AMETA SUPPORT

North America: support.us@ametaeuro.com
Europe: support.eu@ametaeuro.com

ameta

# Model: DR-ATS21G

2 - Beginner GPS Drone

# USER MANUAL

Please thoroughly read and understand this manual before first use.

Distinguish similar products from manufacturer based on model name and appearance.

V1.0

For your safety, please follow the rules and safety guidelines whether you're a beginner or an expert at flying drones.

1. According to the relevant laws and regulations in US, all drones must be registered, except those that weigh 0.55 pounds or less. Please ensure you register your drone with the Federal Aviation Administration's Recreational Flyers. Please log in to the website of **https://faadronezone.faa.gov/#/** to complete the registration process. Failure to register your drone may result in fines the FAA will weigh. If the flyer does not register drone, and is caught by the FAA, the flyer will face serious penalties and injuries caused by illegal flights.
2. To avoid the electromagnetic interference of airplanes and the radio waves, it is forbidden to fly drones within 5.5 miles (9km) from airports, heliports, military airfields, or any other places where of wartime or of the runway. If, you unintentionally fly a drone in the no-fly zone of an area, ID the area that is prohibited by the FAA, please immediately land the drone and stop using all flying boards and unauthorized guidance.
3. Please download the Blue4Fly App from Google Play or App Store, which provides real-time information about airspace restrictions and flight bans to ensure safe and legal flight operations.
4. Beginning September 16, 2019, all drone pilots are required to register their UAS to operate in accordance with the Law of Remote ID.
5. Failure to register a drone may result in regulatory and criminal penalties.

ENGLISH

*Where Sky Exploration Begins*

Thank you for choosing our product and putting your trust in us. Contact us if you have questions or concerns about the product.

North America: support.us@ametaeuro.com
Europe: support.eu@ametaeuro.com

We hope our products will make flying a whole new experience for you!

Please read the manual carefully for the best use of this product.

UK Office: Jewellright Ltd
Unit 12 Gateway Business Centre, Kingsland, HR6 9SF
Check package distribution with:

UK Office: Jewellright Ltd, Gewalt GmbH
Carl-Cramer-Straße 26 Frankfurt am Main, Germany.
E-mail: info@ge-international.de
Tel: +49 69 9580 8000
Fax: +49 69 9580 8001

# CONTENTS


FLIGHT SAFETY 03
BATTERY SAFETY 04
WHAT'S INCLUDED 05
PRODUCT OVERVIEW 06
Drone 06
Remote 11
FIRST-TIME USE 12
Flight Preparation 12
Calibration (Optional) 17
Connect the App with Your Drone 18
FUNCTION OVERVIEW 19
Flight Control 19
Functions 21
ARM INDICATOR LIGHTS 24
TOP INDICATOR LIGHT 25
REMOTE STATUS INDICATORS 25
SPECIFICATIONS 26
Drone 26
Camera 27
Remote 27


## FLIGHT SAFETY

1. Please fly the drone outside in a wireless open area. The maximum Flight Height is limited to 164.2ft(50m), and the maximum Flight distance is limited to 328.1ft(100m). Please fly the drone according to the **Manual** and **Flight Guide** carefully. For detailed operations, refer to the **Flight Control** section.
2. Fly the drone in an open, easy-to-fly drone within your visual range during flight.
3. Do not fly in the rain or of materials including metal, fiber, powers, and electronic components. Avoid prolonged exposure to direct sunlight and keep them away from any heat sources. Excessive heat can cause deformation and damage.
4. The drone consists of various precision electronic and mechanical parts. Therefore, folding sure that moisture and sweat do not settle the drone to prevent damage to the circuit board and other components, which may cause corrosion.
5. Do not place the drone and its battery in a city affected by environmental factors such as cold and dry temperature. Exercise caution when using the drone in a cold and dry climate. Cold can shrink or the performance of the battery and drone may be affected.
6. To avoid interference between the drone and other wireless devices, please keep the drone at least 3 feet away from other devices.
7. Avoid flying in areas where magnetic or radio interference may occur, such as near Wi-Fi hotspots, routers, Bluetooth devices, high voltage power lines, and cell phone towers. Avoid flying near or around airports and other hospitals/towers. Flying in areas where interference can disrupt communication between the drone and remote may adversely affect flight performance and cause the drone to crash. Electromagnetic interference can also cause errors in the data recorded in compasses.

## FLIGHT SAFETY

8. Do not bump or move the drone. Keep propeller fingers in the rotating propellers.
9. Inside the packaging are small accessories. Do not swallow them. Seek immediate medical attention if ingested.
10. Ensure accurate time-zoning before flight to prevent accidental damage due to operational errors.
11. Do not disassemble the drone. Do not let it be damaged.
12. • Do not mix flying using rechargeable batteries. • Rechargeable should be charged under adult supervision. For batteries charged using a battery charger, ensure the charger is suitable for the battery type. • Batteries should be recharged in accordance with the battery manufacturer's instructions. • Different types of batteries or new and used batteries are not to be mixed. • Batteries should be inserted in the correct polarity. • Exhausted batteries are to be removed from the toy. • Rechargeable accessories are not to be taken outside.
13. Keep the drone away from children and animals. Do not let children or pets chew on the drone. Do not let children or pets fly the drone. Do not let children or pets touch the propellers. Do not let children or pets touch the motor.
14. Use the drone in a safe way.
15. Adult supervision is required when children are using the drone, and children should learn flying techniques to avoid collisions with people or objects. Do not let children use the drone at heights.
16. Avoid touching the rotating propellers and have nothing in hand away. Notice should meet the safety guidelines and manual before guiding children to fly the drone and supervise them.
17. Rotor blades that are designed to be replaceable and are easily/quickly transported that clearly indicate the steps necessary to remove and securely replace the rotor blades.

## FLIGHT SAFETY

Fly in Open Areas | Strong GPS Signal | Maintain Line of Sight | Maintain Safe Flight Altitude (Not More than 164 ft)

Avoid Buildings, Crowds, Trees, Wires, Bodies of Water, Animals, and Other Obstacles

Keep Away from Electronic Devices such as power lines, wireless stations or Wi-Fi hotspots, which may affect the compass's accuracy.

DO NOT use the drone in adverse weather conditions such as rain, snow, fog, and wind speeds exceeding 8 m/s or 17 mph.

Stay away from the rotating propellers and motors

No Fly Zone

For your safety and that of those around around you, it is prohibited to fly drones near airports, heliports, military airfields, or any other areas where flying is prohibited.

## FLIGHT SAFETY

Before Flight

Check Equipment: Ensure the drone, remote control, battery, propellers, and other components are clean and fully charged. Refer Equipment Checklist for a comprehensive list of items to check.

Choose Location: Avoid crowds, buildings, trees, and other obstacles when on open and safe area for flight. Pick the location thinking ahead to collisions or disturbances.

Understand Regulations: Familiarize with local drone flight regulations and obtain necessary permits. Risks violating regulations may result in legal penalties or accidents.

Check Weather: Fly only in ideal weather conditions such as strong winds, rain, snow, or fog. Bad weather may cause loss of control or equipment damage.

During Flight

Maintain Line of Sight: Always keep the drone within your line of sight and avoid flyaways to prevent GPS/IMUS/Signal. Flyaways can lead to loss of control or the drone going missing.

Avoid Crowds: Do not fly over crowds or around people. Fly drones in open areas to prevent injuries.

Respect Privacy: Refrain from recording or taking photos of people without their consent. Respect privacy laws and regulations to avoid legal penalties.

Monitor Battery: Keep an eye on battery levels and ensure sufficient time for safe return to the ground. Low battery may cause the drone to crash.

Avoid Interference: Stay away from interference sources such as airports, power lines, and radio towers. Poor interference may cause loss of control or signal loss.

## FLIGHT SAFETY

After Flight

Land Safely: Choose a flat, open area for landing to avoid collisions. Poor manual landing may damage the drone or human safety.

Power Off: Turn off the drone first, then the remote control after landing to prevent accidental flying caused by accidental activation or battery damage.

Inspect Equipment: Check the drone for damage and clean debris from the propellers. Poor maintenance damage may cause accidents during flight.

Storage and Transportation:

Store Properly: Keep the drone in a dry, cool place, avoiding direct sunlight and high temperatures. Poor improper storage may cause equipment damage or aging.

Secure Battery: Ensure the battery is fixed during transportation to avoid shaking or short circuits. Risk: Shaking or short circuits may cause fire or explosion.

Use Protective Case: Transport the drone in a dedicated protective case or box to prevent collisions and pressure. Risk: Improper transportation may damage the equipment.

WARNING:
1. Maximum take off weight of 重量小于250克 or 重量超过250克, including battery + payload.
2. Comply with Commission Implementing regulations other than the (EU) 2019/947.

Do not operate this UAS while drinking alcohol or taking drugs, or in experiencing dizziness, nausea, or otherwise ill disorder.

## BATTERY SAFETY

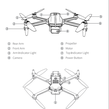
⚠ DO NOT EXPLODES BATTERY IN REPLACED OR HAVE INCORRECT TYPE REPLACE OR USE BATTERIES ACCORDING TO THE INSTRUCTIONS.
• BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY.

1. Do not use the charger and battery if they are damaged. Avoid using the charger in extreme weather conditions, like in high or low temperatures, or near water.
2. Avoid using the Li-ion batteries that are not provided by the manufacturer. Using other batteries can lead to fire hazards or cause DJI charging ports to be damaged.
3. Batteries that are swollen, leaking, or damaged are strictly forbidden. Ensure the battery is fully charged before storage and avoid storing it in high or low temperatures. Prolonged exposure to extreme cold can reduce battery life and performance.
4. Do not insert or puncture the battery with any sharp object.
5. Battery fluid is highly corrosive, so clean areas if fluid is in touch with skin or eyes. Immediately rinse with clean water and seek medical attention.
6. Do not place the battery out of children's reach. Accidentally swallowing a battery can lead to serious injuries.
7. If the battery dropped or impacted, the battery should not be used again.
8. Do not expose the battery to heat sources, such as sun or direct sunlight or in a hot car, or to fire or water.
9. To prevent a battery from entering an over-discharged state, avoid storing batteries for extended periods with a charge level below 40%. If a battery is over-discharged, the battery cell will be damaged and unsafe to be recharged.

## WHAT'S INCLUDED

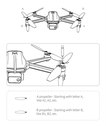
## PRODUCT OVERVIEW

Drone

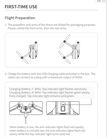



**How to Replace the Propeller(Optional)**

The blades on the propellers are DJI should match the marks on the drone arms when you replace the propellers.




## Remote




## FIRST-TIME USE

**Flight Preparation**

1. The propellers and arms of the drone are folded for packaging purposes. Please unfold them before first use.



2. Charge the battery with the USB charging cable provided in the box. The LED on remote is a single-color indicator (red).

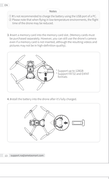
Charging Battery: 1. Ultra: The indicator light flashes red slowly. 2. Fast: The indicator light flashes red quickly. 3. Full charge: The indicator light remains solid green.

When battery is low, the LED indicator flashes red quickly. When battery is critically low, the LED indicator flashes red slowly while the remote remains powered on.

## Notes

1. DJI is not recommended for charging the battery using the USB port on PC.
2. Please ensure that your flying is in compliance with local laws and regulations. Fines and the drone may be detected.

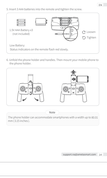
3. Avoid in memory card: Insert the memory card into the drone's card slot. Do not insert repeatedly. However, you can still use the drone's camera to capture photos and videos. Ensure the memory card is inserted correctly; improper inserting may lead to high-altitude flying.




4. Avoid dust battery: Lock the drone after not fully charged.

## Connect the App with Your Drone

Step 1
Download and install **AMETA Drone** from Google Play/ "App Store" or scan the QR codes below.



Google Play | App Store

Step 2
Initially connect to the Wi-Fi setting of your mobile phone and search for **AMETA-DR-ATS21G** in the search.

Step 3
Open the **AMETA Drone** app, then tap **START** to enter the main page to view the live preview.

## Notes

The phone holder can accommodate smartphones with a width up to 8.2(2 inch) 20.5(inch).

## Calibration (Optional)

For the first time use, it is recommended to calibrate the drone.
Initially connect to remote, then open the app, go to **Camera** > **Calibration**, and follow the instructions.
Gyroscope Calibration: Ensure the drone is on a flat, level surface. Go to **Camera** > **Calibration** > **Gyroscope**, and follow the instructions.
Compass Calibration: Ensure the drone is in an open area. Go to **Camera** > **Calibration** > **Compass**, and follow the instructions.




Gyroscope Calibration: Ensure the drone is on a flat, level surface. Go to **Camera** > **Calibration** > **Gyroscope**, and follow the instructions.



## Connect the App with Your Drone

Step 1
Download and install **AMETA Drone** from Google Play/ "App Store" or scan the QR codes below.



Google Play | App Store

Step 2
Initially connect to the Wi-Fi setting of your mobile phone and search for **AMETA-DR-ATS21G** in the search.



Step 3
Open the **AMETA Drone** app, then tap **START** to enter the main page to view the live preview.

## FUNCTION OVERVIEW

**Flight Combination**

1. Remote controller (AA batteries x4)
2. UV / Remote controller USB-A(Type)-to-USB-C(Type) charging cable

**Flight Control**

**1.Take-off**

Option 1
Gesture: Place the drone on the ground and pushing the **Left Control Stick** to the lower right or the **Right Control Stick** to the lower left and **Left Control Stick** to the lower right. The motors will start first, then the drone will lift off and the propellers start rotating. Then push the **Left Control Stick** forward.

Option 2
Press and hold the **One-Key Take-off/Return** for 1s.

## Note

Before taking off, ensure the drone is on a level surface and the surrounding area is clear of obstructions.

**2.Flight Directions**

The default remote mode is Mode 2 (used for manual flying). To switch to Mode 1, please refer to the remote settings in the app. Go to **Camera** > **Remote**, press and hold the **Power Button** until the remote vibrates twice.

Mode 1

Mode 2

## Functions

**Slide to Take-off and Landing**

Gesture: Place the drone on a flat and level surface without any obstacles then press and hold the **Slide** for 2s. A slide is required and then an long-hold (2s) to take off.

## Note

1. Lock: Slide the drone towards the left without any obstacles, press and hold the **Slide** for 2s to make it descend and lock until the propellers stop rotating.

**One-Key Return**

Press and hold the **Slide** button for 2 s on the remote. The drone will return to the last recorded Home Point (Takeoff Point). To cancel the Return, press the **Slide** button again.

## Note

When the drone's battery level is critically low or the drone and the remote disconnect, it will initiate a return. You can manually control its return. However, if the battery level is critically low, the drone will land automatically within 5 meters of the Home point, and descend and land slowly.

**GPS Mode / Attitude Mode**

When GPS signal is strong (conditions at sea) with weak signal interference, the drone is automatically switched to **GPS Mode**, locking all its sensor systems for stable flight. In GPS Mode, the drone can hover and maintain its position for safety reasons. To prevent drift upward, manually switch to **Attitude Mode** (Sport Mode) by pushing the Left Control Stick to the lowest position. The drone will remain in **Attitude Mode** until the drone is restarted.

## Note

In Attitude Mode, all GPS functions are unavailable and the drone cannot automatically return home, offering high agility. For safety purposes, always maintain a safe distance from Crowds, fly in open areas, and keep the drone within your line of sight.

**Circle Fly**

Ensure there are no obstacles around the drone. Launch the app, tap **Circle Fly**, and select a target point on the map. The drone will fly in a circle centered on the target point. You can use the left control stick to adjust the circle's radius. Tap **Start** to begin the flight. The drone will fly in a circle at a fixed speed and altitude, ignoring other commands during flight.

**Waypoint**

Tap Mode > **Waypoint Flight**, launch the app, tap **+** on the flight control panel, and add waypoints. The drone will fly in a straight line between waypoints within the GPS circle on the map, and then tap **Start** to begin the flight. The drone will hover flat at each waypoint or stop/continue.

## Intelligent Shooting

You can access the intelligent shooting modes next to the shutter icon in the app's flight control interface.

Tap Mode
Tap the icon to cycle through the available modes: Photo, Video, Slow Motion (1/4 speed), Hyperlapse (Time-lapse), and Panorama.

Photo
Tap the icon to switch to photo mode. The current position for photo (1 meter) or video (5 meters) is shown. Adjust the camera angle using the Left Control Stick. To enter recording or video, tap the shutter button. Tap the shutter button again to stop capturing.

Video
Tap the icon to switch to video mode, and then manually control the drone to record horizontally. Tap the shutter button again to stop capturing.

Time-lapse
Choose the time-lapse mode, open the app, and tap the shutter to start capturing. Tap the shutter button again to stop capturing.

## Notes

1. Please use Wide Functions in a spacious environment to avoid potential collisions.
2. Photo/Video functions cease when the drone's flying, so ensure them after hovering the drone at the desired position.
3. When switching between modes, ensure the current mode is removed for smooth transitions.

## Camera

Take Photos
Press the button on the remote or tap on the app to take a photo. Ensure the camera is in photo mode (not video mode) before taking a photo.

Record Video
Press the button on the remote or tap on the app to start recording video. Press the button again to stop recording. Ensure the camera is in video mode before recording. The video will be saved locally on your mobile phone or remote.

To adjust the camera's tilt angle, press the **Camera Up** and **Camera Down** buttons on the remote. The adjustment range is from 0° to 90°.

**Switch Speeds / Reset Drone's WiFi Password**

**Switch speeds**: Toggle the **Speed Switch** to select between two speed levels: Low and Normal. The default is Low.

**Reset WiFi Password**: Press and hold the **Take-Photo button** for 3 seconds to reset the password to 12345678. You can then enter the password directly in the app.

## Arm Indicator Lights

| Drone Status | Arm Indicator Lights |
|---|---|
| Powering on | Alternating red, green and blue |
| Remote signal lost | Rapid red flashing |
| Searching GPS signal | Two quick green flashes in a loop |
| GPS mode | Solid green |
| Attitude mode | Solid blue |
| Stuck | Alternating blue, red, and green |
| Emergency stop | Solid red |
| Low battery | Rapid red flashing |
| Critical low battery | Slow red flashing |
| Powered off | Off |
| Firmware update | Alternating blue and green |
| Compass calibration | Horizontal: Alternating red and green<br>Vertical: Alternating red and blue |

## Emergency Stop

If an abnormal situation occurs, you can press and hold both **Left** and **Right** buttons on the remote for 3s to initiate an emergency stop. ESCC (the function of the remote controller to cut the power to the motor) will be triggered, causing the drone to lose lift and potentially cause risk of damage. Use this function with caution.

Please make an emergency stop when the drone's flight is useless, for example, when it is out of control, stuck in the air, or crashing upward. Avoid using this in other situations, as it may damage the drone. After an emergency stop, the motors will stop, and the drone will fall to the ground. Ensure safe distance from the drone and the remote control.

## Note

After an emergency stop, if you intend to fly the drone again, please perform gyroscope calibration.

## Top Indicator Light

| Drone Status | Top Indicator Light |
|---|---|
| Battery level > 30% | Solid green |
| Battery level 5 - 30% | Solid red |
| Charging battery > 30% | Slow red flashing |
| Charging GPS/Attitude (<30%) | Slow green flashing |
| Fully charged (100%) | Solid green |
| Low battery | Slow red flashing |

## Remote Status Indicators

| Remote Status | Remote Status Indicators |
|---|---|
| Powering on | Green |
| Powered off | Off |
| Connection lost | Rapid green flashing |
| Attitude mode | Green breathing |
| Low battery | Slow red flashing |
| Return to Home active | Rapid blue flashing |

## Specifications

**Drone**

| | |
|---|---|
| Model | DR-ATS21G |
| Weight (with battery installed) | ~249g |
| Max. Flight Time | 20 minutes |
| Operating Temperature | 0~40°C (32~104°F) |
| Dimensions (unfolded) | 251*180*51mm<br>(L*W*H, excl. propeller) |
| Horizontal Flight Speed (Sport Mode) | Normal: 7m/s (25.2 KPH)<br>Sport: 10m/s (36 KPH) |
| Max. Ascent Flight Speed | 3m/s(10ft) |
| Max. Flight Distance | 328ft (100M) |
| Battery Capacity | 3.7V, 1800mAh, 6.66wh Battery |
| Charging Time | 1.5 hr(Normally 100%)(Charge at Half power of the charger) |
| Input Voltage | 5V |
| Transmit Power (EIRP) | < 20dBm |
| Frequency Range | 2.4G: 2.4~2.5ghz |

## Camera

| | |
|---|---|
| FOV | 120° |
| Photo Resolution | 16MP (4608*3456px) |
| Video Resolution | 1440P(Max) |
| Frequency Range | 5.725-5.850 GHz |
| Protocol Supported | 802.11a/n |
| Transmit Power (EIRP) | < 14dBm |

**Remote**

| | |
|---|---|
| Max. Operating Distance | 328m (1000ft) |
| Battery Capacity | 1.5V AA Battery x 2 (not included) |
| Applicable Mobile Phone Size | Up to 8(5 inch 21.2×10.7cm) |
| Operating Temperature | 0~40°C (32~104°F) |
| Transmit Power (EIRP) | < 10dBm |
| Frequency Range | 2.4G: 2.4~2.5ghz |

## FCC Caution

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

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

FCC Exposure Information:
FOR MOBILE DEVICES:
This equipment complies with FCC radiation exposure limits. This device should be operated with a minimum separation distance of 20cm (8 inches) between the radiator and your body.
FOR TABLETS: This device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

## OSD Warning

Cet appareil est conforme aux exigences d'exposition aux radiations. Cet appareil est conforme aux normes de l'Industrie Canada exemptes de licence. Son utilisation est autorisée aux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible de compromettre le fonctionnement de l'appareil.

Exposure to radio frequency energy:
The device is a low power radio transmitter and receiver. It emits the Radio Frequency (RF) energy when transmitting. The device is designed to be used in such a way that the human contact with the antenna during normal operation is minimized. It has been found that the product is compliant to the exposure limits for the general population, consult the product manual for more information.

Fréquences et puissance radiée maximale:
EU Compliance Statement: Shenzhen Amelia Technology (E.C.) Ltd. hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the Radio Equipment Directive.

A copy of AMETA Declaration of Conformity is available online at
https://www.ameta.com/pages/ce-declaration-of-conformity

CAUTION
RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

CE: The product complies with CE ratings.

FC: FCC-certified.

Wi-Fi: Indicates the product is being certified for Wireless Interface and Electromagnetic compatibility. This means that the product is tested to meet the European Union's requirements for Wireless Interface and Electromagnetic compatibility in a typical home environment. Use the Wi-Fi function only when the product is compliant to local Wi-Fi regulations. Do not use the Wi-Fi function where wireless devices are prohibited.

Fréquences et puissance radiée maximale:
EU Compliance Statement: Shenzhen Amelia Technology (E.C.) Ltd. hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the Radio Equipment Directive.

A copy of AMETA Declaration of Conformity is available online at
https://www.ameta.com/pages/ce-declaration-of-conformity

Recycle Battery
Battery Must Be Recycled Or Disposed Of Properly
Recycle Product
Product Must Be Recycled Or Disposed Of Properly

Sécurité d'exposition aux ondes
Exposition aux ondes radio