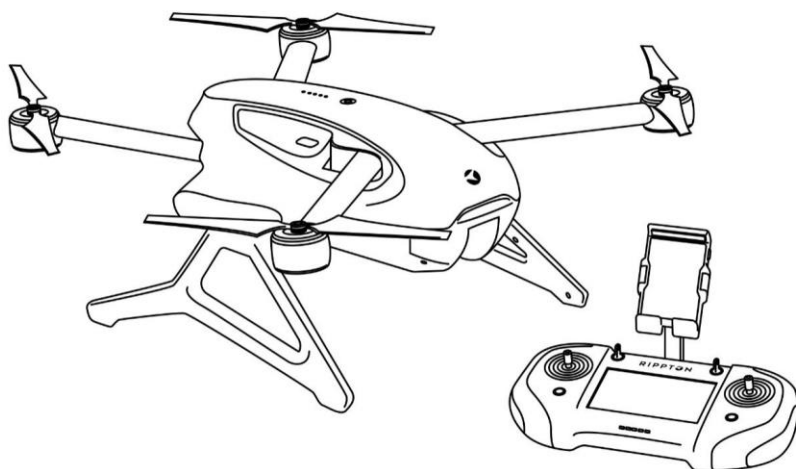# MOBULA
SMART FISHING DRONE

User Manual For MOBULA

V3

Download the Rippton App

Search for "Rippton" on the Google Play Store, Samsung Galaxy Apps or App Store to install the app on your mobile device or scan this QR code.

RIPPTON

Trademark

Rippton has made every effort to supply trademark information about company names, products and services mentioned in this manual. Trademarks shown below were derived from various sources. All trademarks are the property of their respective owners.

General Notice: Some product names used in this manual are used for identification purposes only and may be trademarks of their respective companies.

RIPPTON

MOBULA

Table of Contents

RIPPTON

RIPPTON

1. Preface

1.1. User Experience Requirements

This document is intended for the user of the Rippton MOBULA Smart Fishing Drone. The Rippton MOBULA Smart Fishing Drone should only be used by people with experience of flying drones. Users without any drone-piloting experience should practice more than 20 hours in a wide and empty space, before using the MOBULA for sea fishing.

1.2. Conventions Used In This Manual

The following style conventions are used in this document:

Bold
Names of product components, commands, options, programs, processes, services, and utilities.
Names of interface elements (such as windows, dialog boxes, buttons, fields, and menus) Interface elements the user selects, clicks, presses, or types.

Italic
Publication titles referenced in the text Emphasis (for example a new term) Variables.

Courier
System output, such as an error message or script URLs, complete paths, filenames, prompts, and syntax.

1.3. Explanation Of Safety Warnings

⚠ **DANGER**

Danger indicates a hazard with a high level of risk which, if not avoided, will result in serious injury.

RIPPTON

⚠ WARNING

Warning indicates a hazard with a medium level of risk which, if not avoided, could result in serious injury.

⚠ CAUTION

Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

NOTICE

Notice indicates information considered important, but not hazard-related.

1.4. Read, Understand and Retain Instructions

Read and understand this manual and its safety instructions before using this product. Failure to do so can result in serious injury.

Follow all instructions. This will avoid fire, explosion, electric shock or other hazards that may result in damage to property and/or severe injuries.

The product should only be used by people who have fully read and understood the contents of this user manual.

Ensure that each person who uses the product has read these warnings and instructions and follows them.

Keep all safety information and instructions for future reference and pass them on to subsequent users of the product.

The manufacturer is not liable for cases of material damage or personal injury caused by incorrect handling or non-compliance with the safety instructions. In such cases, the warranty will be voided.

RIPPTON

1.5. Obtaining Documentation And Information

1.5.1. Internet

The latest version of the documentation, as well as video tutorials, is available at the following address: www.rippton.com/tutorial or Rippton's official YouTube channel.

1.5.2. Ordering documentation

Documentation, user instructions and technical information can be ordered by sending an email to support@rippton.com.

1.5.3. Other languages

This is the English language version of the user manual. Manuals in other languages are available upon request.

1.5.4. Documentation feedback

If you are reading Rippton product documentation on the internet, any comments can be submitted on the support website. Comments can also be sent to support@rippton.com. We appreciate your comments.

1.5.5. Support and service

For service related questions, contact:
Rippton/Ningbo Pelican Drone Co., Ltd.
support@rippton.com

RIPPTON

2. Description Of The Product

2.1. Intended Use And Reasonably Foreseeable Misuse

The Rippton MOBULA is intended to be used as a drone for professional sea fishing purposes, such as:

- Finding the location of fish with the built-in camera.
- Flying and releasing the fishing line and berley to the desired location.

The product should be used in open areas on the beach, above the sea, with no obstacles and should always stay within the sight of its user. The product is intended to carry a maximum weight of 2.5 kg.

The Rippton MOBULA is NOT intended for:

- Indoor use.
- Use in or close to residential areas or areas frequented by people.
- Use in No-Fly Zones.
- Use as a toy. The MOBULA must not be used by children under 14 year of age. The product is *not* a toy.
- Use in or near rough water and extreme weather conditions, such as strong winds (greater than 35 km/h), rain, snow or fog.
- Use close to large metal structures.
- Areas with high levels of electromagnetism, including base stations and radio transmission towers.
- Use above the maximum allowed flight altitude of 120 meters and maximum allowed flight radius of 2.0km.

The MOBULA Fishing Drone should be used with the following software, original accessories and components only:

- MOBULA Smart Battery (including charger)
- MOBULA Remote Controller (including Charging Cable)

RIPPTON

- Propellers
- Landing Gear
- Rippton App
- Other New Accessories Listed on Rippton Official Website

All other uses of the product not described in this manual are regarded as unintended use.

2.2. Process Overview

The MOBULA is a drone for professional fishing purposes. It consists of a drone (with built-in camera to spot fish and **berley/fishing line release devices**), a **controller** with **LCD screen**, **mobile device clamp**. Amongst the most important features is the **Return to Home (RTH) function** and the berley/fishing line release function. The MOBULA comes with the Rippton App.

The MOBULA is controlled by the **MOBULA remote controller (controller)**. The controller has an integrated LCD screen that displays the live image from the camera and some other flight information.

Flight data is automatically recorded on to the internal storage of the MOBULA. This includes flight telemetry and MOBULA status information.

The MOBULA has one **fishing line release device** and two **berley release devices** which can easily perform accurate fishing line and berley release. Your berley can be attached to the two **berley release devices**. Your fishing line can be attached to the **fishing line release device**. Once the berley or fishing line is at the desired location, it can be dropped using the **controller** or the Rippton App.

RIPPTON

## 2.3. Technical Data

Parameter	Unit
MOBULA	
Device Name	MOBULA Smart Fishing Drone
Weight	5.6 kg
Dimensions	630 x 608 x 225 mm (Propeller Closed)
Propeller	17 inches
Max Speed	10 m/s (36 km/h)
Max Payload	2.5 kg
Max Wind Resistance	8 m/s (28.8km/h)
Protection Level	Splash Resistance
Operating Temperature	-10 ºC to 60 ºC
Operating Frequency	2400 ~ 2483.5 Mhz
Transmitter Power (EIRP)	+20 dBm
Satellite Systems	GPS/GLONASS/GALILEO
*Flying Radius (Without Payload)	0~2.0 km
*Suggested Casting Radius (With Payload)	0~1.5 km
Radio Technology	Wi-Fi Graphic Transmission Controller Spread Spectrum Wireless
Frequency Band	5.8 Ghz Wi-Fi graphic transmission 2.4 Ghz Controller Spread Spectrum Wireless
MOBULA Remote Controller	
LCD Screen	5.5 inches
Operating Frequency	2400~2483.5 Mhz
Max Transmission Distance (Unobstructed, Free of Interference)	2 km
MOBULA Smart Battery	
Capacity	10,000 mAh
Battery Type	LI – PO

* Recommend keep the MOBULA within sight

RIPPTON

2.4. Product Compliance

This product complies with all relevant Australia & New Zealand Directives.

2.5. Product Components
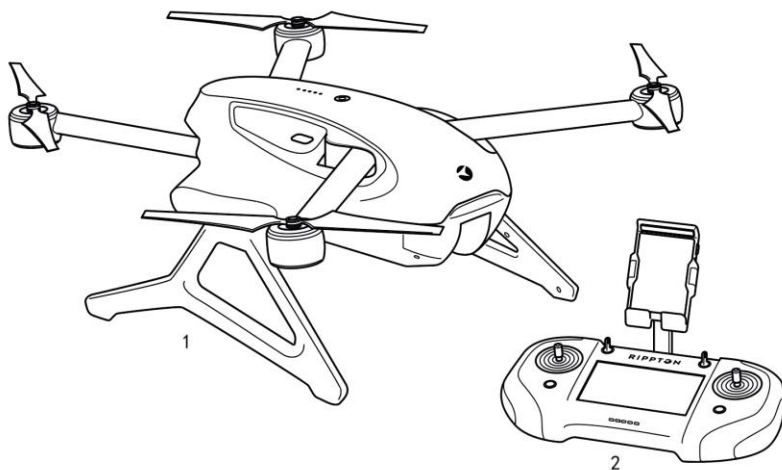
1.   MOBULA Smart Fishing Drone
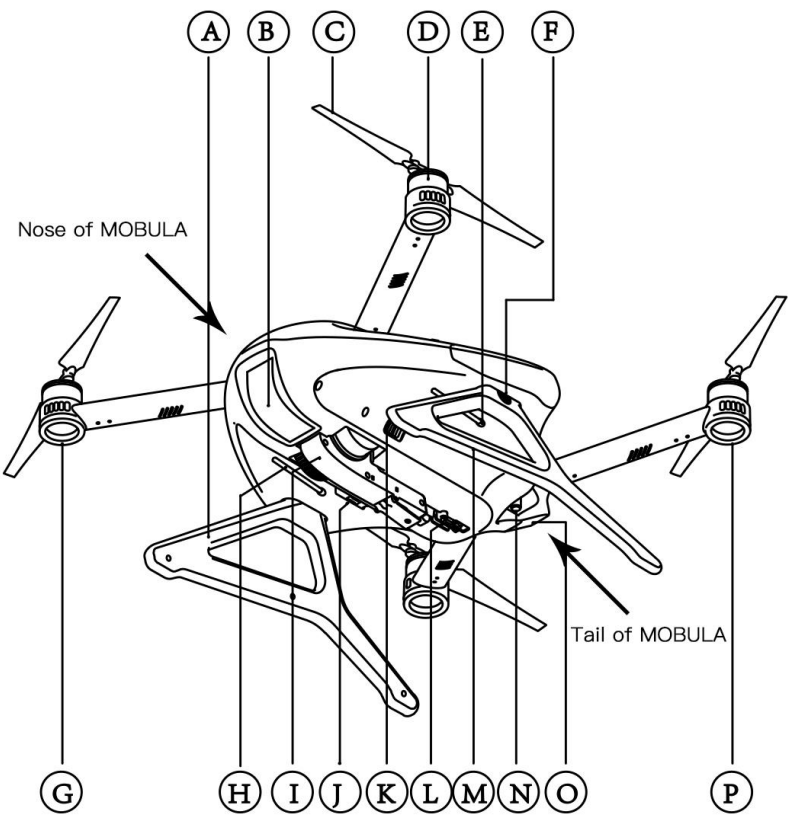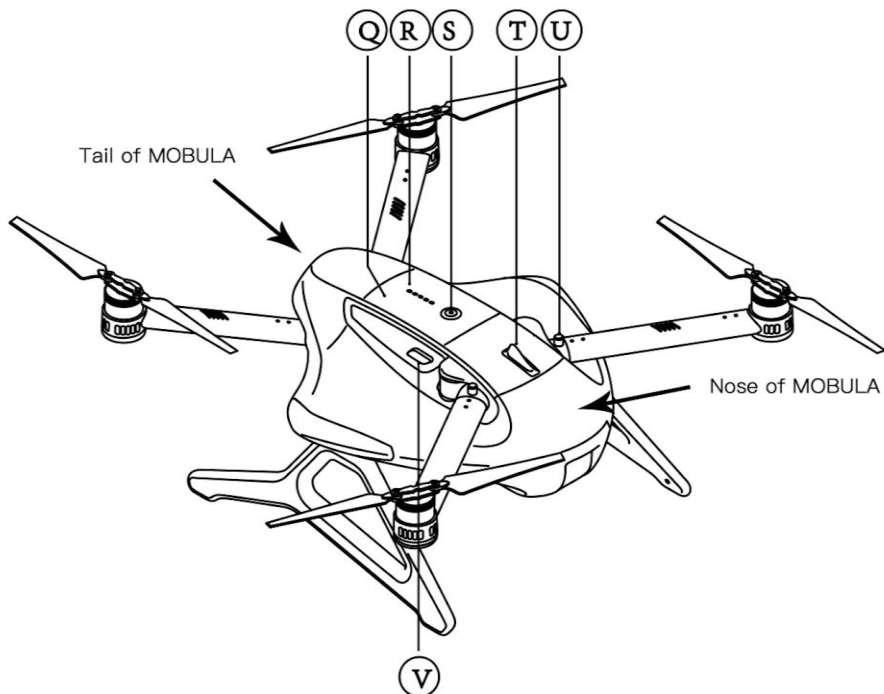2.   MOBULA Remote Controller

2.5.1. MOBULA

Nose of MOBULA

Tail of MOBULA

Figure 1

RIPPTON

Figure 2

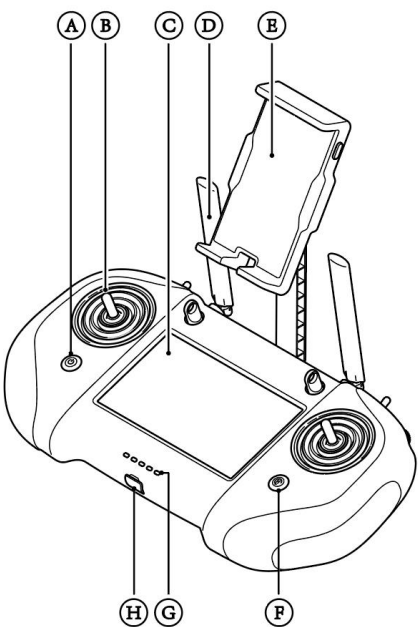|			
A.	Landing Gear	L.	Fishing Line Release Device
B.	Camera	M.	Landing Gear
C.	Propeller	N.	Rear Arm Unlock Button
D.	Motor	O.	Tail Status Indicator
E.	Foldable Antenna	P.	Rear LED Indicator
F.	Landing Gear Unlock Button	Q.	MOBULA Smart Battery
G.	Rear LED Indicator	R.	Battery Level Indicator
H.	Foldable Antenna	S.	Battery Power Button
I.	Winder (Optional)	T.	Top Status Indicator
J.	Berley Release Device	U.	Front Arm Unlock Button
K.	Winder Unlock Button	V.	Battery Unlock Button

RIPPTON

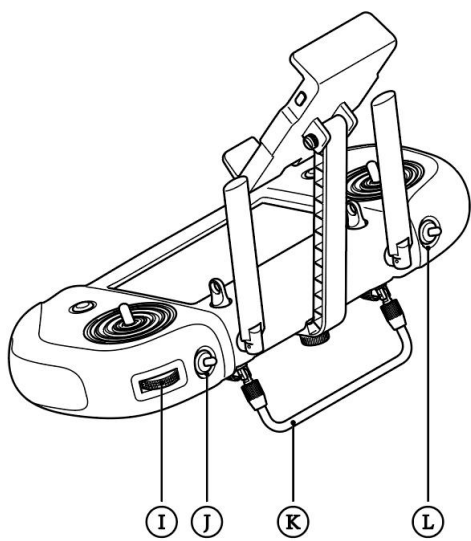## 2.5.2. Controller

Figure 3

Figure 4

RIPPTON

No	Item	Function
A.	Controller Power Button	Turns controller on/off
B.	Joystick	The right joystick controls the MOBULA to fly forward, backward, left and right (correspondingly push the stick up, down, left and right) The left joystick controls the MOBULA to rise vertically, descend vertically, left rotate and right rotate (correspondingly push the stick up, down, left and right)
C.	LCD Screen	Displays the recording of the MOBULA's camera
D.	Antenna	Makes connection with the MOBULA
E.	Mobile Device Clam	Used to attach a mobile device
F.	Return-to-Home (RTH) Button	MOBULA will automatically return by short press and long press RTH button
G.	Controller Battery Level Indicator	Indicates the battery level
H.	Power Port	Port to connect the charging cable
I.	Camera Setting Dial	Controls the camera's pointing angle
J.	Fishing Line Release Stick	Cast the fishing line
K.	Handle	Used to carry/hold the controller
L.	Flight Mode Switch	Switches between GPS mode or manual mode *GPS mode: Maintain the exact previous geographic coordinates with GPS signal and the exact altitude. Strongly recommend operating MOBULA under this mode all the time. *Manual mode: Maintain the exact previous altitude and manual control of the MOBULA's direction.

RIPPTON

2.6. Explanation Of Auditory And Visual Signals

2.6.1. MOBULA

LED	Signal	Meaning
2 x Front LED Indicator	Green flashing	MOBULA is on the ground and ready for take off
	Constant green light	MOBULA unlocked or flying
2 x Rear LED Indicator	Red flashing	MOBULA is on the ground and ready for take off
	Constant red light	MOBULA unlocked or flying
2 x Status Indicator (tail and top)	Fast yellow flashing	MOBULA crashed
	Slow yellow flashing	Low battery level. MOBULA will automatically return
	Red flash only once	Error occurs.
	Blue flashing	No GPS signal
	Slow green flashing	Weak GPS signal
	Green flashing	Normal GPS signal
	Fast green flashing	Strong GPS signal
	Constanly green	MOBULA unlocked
Battery Level Indicator	Green LEDs	1 LED = 20% full 2 LEDs = 40% full 3 LEDs = 60% full 4 LEDs = 80% full 5 LEDs = 100% full
Battery Power Button	Constant green light	MOBULA in ON position

RIPPTON

2.6.2. Remote Controller

| LED	Signal	Meaning
Power Button	Flash under press, then lights off. With short beeping.	Controller in ON position
Return-to-Home Button	Green light flashing with constantly beeping.	Return-to- Home (RTH) activated. MOBULA will automatically return.

RIPPTON

3. Preparation And Installation

NOTICE

- Handle, lift, carry and transport the product with great care to prevent it from being damaged.

3.1. Unpacking The MOBULA And Checking The Contents

Make sure the packaging contains the following items:

RIPPTON
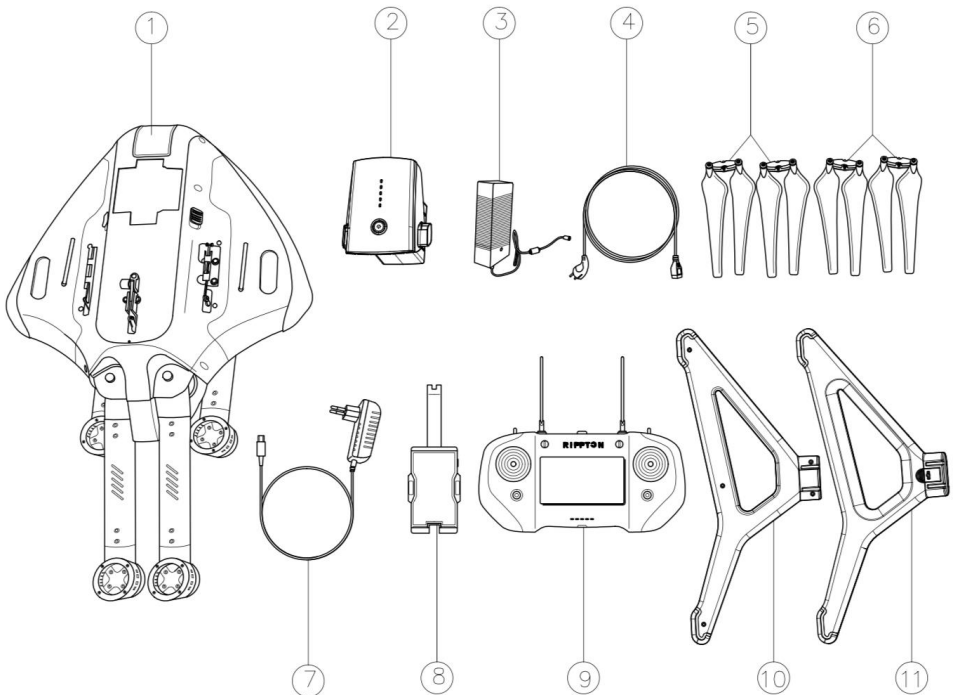
|			
1.	1 x MOBULA Smart Fishing Drone	7.	1 x Controller Charger
2.	1 x MOBULA Smart Battery	8.	1 x Mobile Device Clamp
3.	1 x Charging Adapter	9.	1 x Remote Controller
4.	1 x Power Cord	10.	1 x Landing Gear Right
5.	2 x sets Clockwise Propellers	11.	1 x Landing Gear Left
6.	2 x sets Counter-Clockwise Propellers		

3.2. Conditions Before Assembling The MOBULA

3.2.1. Make sure you have downloaded and installed the **Rippton App** from the Google Play Store, Samsung Galaxy Apps or App Store. Register as a Rippton App member.

3.2.2. Make sure that the **MOBULA smart battery** and **controller** are fully charged.

3.3. Install The Landing Gear

3.3.1. Take out the MOBULA and the **landing gear**. Insert the **landing gear** to the MOBULA till you hear a "click".

NOTICE The two **landing gear** parts are different. Make sure the **landing gear's unlock button** facing the outside
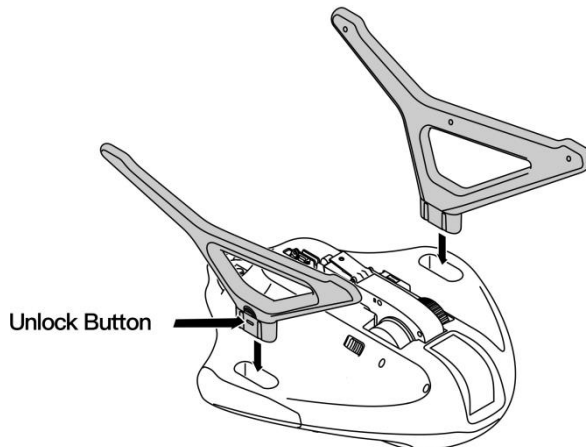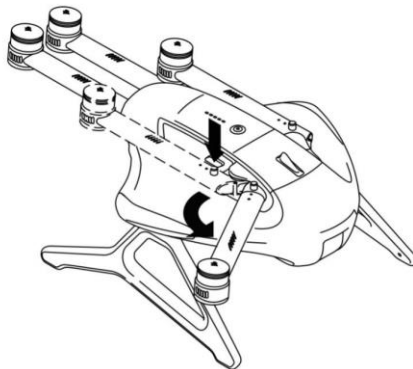

Unlock Button

3.3.2. Flip the **MOBULA** so it stands with the **landing gear** on the ground.

3.3.3. Press the **battery unlock button** and insert the **MOBULA smart battery**.
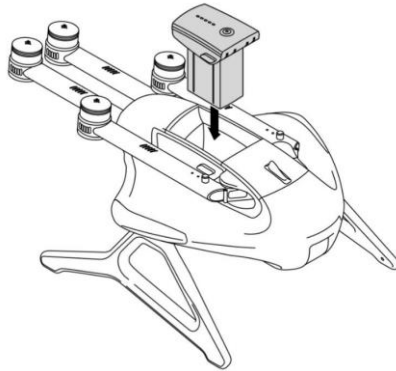
3.3.4. Press one of the **front arm unlock button**. Unfold the arm in position and release the button. Move forward and backward few times to ensure it's locked properly. Repeat to the other front arm.
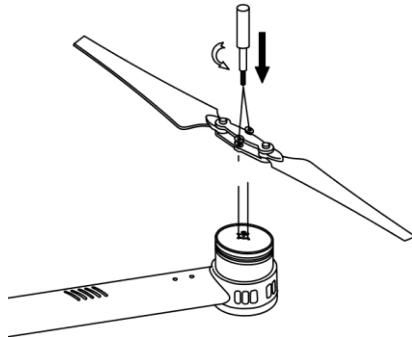
3.3.5. Press one of the **rear arm unlock button**. Unfold the arm in position and release the button. Move forward and backward few times to ensure it's locked properly. Repeat to the other rear arm.
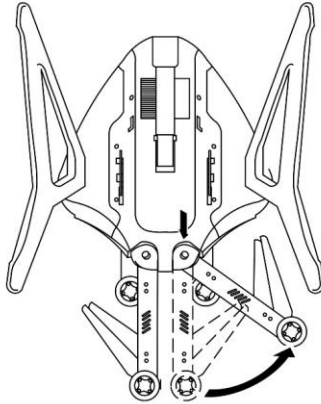
3.3.6. Tighten the **propellers** with the two screws.

RIPPTON

3.3.7.   Unfold the **propellers**.
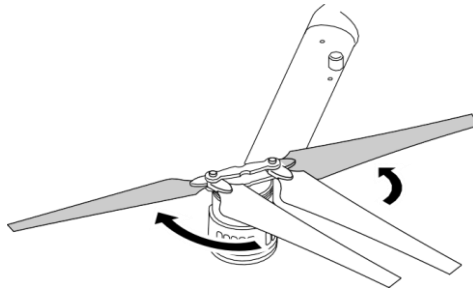
NOTICE The CW **propellers** should be placed at the arm tagged with CW signals. The CCW **propellers** should be placed at the arm tagged with CCW signals. The below illustration indicates the CCW **propellers**.

CW: clockwise
CCW: counter-clockwise

RIPPTON
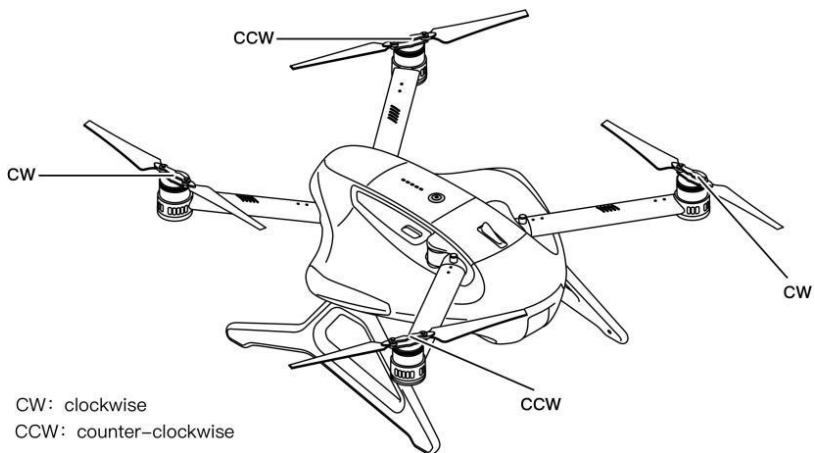
3.4. Preparation Of The Controller

3.4.1. Put the **antennas** into the vertical position.
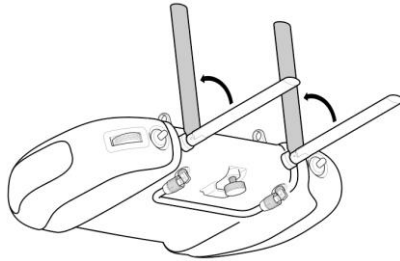
3.4.2. Attach the **mobile device clamp**.
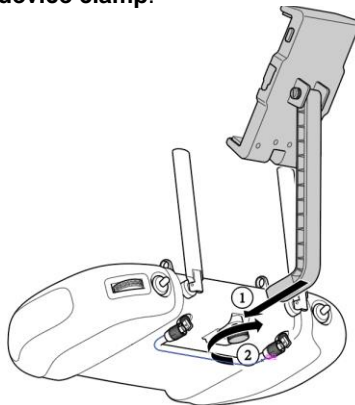
3.4.3.   Unfold the **handle**. Fasten the two nuts.

RIPPTON

3.4.4. Put your mobile device on the **mobile device clamp**.

NOTICE Make sure you only use a device with a 5G Wi-Fi connection.

3.5. Attach Mobile Device To The Clamp:

3.5.1. Press the **unlock button** on the **mobile device clamp**. The upper part of the **mobile device clamp** folds out.
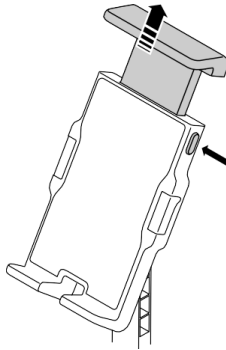
3.5.2. Unfold the two mobile phone holders.
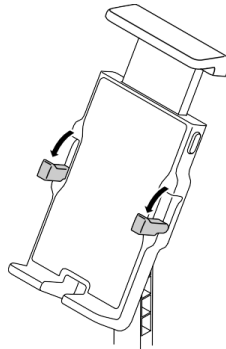
3.5.3. Put your mobile phone on the **mobile device clamp**. Move the upper part of the **mobile device clamp** downward to secure the mobile phone.

RIPPTON
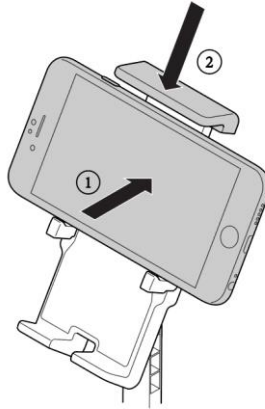
3.6. Attach Tablet To The Clamp

3.6.1. Press the **unlock button** on the **mobile device clamp**. The upper part of the **mobile device clamp** folds out.

3.6.2. Put your **tablet** on the **mobile device clamp**. Move the upper part of the **mobile device clamp** downward to secure the **tablet**.

RIPPTON
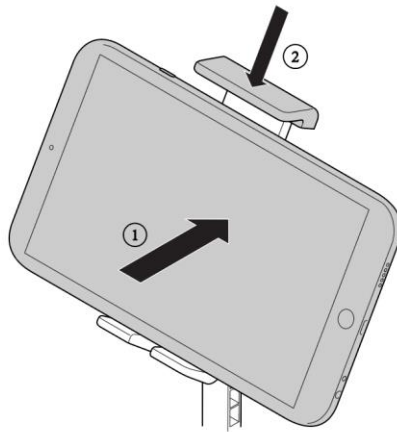
4. Operation/Use

4.1. Check Before Using The MOBULA

4.1.1. Minimum space needed

- Ensure there are no people or any other obstacles within a range of 20 meters before you start flying in order to avoid possible injury or damage.
- Only use the product in open areas on the beach and above the sea.

4.2. Starting The MOBULA

4.2.1. Short press and long press the **battery power button** till **LED indicator**, **status indicator** are on and MOBULA beeping.
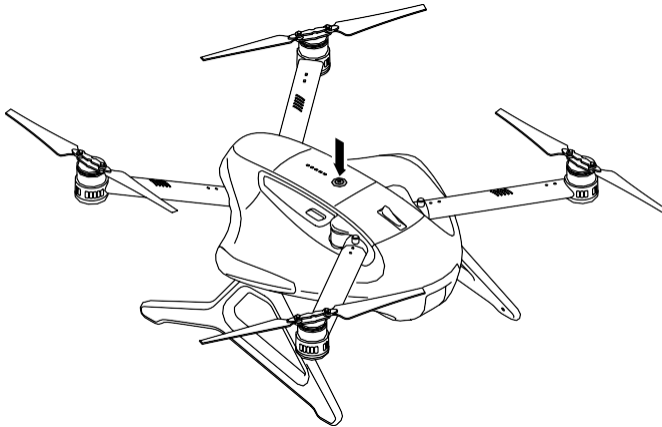
4.2.2. Unfold MOBULA's **antenna**.

RIPPTON
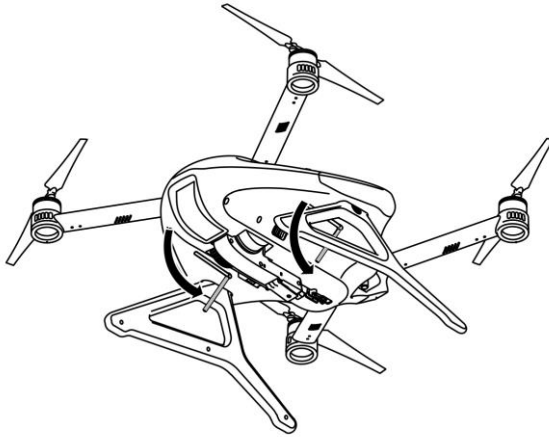
Notice Fold up the antenna after use.

4.3. Starting The Controller

4.3.1. Short press and long press the **controller power button** to turn on the **controller**. The **controller** will beep when turned on. Once MOBULA is well connected with the **controller** there will be MOBULA camera live image on the **LCD screen** and the first **indicator** on the **controller** turns green and lights constantly.

4.4. Connecting The MOBULA With Your Mobile Device

4.4.1. Search for the MOBULA's Wi-Fi signal in the settings of your mobile device. Make a connection. The format of MOBULA's Wi-Fi name is IN-XXXXXX, and the original password is 12345678.

IN-XXXXXX

RIPPTON

4.4.2. Enter the App's home page. Tap **Fishing.**
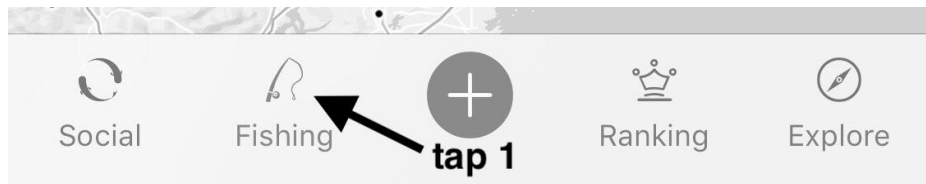
4.4.3. Tap the **drone** icon.
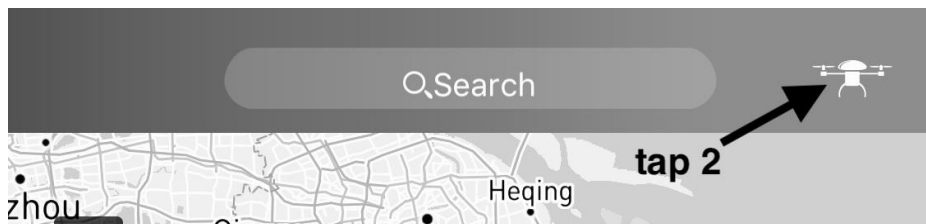
4.4.4. Tap **Enter** to complete the connection.

RIPPTON
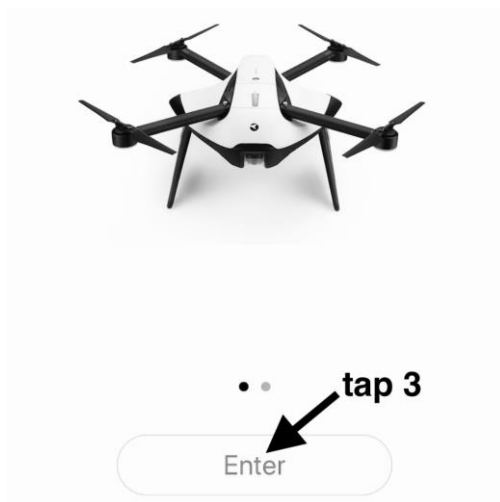
4.5. Calibrate The Compass And IMU

NOTICE

The compass needs to be calibrated in the following situations:

- When you use the MOBULA for the first time.
- When you fly at a new place.
- When the MOBULA has not been used for more than one month.

DO NOT calibrate the compass in the presence of a strong magnetic interference, such as magnetite, parking structures, and steel reinforcements underground.

DO NOT carry ferromagnetic materials with you during calibration, such as mobile phones.

To calibrate the MOBULA compass

4.5.1. Choose an outdoor open area to carry out the calibration procedures.

4.5.2. Open the Rippton App. Tap **Set** then **Common Settings**. Wait until **status indicators** start flashing green. Then tap **Calibrate**.
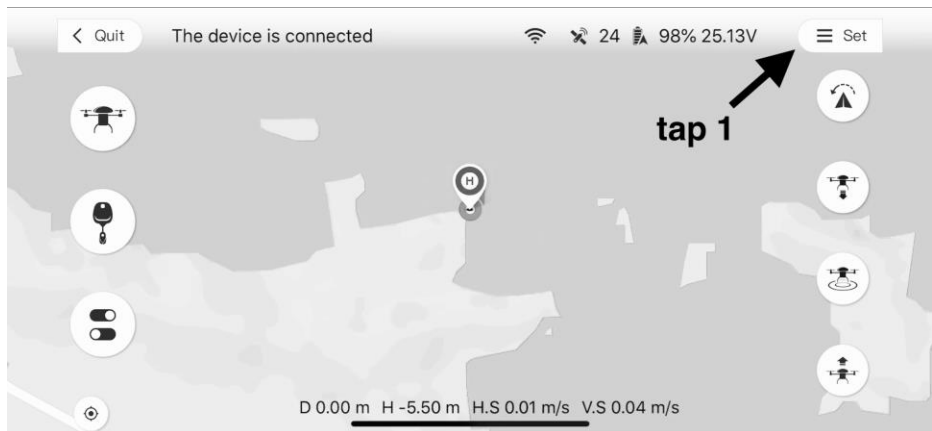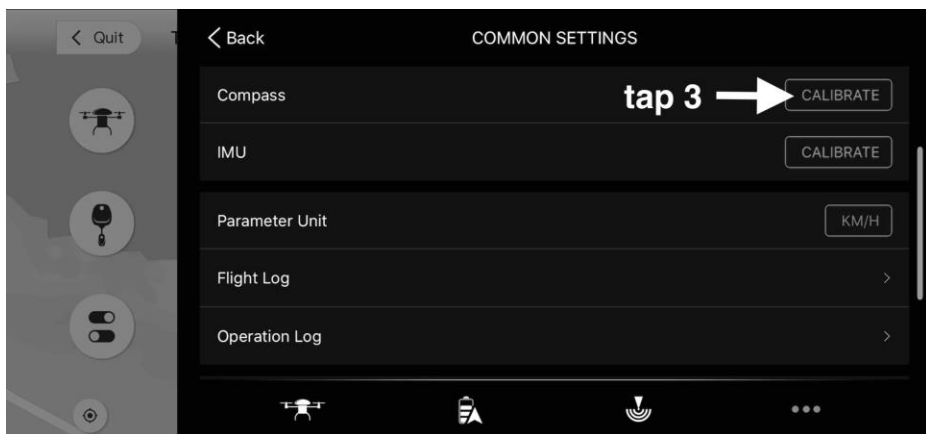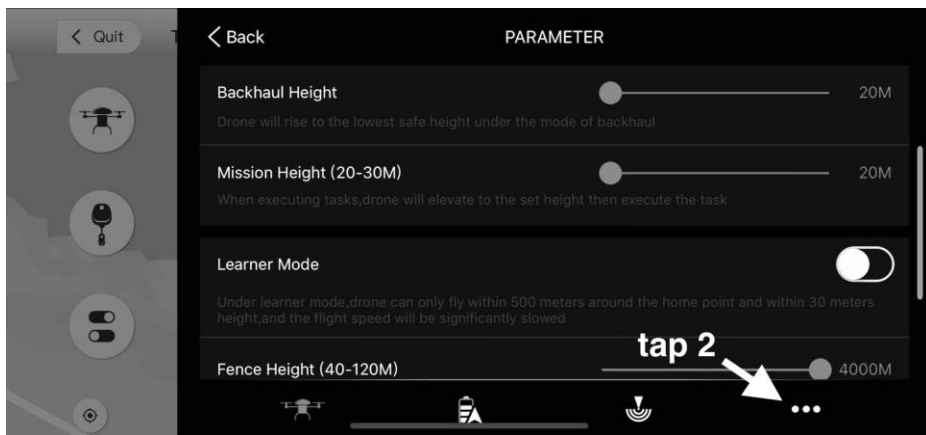
4.5.3. After tapping **Calibrate**, **status indicators** will start blue-red flashing. Wait till **status indicators** start blue-yellow flashing, hold the MOBULA horizontally and rotate anticlockwise or clockwise till the light changes from blue–yellow flashing to blue-red flashing.
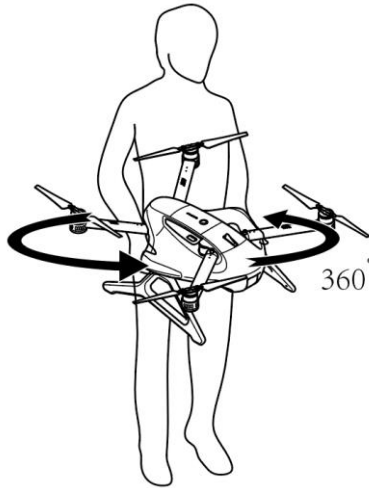
4.5.4. Wait until **status indicators** start green-red flashing. Then hold the MOBULA vertically (with nose downwards). Wait until **status indicators** start blue-yellow flashing, and rotate anticlockwise or clockwise till the light changes to blue flashing.

RIPPTON
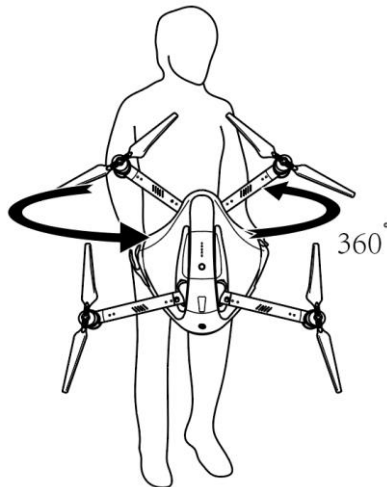
4.5.5. Place the MOBULA on the ground, wait until **indicator** changes from blue flashing to green flashing.

MOBULA Indicator Status of Horizontal Calibration:

Calibration Process	MOBULA Turned On	GPS Signal Received	Horizontal Calibration Ready	Horizontal Calibration Completed
Color	Green or Blue	Green	Blue-Yellow	Blue-Red
Flashing	Flashing	Flashing	Flashing	Flashing

MOBULA Indicator Status of Vertical Calibration:

Calibration Process	Vertically Calibration Ready	Vertical Calibration Completed	Whole Process Completed
Color	Blue-Yellow	Blue	Green
Flashing	Flashing	Flashing	Flashing

To calibrate the IMU

4.5.6. Open the Rippton App. Tap **Set** then **Common Settings**. And then tap **Calibrate**.

RIPPTON
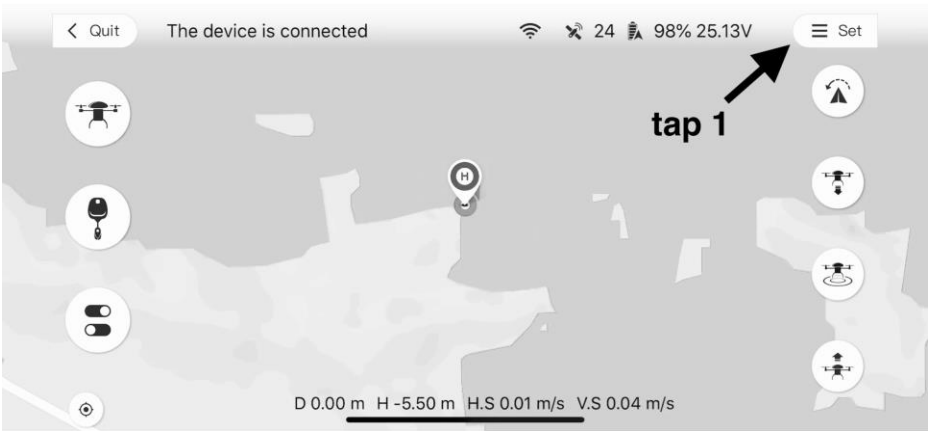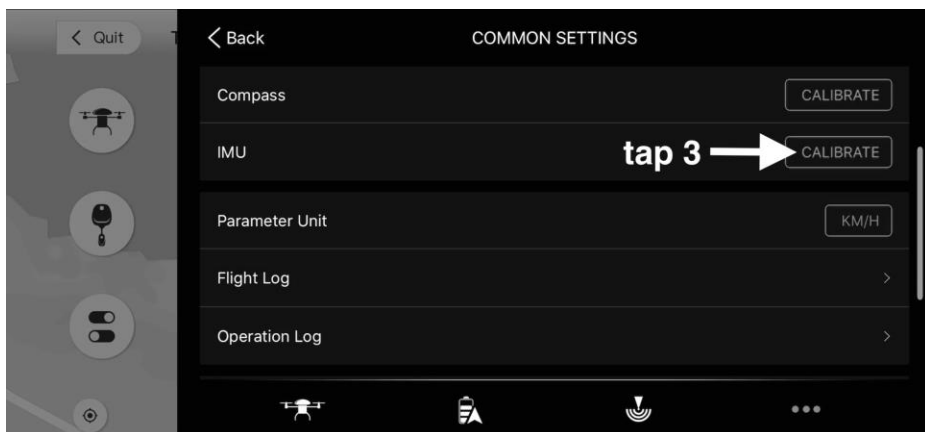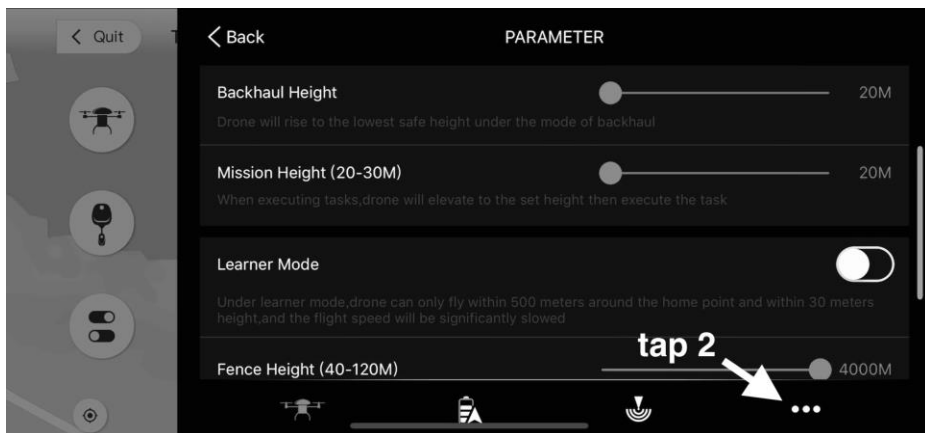
4.5.7. The **status indicators** will start red-blue flashing. When the IMU calibration is completed, **indicators** start green flashing.

   Notice: IMU calibration is only required after crash or repair.

RIPPTON

4.5.8. After the calibration, restart the MOBULA, **controller** and Rippton App.

> *Notice*: If MOBULA appears forward or backward shift during flight, re-calibrate the compass. If problem still exists, contact local distributor/dealer and seek help.

4.6. Preflight Check List:

- Make sure that the **controller**, **MOBULA smart battery**, and mobile device are fully charged.
- Make sure the flight arms are unfolded in position and **landing gear** is mounted correctly and firmly.
- Make sure that the **propellers** are mounted correctly and firmly.
- Make sure that the **mobile device clamp** is mounted correctly and firmly.
- Make sure that the **fishing line and berley release devices** operate correctly.
  Notice If the **fishing line release device** payload exceeds 2.5kg, check if the **fishing line release device** can still unlock. Lift the MOBULA up to the chest and release the fishing line, if the device could not unlock, reduce the payload weight.
- Make sure that the **Rippton App** operates correctly.

4.7. Controller Interface

RIPPTON

Satellite Number Indicate the number of satellites providing the positioning signal.		**H.S**	**Horizontal Speed** MOBULA current horizontal speed.
Battery Level Indicate the current battery level.		**V.S**	**Vertical Speed** MOBULA current vertical speed.
Voltage Indicate the current battery voltage.		**H**	**Height** MOBULA current height.
D	**Distance** Indicate the current horizontal distance.	**RTH**	**Return-to-Home** Return-to-Home (RTH) function activated.
GPS	**GPS** MOBULA is under GPS mode.	AUTO	**AUTO** MOBULA executing a casting mission.
Manual	**Manual** MOBULA is under Manual mode.		**Compass** Indicate the direction of the MOBULA.

4.8. Flying The MOBULA Via Controller

4.8.1. Put the flight mode switch into GPS mode.

Notice Recommend keep to the flight mode in **GPS mode** all the time. **Manual mode** is for professional drone pilot only.

RIPPTON
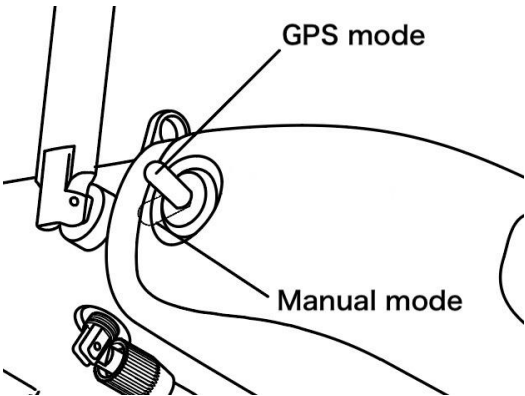
4.8.2. Push the **left joystick** to the lower right corner to unlock the MOBULA and hold until **propellers** start rotating, slowly push the **left joystick** to the center and the MOBULA is ready to take off.

4.8.3. Push the **left joystick** upwards gently to take off the MOBULA. Control both **joysticks** during flight. Make sure that the MOBULA is operated correctly.

4.9. Controlling The MOBULA
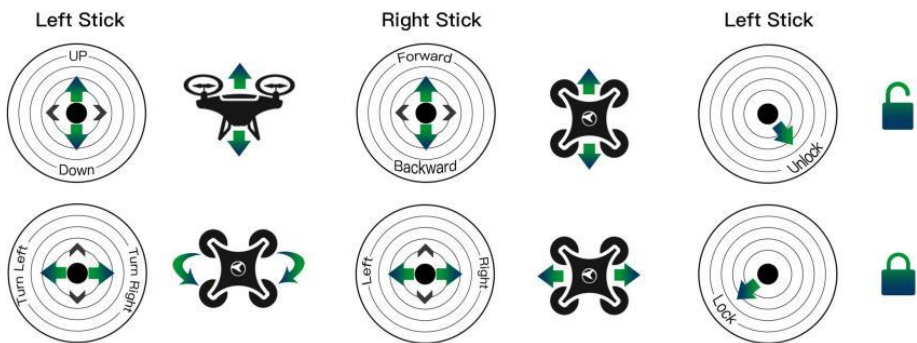
- Moving the **left joystick** up and down changes the MOBULA's climb rate. Push the **joystick** up to ascend and down to descend.
- When both **joysticks** are centered, the MOBULA will hover in place.
- The further the **left joystick** is pushed away from the center position, the faster the MOBULA will change its climb rate. Always push the **joystick** gently to prevent sudden and unexpected elevation changes.
- Moving the **left joystick** to the left or right controls the rotation of the MOBULA.
- Push the **left joystick** left to rotate the MOBULA counter-clockwise, push the **left joystick** right to rotate the MOBULA clockwise. If the **left joystick** is centered, the MOBULA will maintain its current orientation.
- The further the **left joystick** is pushed away from the center position, the faster the MOBULA will rotate.
- Moving the **right joystick** up and down changes the MOBULA's forward and backward pitch.
- Push the **right joystick** up to fly forward and down to fly backward. MOBULA

36

will hover in place if the right stick is centered.

- Push the **right joystick** left to fly left and right to fly right. MOBULA will hover if the right stick is centered.

- Push the **left joystick** to the lower right to unlock the MOBULA.
  Notice: Do not pull the fishing line if it got snagged with the drone. It may break the drone's balance.

4.10. Return & Land The MOBULA Manually Via Controller

4.10.1. Use the **joysticks** to control the MOBULA to the desired landing place.

4.10.2. Push the **left joystick** downwards and land the MOBULA carefully on the ground then push the **left joystick** to the lower left corner till all **propellers** stop.

4.11. Return & Land The MOBULA Automatically Via Controller

4.11.1. Short press and long press the **Return-to-Home button** till you hear a beep and the **button background indicator** flashes.

4.11.2. The MOBULA will fly back to the home point automatically, and stop motors once the MOBULA land. After all motors stop, short press and long press the **Return-to-Home button** again till the **button background indicator** stop flashing.

  Notice Return-to-Home function can only be activated under strong satellite signal. (25 or more satellites connected)

4.12. Cancel Return-To-Home

4.12.1. Short press and long press the **Return-to-Home button** and then put the **flight mode switch** to **manual mode** and switch back to **GPS mode**.

GPS mode

Manual mode
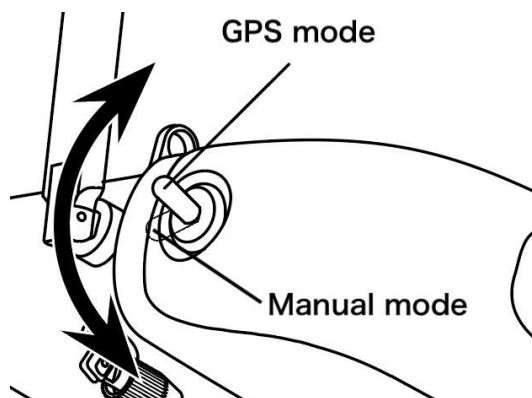
4.13. Cast Fishing Line Via Controller

Fishing line release device is placed at the middle of the MOBULA

4.13.1. Spread the MOBULA **propellers** and align it parallel to the ground, lift the nose of MOBULA up and let the MOBULA stand on the back part of the **landing gear** and **rear arms**.

Nose of MOBULA

Release devices

RIPPTON
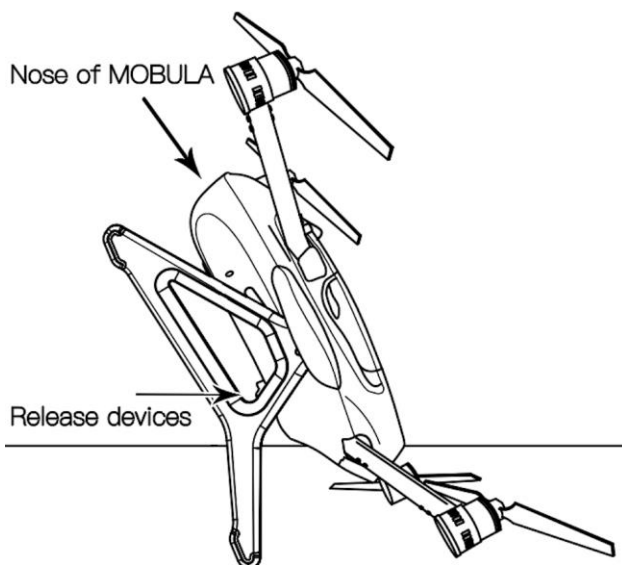
4.13.2. Pull the **fishing line release stick** backward to unlock the **fishing line release device** and a metal stick will release down from the device.

Device unlocked
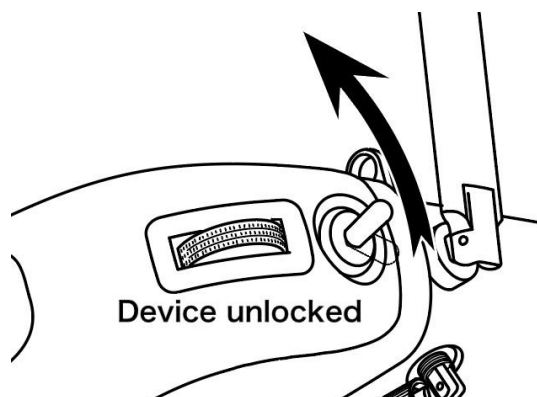
4.13.3. Attach the fishing line.
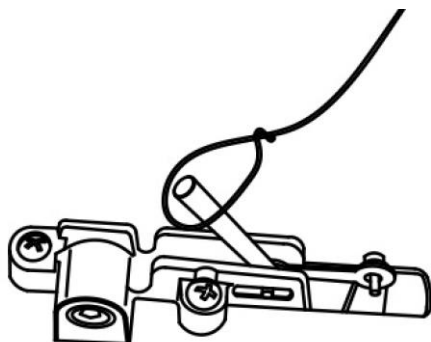
Notice The distance between the fishing line bait and the MOBULA should be less than 30 cm.

4.13.4. Push the metal stick into original position. And push the fishing line release stick forwards to lock the device.

RIPPTON

Device locked
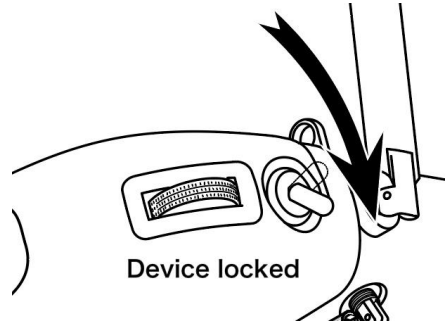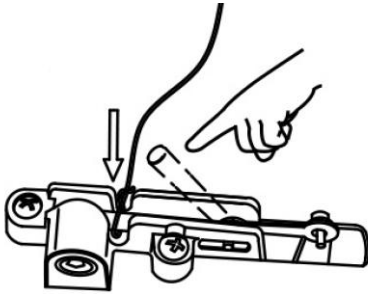
4.13.5. Fly the MOBULA to the desired fishing spot and pull the **fishing line release stick** backwards to cast the fishing line.

Device unlocked
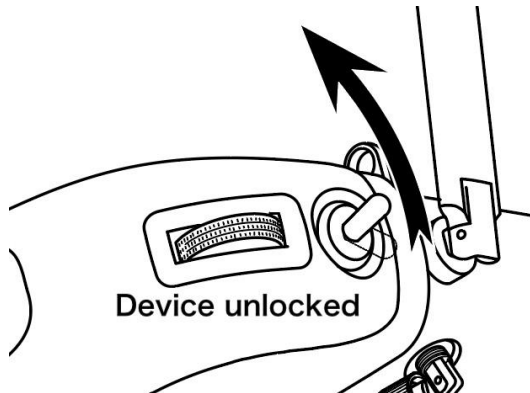
Notice Two **berley release devices** can only lock/unlock via Rippton app

4.14. Control The Camera Via Controller

4.14.1. Live image will be showed on the **LCD screen** on the **controller**. Control the camera's angle (0°to 90°) with the **camera setting dial** on the **controller**.

RIPPTON

4.15. Check The Battery Level Of The MOBULA And The Controller.

4.15.1. Short press the **MOBULA smart battery**. The **battery level indicator** will light up and show the remaining battery level.
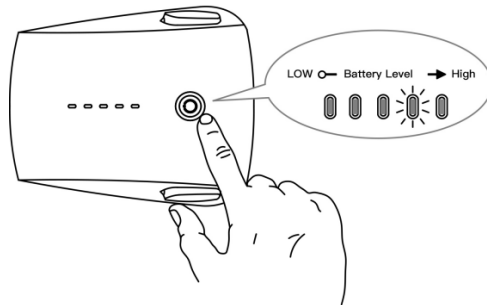
4.16. What To Do In Emergency And Exceptional Situations

What to do in case of a crash

4.16.1. Open the Rippton App. If the MOBULA has crashed, the **status indicators** will show a fast yellow flashing, GPS function and the alarm light (visible up to 1km) will be activated. Any other functions will be turned off and App will show the last position of the crash on the screen.

4.16.2. Pick up the MOBULA where it crashed.

RIPPTON

4.17. Remaining Fly Distance Table

Current Voltage VS Fly Distance Table

Conditions

Weather	Rain
Wind Speed	0m/s
Fly Speed	5m/s
Mode	
MOBULA	

Fly Distance Table (Fly Distance in m) — 3000m to 1500m

Payload / Voltage (V) / Distance	Max Fly Distance	Initial Voltage	3000m	2900m	2800m	2700m	2600m	2500m	2400m	2300m	2200m	2100m	2000m	1900m	1800m	1700m	1600m	1500m
500g	3100m	25.2	23.66	23.55	23.43	23.37	23.27	23.11	23.02	22.87	22.84	22.69	22.64	22.58	22.50	22.42	22.35	22.32
1000g	2522m	25.2	--	--	--	--	--	23.57	23.44	23.40	23.35	23.17	23.02	22.92	22.79	22.74	22.59	22.55
1500g	2237m	25.2	--	--	--	--	--	--	--	--	23.36	23.35	23.26	23.16	23.06	22.82	22.79	22.65
2000g	1518m	25.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	22.57
2500g	1512m	25.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23.15
3000g	1230m	25.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23.10

Fly Distance Table (Fly Distance in m) — 1400m to 0m

Payload / Voltage (V) / Distance	1400m	1300m	1200m	1100m	1000m	900m	800m	700m	600m	500m	400m	300m	200m	100m	0m
500g	22.22	22.19	22.17	22.07	22.08	22.04	21.96	21.95	21.90	21.90	21.88	21.86	21.82	21.76	21.70
1000g	22.48	22.39	22.34	22.19	22.18	22.15	22.07	22.05	21.96	21.93	21.90	21.87	21.85	21.77	21.70
1500g	22.51	22.31	22.26	22.26	22.16	22.12	21.98	21.98	21.95	21.91	21.89	21.75	21.77	21.77	21.70
2000g	23.06	22.95	22.83	22.68	22.51	22.45	22.32	22.27	22.12	22.05	21.99	21.94	21.92	21.82	21.70
2500g	23.02	22.94	22.77	22.57	22.48	22.40	22.26	22.21	22.07	22.02	21.94	21.87	21.84	21.78	21.70
3000g	--	--	22.88	22.82	22.72	22.58	22.28	22.28	22.16	22.10	22.03	21.81	21.80	21.77	21.70

How to use the table?

First: Find the payload weight

Second: Find the MOBULA's remain voltage.

Third: Find the max distance MOBULA able to fly continually under above conditions from the table.

*This table is to help user determiner the max distance MOBULA able to fly under current remaing voltage.

*This table is for refrence only. Pleas refer to the actual weather condition, wind speed and fly speed.

RIPPTON

5. Maintenance

5.1. Taking Care Of The MOBULA

### 5.1.1. Cleaning, disinfecting and rinsing

- The **controller** cannot be washed with water, but it can be cleaned with a damp cloth.
- Take out the **MOBULA smart battery** and wipe the MOBULA with a damp cloth after each use and wipe MOBULA till it's completely dry. Do not rinse the controller with water, but wipe it with a soft, clean, damp cloth.
- Clean the housing of the MOBULA, the **controller** after each use, using commercial cleaning agents and disinfectants as required.
- Do not use alcohol (such as spirits), chemical cleaning agents or solvents as they can damage plastic parts.
- Do not apply cleaning agents directly onto the devices directly. Always apply them onto a soft cloth to clean the devices.
- Do not clean any electrical or mechanical parts.

5.1.2. Storing the MOBULA during intervals of normal use

- Make sure that everything works properly before storing the product.
- Make sure that the **propellers** are assembled.
- Disconnect the **landing gear**.
- Put the product in its original packaging.
- Store the product within a temperature range of 5°C to 40°C and with a relative humidity of max. 50% at +40°C.
- Take out the **MOBULA smart battery**.
- Store the **MOBULA smart battery** in cool and dry place
- Store the battery at temperatures between -20°C to 25°C
- Regularly charge the battery to avoid the over-discharge that may lead the loss of battery's function. Ensure to recharge the battery if it has been left non-charged for one month.

5.2. Replacing The MOBULA Smart Battery

5.2.1. Press the battery unlock buttons. Remove the battery.
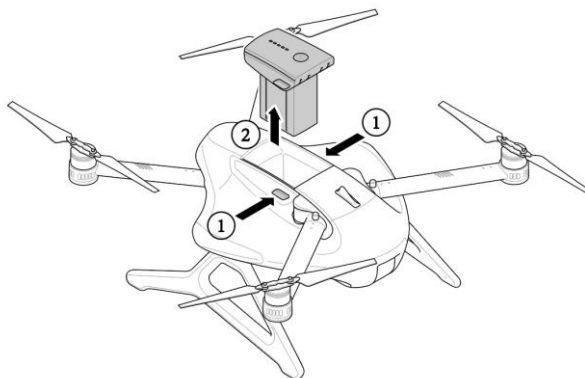
5.2.2.   Load the newly charged **battery**.

5.3. Charging The MOBULA Smart Battery

NOTICE

- Only charge the **battery** with the provided **battery charger**.
- Connect all cables first before charging.

To charge the MOBULA smart battery

5.3.1. Connect the charging adapter with power cord.

5.3.2. Connect the power cord to an earthed wall socket.

A

B Battery Bottom View
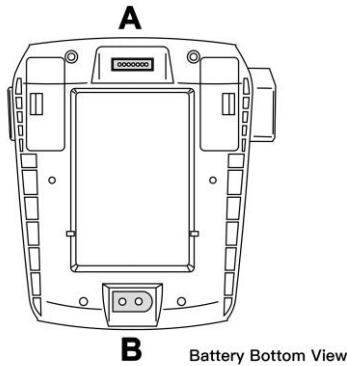
5.3.3. Connect the charging adapter to the **MOBULA smart battery**.
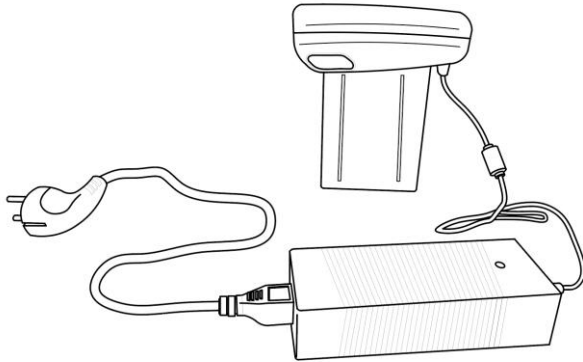
NOTICE Make sure you only charge the **battery** when the temperature is between 10°C and 45°C. The charger will stop charging if the temperature is not within this range.

The battery charging time is approx. two to three hours. When the **MOBULA smart battery** is fully charged:

- Disconnect all cables from the MOBULA smart battery.
- Disconnect all cables from the battery charging adapter. Disconnect the power cord from the earthed wall socket.

RIPPTON

5.4. Charging The Controller

5.4.1. Connect type-C side of the **controller charger** to the **power port** of the **controller**, and the other side to the socket.

The charging time is approx. two hours.

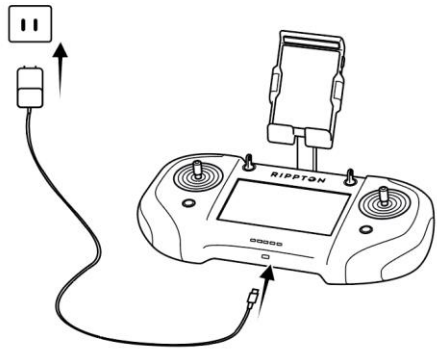*NOTICE* Make sure to charge the battery when the temperature is between 10°C and 45°C. The charger will stop charging if the temperature is not within this range.

Do not use the charger to charge laptop/desktop, this charger is for MOBULA remote controller only.

5.5. Inspecting The Product

5.5.1. Weekly inspection tasks

Task	Frequency
Check the functioning of the motors	Before each use and weekly
Check if the propellers are well fastened	Before each use and weekly

5.6. After-Sales Information

Visit the following pages to learn more about after-sales policy and warranty information.
https://www.rippton.com/support

RIPPTON

6. Troubleshooting And Repair

6.1. Identify And Solve Problems

Error	Cause	Solution
Product does not start	Empty battery	Charge the batteries
Motors are not functioning	Empty battery	Charge the batteries
Propeller malfunction	Broken propeller	Replace the propeller

6.2. Replacing The Propellers

To replace the propeller:

6.2.1. Use a screwdriver to loosen the screws that attach the **propeller.**
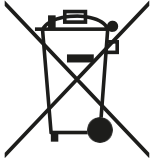
6.2.2. Replace the **propeller**.

NOTICE The CW **propellers** should be placed on the arm labeled CW signals. The CCW **propellers** should be placed on the arm labeled CCW signals. The below illustration indicates the CW and CCW **propeller** positions.

CW: clockwise
CCW: counter-clockwise

RIPPTON
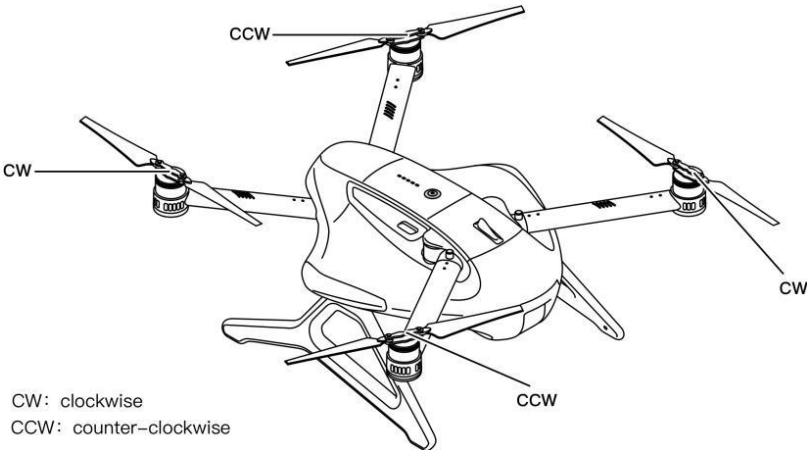
7. Disposal

7.1. Disposal Of Electronic Components

The symbol on the product, the accessories and packaging indicates that this device must not be treated as unsorted municipal waste but must be collected separately. Dispose of the device via a collection point for the recycling of waste electrical and electronic equipment if you live within the EU and in other European countries that operate separate collection systems for waste electrical and electronic equipment. By disposing of the device in the proper manner, you help to avoid possible hazards to the environment and public health that could otherwise be caused by improper treatment of waste equipment. The recycling of materials contributes to the conservation of natural resources. Therefore do not dispose of your old electrical and electronic equipment together with the unsorted municipal waste.

7.2. Disposal Of Packaging Waste

The packaging is made of environmentally friendly materials, which may be disposed of through your local recycling facilities. By disposing of the packaging and packaging waste in the proper manner, you help to avoid possible hazards that could harm the environment and public health. The symbol on the packaging indicates that the packaging is made of PAP.

7.3. Disposal Of Batteries

The product contains a battery. Batteries must not be disposed of with the usual domestic waste. They may contain toxic heavy metals and are subject to hazardous waste regulations. For this reason, dispose of used rechargeable batteries at a local collection point.

RIPPTON

7.4. Appendix I – Supplied Accessories, Consumables And Spare Parts

Spare/replacement parts

Name	Article Number
Propeller	RIP-MOB-001
Landing Gear	RIP-MOB-002
Remote Controller	RIP-MOB-003
Controller Charger	RIP-MOB-004
MOBULA Smart Battery	RIP-MOB-BA-001
MOBULA Smart Battery Charger	RIP-MOB-BA-002
MOBULA Smart Battery Charging Cable	RIP-MOB-BA-003
Mobile Device Clamp	RIP-MOB-BA-005

RIPPTON

8. FCC Compliance

8.1. FCC Compliance

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.
- The device must not be co-located or operating in conjunction with any other antenna or transmitter.

8.2. FCC Warning Message

Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the 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.

RIPPTON

8.3. FCC RF Radiation Exposure Statement Caution

To maintain compliance with the FCC's RF exposure guidelines, place the product at the least 20cm from nearby persons.

8.4. FCC RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard for wireless devices employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network.

In general, the closer you are to a wireless base station antenna, the lower the power output. While there may be differences between the SAR levels of various devices and at various positions, they all meet the government requirement.

RIPPTON

Room 810, Shanshan Plaza,
NO. 777 Middle Rili Road, Yinzhou District, Ningbo City,
Zhejiang Province, China

Email: support@rippton.com
Tel: +86 574 87139648
Zip Code: 315000