

Thank you for purchasing the *RAPTOR SR* / *RAPTOR XR* designed for the *DJI* RC Controller!

Installing the antenna requires to modify the controller by removing the factory antenna modules and installing an antenna adapters in their place, leading the signal outside the transmitter housing.

Attention! The installation will involve both, opening the controller housing and drilling two holes on its top panel (needed to lead out the SMA connectors).

Before modifying, look trough this pictorial installation guide, read the step-by-step instruction, and make sure you have the right tools and time to modify the controller.

Here we go !

## STEP 1

Unscrew the two fixing screws on the underside of the controller.



## STEP 2

Remove the silicone control stick mount from the back of the controller housing to reveal the screw entries.



## STEP 3

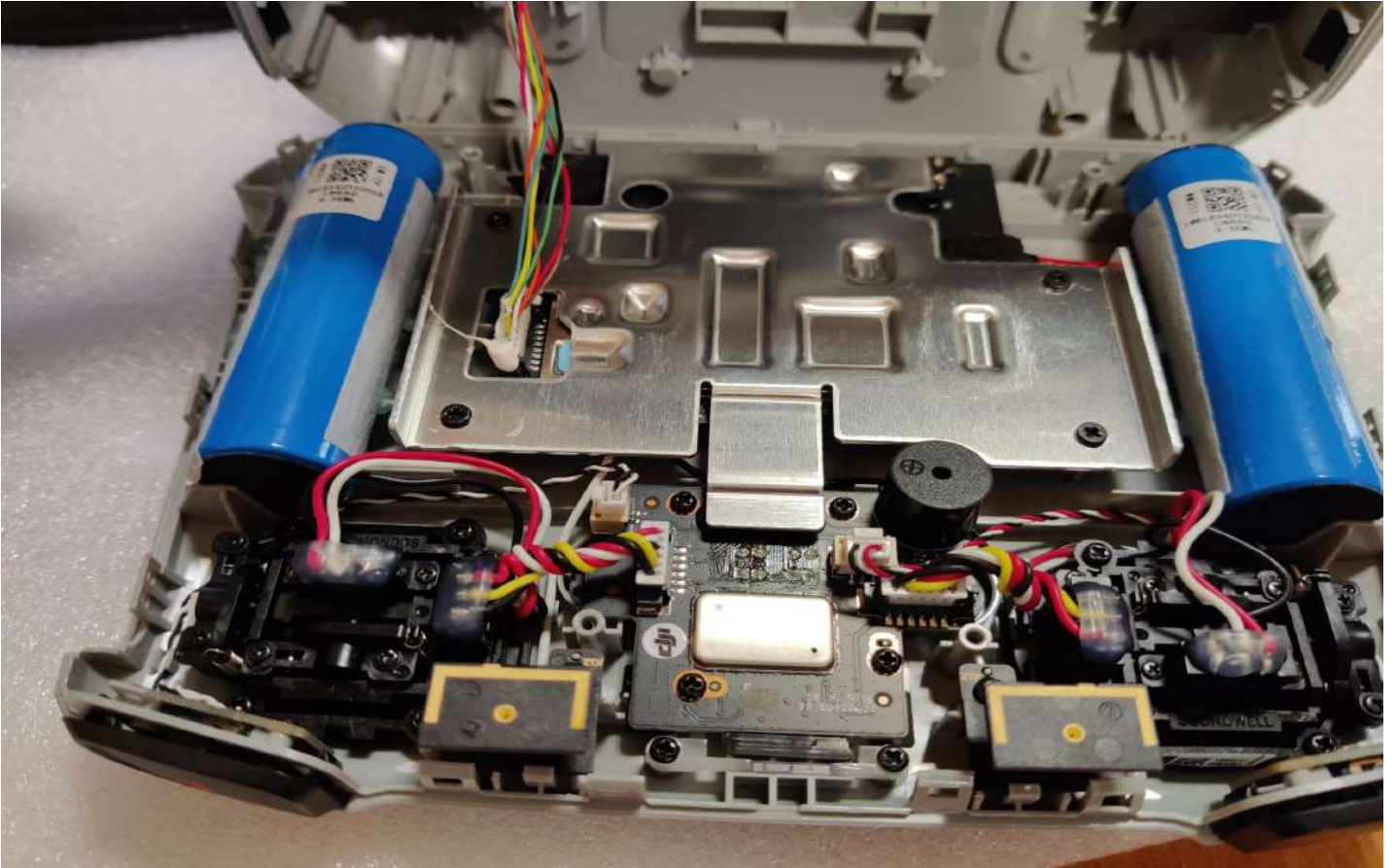
Unscrew the two fixing screws on the back cover of the controller.





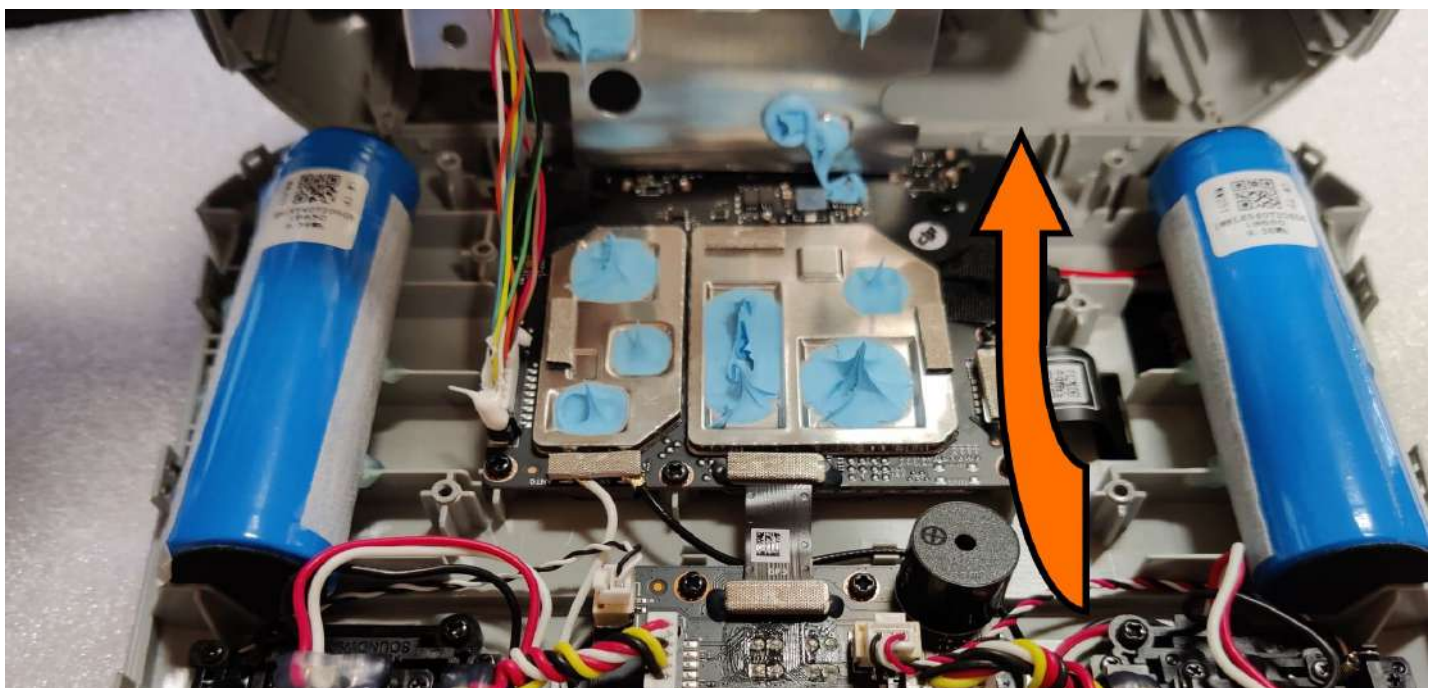
## STEP 4

Using soft plastic tools, gently lift the tabs on the two halves of the controller case. When all tabs on all sides are disengaged - lift the back of the housing to open the controller.



## STEP 5

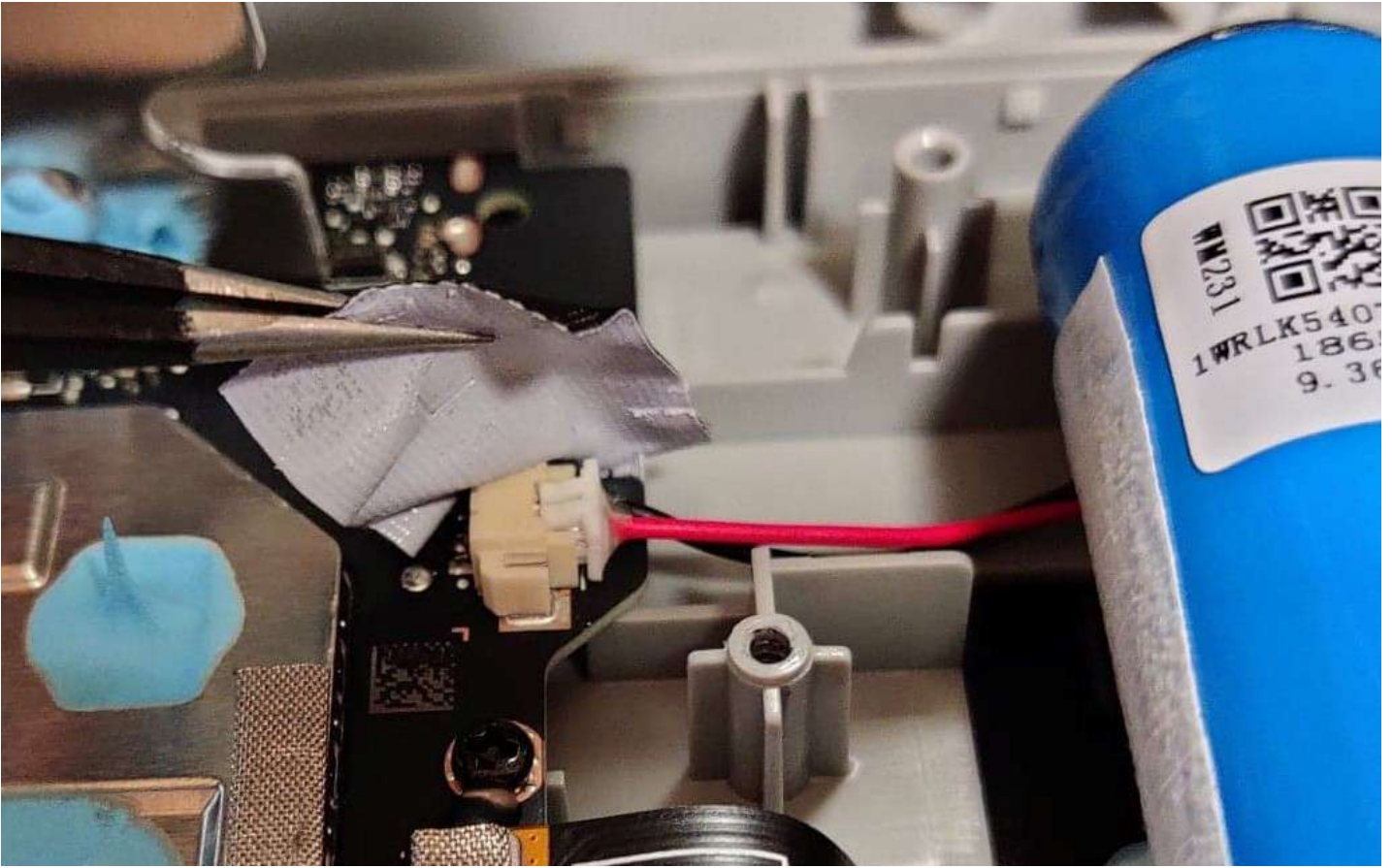
Using a Phillips screwdriver, remove the 4 screws securing the sheet protecting the motherboard and lift it up (watch out for





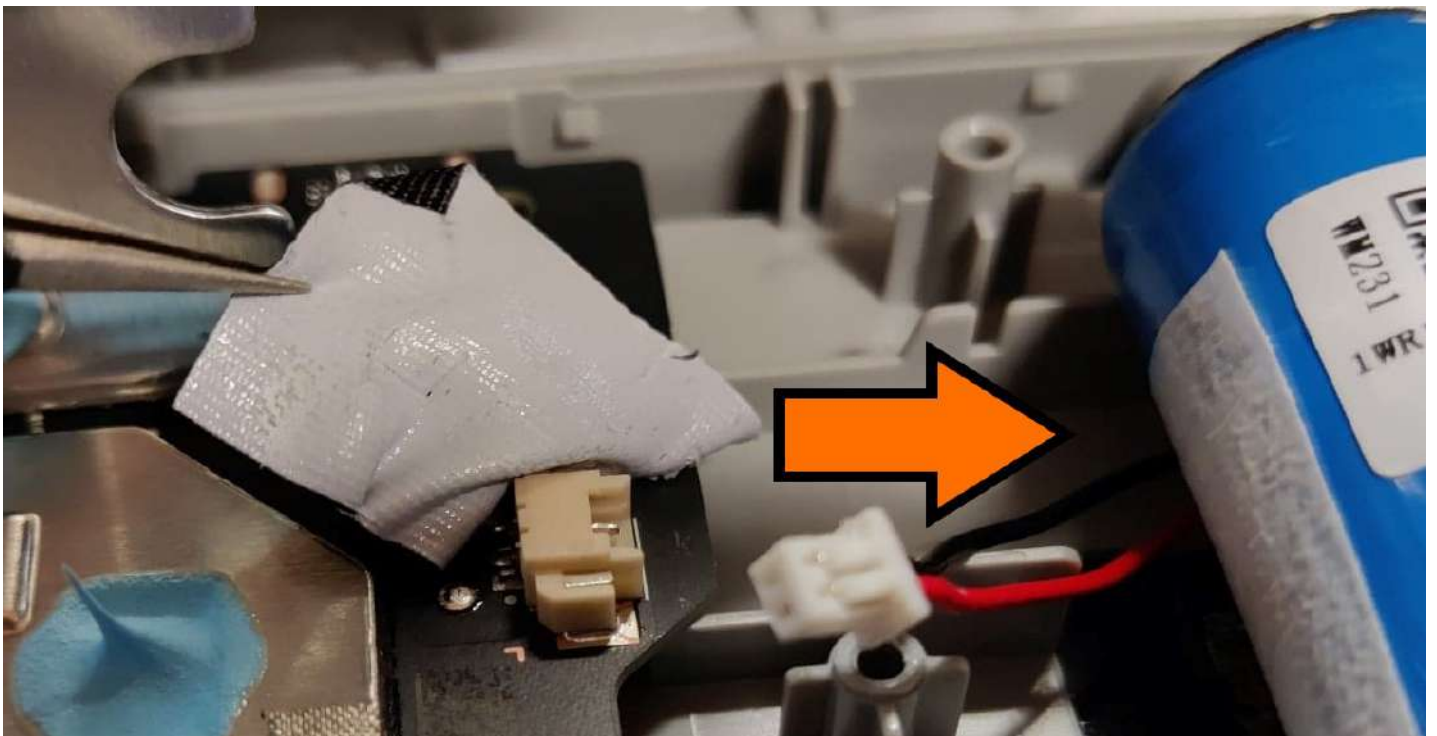
## STEP 6

Pick up the protective patch covering the connector that connects the battery cable to the PCB.



## STEP 7

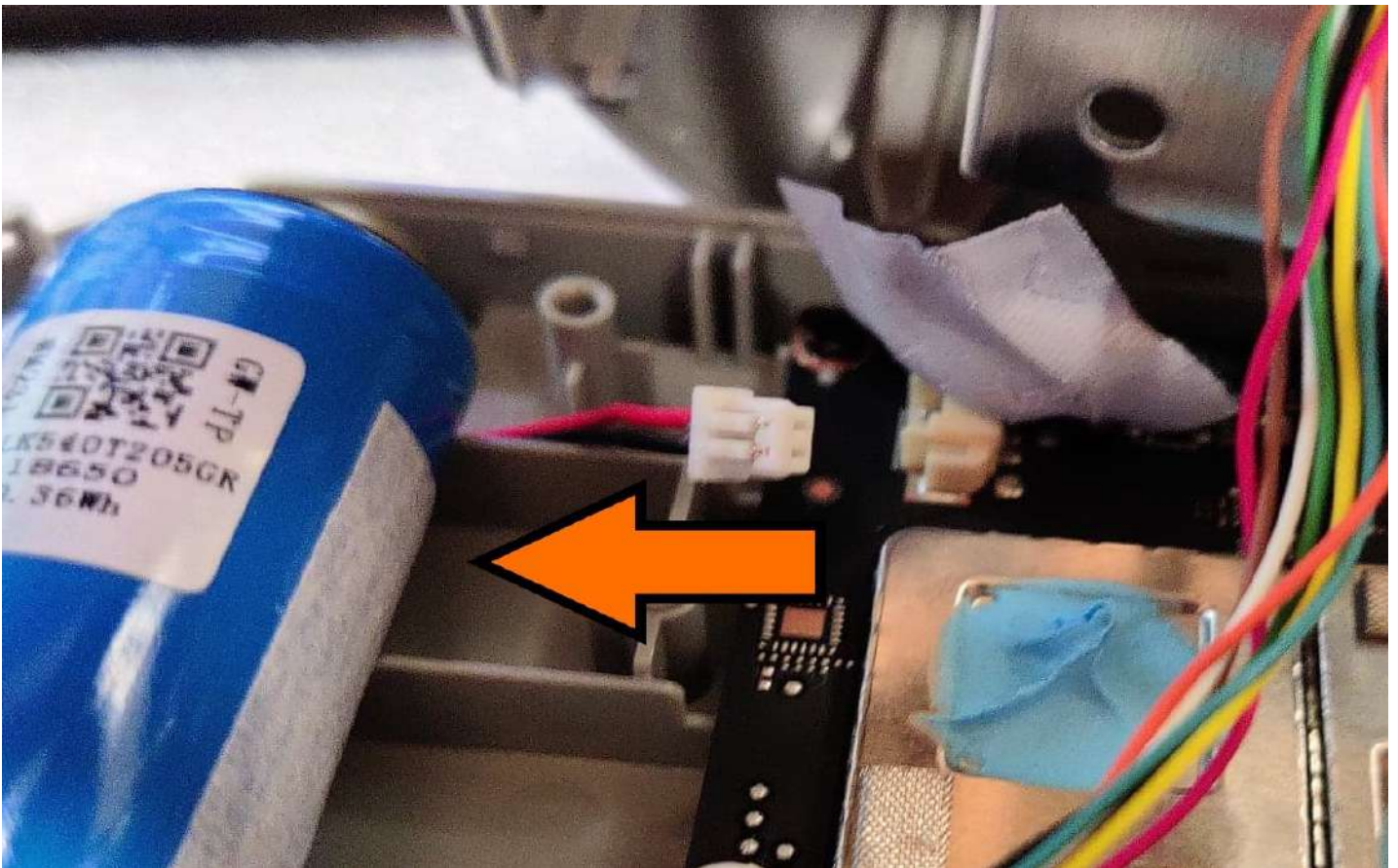
Disconnect the first battery.





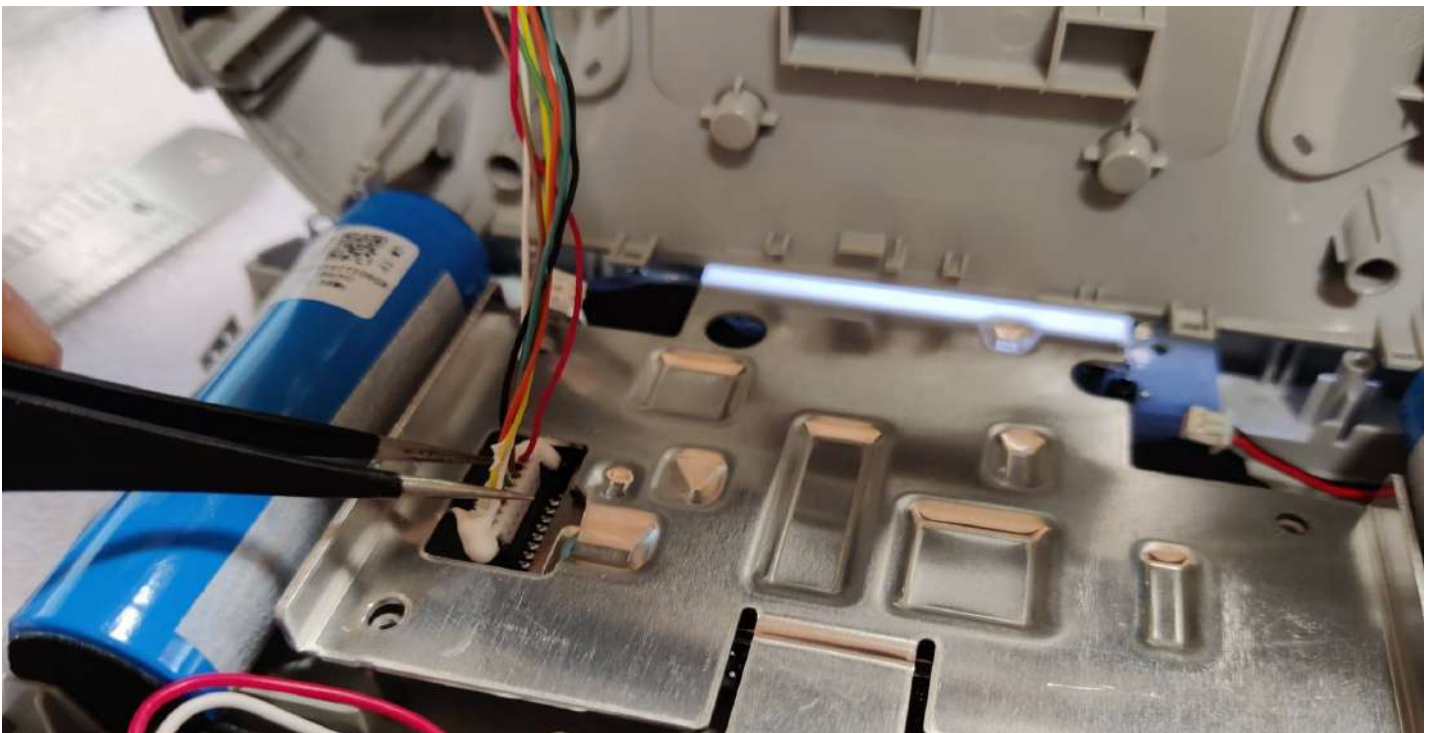
## STEP 8

Lift the protective patch from the connector of the second battery and disconnect the connector from the PCB.



## STEP 9

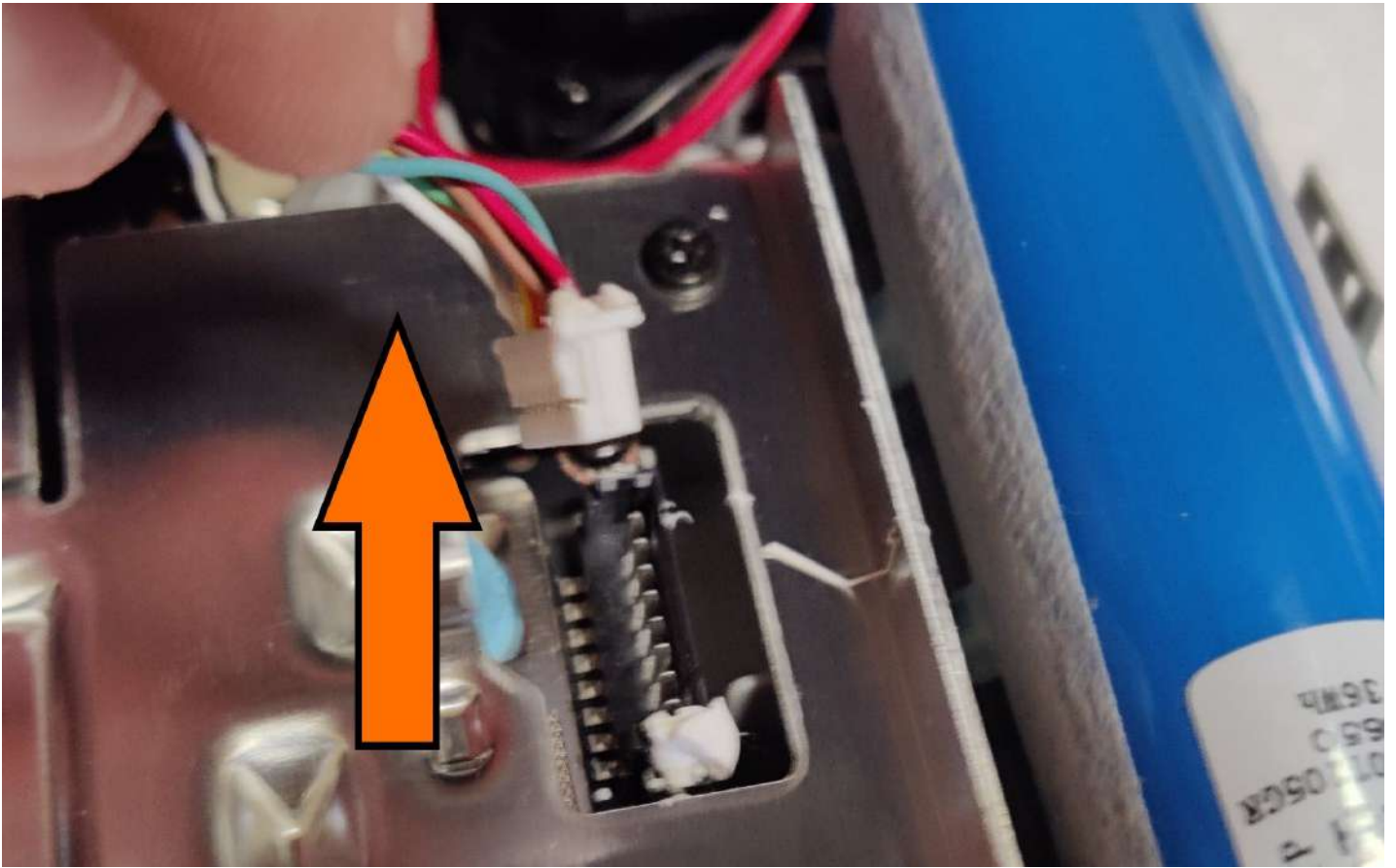
Gently grab the communication port connected to the PCB and remove any excess adhesive paste connecting it to the port (if





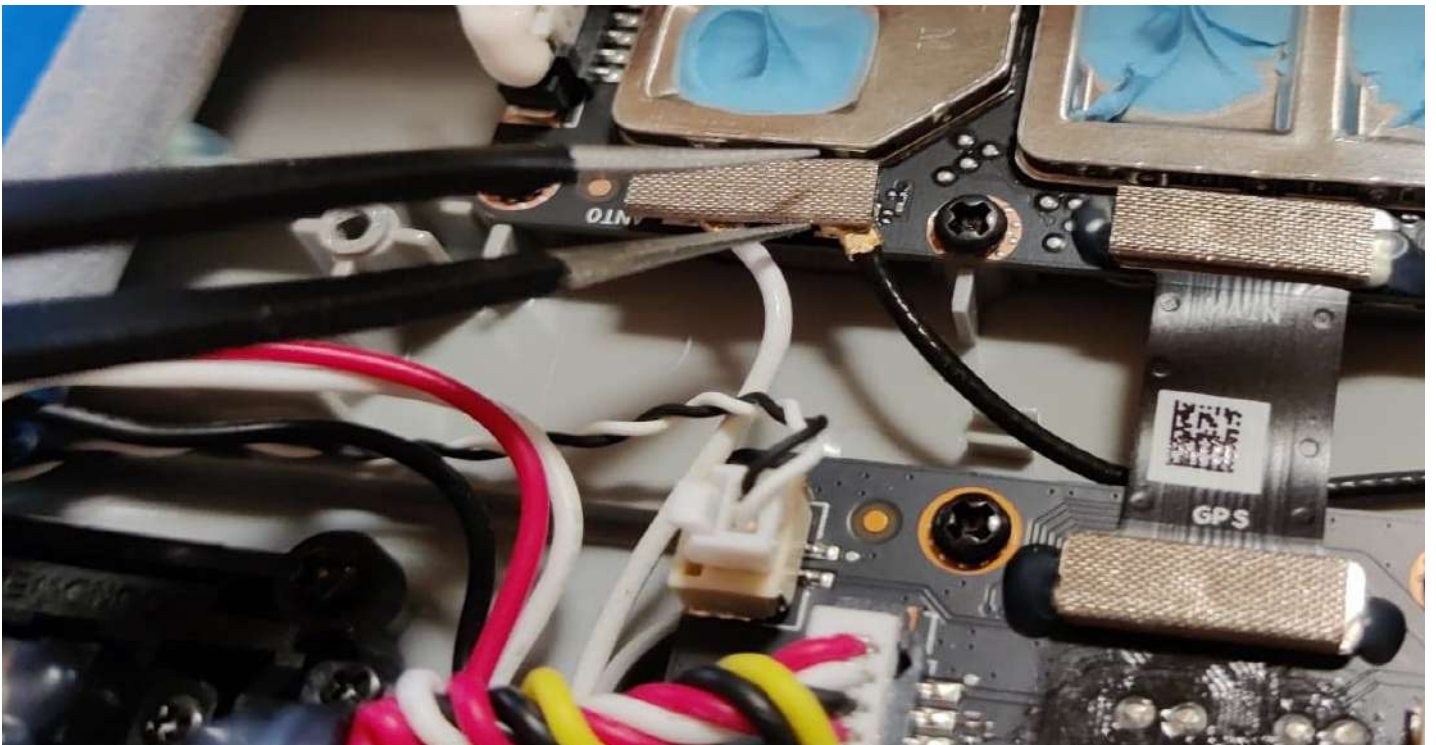
## STEP 10

Remove the communication socket from the PCB.



## STEP 11

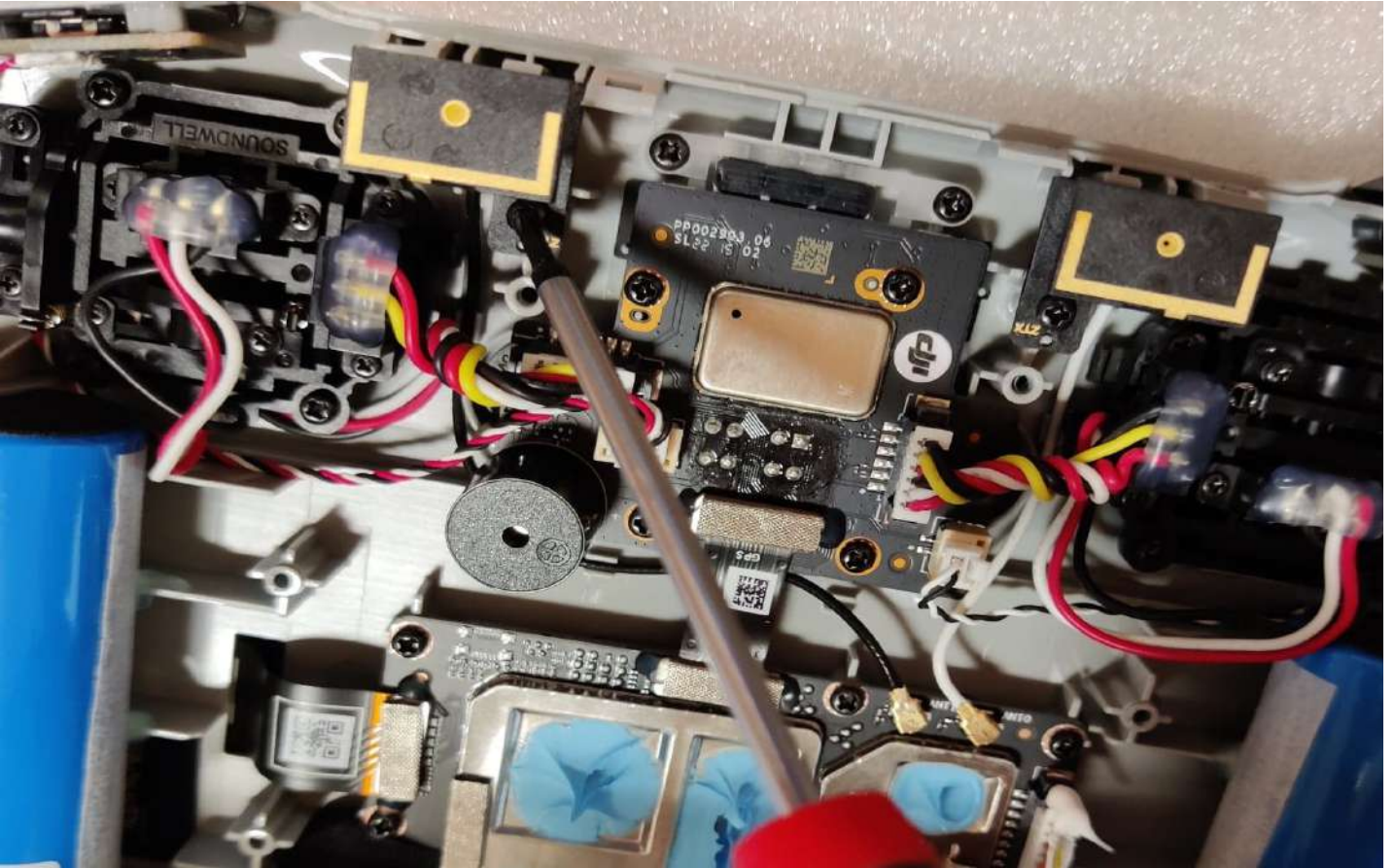
Expose the antenna ports on the PCB (keep the removed spacer, we'll use it again later)





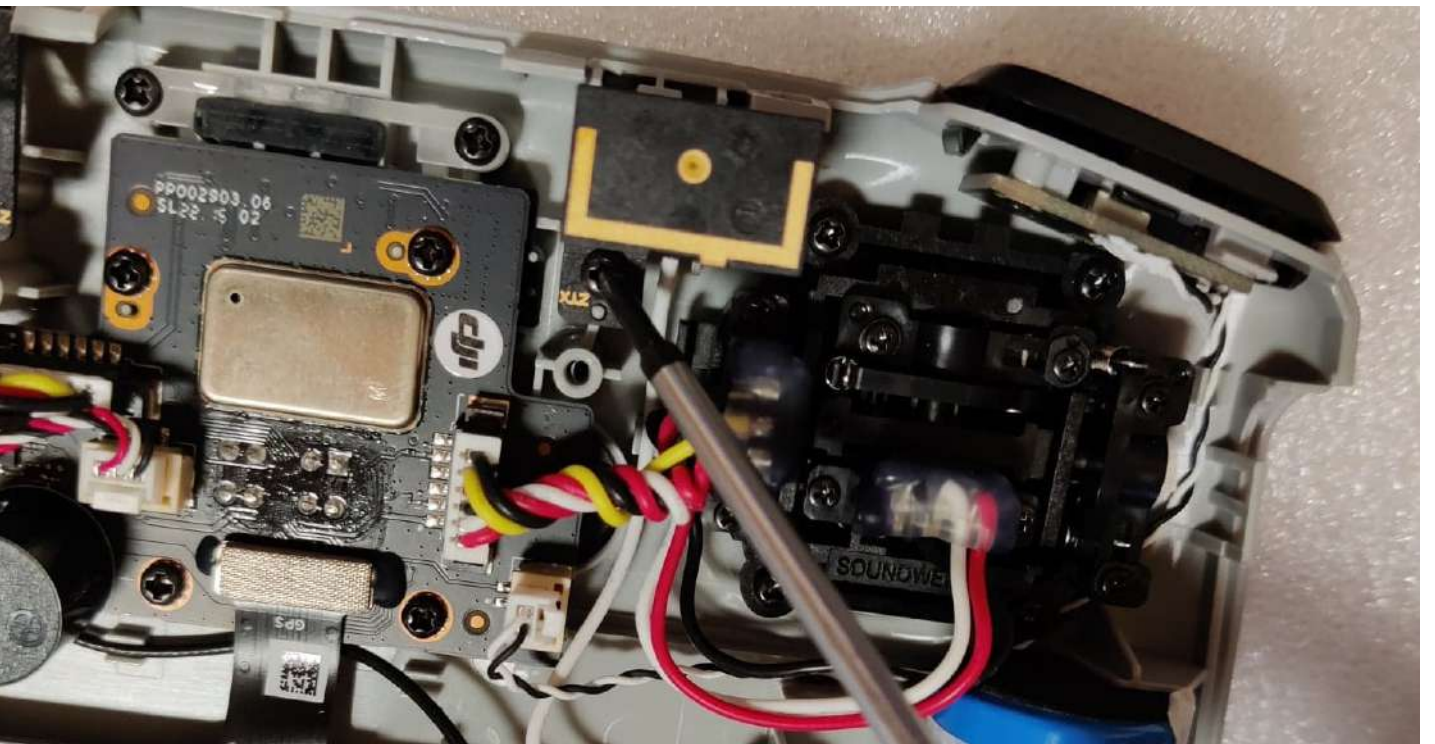
## STEP 12

Use a Phillips screwdriver to unscrew the first antenna module from the housing.



## STEP 13

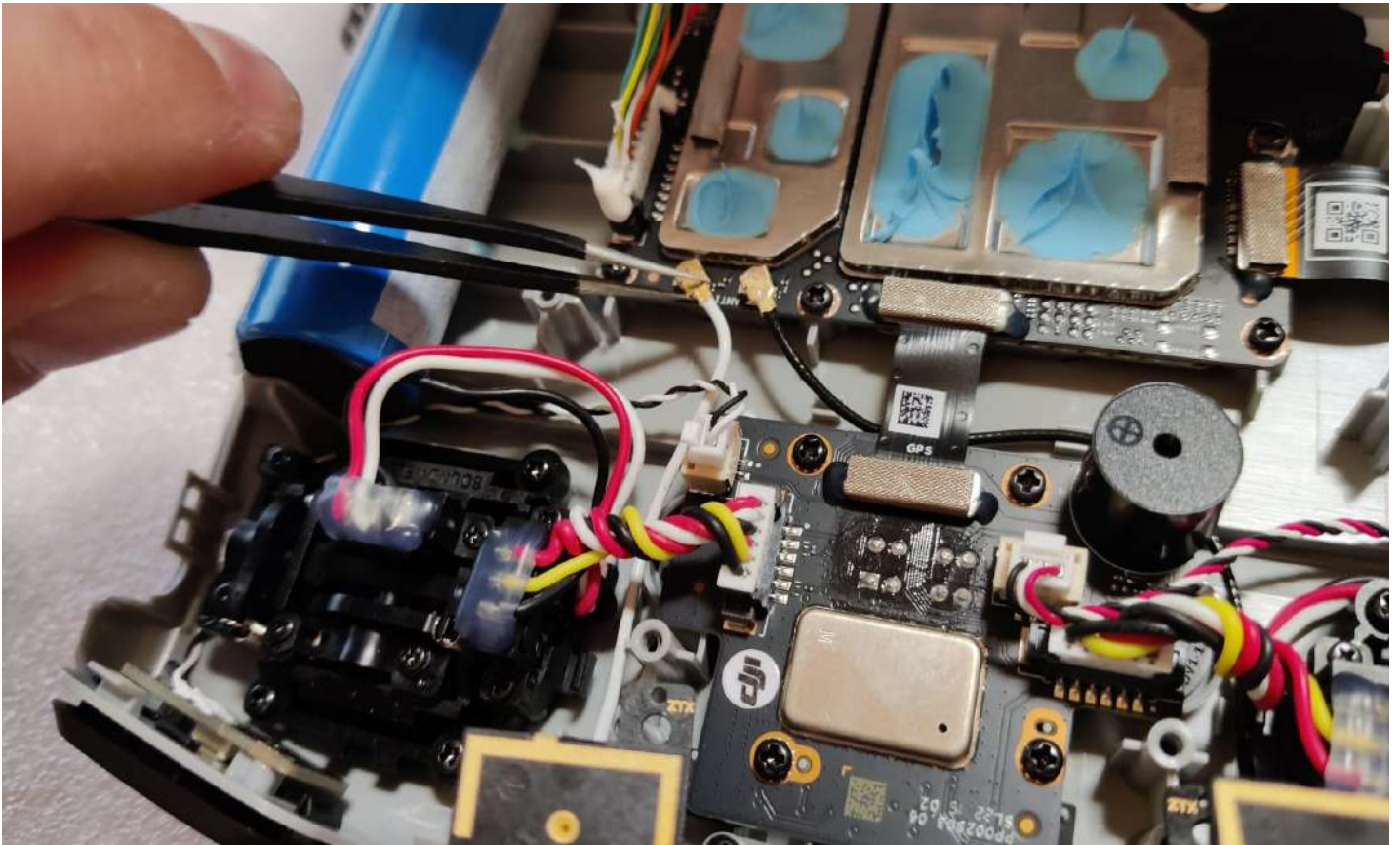
Similarly, unscrew the second antenna module.





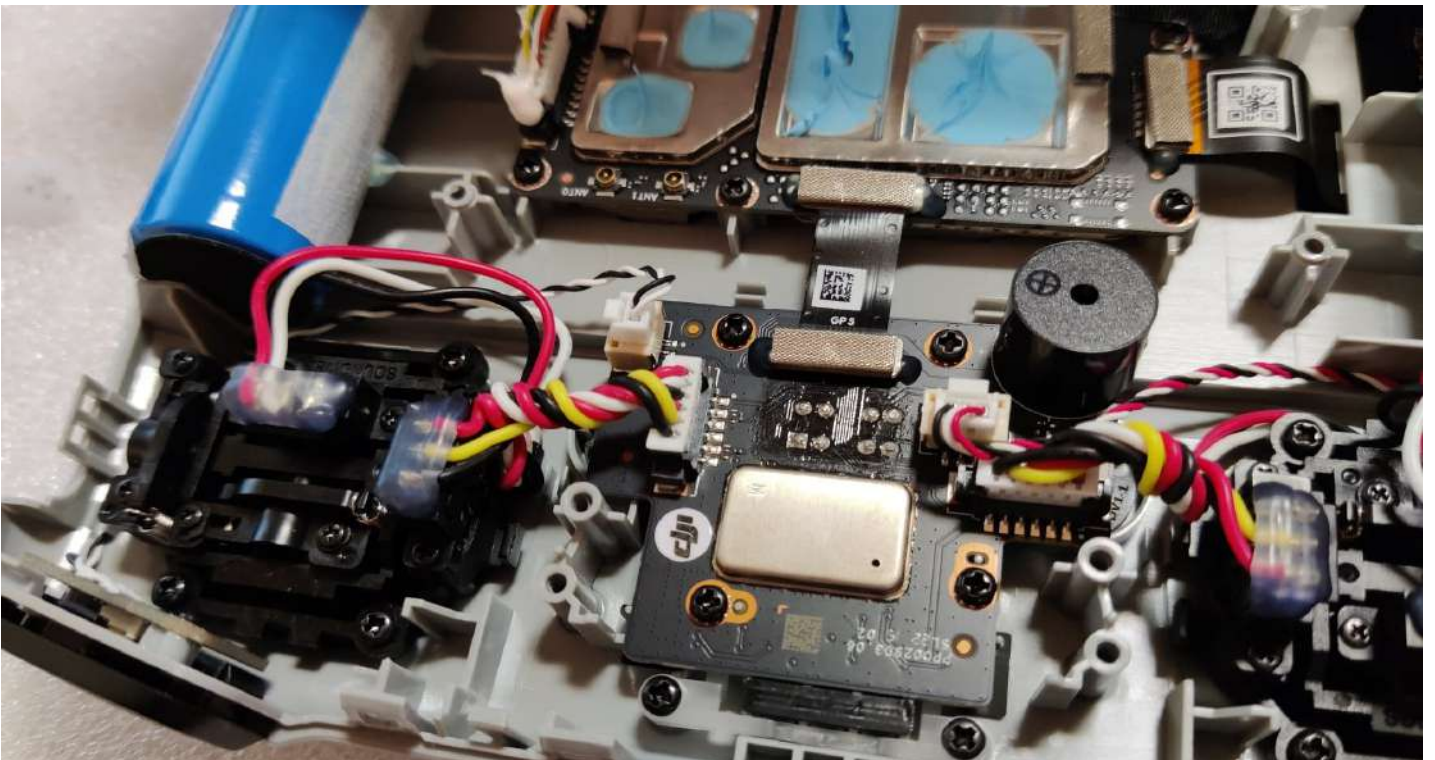
## STEP 14

Gently, taking care not to damage the cables and the U.FL socket - disconnect the antenna cables (white and black) from the ports on the PCB.



## STEP 15

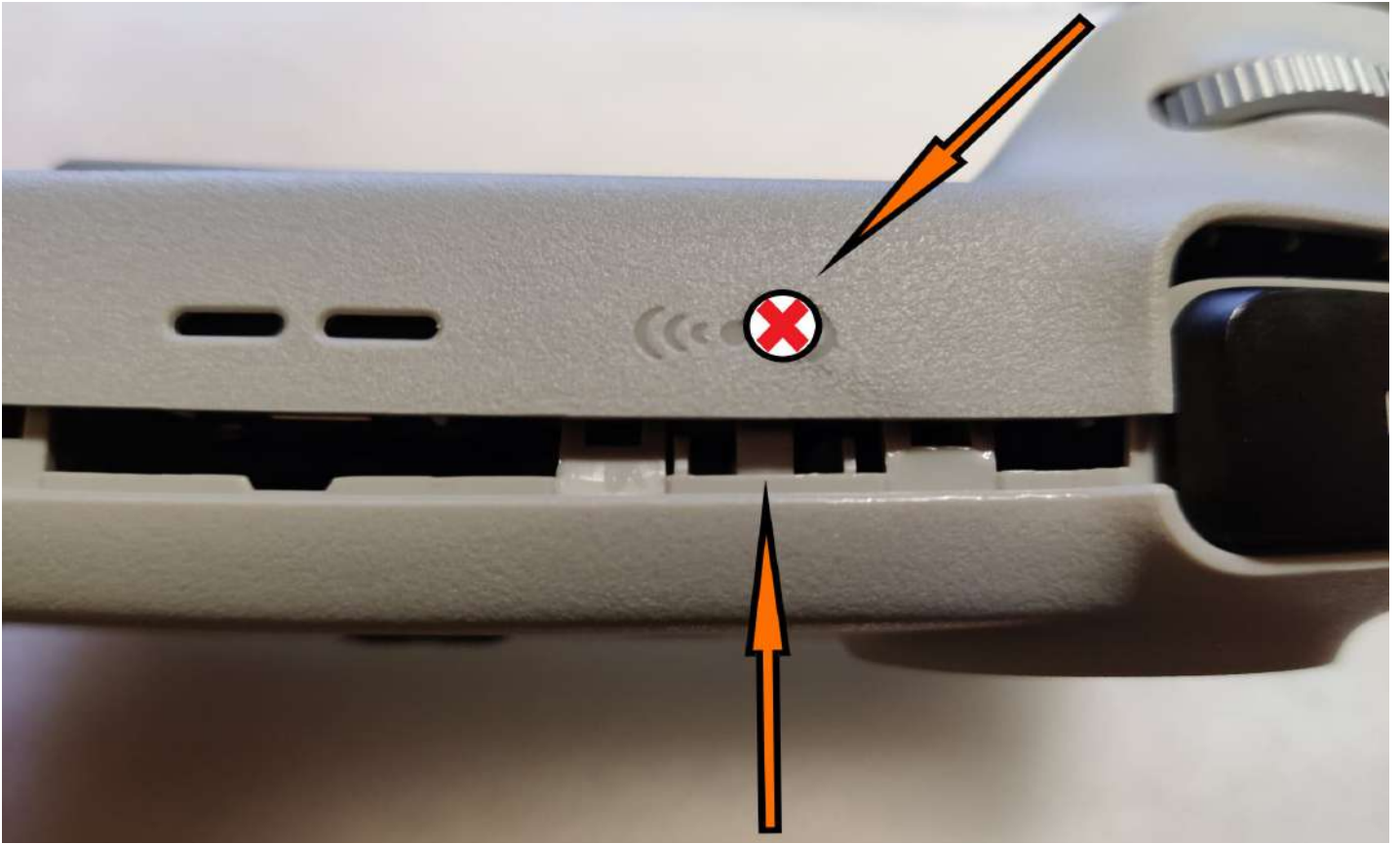
Remove both antenna modules along with their cables from the controller.





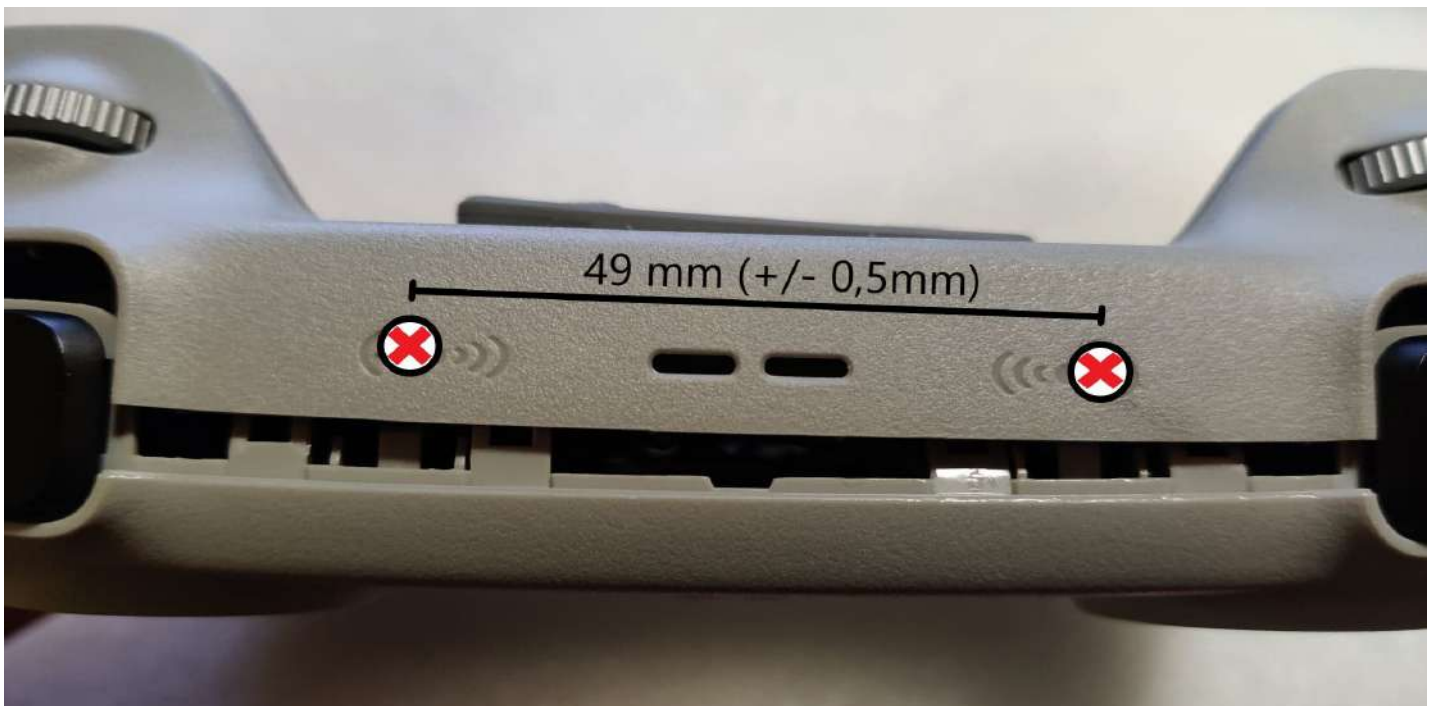
## STEP 16

Mark the drilling point for a  $\varnothing 6\text{mm}$  hole on the top panel of the controller case, where the antenna port will be led out. The point should be brought out exactly at the height of the flat catch indicated by the arrow in the photo and coincide with the place where the manufacturer placed the icon - symbol of the transmitting antenna.



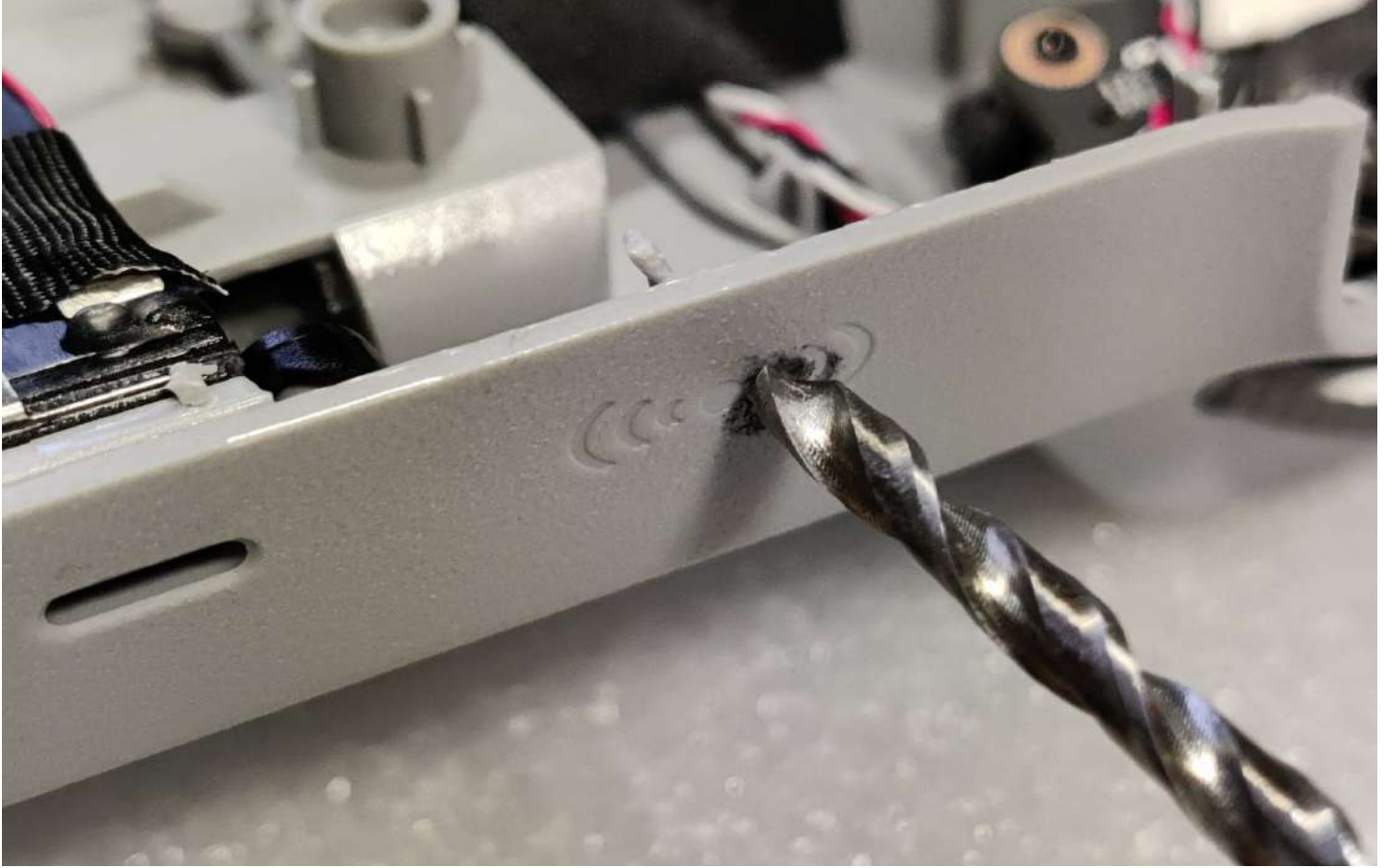
## STEP 17

Similarly to step 16, mark the second point where a  $\varnothing 6\text{mm}$  hole will be drilled for the antenna port. The distance between the centers of both holes should be 49mm.



## STEP 18

First make a positioning hole with a drill bit of smaller diameter (we recommend  $\text{\O}3\text{mm}$ ) at both drilling points.



## STEP 19

Using a drill bit with a larger diameter, make a precise widening of the hole (do not use drill bits larger than  $\text{\O}6\text{mm}$ !). A conical drill bit or a drill bit for ceramics (in the photo) is perfect for countersinking.





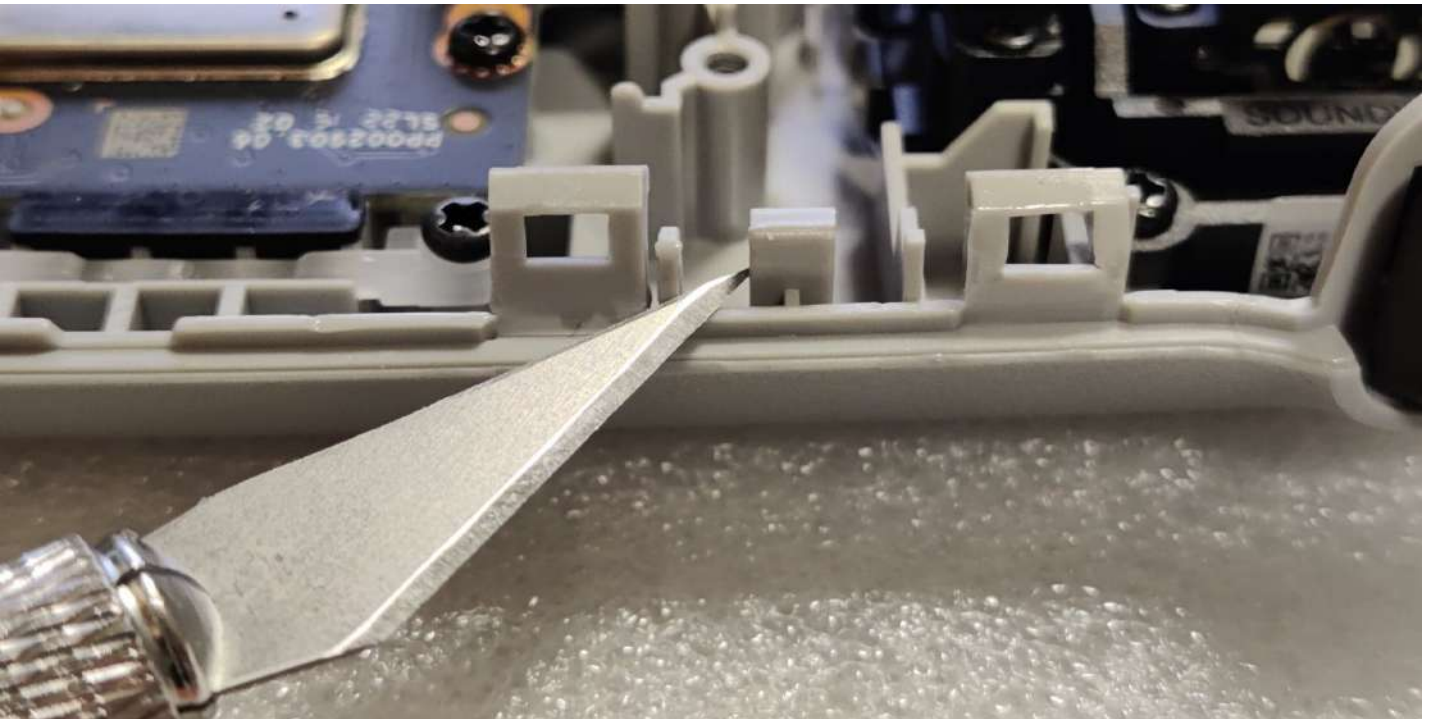
## STEP 20

To obtain a smooth, conical hole profile, it is recommended to also use a countersink for wood or other materials.



## STEP 21

Using a sharp knife (scalpel), remove the flat clip from the controller housing. (Removing the catch will not have any negative effect on matching the two halves of the controller housing)



## STEP 22

Also cut the second flat hook on the other side.



## STEP 23

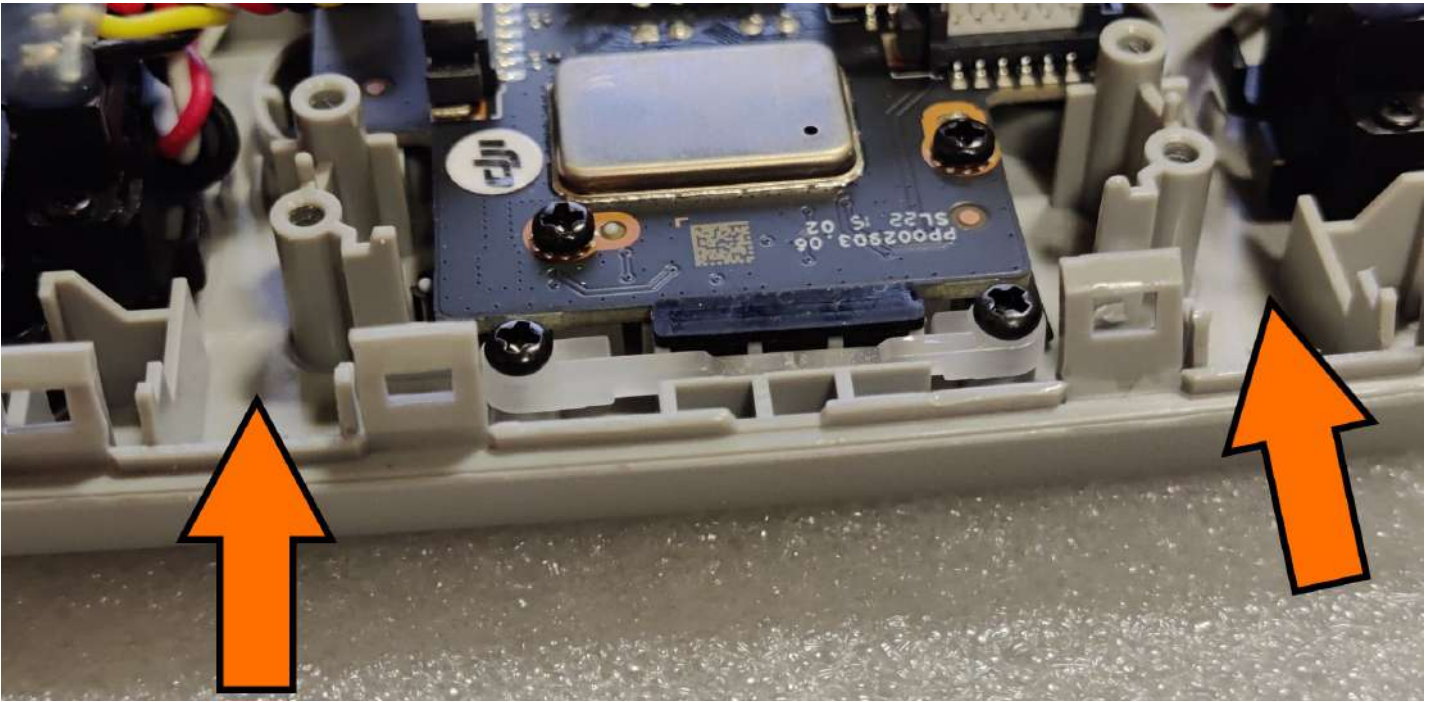
Use a sharp knife to remove any debris from drilling holes, both from inside, and outside of the controller body.





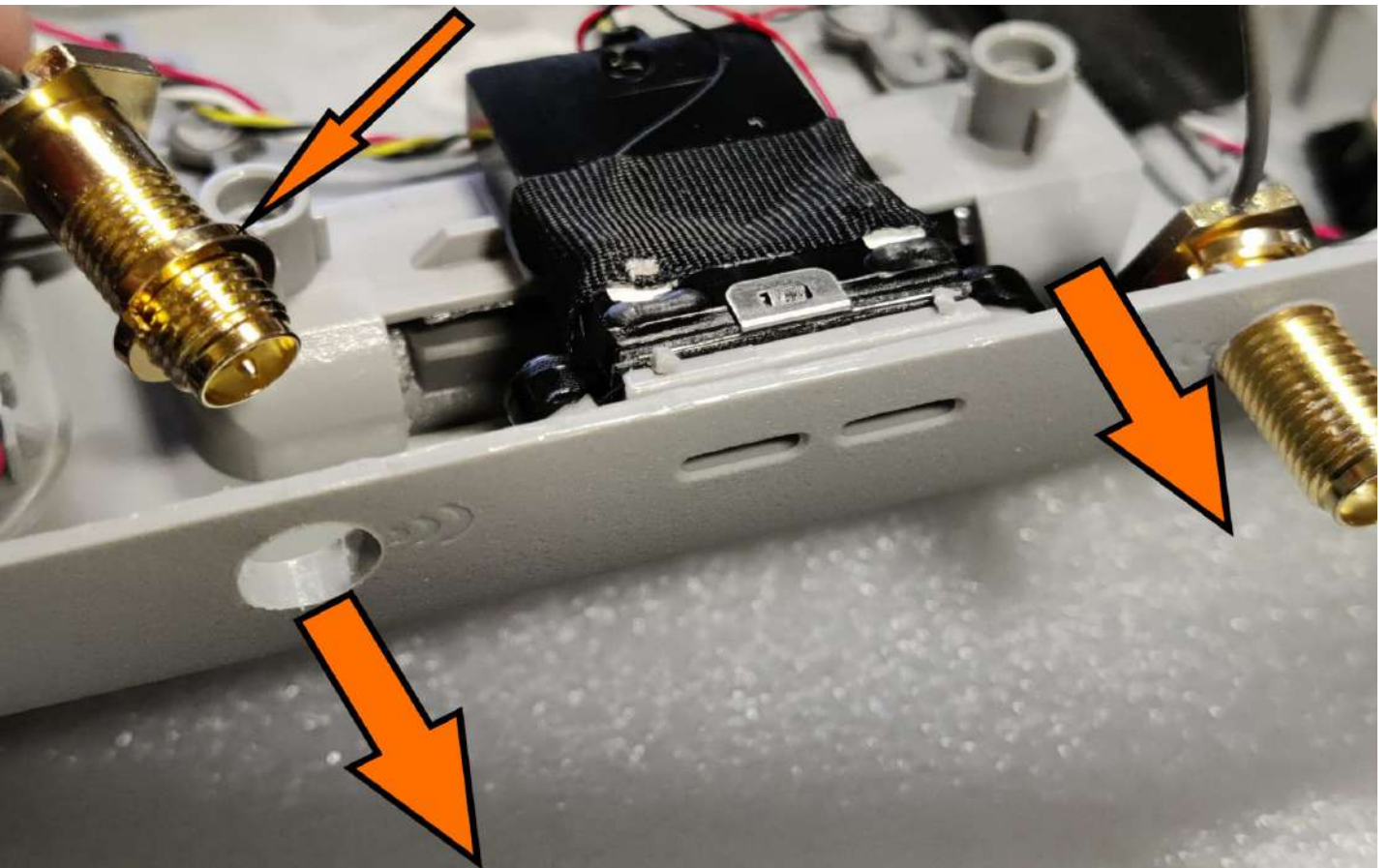
## STEP 24

The SMA antenna ports with the cables will be routed into the two holes marked at the photo. Make sure that there are no traces of the removed tabs in these places.



## STEP 25

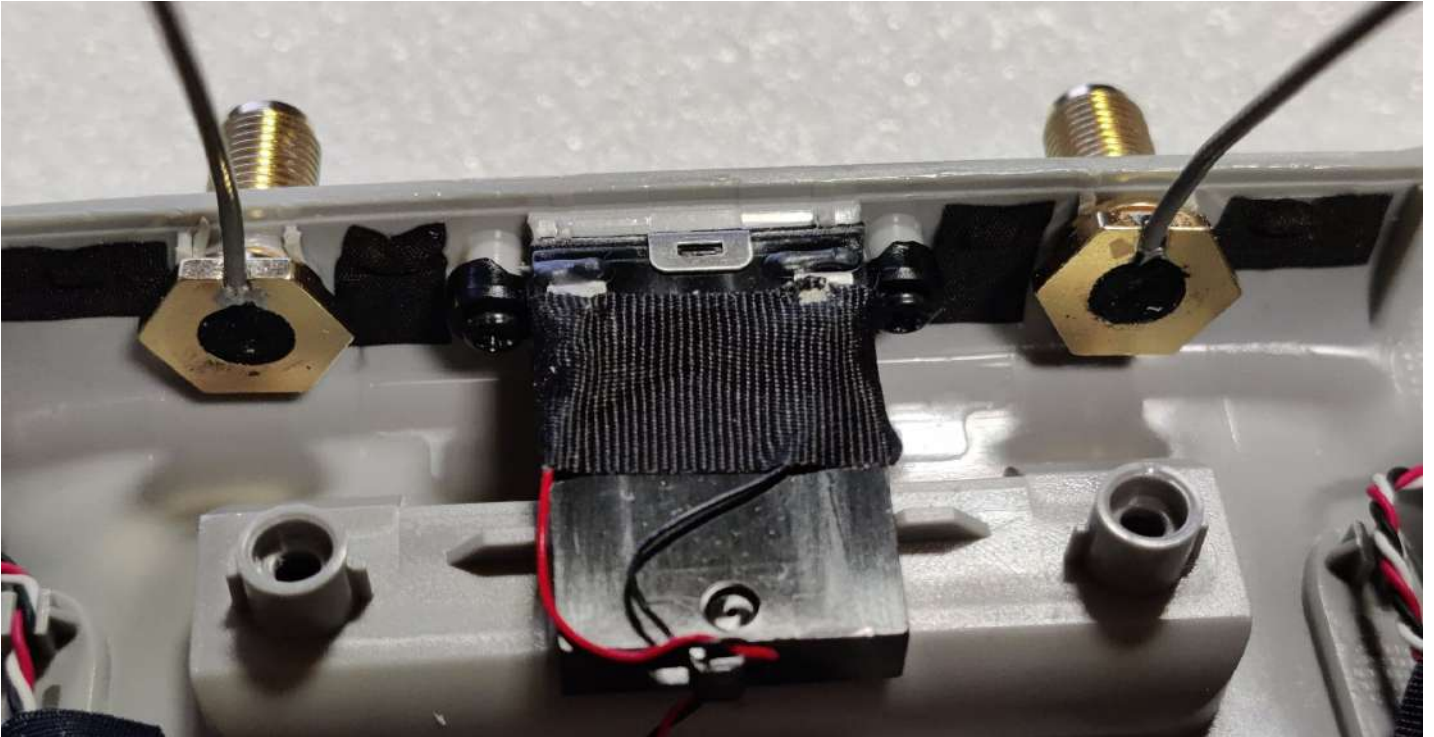
Pass the two pigtails included in the antenna box through the drilled holes. Make sure to put a spring washer on the SMA port thread from the inside of the controller!





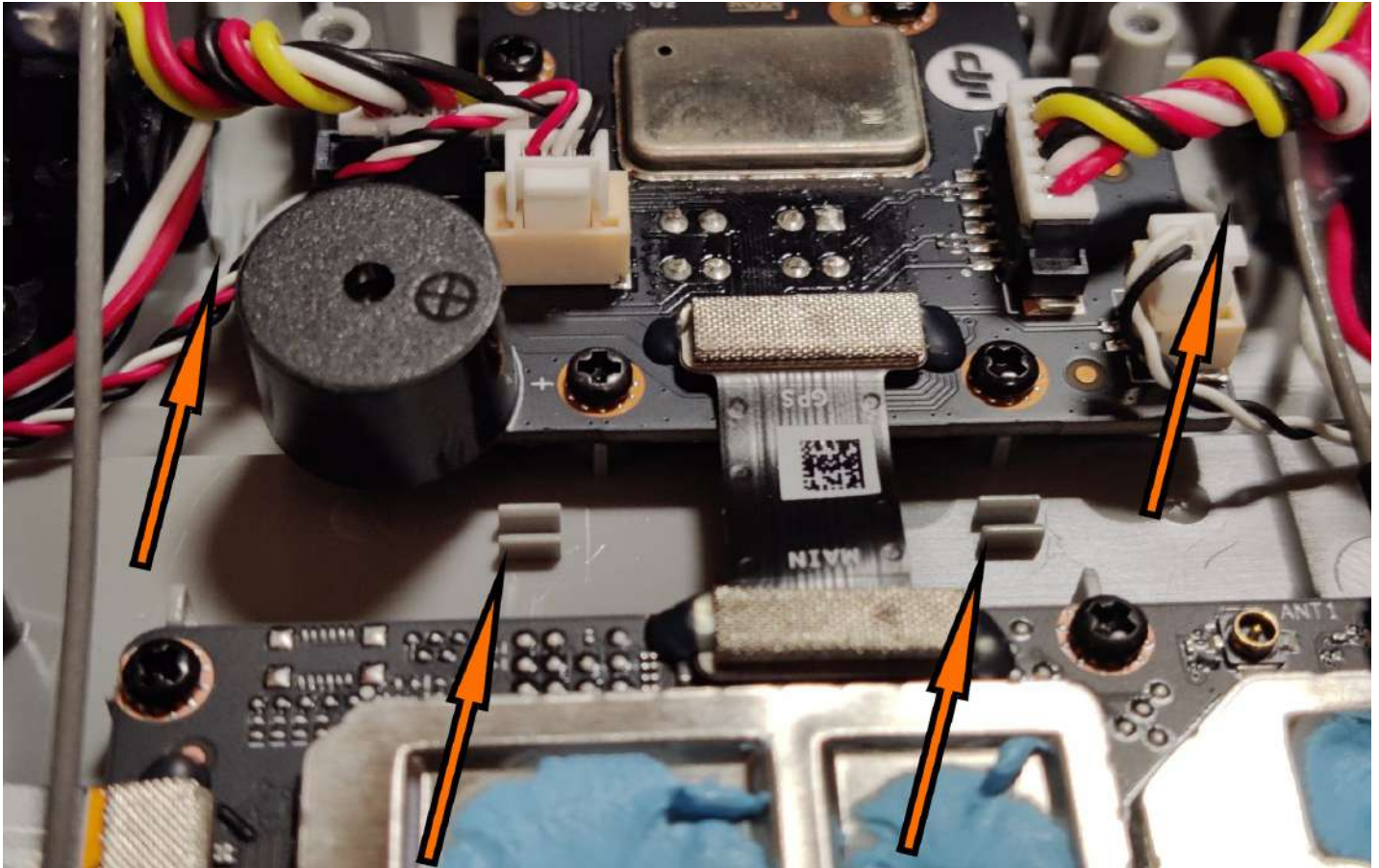
## STEP 26

The cables soldered to the back of the SMA ports should be set in the upward direction.



## STEP 27

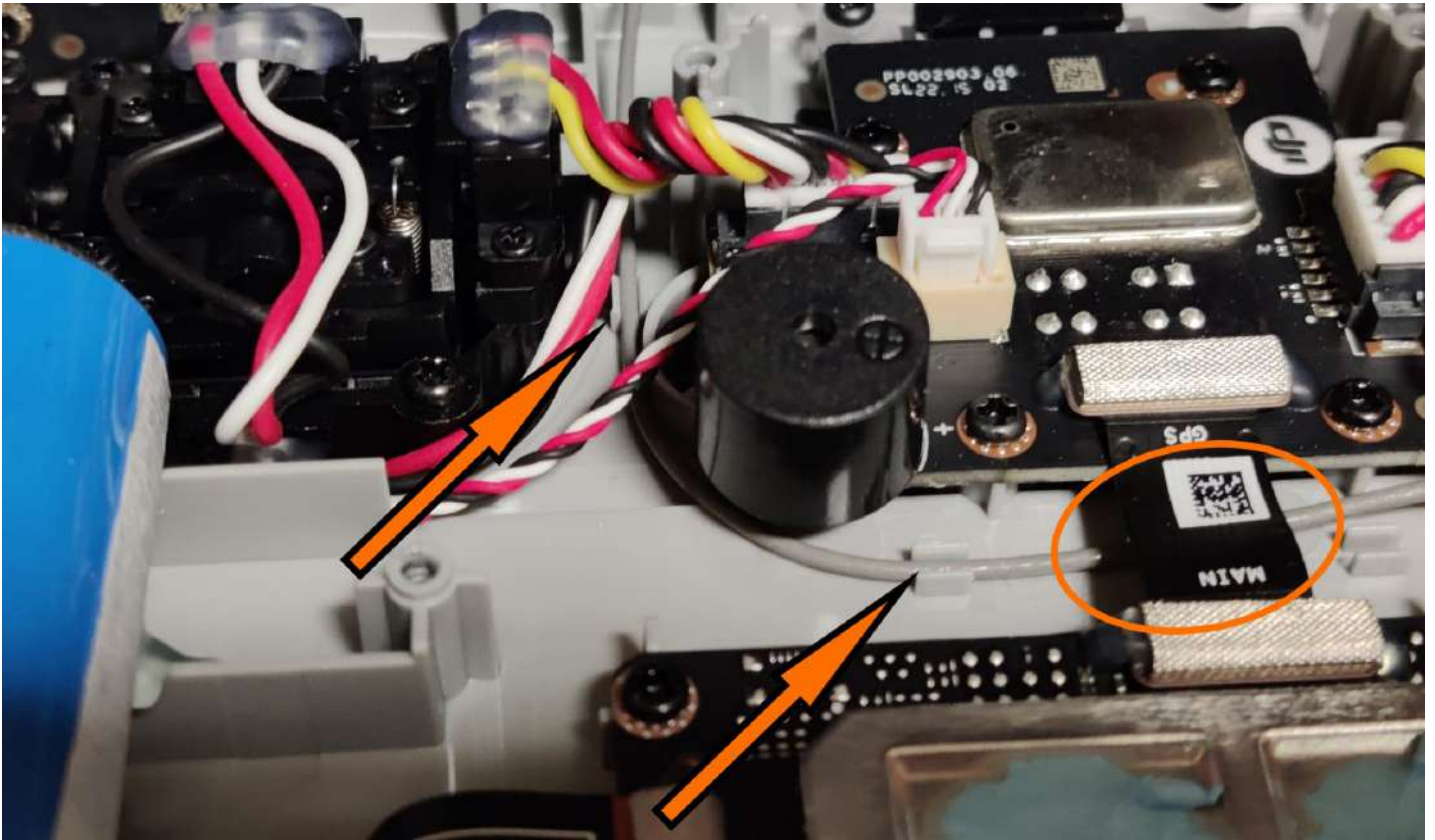
You will find a few cable guiding channels inside the controller – these will be very helpful to position the routed cables.





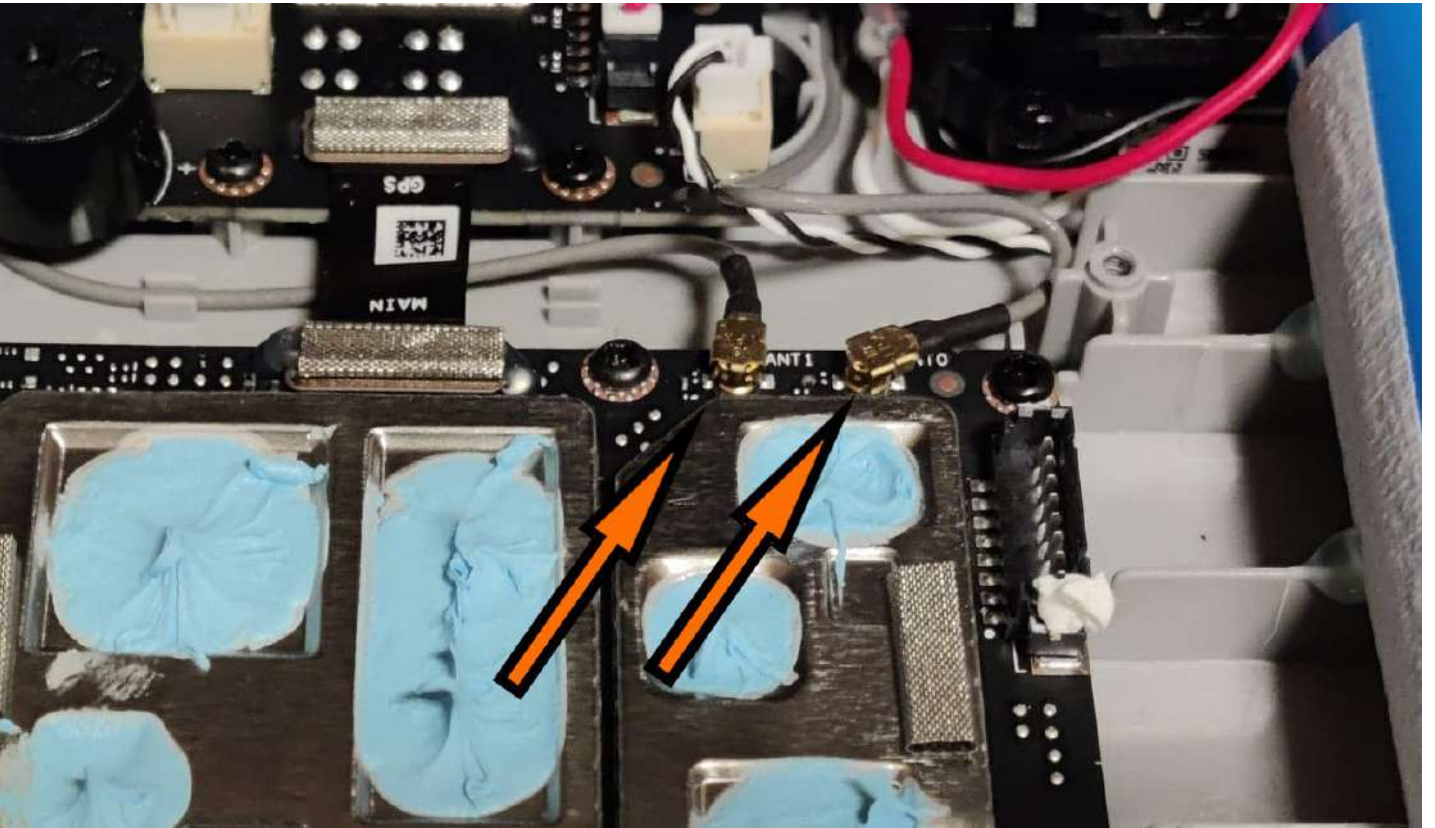
## STEP 28

Lead the cables through the routing guides and then under the communication tape that connects the two parts of the mother-



## STEP 29

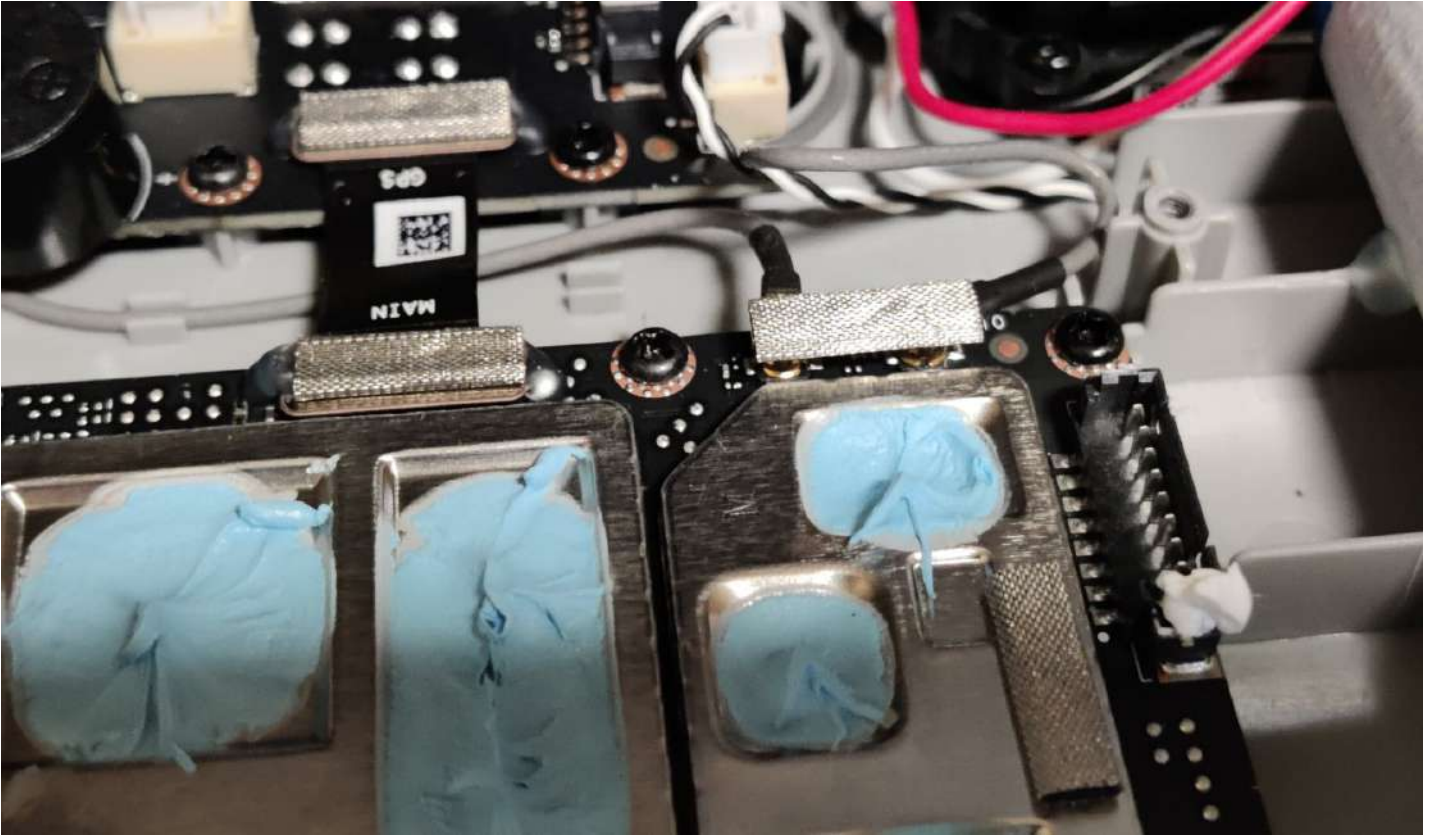
Connect the U.FL connectors to the two antenna ports on the PCB.





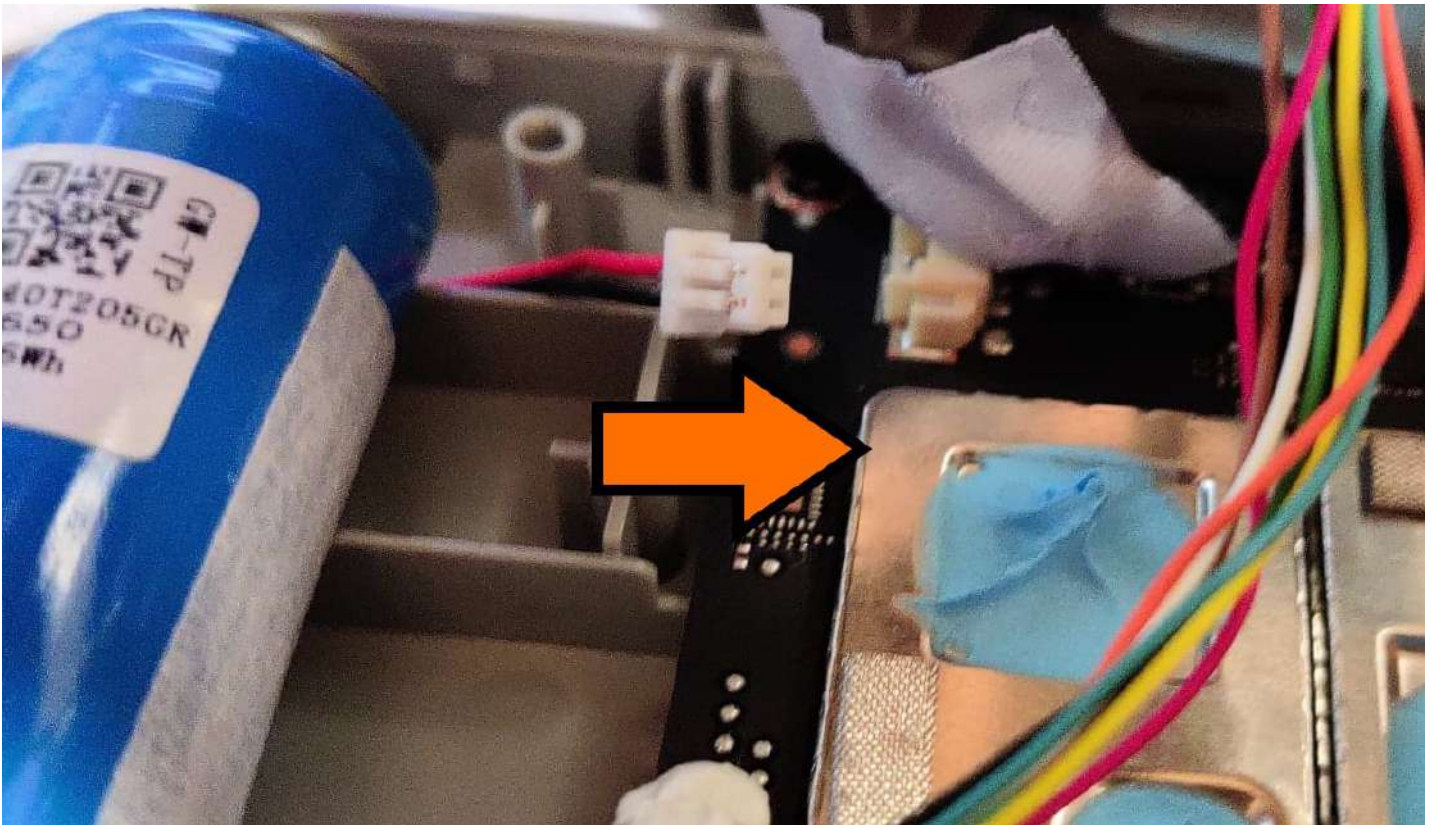
## STEP 30

Secure the connected connectors with a piece of soft cloth (removed in step 11).



## STEP 31

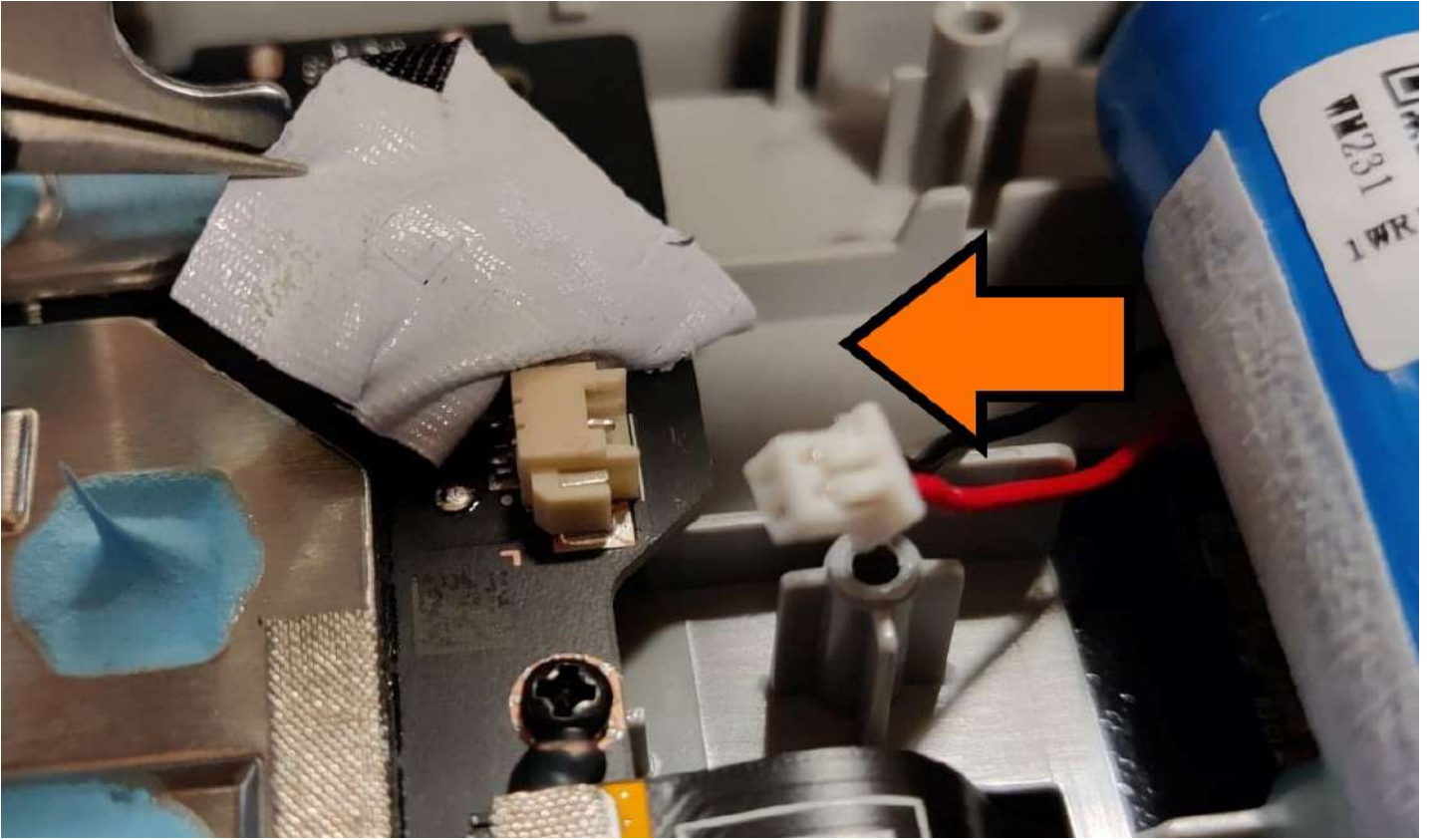
Connect the first battery and secure the connection with the adhesive material.





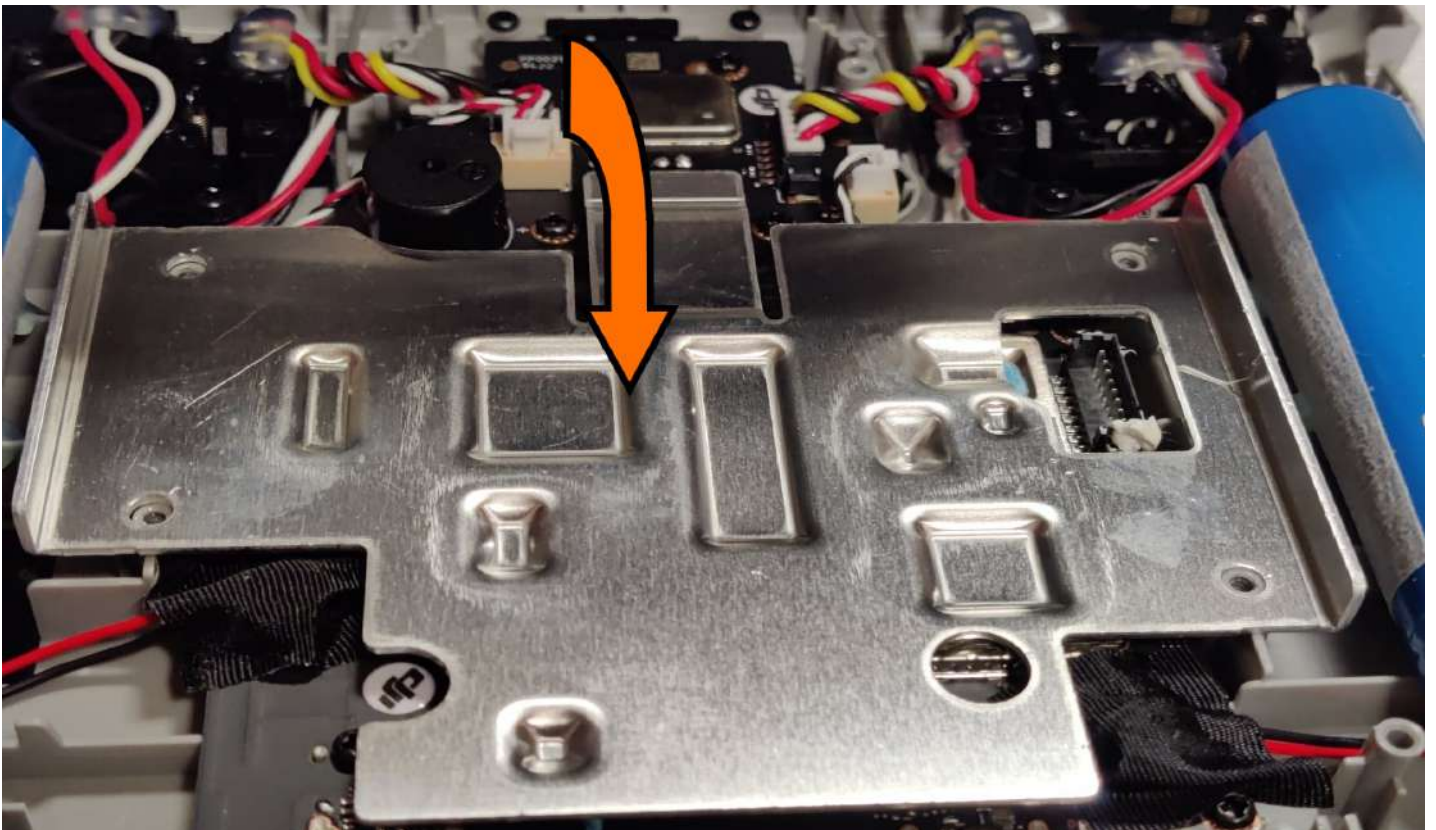
## STEP 32

Connect the second battery and secure the connector.



## STEP 33

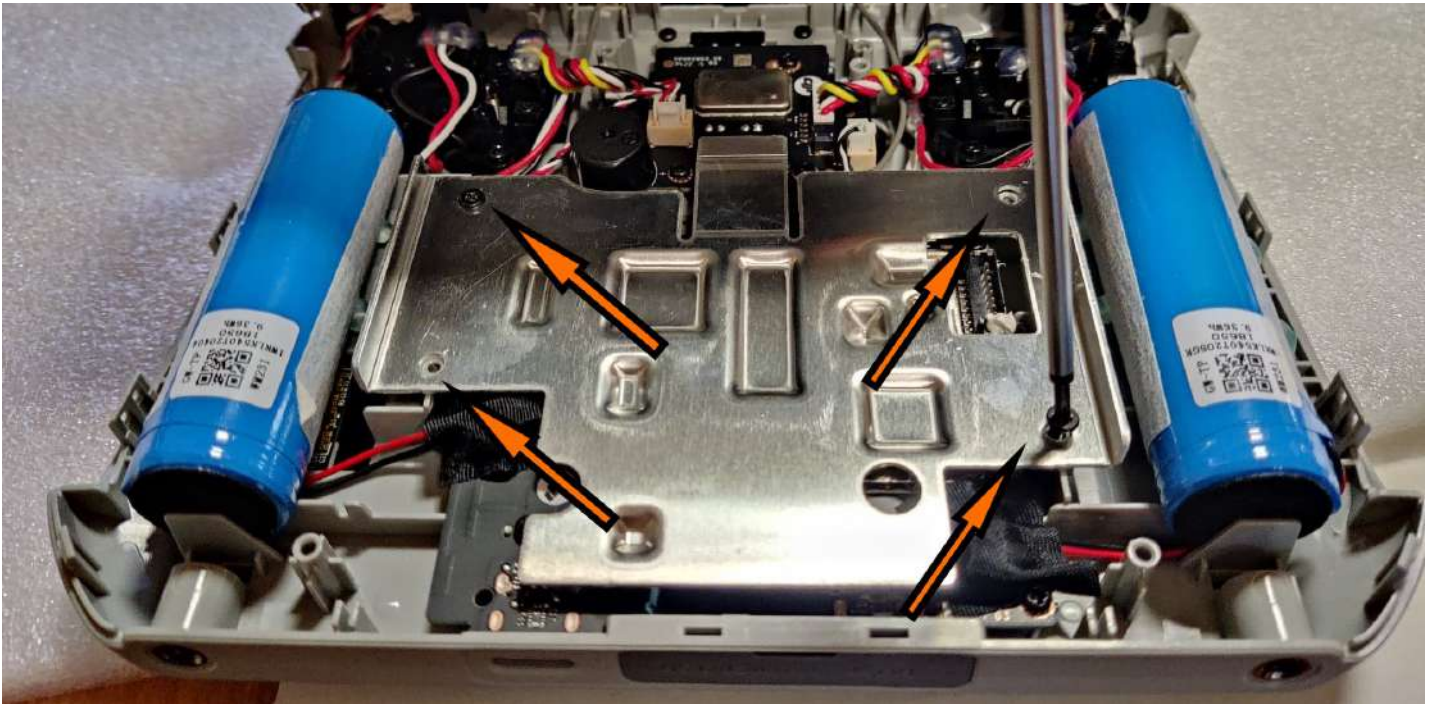
Cover the PCB protection sheet.





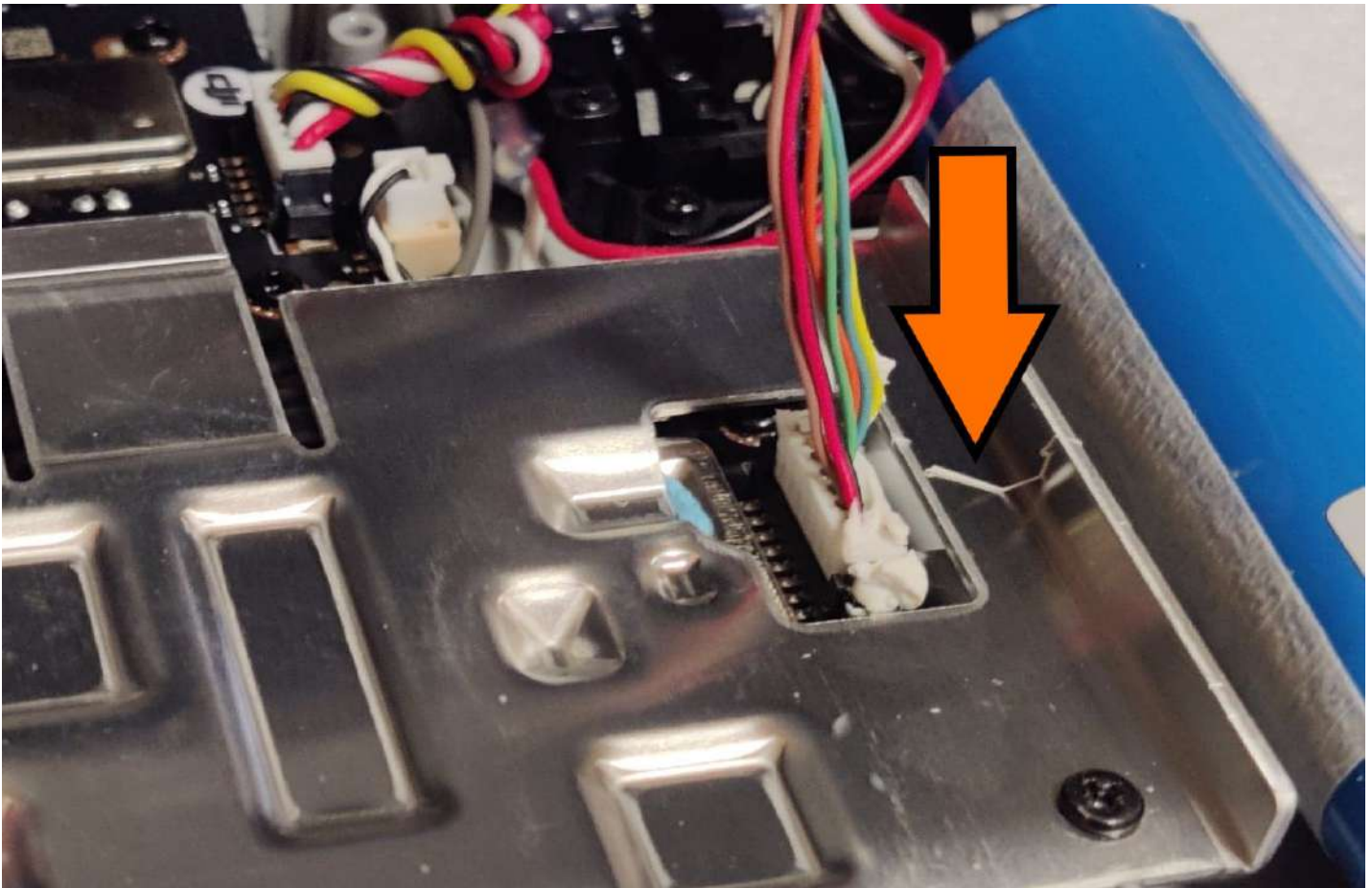
## STEP 34

Fix the protective plate with four screws in the places shown at the picture.



## STEP 35

Connect the communication socket. Make sure that the connector is set firmly there.





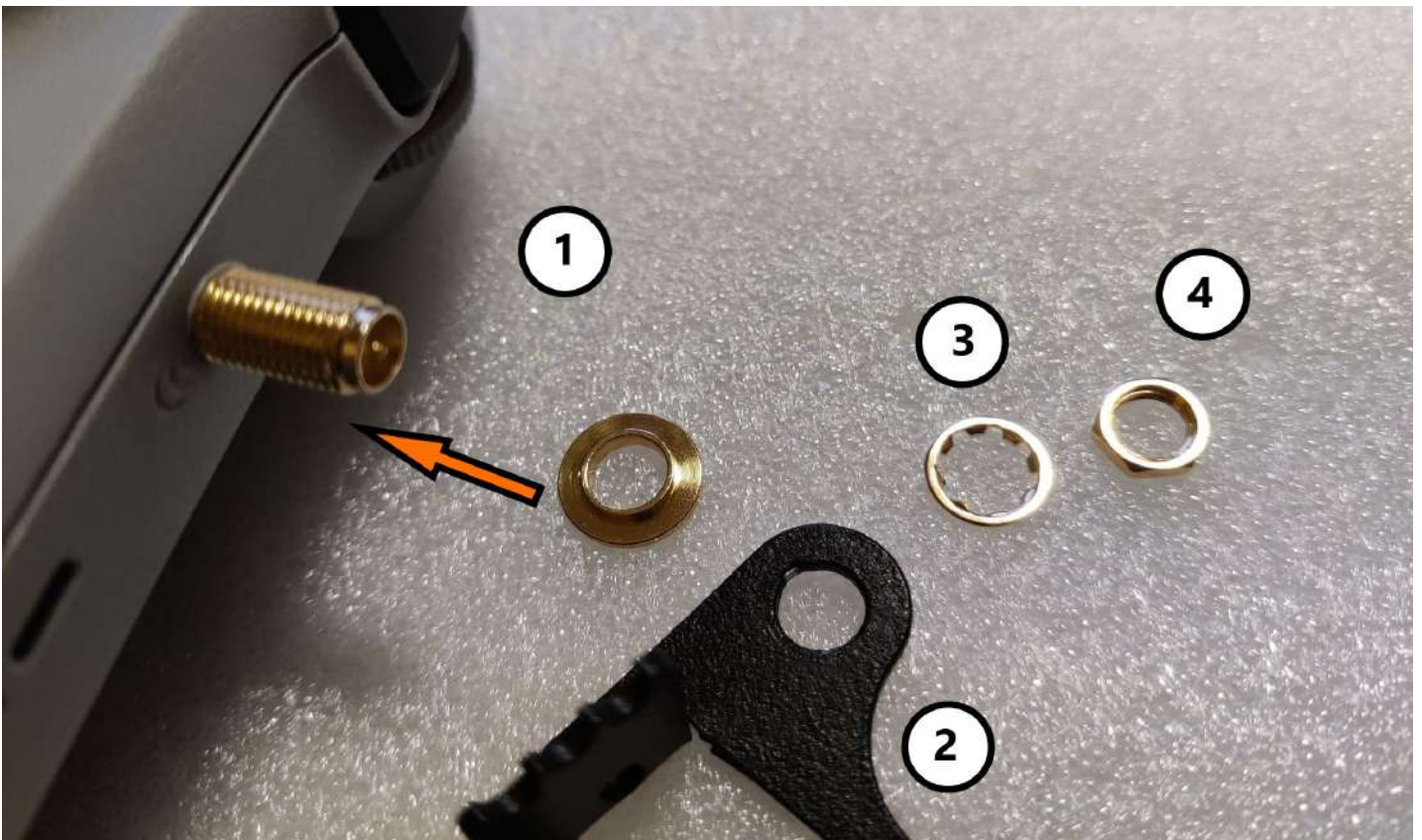
## STEP 36

Carefully put the two halves of the controller case together, one by one “clicking in” the connection tabs. Be careful not to accidentally push the SMA antenna sockets inside the controller case!



## STEP 37

After assembling the housing, put on the SMA antenna threaded connector, in the correct order: 1 – flanged washer, 2 – antenna mounting bracket, 3 - claw washer, 4 - tighten everything up tightly with a nut (for convenience, use an 8mm socket wrench or the included wrench in the package with the antenna)



### STEP 38

Tighten the two screws securing the back side of the case.



### STEP 39

Tighten the two screws securing the bottom side of the case.





## STEP 40

Place the silicone insert with the control sticks in place.



Your controller is now ready to work with the Raptor Antenna!

Your last step will be to attach the antenna to the mounting fixed on the controller, as well as connect the SMA ports between the antenna and the controller using the 15cm long RPSMA-RPSMA cables included in the set.

