AUTEL ROBOTICS Smart Controller SE User Guide

Contents

AUTEL ROBOTICS Smart Controller SE

Disclaimer

- To ensure safe and successful operation of your Autel Smart Controller SE (hereinafter referred to as the “controller”), please strictly follow the operating instructions and steps in this guide.
- If the user does not abide by the instructions, Autel Robotics will not be responsible for any product damage or loss in use, whether direct or indirect, legal, special, accident or economic loss (including but not limited to loss of profit) and does not provide warranty service. Do not use incompatible parts or use any method that does not comply with the official instructions of Autel Robotics to modify the product.
- The safety guidelines in this document will be updated from time to time. To ensure you get the latest version, please visit the official website: **https://www.autelrobotics.com/**

Battery Safety

The controller is powered by a smart lithium-ion battery. Improper use of lithium-ion batteries can be dangerous. Please ensure that the following battery usage, charging and storage guidelines are strictly followed.

Note

- Only use the battery and charger provided by Autel Robotics. It is forbidden to modify the battery assembly and its charger or use third-party equipment to replace it.
- The electrolyte in the battery is extremely corrosive. If the electrolyte spills into your eyes or skin accidentally, please rinse the affected area with clean water and seek medical attention immediately.

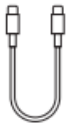
Precaution

If used improperly, the aircraft may cause injury and damage to people and property. Please be cautious while

using it. For details, please refer to the aircraft’s disclaimer and safety guidelines.

- Before each flight, make sure that the controller is fully charged.
- Ensure the controller antennas are unfolded and adjusted to the appropriate position to ensure the best possible flight results.
- If the controller antennas are damaged, it will affect the performance. Please contact the after-sales technical support immediately.
- If the aircraft is changed due to damage, it needs to be relinked before use.
- Make sure to turn off the aircraft power before turning off the controller each time.
- When not in use, make sure to fully charge the controller every three months.
- Once the power of the controller is less than 10%, please charge it to prevent an over-discharge error. This is caused by long-term storage with a low battery charge. When the controller will not be in use for an extended time, discharge the battery between 40%-60% before storage.
- Do not block the vent of the controller to prevent overheating and diminished performance.
- Do not disassemble the controller. If any parts of the controller are damaged, contact Autel Robotics After-Sale Support

Item List

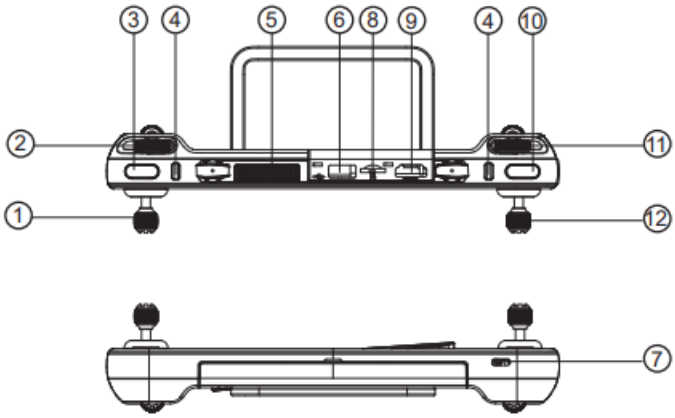
NO	DIAGRAM	ITEM NAME	QTY
1		Controller	1pc
2		Power Adapter	1pc
3		USB-C Cable	1pc
4		Chest Strap	1pc
5		Spare Control Sticks	2pcs
6		Documentation (Quick Start Guide)	1pc

Overview

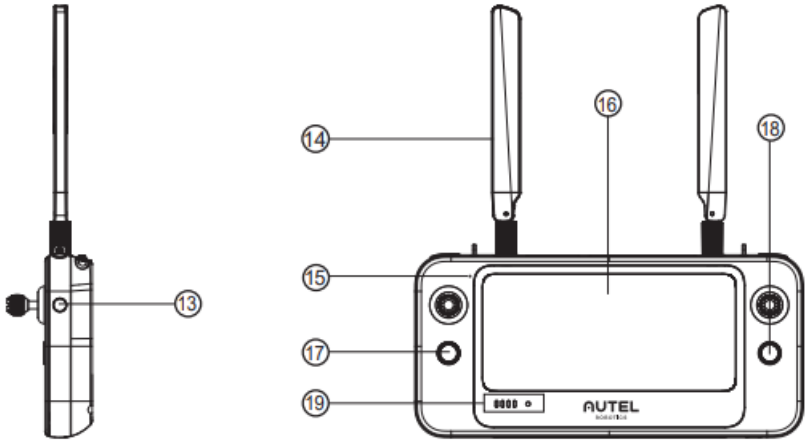
The Autel Smart Controller SE is integrated with a 6.39-inch touch screen which boasts a 2340×1080 pixel resolution. The controller f can transmit a live HD view from the aircraft[1] at a distance of up to 15km[1] (9.32 miles). The controller uses the Android operating system and supports Wi-Fi internet connection, Bluetooth and GNSS. Users can download third-party APPs. The built-in battery has a capacity of 1900mAh, providing a maximum operating time of about 4 hours[2].

1. In an actual flight environment, the maximum transmission range may be less than this nominal distance and will vary with the interference strength.
2. The above-mentioned operating time is measured in a lab environment at room temperature. The battery life will vary in different usage scenarios.

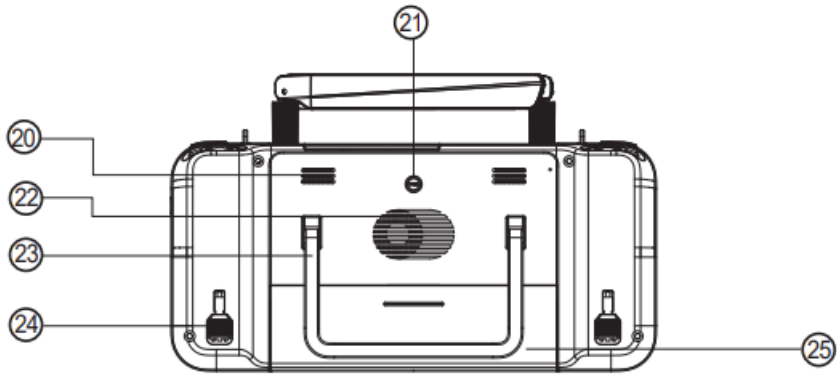
Diagram



1. Left Control Stick
2. Gimbal Pitch Dial
3. Customizable Button
4. Chest Strap Hook
5. Air Outlet
6. HDMI Port
7. USB-C Port
8. USB-A Port
9. Micro-SD Card Slot
10. Record/Shutter Button
11. Zoom Control Wheel
12. Right Control Stick



13. Power Button
14. Antenna
15. Microphone
16. Touch Screen
17. Auto-takeoff/RTH Button
18. Pause Button
19. Battery Level Indicator



20. Speaker Hole
21. Tripod Mount Hole
22. Air Inlet
23. Handle
24. Sticks Storage Slot
25. Battery Case

Charge the Battery

Check the Battery Level

Press the power button to check the battery level

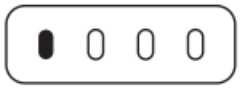
Battery Level Indicator (non-charging state)	
	
1 light solid on: Battery≥25%	2 lights solid on: Battery≥50%
	
3 lights solid on: Battery≥75%	4 lights solid on: Battery=100%

Power On / Off

Press and hold the power button for 2 secs to turn on and off the controller

Charge

Connect one end of the USB-C cable to the USB-C interface at the top of the controller, and the other end to power adapter. Plug the power adapter into AC power outlet (100-240V).

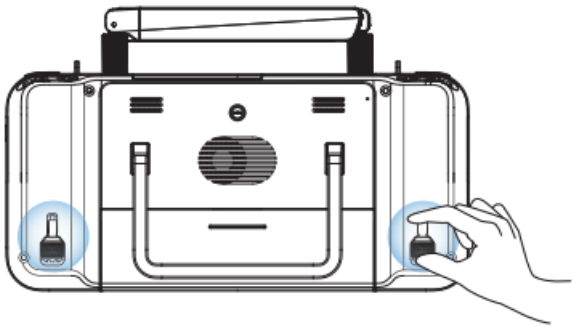
Battery Level Indicator (while charging)	
	
1 light solid on: Battery≥25%	2 lights solid on: Battery≥50%
	
3 lights solid on: Battery≥75%	4 lights solid on: Battery=100%

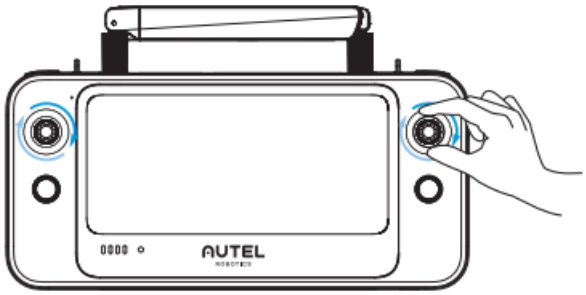
Note

- LED indication light will blink while charging.
- Only use the battery and charger provided by Autel Robotics.
- Recharge the battery at least every 3 months to prevent over discharging. The battery depletes when stored for an extended period.

Set Up the Controller

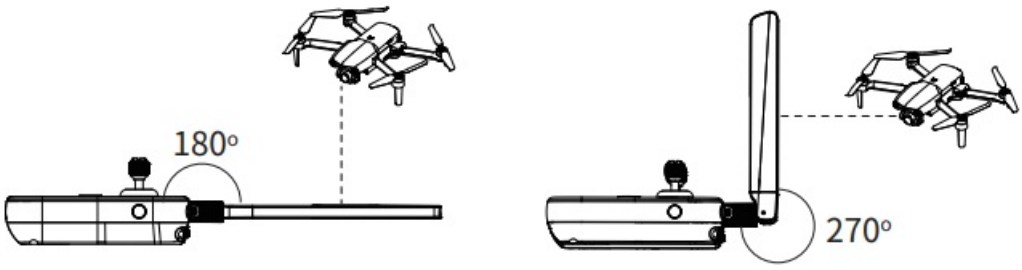
Install the Sticks
The sticks storage slots are located on the back of the controller. Please take out the sticks and screw them into the corresponding bases





Adjust the Antennas

Unfold the controller antennas and adjust them to the optimal angle. The signal strength varies when the antenna angle is different. When the antenna and the back of the controller are at an angle of 180° or 270°, and the antenna surface is facing the aircraft, the signal quality between aircraft and controller will reach the optimal condition



Note

- To avoid controller signal interference, please do not use other communication equipment with the same frequency band at the same time.
- During operation, the App will prompt the user when the image transmission signal is poor. Adjust the antenna angles according to the prompts to ensure the controller and aircraft have the best communication range.

Pair the Frequency

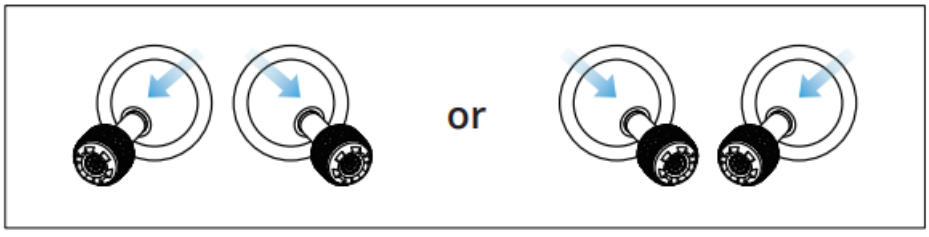
1. Turn on the aircraft and the remote controller, double-click the aircraft battery button. The LED on the rear of the aircraft will flash quickly to show it is ready to pair.
2. Connect your remote controller and mobile phone, open Autel Sky App, click “Connect New Aircraft” in “Personal Center”, and follow the pairing instruction.
3. After successful pairing, the LED at the tail of aircraft will stay for 5 seconds and then flash slowly. The App will switch to the image transmission interface

Takeoff / Landing

(Mode 2)

- Mode 2 is the default control mode of the Smart Controller. The left stick controls the altitude and heading of the aircraft, while the right stick controls the forward, backward and sideward movements.
- Before takeoff, place the aircraft on a flat and level surface and face the rear side of the aircraft towards you.
- Please make sure that the controller is successfully paired with the aircraft.

Motor Starting
Press in or out on both command sticks for about 2 seconds to start the motors.

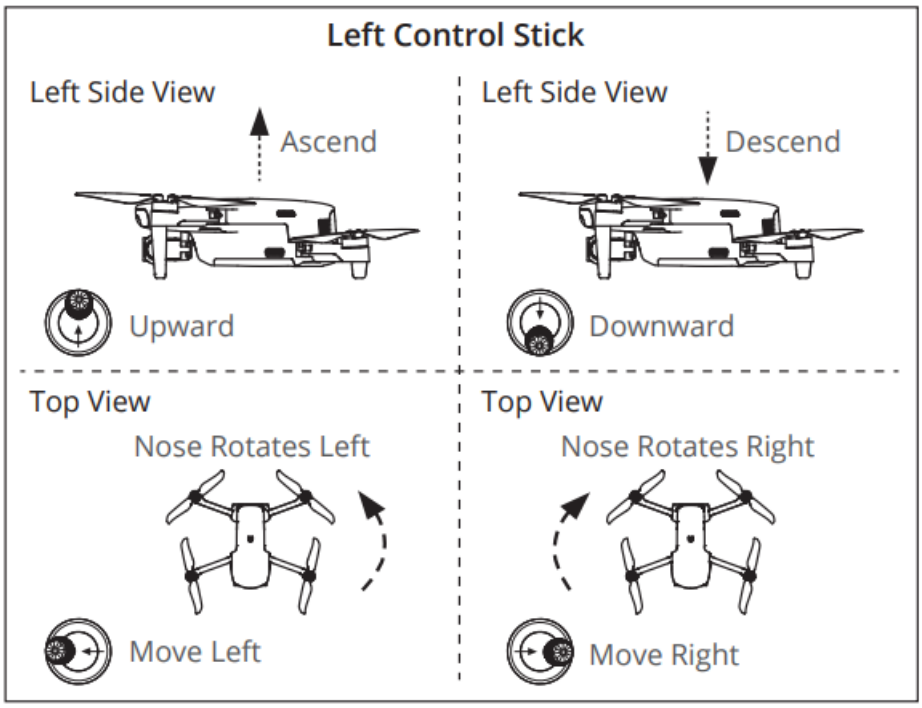


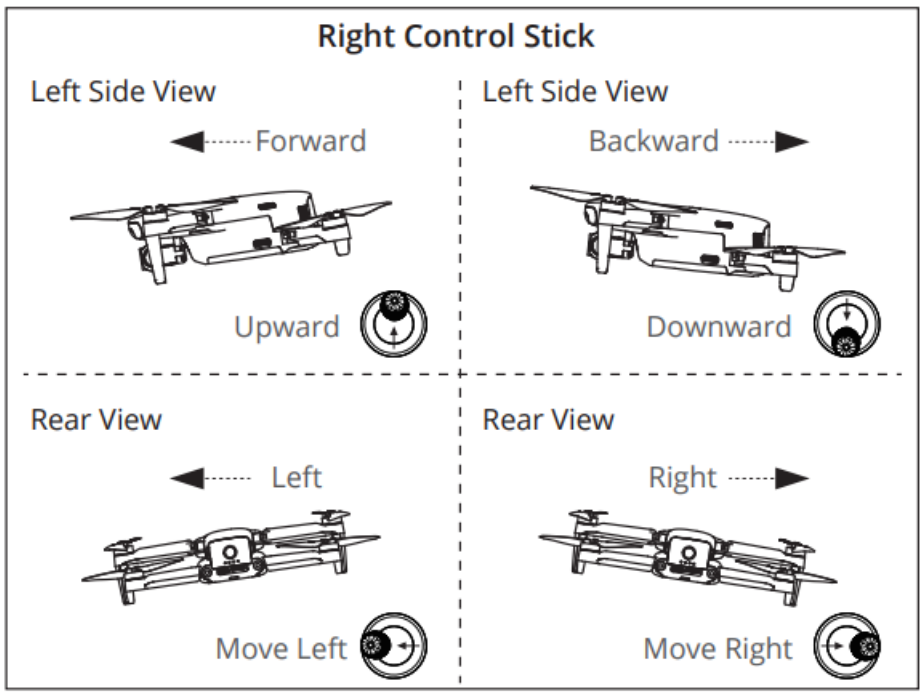
Take off
Slowly push up the left stick to take off the aircraft to 2.5m height

Landing
Slowly push down the left stick until the aircraft lands. Hold the left stick until the motor stops.

Control Stick Operation

(Mode 2)





Firmware Update

To ensure users have a premium operating experience, Autel Robotics will update firmware when necessary. You can refer to the following steps to upgrade.

1. Power on the controller and make sure it is connected to the internet.
2. Run Autel Sky App. A pop-up will appear when new firmware is available. Tap the notification to enter the update interface.
3. Update will start automatically after downloading the latest firmware. Please restart the controller when the update is complete.

Note

- Before updating, please make sure the controller battery is above 50%.
- If the network is disconnected during the firmware downloading, the upgrade will fail.
- The update takes approximately 15 minutes. Make. Please wait patiently.

Note
The operating frequency band varies according to different countries and models.
We will support more models in the future, please visit our official website **https://www.autelrobotics.com/** for the latest information

Specifications

Image Transmission

*Operating Frequency	902-928MHz（FCC） 2.400-2.4835GHz 5.725-5.850GHz（Non-Japan） 5.650-5.755GHz（Japan Only）
Max Signal Transmission Distance(No interference, No obstacles)	FCC：15km CE：8km

Transmitter Power (EIRP)	FCC：≤33 dBm CE：≤20 dBm@2.4G，≤14 dBm@5.8G SRRC：≤20 dBm@2.4G，≤33dBm@5.8G/5.7G

Wi-Fi

Protocols	Wi-Fi 802.11a/b/g/n/ac, 2×2 MIMO
Operating Frequency	2.400-2.4835GHz 5.725-5.850GHz
Transmitter Power (EIRP)	FCC：≤26 dBm CE：≤20 dBm@2.4G，≤14 dBm@5.8G SRRC：≤20 dBm@2.4G，≤26 dBm@5.8G

Bluetooth

Protocols	Bluetooth 5.0
Operating Frequency	2.400-2.4835GHz
Transmitter Power (EIRP)	≤11dBm

Screen

Resolution	2340×1080
Dimensions	6.39 inches
Frame Rate	60fps
Max. Brightness	800nits
Touch Screen	10-point multi-touch

Battery

Type	Li-ion
Capacity	1900mAh
Voltage	7.7V
Rated Power	14.63W
Operating Time	~2 hours (Max. Brightness) ~4 hours (50% Brightness)
Charging Time	90 minutes
Charging Temperature	5°C to 45°C (41°F to 113°F)

Power Adapter

Input	100-240V~, 50/60Hz, 1A Max
Output	5V ⎓ 3A, 9V ⎓ 2A, 12V ⎓ 2.5A
Rated Power	30W

General Specifications

Internal Storage	ROM 128GB + expandable storage via micro-SD card
Video Output Port	HDMI Port
USB-A Voltage/Current	5V/2A
Operating Temperature	-10°C to 40°C (14°F to 104°F)
Storage Temperature	>3 months: -20°C to 25°C (-4°F to 77°F) 1-3 months: -20°C to 45°C (-4°F to 113°F) <1 month: -20°C to 60°C (-4°F to 140°F)
Ingress Protection	IP43
Dimensions	226.3×137.7×31.5mm (antennas folded) 226.3×215.4×31.5 (antennas unfolded)
Weight	617g
**Supported Models	EVO II Pro V3 EVO II Dual 640T V3 EVO II RTK Series V3 EVO II Enterprise V3 EVO Nano Series EVO Lite Series
GNSS	GPS/GLONASS/Galileo/BeiDou/ NavIC/QZSS

FCC and ISED Canada Compliance

This device complies with part 15 of the FCC Rules and ISED Canada licence-exempt RSS standards. 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.

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:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. 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 Specific Absorption Rate (SAR) information

- SAR tests 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, in general, the closer you are to a wireless base station antenna, the lower the power output. Before a new model device is an available for sale to the public, it must be tested and certified to the FCC that it does not exceed the exposure limit established by the FCC, Tests for each device are performed in positions and locations (e.g. at the ear and worn on the body) as required by the FCC.
- For limb worn operation, this device has been tested and meets the FCC RF exposure guidelines when used with an accessory designated for this product or when used with an accessory that contains no metal.
- For body worn operation, this device has been tested and meets the FCC RF exposure guidelines when used with an accessory designated for this product or when used with an accessory that contains no metal and that positions the device a minimum of 10mm from the body.

ISED Specific Absorption Rate (SAR) information

- SAR tests are conducted using standard operating positions accepted by the ISEDC 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, in general, the closer you are to a wireless base station antenna, the lower the power output.
- Before a new model device is an available for sale to the public, it must be tested and certified to the ISEDC that it does not exceed the exposure limit established by the ISEDC, Tests for each device are performed in positions and locations (e.g. at the ear and worn on the body)as required by the ISEDC
- For limb worn operation, this device has been tested and meets the ISEDCRF exposure guidelines when used with an accessory designated for this product or when used with an accessory that contains no metal.
- For body worn operation, this device has been tested and meets the ISEDC RF exposure guidelines when

used with an accessory designated for this product or when used with an accessory that contains no metal and that positions the device a minimum of 10mm from the body.

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SAR Information Statement

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radiofrequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The exposure standard for wireless mobile phones 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 with the phone 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 phone while operating can be well below the maximum value. This is because the phone 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. Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. The highest SAR value for this model phone when tested for use at the Limb is 0.962W/Kg and when worn on the body, as described in this user guide, is 0.638W/Kg(Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements).While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement for safeexposure. The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RFexposure guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of **http://www.fcc.gov/oet/fccid** after searching on **FCC ID**: 2AGNTEF6240958A Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Asso-ciation (CTIA) web-site at **http://www.wow-com.com**. * In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kg (W/kg) averaged over one gram of tissue. The standard incorporates a sub-stantial margin of safety to give additional protection for the public and to account for any variations in measurements

Body-worn Operation

This device was tested for typical body-worn operations. To comply with RF exposure requirements, a minimum separation distance of 10mm must be maintained between the user's body and the handset, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna

Documents / Resources

	**AUTEL ROBOTICS Smart Controller SE** [pdf] User Guide EF6240958A, 2AGNTEF6240958A, 500004289, AR82060302, Smart Controller SE, SE, Smart Controller, Controller

References

- Autel Robotics Enterprise Drone, Quadcopter & UAV for Sale | Leader in Drones
- Federal Communications Commission | The United States of America
- CTIA - Home
- Autel Robotics Camera Drone, Quadcopter & UAV for Sale | Leader in Drones