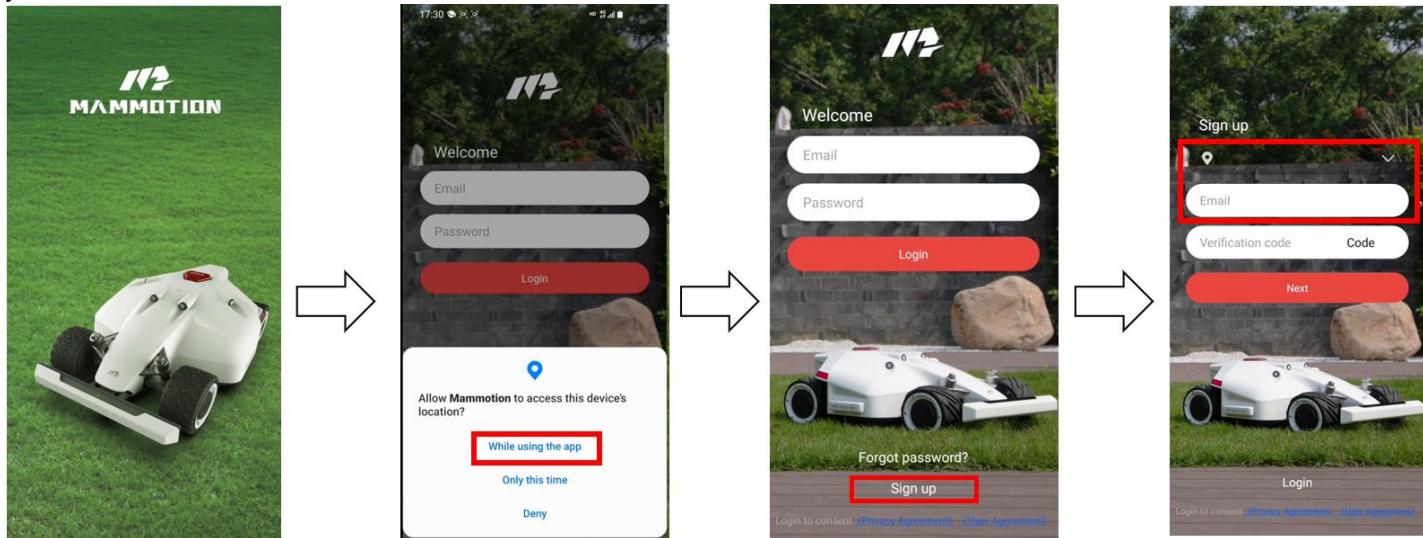
2.Then click Code. A verifying code will be sent to your email(if you don't receive the verify code, please check your spam folder or check the blacklist of your Email and wait several minutes and retry to click the Code).
3.Input the verifying code to the App and click Next to complete the sign up.

6

4.Setup your own password for the account. Set the user account and password and click "Login".
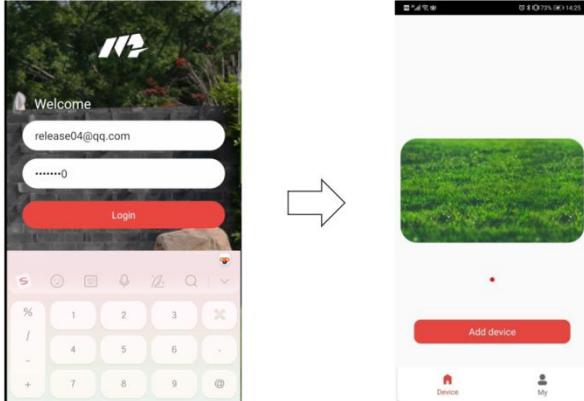
After users login the App for the first time, it needs to **Add device** to it.

Note:
1. Please make sure that your LUBA is switched on(with the side LED lights constant red);
2. Make sure the distance between your phone and LUBA is less than 3m;
3. Make sure that there is good WIFI or hot spot signal;
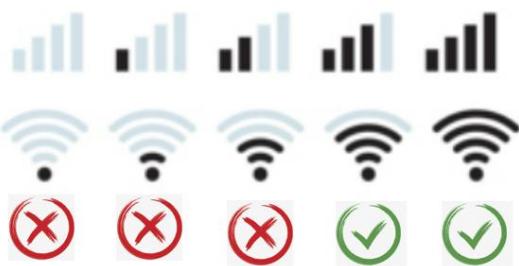
4. If it shows "",please wait a moment;
5. If it shows error/issue when adding the device, please check the notes before and then retry(kill and restart APP and restart LUBA), we are also optimizing now;
6. One LUBA can be connected to ONLY ONE MAMMOTION account. ONLY ONE phone can control

ONE LUBA at same time.

3.3 Add your LUBA to MAMMOTION account

Adding device contains two parts:
1) Bluetooth connection between LUBA and phone;
2) Adding LUBA on the cloud to authorize;

1. Switch on LUBA:long press the **POWER BUTTON** on the LUBA until you hear"Di..." sound. Both **LED side lights**are on andconstantly turning red.

2. Then we click Add device on the App, it will search the Bluetooth of the LUBA nearby automatically. Then select the Bluetooth ID of your own LUBA, which is on the top of LUBA's bottom.
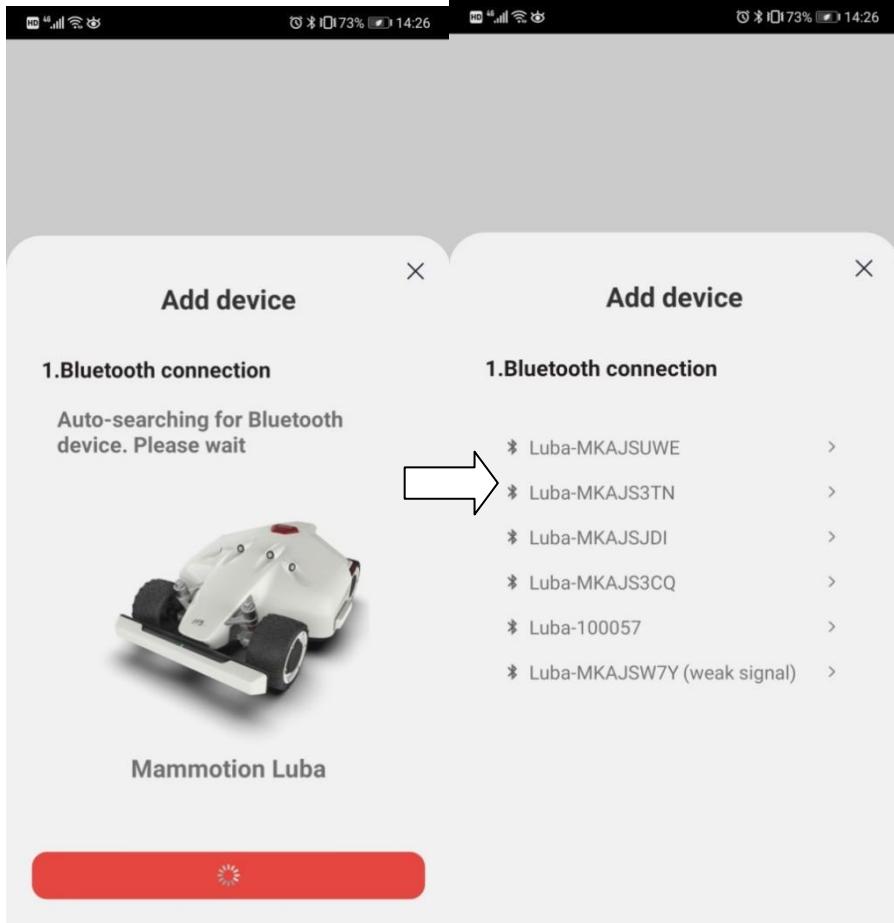
3. Activate LUBA:After the Bluetooth connection, it needs to connect LUBA to Wi-Fi & Hot spot for activation.

Note:

The connection is between LUBA and MAMMOTION Cloud, it has nothing to do with how your phone connect to the Internet, which means you do not have to connect your phone to the same WIFI & hot spot. You can also set your phone as hot spot if your phone has good signal.

The App will search the available WiFi signal nearby. Please notice that we highly recommend your to select the WIFI & Hot spot with best signal quality. Otherwise the activation can fail sometimes.
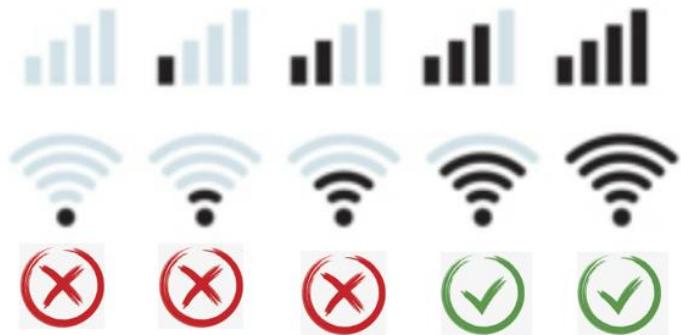
Select WiFi &hot spot, enter password and then click Next. Wait until the App shows Device is successfullyadded. Then click Finished.
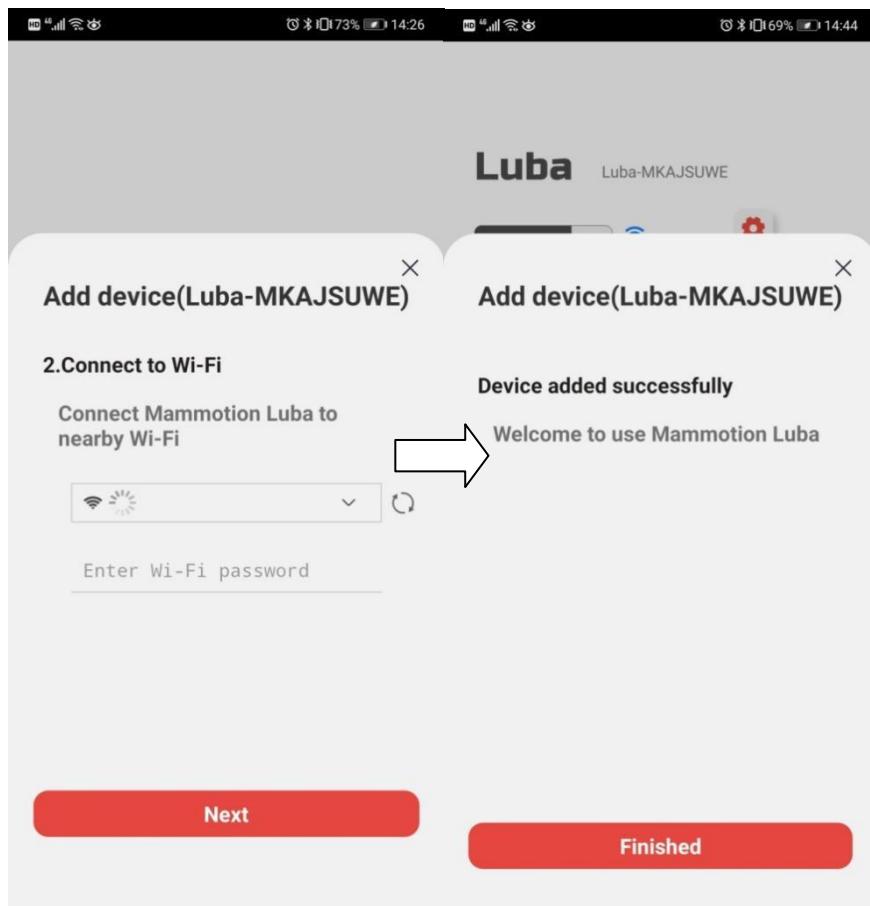
Note:
Once you add LUBA to your account, it will not unbind automatically. Next time you switch on LUBA use the same account, LUBA will still be there. And once LUBA is added, Internet(WIFI & hot spot) is not necessary for map planning, mission setting and working.

However, if you'd like to remotely receive information and check the status of LUBA, we recommend you to cover your whole lawn with WIFI or use 4G version(come later);

3.4 App introduction
The interface of LUBA is currently as shown below(stilloptimizing):
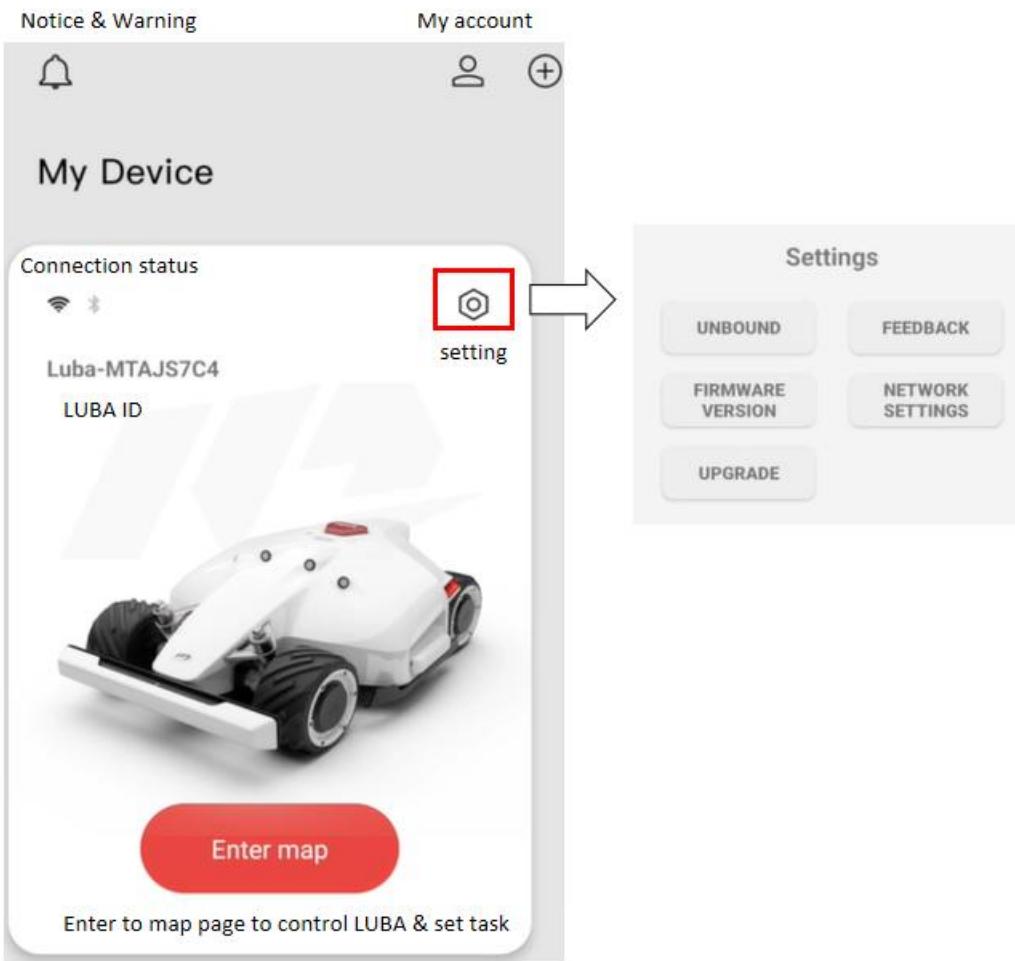
Note:
1. Our LUBA App is still optimizing and upgrading, both the function and the interface.

2. The newest version of LUBA(see "**Device Version**" DeviceVersion) is 0.9.6.28 , please check the "Firmware Version" to see if your LUBA is already with the newest version. It is very important to upgrade your LUBA and App to the latest version when you receive upgrading message from us.
3. In the "Configure Network", you can connect your LUBA with WIFI& Hotspot.
4. The connection status of LUBA does not affect the normal mission and working of LUBA.

3.5 Firmware upgrading:
Preparation:
1. Only upgrade LUBA when you get the message from us.
2. Please make sure that your LUBA is switched on(with the side LED lights constant red).
3. Make sure the distance between your phone and LUBA is less than 3m;
4. Make sure that there is good ans stable WIFI or hot spot signal;
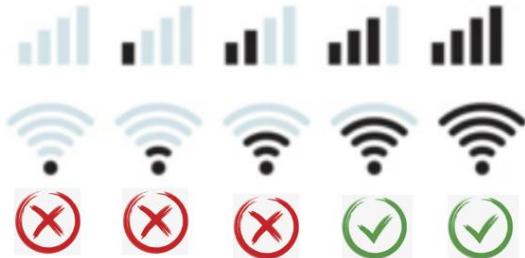
5. DO NOT switch off LUBA or cut the Internet connection when upgrading, otherwise the upgrading may fail.

Upgrading Process:

1. Connect LUBA to the WIFI & hot spot by clicking "NETWORK SETTINGS";
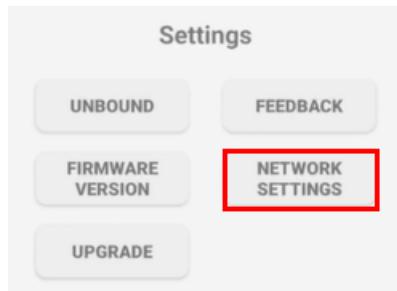
2.After the net connection is done (with turns to);

3.Start upgrading: click "UPGRADE" button

4.The message box will show you what is optimized &fixed in the new firmware. Click "One click upgrade";

Firmware upgrade

Luba-MKAJSVN4

0.9.5.251 【NEW】

esp32 (0.9.5.216)

【BUG】解决断连后，蓝牙无法扫描的问题

电机：

【优化】支持ci，更新版本号（无代码修改）

One-click upgrade

5.Wait until the upgrading is done (the percentage of upgrading and the time left is not accurate now, please just ignore them);

Upgrading

Luba mower is upgrading, please wait

Do not shut down the device or disconnect the network during the upgrade. Otherwise, the upgrade may fail

92%

Remaining 1.20 min
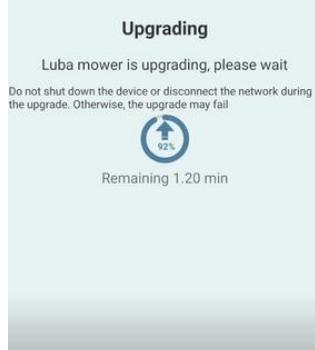
6.When the APP shows that LUBA is successful upgraded, the LUBA will automatically switch off, please LONG Press (Press about 10s until the LED side lights is on) the power button of LUBA to switch on.

Upgrade successful

Luba upgrade is complete. Restart the device

Do not shut down the device or disconnect the network during
the upgrade. Otherwise, the upgrade may fail

100%

OK

7.Check if the firmware of LUBA and APP have already reached the newest firmware by clicking
"setting"-"Version". If yes, then you can start LUBA with the newest firmware now. If no, please contact
us to solve the issue.

Settings

UNBOUND	FEEDBACK
FIRMWARE VERSION	NETWORK SETTINGS
UPGRADE	
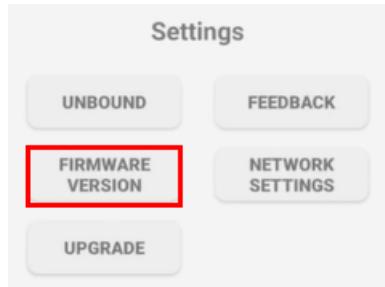
4.Charging Station &RTK Reference Station Installation

Note:
1. Read and understand the safety chapter before you install the product.
2. Use original spare parts and installation material.

General preparations
1. Water filled holes in the lawn can cause damage to the product.
2. Give an overview of your house, your lawn and include all obstacles. This makes it easier to examine where to put the charging station, the reference station, and setup the virtual boundaries.
3. Decide where to install the charging station, the RTK reference station, the point of interest, the transport paths and the virtual boundaries for the work areas and no go zones.
4. Fill in large holes in the lawn.

4.1 RTK Reference Station Installation
Factors that affect the Signal and Positioning Accuracy:
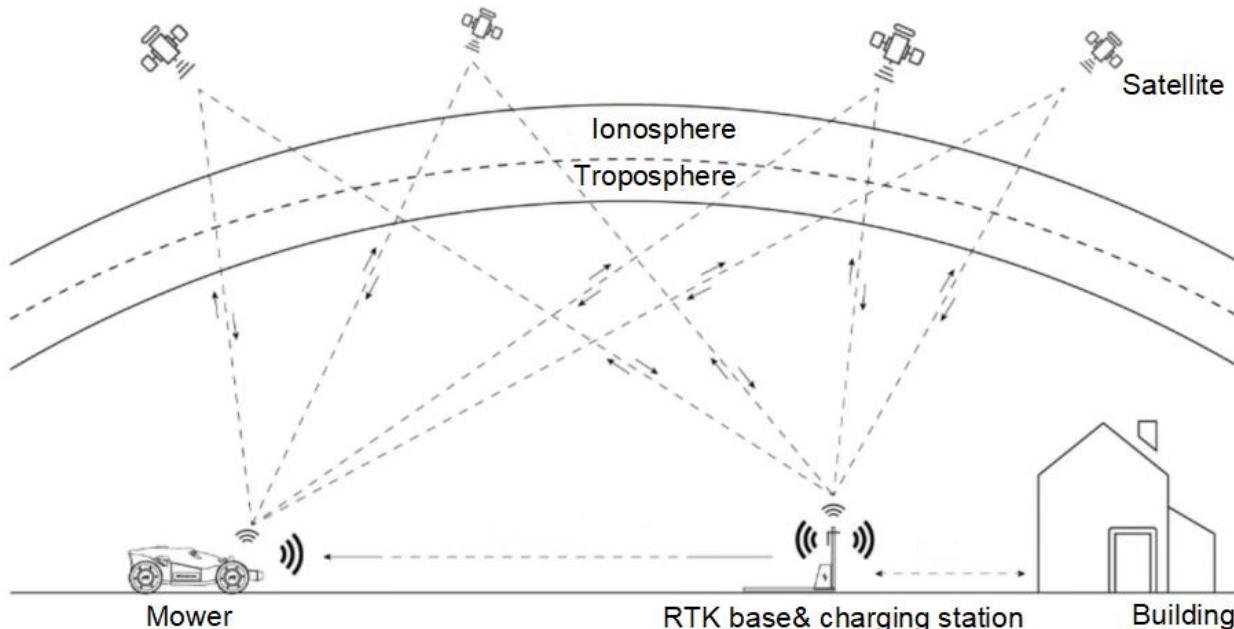
The RTK system of LUBA uses full frequencies multiple satellite-based system, such as GPS, BeiDou, GLONASS, Galileo, which improves the positioning accuracy to approximately 2 cm. However, the accuracy crucially relies on the GNSS signal, which can be weakened by the **following**:

Factor 1: Blocking:
1. If there is anything on or surrounding the antenna of RTK reference station, charging station and/or the mower, the signal will be weakened or blocked.

Solution: DO NOT install the changing station and GNSS antenna near the roof, wall,tree or anywhere that may block the signal. We recommend you to install the RTK Reference Station of LUBA in a opensky[1] area or on the roof&wall[2].

Note:
1) The distance between RTK Reference Station and the wall&roof&tree should be ideally at least the same as the height of the wall&roof&tree,as shown below;
2) As shown below, to set the RTK reference station the wall/roof to avoid coverage.

2. If the transmission path from RTK Reference Station and LUBA is fully obstructed by large metal wall or concrete wall. LUBA could not the the data from RTK Reference station and could not get cm level accuracy.

Solution:
1) Make sure there is a free transmission path from reference station to the charging station（For the initialization, LUBA need to be set on the charging station and get data from both satellites and reference station)
2) If your lawn is with "O"-shape, "U" shape , or with separate lawns,we recommend you to set the RTK reference station on a higher place, like on the roof. If your lawn is with "L"-shape, you can set the reference station on the roof or on the point as shown below.

L-shape   On one side   U-shape   O-shape   Multiple lawns
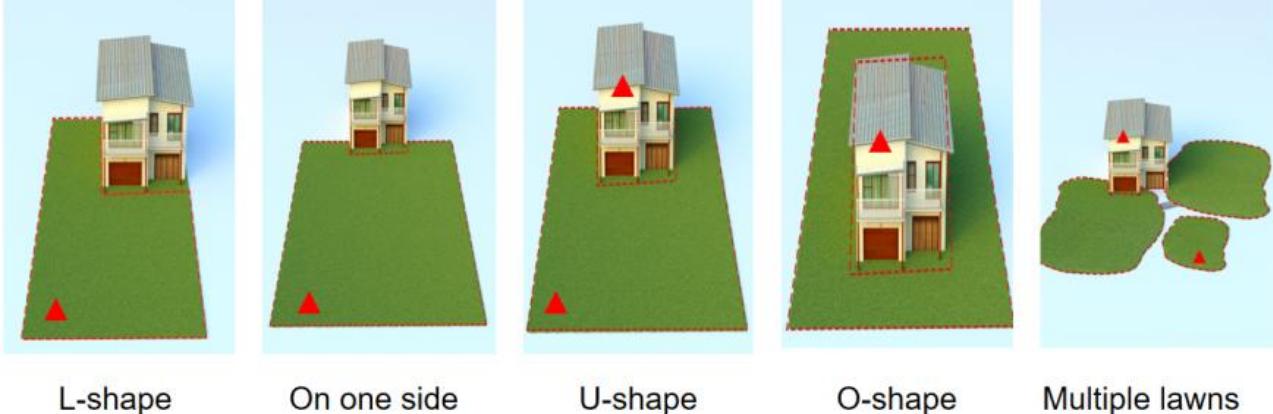
3) If your Lawn is with "O"-shape, "U" shape , or with separate lawns,we recommend you to also use the signal extension kit to enlarge your reference station signal cover area.

3 .If there is a high long wall & roof & very dense tree in/around the lawn, the satellite signal of LUBA can be poor in the covered area. We recommend you to avoid most of the covered area when setting the map.

Although our integrated navigation system can continue doing the positioning for LUBA, however, the accuracy of positioning without RTK is not as good as with RTK and can be decrease fast when satellite signal long time not come back(like LUBA does not get out of the heavy coverage).

Also our App will show the position reliability map when the map is set, we highly recommend you to adjust your boundary with the "poor" positioning parts, to decrease the "poor" parts less than 10%.

Factor 2: Signal Interference:

The communication transmission power gets weakened with long distance.Please make sure that the distance between boundary of the map and the reference station is less than 80m.

Signals from the satellite are transmitted to the antenna after being reflected by the glass wall, large area of water surface(lake/swimming pool) instead of directly from the air. This is called Multi-path Effect.

Solution:Install the reference station away(at least 5m) from glass wall or lake to get rid of the Multi-path Effect.

4.2 Find a Good Spot to install RTK Reference Station
As shown above, the RTK Reference Station should be set in a place:
1. At least 5m away from large glass wall & lake/swimming pool;
2. With open-sky area, meaning there is no any coverage on the top with at least 90 degree zenith angle(means the distance between RTK reference station should at least be the same as the height ofthe obstacle itself,as shown below);

3. The RTK Reference station should be set straight.

Unblocked open-sky area

>90 degree

Horizon

RTK reference station

45 °

45 °

RTK base& charging station
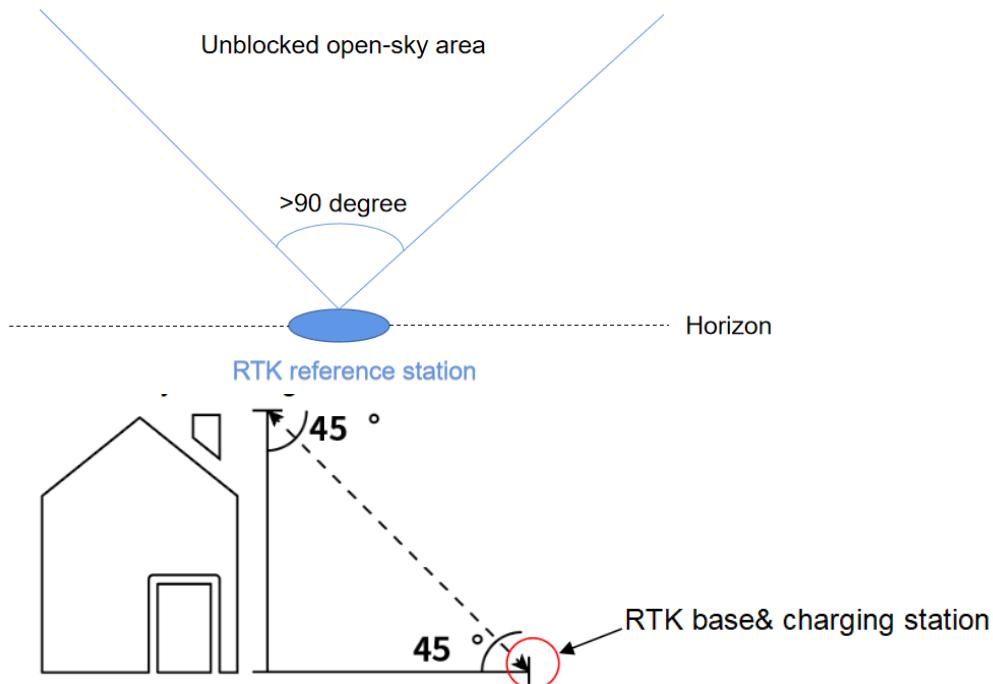
Height of the building or obstacle	Distance between the RTK base and the building or obstacle
1m	>1m
2m	>2m
3m	>3m
4m	>4m
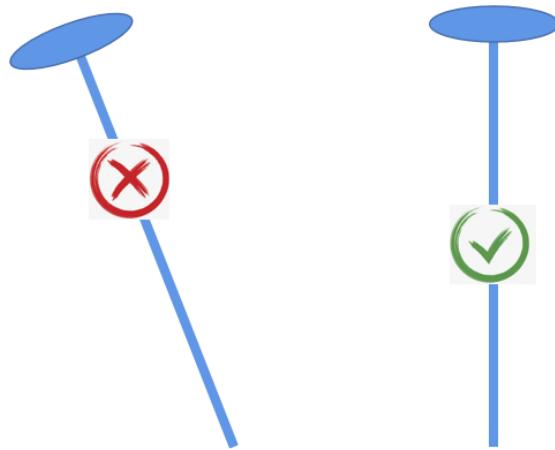
4. If there are tall trees with large crown, and we set RTK reference station in the lawn as shown below. The distance between the reference station should be at least the same as the height of the tree to the edge of the crown.

Edge of tree's crown | H | Here set RTK reference station
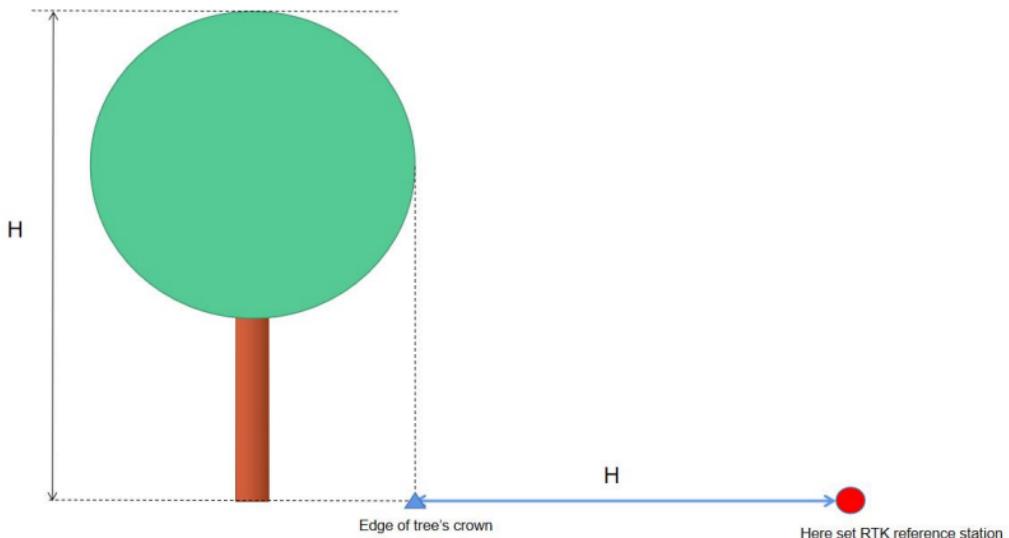
5. For "O"-shape, "U" shape , or with multiple lawns, we recommend you to set the RTK reference station the roof or wallas shown below. Also notice that the RTK Reference Station should not be covered by the roof or the concrete wall of the building;

6. For "L"-shape and the lawns on one side,and some "U" shape lawns, you can both set the reference station in the lawn or on the roof&balcony. Please notice that the transmission path between working area and the reference station should not be fully obstructed.

L-shape   On one side   U-shape   O-shape   Multiple lawns
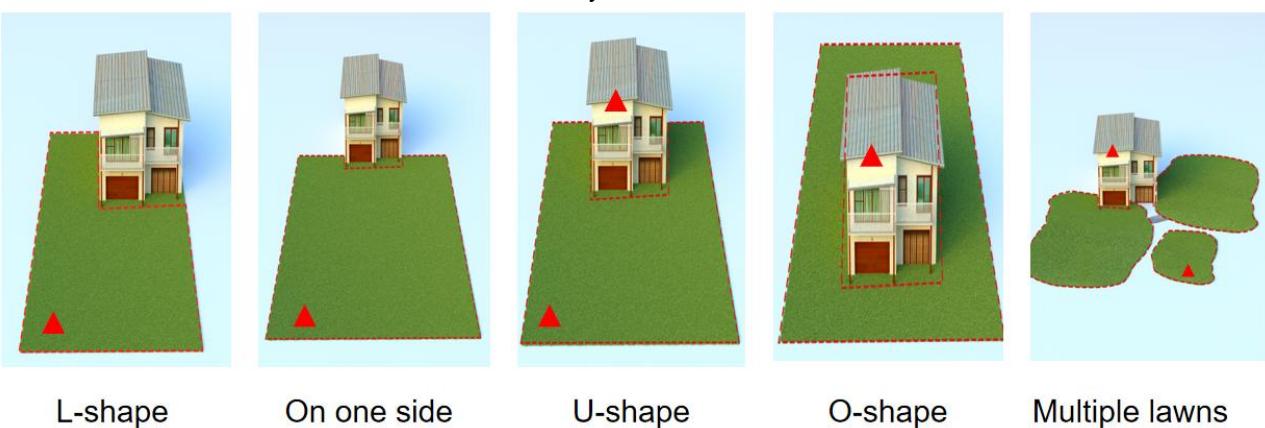
4.3 Find a Good Place to set Charging Station
Note：
1. The charging plate of the charging station must not be bent.
2. Put the charging station on a level surface.The max. tilt distance of charging plate is 2cm;

Max. 2cm
Max. 2cm
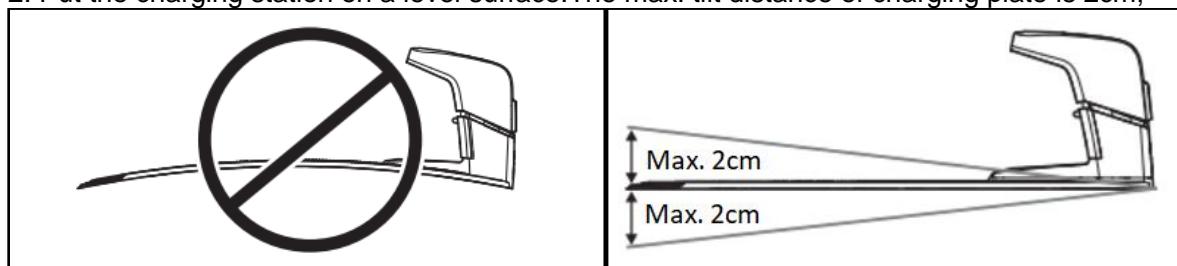
3. Put the charging station (A) were the docking point (B) has open-sky view. This means that 90° of the sky in all directions must be unblocked. The charging station docking point (B) is 2m. in front of the charging station.
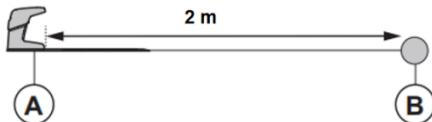
4. Both charging station (A) and the docking point (B) can not be covered by roof/wall/tree or any non-original mower house/garage

5. There should be(do not have any obstacle) between charging station (A) were the docking point (B).
6. Put the charging station near a power outlet.
7. Do not cut or extend the low-voltage cable. There is a risk of electrical shock.
8. Put the power supply in an area with a roof and protection from the sun and rain. Put the power supply in an area with good airflow.

4.4 The RTK base is installed on the charging station

Over view of the installation when it's completed：
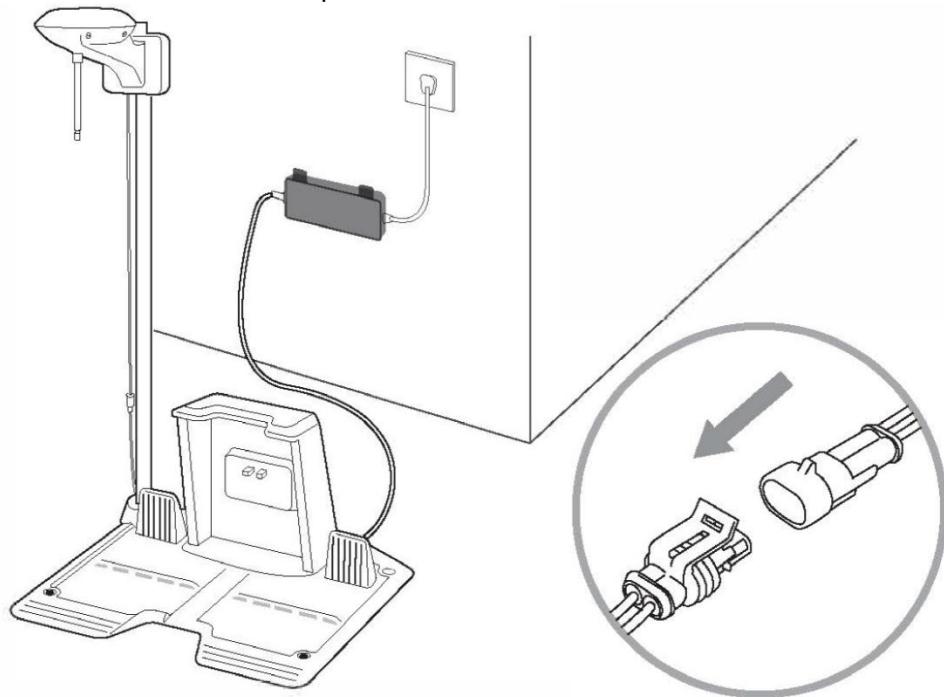
Installation Kit：
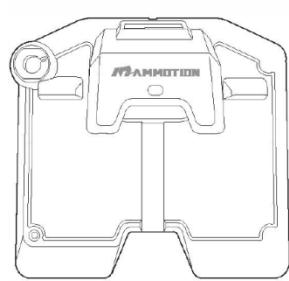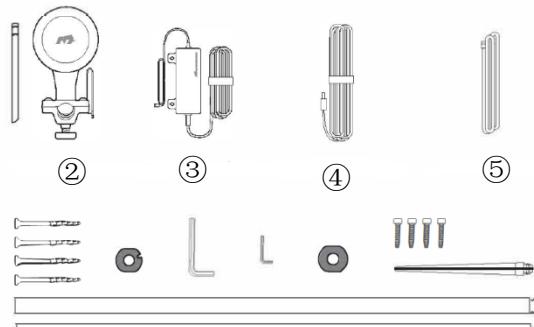
① Charging station
② RTK base
③ Power adaptor for charging station
④ Extension wire for charging
　 station(10meters)
⑤ RTK wire (2.5 meters)
⑥ RTK base mounting pole

Step1：Go through the 2.5meters RTK wire from **A** to **B** and then connect it to **C**.
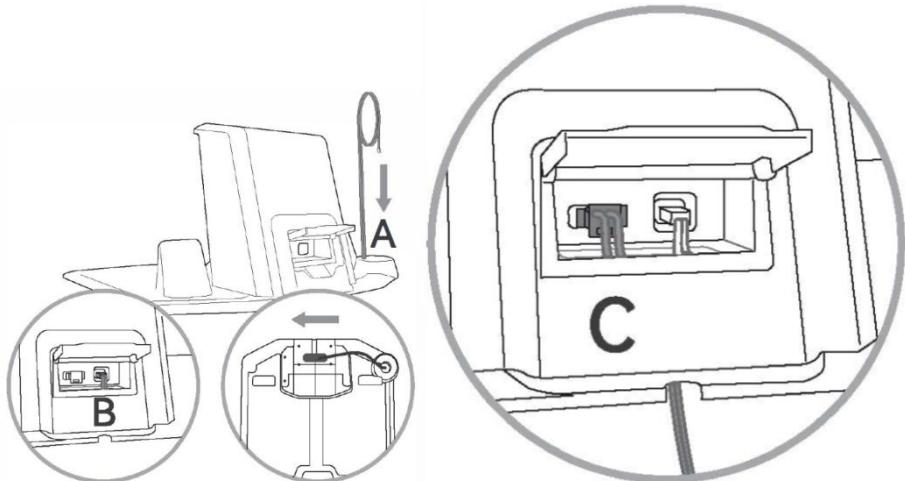
Step2：Insert and fix the RTK base mounting pole to the ground from hole **A** on charging station.
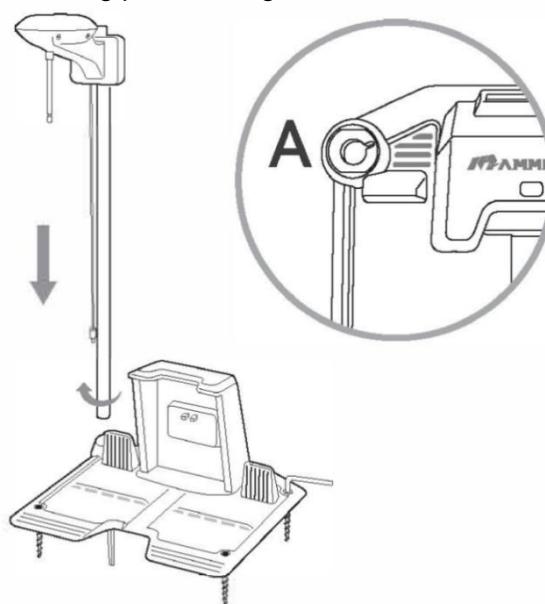
Step3：Screw the other part of RTK base mounting pole together
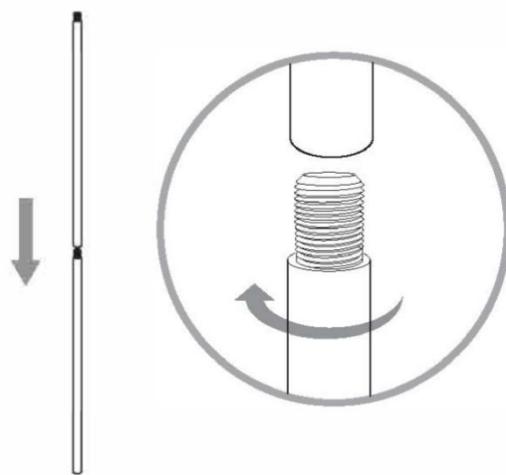
Step4：Fix the RTK base to the mounting pole. The RTK base can be locked on the pole by driving the plastic screw on the back. Users can fix the RTK base on the pole first before fixing the pole to the ground as well.
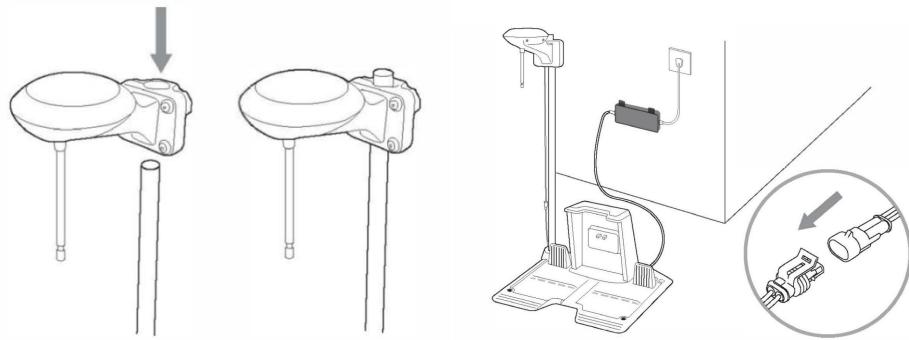
Step5: Then connect the wires for each part. Done! Check if the LED on the charging station is green. If it turns green, then right. If it turns red, please pull out the adapter and do the charge.

Step6: Check the LED on the RTK reference station. It should be blue or green, if green, then the RTK reference station initialization is done, you can use your LUBA now.

If blue, please wait for a wait the initialization of RTK reference station until the LED turns green(will take several minutes).

4.5 RTK base is installed separately from the charging station& on the roof/wall
Over view of the installation when it's completed:

RTK base extension kit:
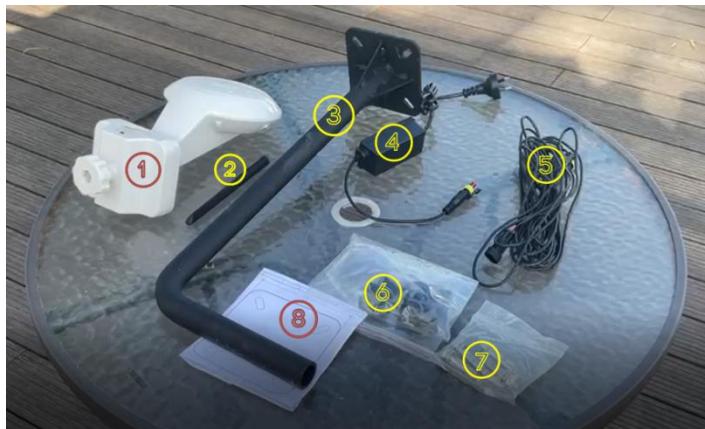
1. RTK base

2. Data link antenna
3. "L" shape mount pole
4. Power adaptor for RTK reference station
5. RTK extension wire（10 meters）
6. Wire clasp*4
7. Expansion screw*4
8. Installation sticker

Install RTK on the roof & wall:
Step1 Prepare and check the things needed for RTK reference installation on roof&wall (the 8 things).
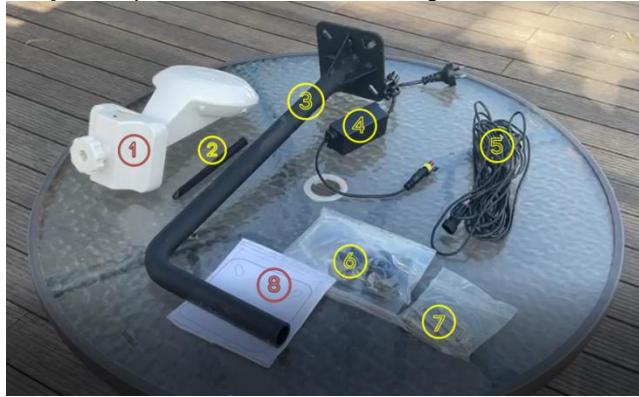
Step2 Find the right place to set the "L" shape mount pole(the**"3"**). Tape the Installation sticker (the**"8"**) on the wall.Drill the hole in the proper place(as shown on the sticker, the red parts below).

Step3 Set the expansion screw(the**"7"**) int he hole you drill,;
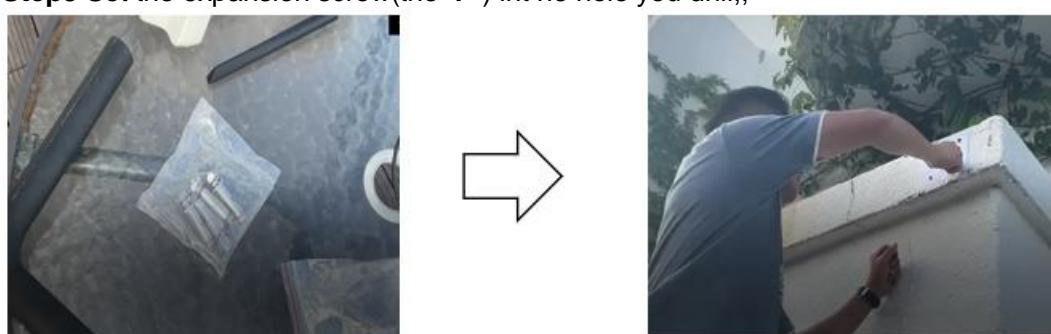
Step4 Fasten the mount pole(the "7") on the wall by the expansion screw (fasten the nut in"7" with spanner).

Step5 Combine the data link antenna (the "2") and RTK bas (the "1") together.Set the RTK base to the mounting pole;

Step6 Connect RTK base (the "1")、RTK extension wire (the "5") and the adapter (the "4") together . Connect the adapter (the "4") to power supply.
Step7 Fasten the wire by the wire clasp (the "6")

wire clasp (the "6")
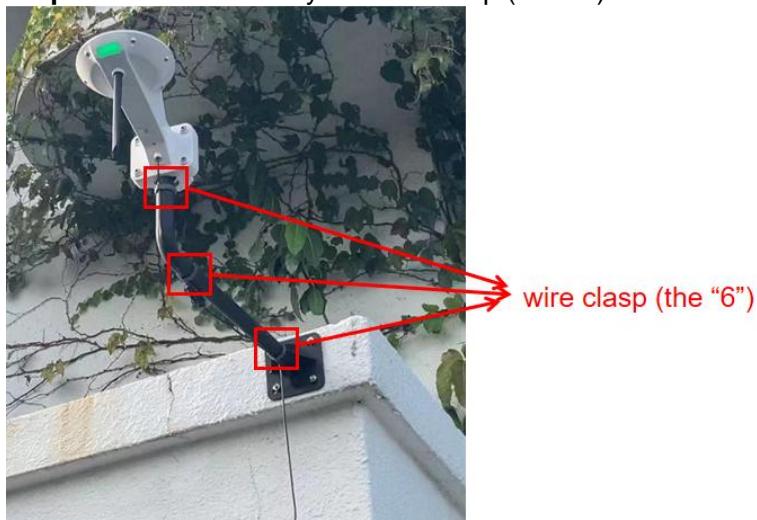
5. Initialization of LUBA

Preparation:

1. Already done the MAMMOTION account sign up, the LUBA activation and add LUBA to your accout;
2. Make sure that both LUBA and APP has the newest version & firmware;
3. Already installed the charging station and RTK reference station on the right place;
4. Check your lawn, make sure that there are not water filled holes in the lawn which can cause damage to the product.
5. Give an overview of your house, your lawn and include all obstacles, and then decide where to set the virtual boundaries of task area and no go zone.
6. Fill in large holes in the lawn；
7. When LUBA is working, make sure that there are nor people, children, pets or other moving things in your lawn;
8. We highly recommend you to set the area with obvious holes, gullies, roots of the tree and with obstacles as no go zone.
9. DO NOT use LUBA when it's raining, or when the lawn is still wet.
10. If you currently recharge the RTK reference station, you need to re-do the initialization.

Map Page：

The map page is the fundamental of LUBA control and mission planning.
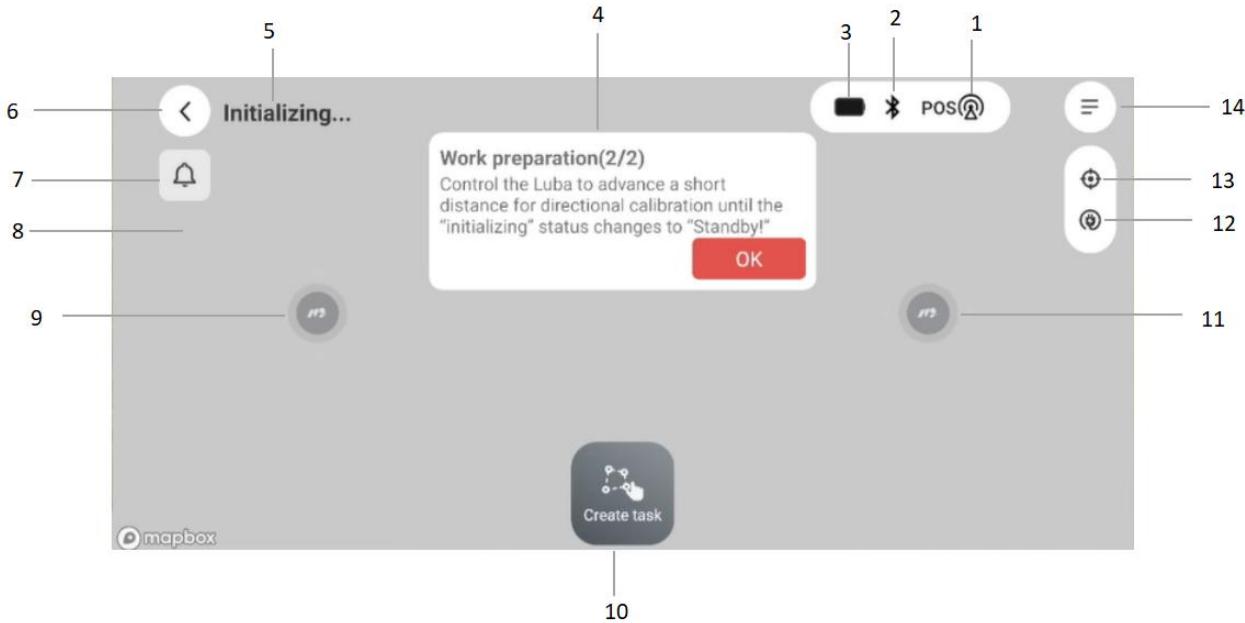
As shown in the following figure, the meanings of each icon are listed below：

1：Positioning status.
2：Bluetooth connecting status. If the Bluetooth is connected successfully, it will light up to be black.If not, then gray.
3：Mower battery power.
4：Guide message box.
5：LUBA status. There are five status: Initializing, Charging, Standby, Task planning, Working and Task suspended.
6: return button.
7：Notice and warning.
8：Background map.
9：Manually drive forward/backward button.
10：Create task. Click here to create a new map with mowing task.
11：Manually drive steering clockwise/ anti-clockwise button.

12：Call back and recharge
13：View return to the center of the map
14：Setting. Display setting, docking and recharging, user prompts and RTK base reset.

Initialization:

1. Click "Enter Map" to come to Map page

2. Check the positioning status, it should be black with full signal POS

3. Control LUBA to the front of the charging station(with in 2m and the end of LUBA point to the charging station)
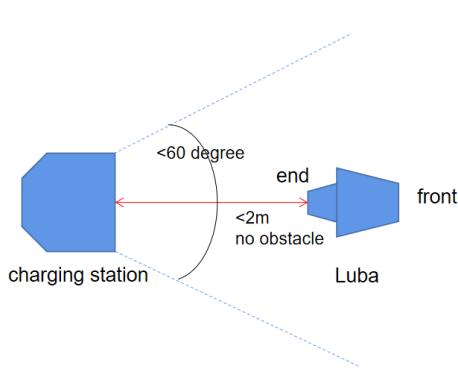
4. Press the auto recharge button to let LUBA dock successfully. The status turn to "Charging".
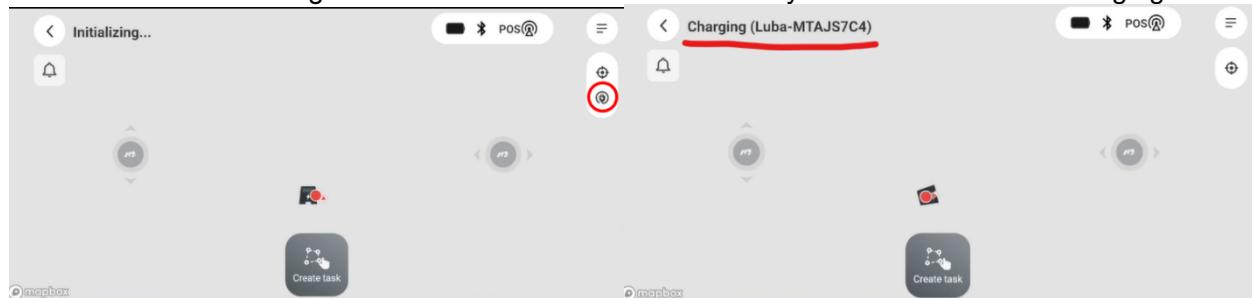
5. Reset RTK base & Charging pile
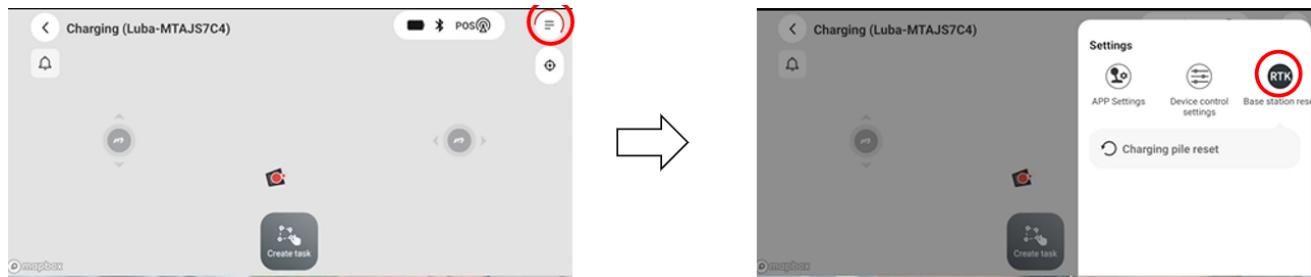
6. Automatic pile down (follow the guide message above) after you click the button. LUBA will automatically move forwards 1m to finish the initialization(the status will turn from " Charging" to "Initializing" and at last "Ready ").
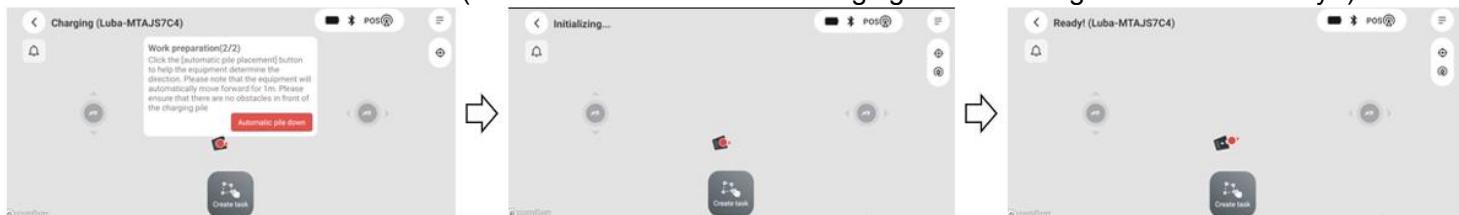
6.Setup mowing task

Note:
1. For current version, only one task with one lawn is supported;
2. Remove debris, piles of leaves, toys, wires, stones and other obstacles. Make sure children and pets are on the lawn.
3. If there is a sudden interruption and failure, follow the instructions in the app to continue or restart.
4. Avoid to drive LUBA to the fully covered area,in such area, satellite signal can be not good enough for cm-level positioning;
5. We highly recommend you to leave 10-15cm distance if you drive LUBA along the edge of a wall / fence / obstacles / ditches;

Create a Task:
1. Check if the Positioning Status is OK, and LUBA status is "Charing" or "Ready". Click the "Create "

2. Planning start, control LUBA to set the virtual boundary. When the LUBA is driven to the start point, or you click the

button, the virtual boundary will be closed automatically. Then it will show the message: Finished Planning. LUBA status will turn to be "Ready" when it's completed.
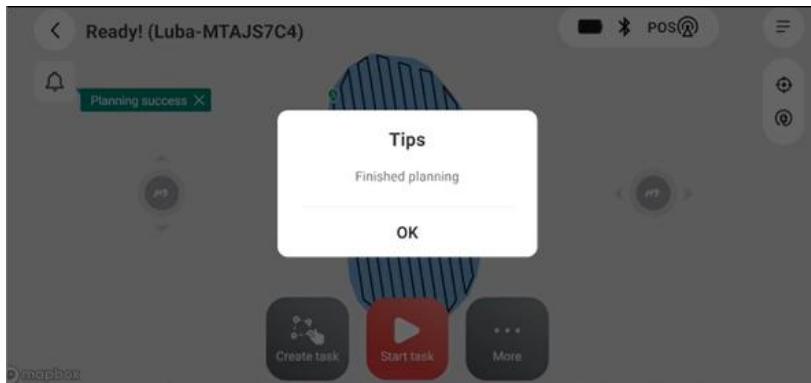
3. For the permanent obstacles or long-time exist things(like trees/ large rocks/ spray heads/ flower beds etc.) We recommend you to set no go zone of LUBA for these parts, for the protection of both LUBA and your property in the lawn.

4. Drive the LUBA to the area where you'd like to set no-go-zones first, and then click "barrier" button to start drawing the virtual boundary for them.
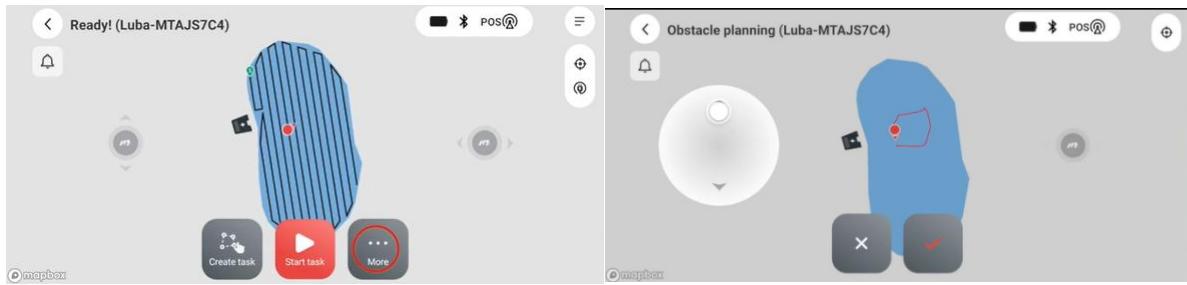
7. Start Mowing

Note:

1. Make sure the height of grass in your lawn is Max.10cm. If the grass height in your lawn is higher than 10cm, please cut the grass to less than 10cm first.

2. If the grass height is higher than 60mm, we recommend you to set the knife height higher than 40cm, please make sure that each time, only about 1/3 height of the grass is cut(e.g. if your original grass height is 60mm,set the knife height of LUBA 40 or 45mm; if your original grass height is 9-10mm,set the knife height of LUBA 60mm;)

3. If any unexpected issue occurs, press the STOP button and lock LUBA. The STOP button has the highest priority.

4. When LUBA meet obstacles higher than 10cm,the ultrasonic sensor will detect the obstacle, the speed of LUBA will slow down, and continue mowing forwards, until the bumper touch the obstacle and then do the avoidance. This can avoid the frequent trigger of the "obstacle avoidance " by high grass.

5. If the lift sensor is triggered, LUBA will stop, please press grass cutting button and then start button to unlock LUBA.

6. If a task is already set, LUBA is doing the task automatically, press Auto-return button and then start button to call back LUBA.

7. Please mow your task area no more frequent than once a day. Too frequent mowing may do harm to your lawn.

8. The estimated task time is not accurate in this version ,please just ignore that.

How to start mowing:

 The map is already set, now you can choose "Start task", or set a task schedule for LUBA about the task with this area.

If you choose "Start task", please set the task parameters and make sure that your LUBA is in the task area.

If you'd like to set a task schedule, please click the "schedule" button and set the task parameters

Set the key parameters of the task:

Knife height: from the ground to knife.(e.g. if your grass is 80mm high, you set knife height as 60mm, then20mm of the grass will be cut);

Route Mode: we currently support single grid and double grid mode. We recommend the double grid mode.

Time: set the time when your LUBA begin to woek, the frequency should not be more than once a day.

Response to rain: when rain, the rain sensor of LUBA will be triggered and go back to the charging station. And abandon the work this time, the next time of your schedule, LUBA will work as usual.(The logic of rain sensor is still optimizing);

Schedule

|	
Knife height(mm)	− 60 +
Route mode	Single Grid ⌄
Time	Every 1 day14:00 >
Response to rain	⬤
Device choice	Luba-MTAJS7C4 ⌄
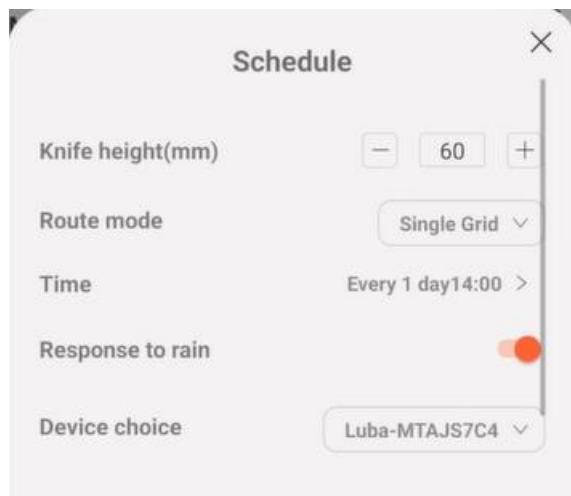
8.How To Provide Feedback

If you have encountered some issues during beta testing, please feel free to contact us via the following steps below:

Step 1: Check out and screenshot the APP Version and Device Version, and then submit these 2 screenshot in Step 2.
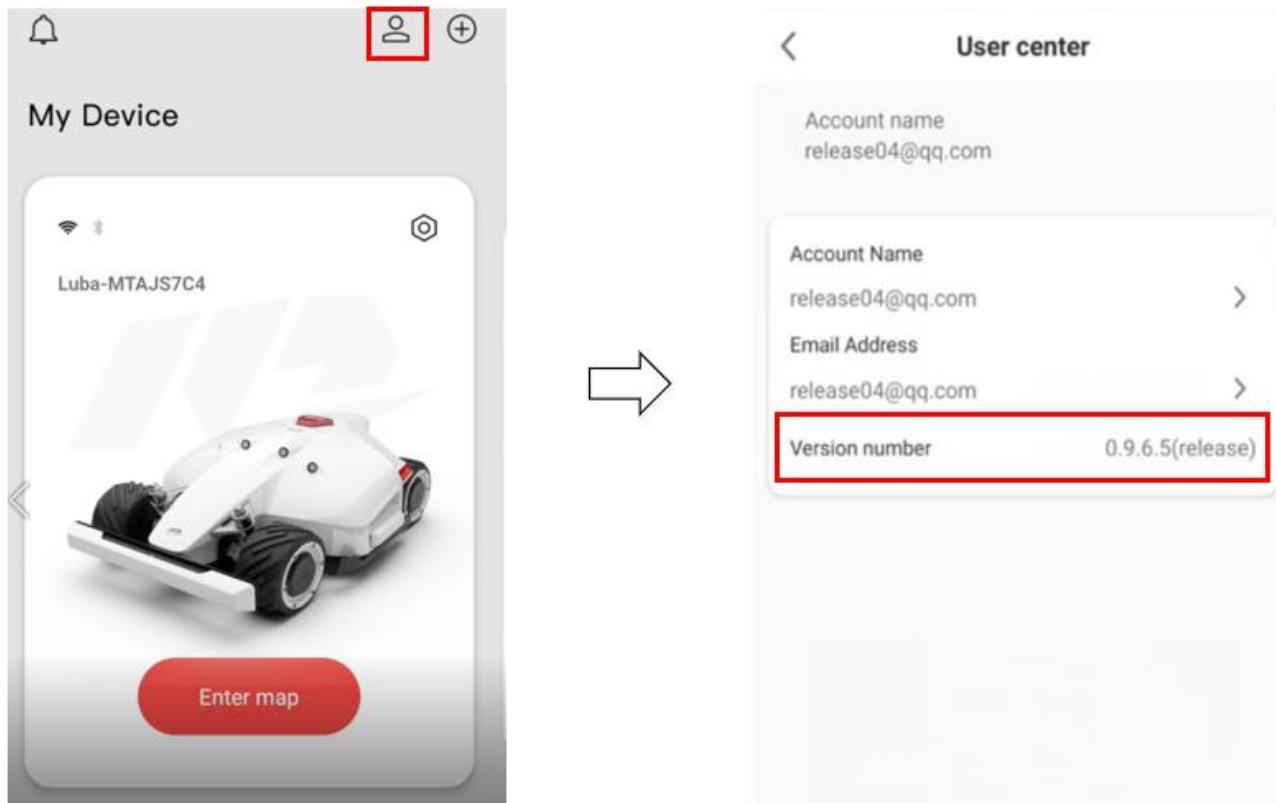
Check out the Device Version:
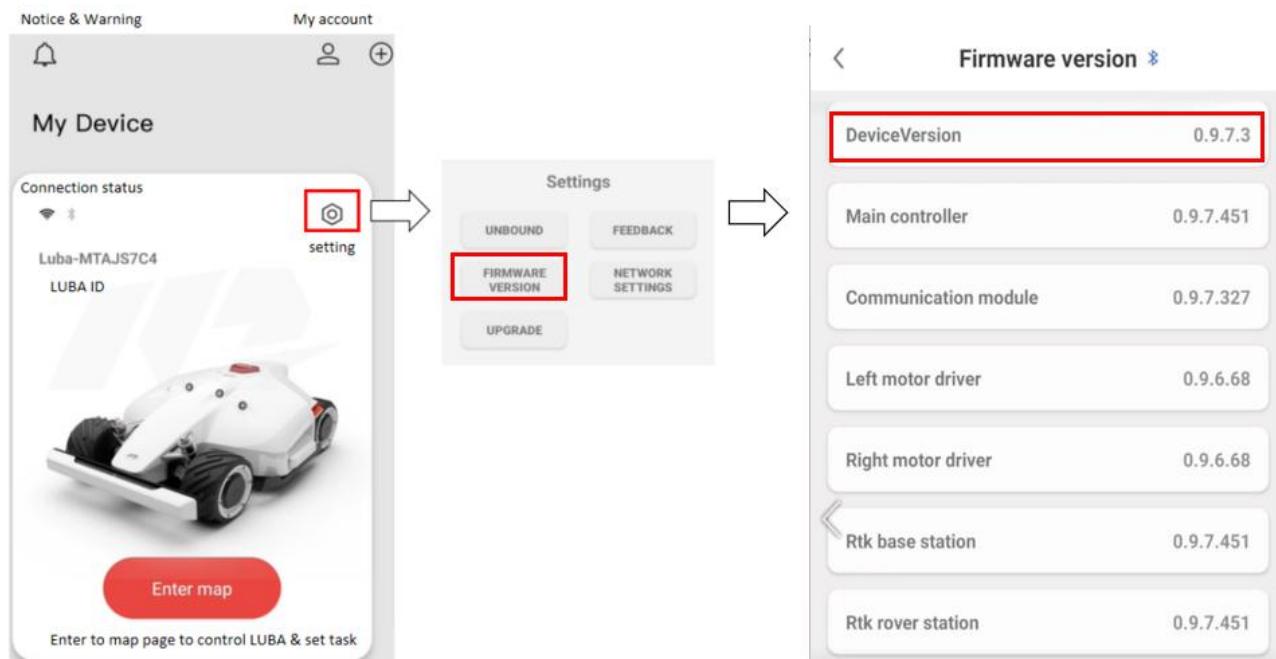
Step 2: Click Setting, and then click Feedback to submit log, screenshot, your problems in details. PS: The email address needs to match your Kickstarter email address (Use a google drive link to share a video if needed). Our team will reply you through email in time.
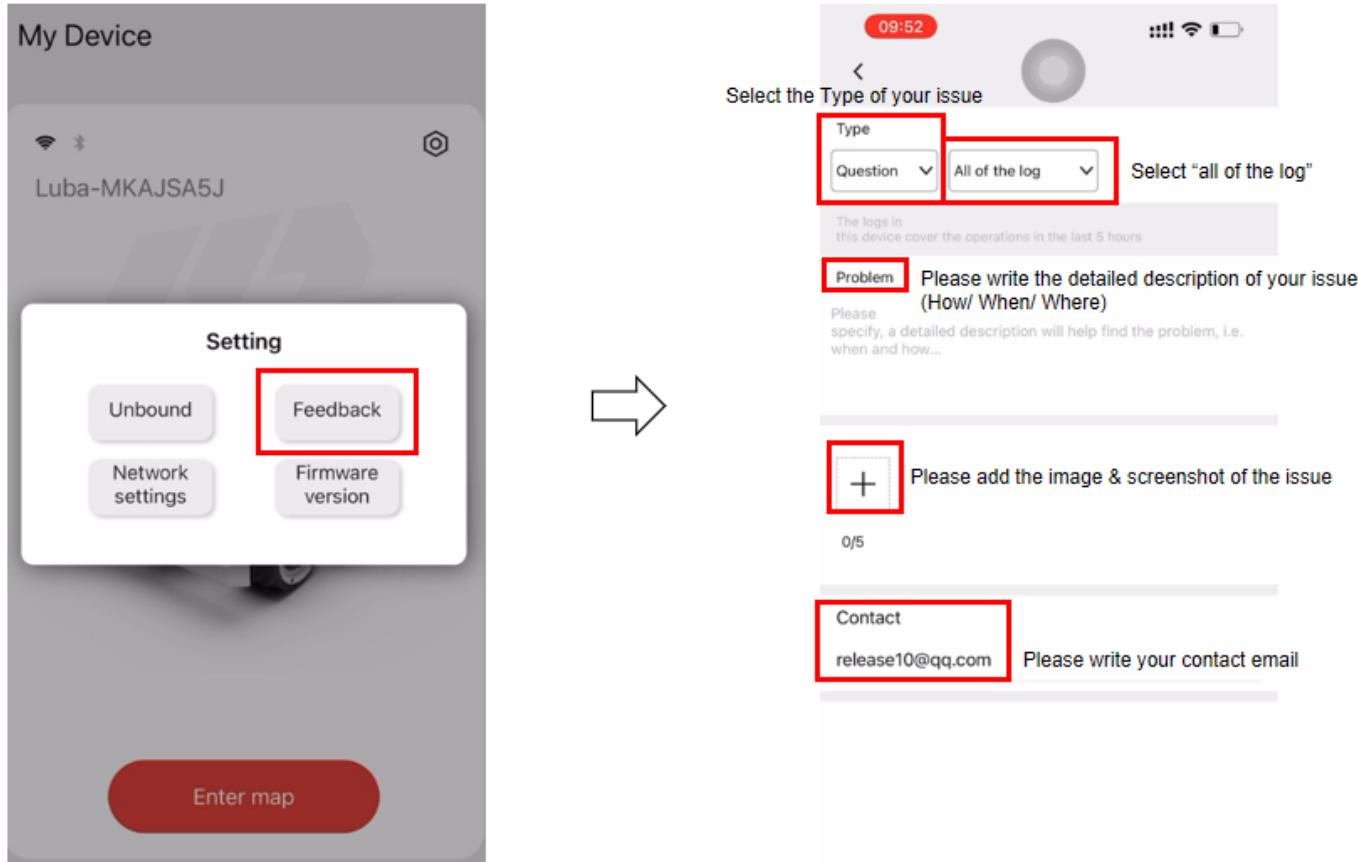
If you fail to submit the problems via the APP, please use the following ways to contact us for support:

1. Email us at support@mammotion.coim or contact us in the beta tester Reddit Group. Please remember to show us the **Firmware version** screenshot and the **screenshot &image &video of the issue** as well when you contact us.
2. Please also describe **HOW** the issue is, **WHEN** and **WHERE** the issue appears. It will help us a lot to fix the issue.

Contact Us:
By Email: Please contact us by E-mail: support@mammotion.com;
Join our beta tester Reddit Group: https://www.reddit.com/r/MammotionBetaTest/

9.Cutting blades replacement

The cutting blades can be replaced when they are damaged or worn out. We recommend you to change the blades every 6 month.

Tools needed：M2.5 Allen Key.

The **LUBA MUST BE TURNED OFF** when replacing, inspecting or cleaning the cutting blades.
Make sure the blades are fixed securely and flexibly.
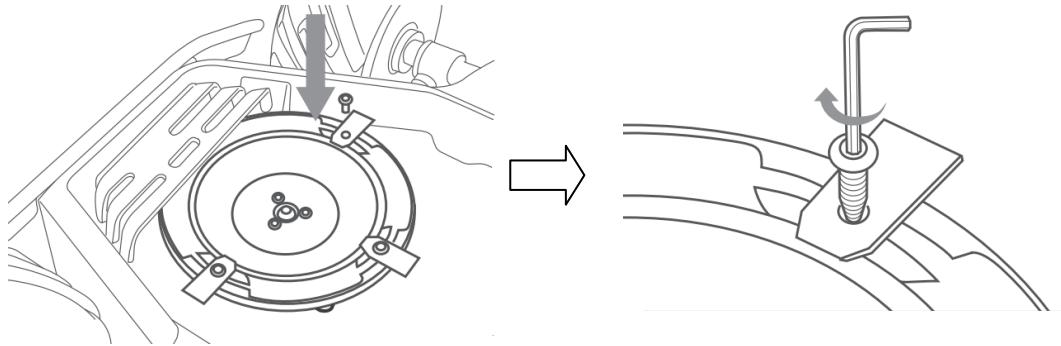
Note：
1. All the cutting blades are recommended to be replaced at the same time when the mowing result looks not as well as the previous performance.
2. The blades are recommended to be replaced every **three** months or 150hours of mowing. For some thick grass, the cutting blade may need to be replaced more frequently.

10.Specifications:

Dimension	700mm*530mm*250mm
Weight	20kg
Waterproof level	IPX6
Slope performance	Maximum 75%
Area capacity per hour	About 500 ㎡
Boundaries	Virtual boundary
Charging system	Automatic, limited charging voltage：25.2V DC
Battery	Li-ion 21.6V DC/9.6Ah
Charging time	About 150 minutes
Mowing time for one charge	About 180 minutes
Object detection/avoidance	4 ultrasonic sensors
Cutting height	25mm~60mm
Cutting width	400mm

MaintenanceGuide

In order to have your LUBA in agood condition at all time,please cleanyour LUBAeach time after mowing. The cleaning processinMAMMOTIONuser manual instructs you to get ridofthe clippings, twigs, leaves or dust and keep the mower in good condition.

1. **Motors and cutting blades maintenance (After EveryMowing task)**
    1.1 Turn off the mower and flip it over on a relatively soft surface ground. Then find a tool to clean the clippings, twigs or leaves from the bottom of mower. Make sure the cutting blade disks are clean and will not get stuck.
    1.2 If the mower would be stored for a long time, it will be better to add anti-rust oil on the cutting blades after do some cleanings.
    1.3 Keep the hub motors shaft dry and clean for long-term storage.
    1.4 The cutting blades are recommended to be replaced every 3 months or 150hours mowing.
2. **BatteryMaintenance**
    2.1 Keep 50% to 60% battery level before long termstorage.
    2.2 Charge to full once every 90days.
    2.3 Clean and make sure the charging ports on the mower are dry and clean after very mowing task.
3. **Appearance maintenance (After EveryMowing task)**
    1.1 Clean the cover and the wheels with fresh water and make sure there are no clippings   or dust covering on it.
    1.2 When there is damage on it, please replace the broken parts as possible.

Disclaimer

We provide customers with after-sale services, excluding the followingcircumstances:

1. Crashesdamagecausedbynon-manufacturingfactors,includingbutnotlimitedto,usererrors.

2. Damagecausedbyunauthorizedmodification,disassembly,orshellopeningnotin accordance with official instructions ormanuals.

3. Damagecausedbyimproperinstallation,incorrectuse,oroperationnotinaccordancewith official instructions ormanuals.

4. Damage caused by a non-authorized serviceprovider.

5. Damagecausedbyunauthorizedmodificationofcircuitsandmismatchormisuseofthe battery andcharger.

6. Damagecausedbyuserswhichdonotfollowinstructionandmanualrecommendations.

7. Damagecausedbyoperationinbadlawnconditions(i.e. large areas of puddle without setting no-go-zones, a lot of stones covering on it, etc.)

8. Damagecausedbyoperatingtheproductinanenvironmentwithelectromagneticinterference(i. e.inminingareasorclosetoradiotransmissiontowers,high-voltagewires,substations,etc.).

9. Damagecausedbyoperatingtheproductinanenvironmentsufferingfrominterferencefrom other wireless devices (i.e. transmitter, video-downlink, Wi-Fi signals,etc.).

10. Damagecausedbyreliabilityorcompatibilityissueswhenusingunauthorizedthird-partyparts.

11. Damagecausedbyoperatingtheunitwithalow-chargedordefectivebattery.

12. Lossof,ordamageto,yourdatabyaproduct.

13. Anysoftwareprogram,whetherprovidedwiththeproductorinstalledsubsequently.

14. Failureof,ordamagecausedby,anythird-partyproducts,includingthosethatMAMMOTIONmayprovideorintegrateintotheMAMMOTIONproductatyourrequest.

15. Damageresultingfromanynon-MAMMOTIONtechnicalorothersupport,suchasassistancewith "how-to" questions or inaccurate product set-up, installation, and firmwareupgrade.

16. DamagecausedbyoperatingtheMOWERinthesensitivezone(military,naturalresource protection zoning,etc.)

17. Damagecausedbyunpredictablefactors(cars,wild animals attack,flood,etc.)

18. Productsorpartswithanalteredidentificationlabelorfromwhichtheidentificationlabelhas beenremoved.

For more information, please check our website for tuition videos, or read FAQinMAMMOTIONAPP/Help/FAQ.
 https://MAMMOTION.com/
This content is subject to change without priornotice.

FCC Statement

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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.

ISED Statement

‐ English: This device complies with Industry Canada license‐exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (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: Le présentappareilestconforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitationestautorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareildoit accepter tout brouillageradioélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement.

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

For Transmitter:
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.