Mavic Mini FCC Hack Instructions

by TECH DRONE MEDIA - www.techdronemedia.com



Many of you have reported that the FCC hack is no longer working. In this document you will find the steps needed to make it work.

There is no doubt that the biggest weakness of the MM is the connectivity, and especially in Europe where CE limits the broadcasting power multiple times compared to the US FCC version. I do wanna mention there is a difference in the hardware so you will not benefit as much doing this with your CE drone compared to the full FCC version limited in CE territory. But there are still reports of at least doubling the range, so any improvement is beneficial, as it's CE mini owners have reported issues as early as 2-300m from take off.

Disclaimer: Is it legal using this hack? Using higher broadcasting power than allowed in the area is clearly not allowed, as there is a reason for this regulation. But as the hardware differs and the CE version is made especially for Europe, there should be no issue in testing this. No doubt this will mostly benefit people with a FCC drone going to CE territory. Here I do want to point out that you are not allowed to operate your drone with this FCC hack enabled in CE areas, without violating the local laws.

IMPORTANT: Use this HACK at your own risk and you will properly void the warranty if you do so.

Let go through the steps needed to make it work on an Android Phone

Initial Steps to Into FCC mode

- 1. You need to enable developer mode on your android phone
- 2. You need to download the Fake GPS App from the Play Store
- 3. Uninstall the current DJI Fly App
- 4. Go to APK Mirror and type in DJI FLY in the search field
- 5. Download and install the version 1.0.8 or older (yes this means to lose some of the latest improvements, but there is no way around it, but not the manual video options as that is set by firmware) Remember to disable auto update in the background, as it will be auto upgraded
- Start up the Mavic Mini indoor with no GPS or block it using your hand on top of the drone, or possible tin foil if you are outside (it's important to keep it with no GPS under the whole procedure until you are ready to fly)
- 7. Power up the remote and wait for it to connect to the drone with the phone plugged in
- 8. Make sure to calibrate compass if asked and and unlock if take off prevented by NO GPS
- 9. Close the DJI Fly App and Start Fake GPS and set a location somewhere in the US the app will minimize by it self when you hit the green play icon
- 10. Launch the DJI FLY APP and you should see the dialogue that the Wifi Settings will be changed to adapt to local rules (in this case the location set by Fake GPS)
- 11. The remote will now disconnect and reconnect in FCC you can check this under the transmission tap where you should se 11 channels, instead of 13.
- 12. Now disconnect the phone, and power down the mini and the remote and you are ready to fly (if you are on location you do not need to power it down)

Take Off on Location:

- 1. Make sure the phone is not connected to the remote
- 2. Power up the Mini and Remote and let them connect
- 3. Start the motors by using the CSC commands, by center stick low.
- 4. You might not be able to do this until the Mini has locked onto 10 or more satellites, this can take some time depending on location.
- 5. ByPass GPS LOCK: You can bypass this step by repeating the initial steps and unlocking takeoff without GPS on location, but then you can't power off the drone before flight)
- 6. One you can start the motors, let the Mini hover above ground and connect the phone and it should now stay connected in FCC mode because DJI can not risk resetting the connection when the drone is airborne.
- 7. Do and extra check under the transmission tap where you should see 11 channels

Landing on Location:

If you want to preserve the settings for battery switch or changing filters, you need to do this.

- 1. Let the Mini hover above ground and disconnect the phone
- 2. Pull down the throttle stick (left) and land the drone manually

It's as easy as that, and you can repeat the Take Off on Location to get airborne in FCC mode

You are properly asking Is it worth the hassle?

It is difficult to find definite proof if this helps or not, as there are many different reports. I myself had not been forced to use it since I decided to use airplane mode every time I fly, but I have not been flying in wifi polluted areas lately, so this not a problem for me currently, but I would encourage you to share your experience below

Thank you and Happy Flying

TECH DRONE MEDIA - www.techdronemedia.com

Follow my youtube channel on: <u>https://www.youtube.com/techdronemedia</u>

Mavic Mini FCC Hack FAQ

If the location is set to US, what happens in case of RTH

One user claimed a Mavic 2 fly away was caused by this because it was messing with the RTH home point. This should not be the case as the GPS coordinates are recorded and stored internally in the drone-based on your physical take off position.

Does it break the warranty?

Any hack applied to your DJI drones will properly void the warranty in case it goes wrong. Just know that everything the drones does is recorded to the flight log, so DJI would know if you send it in

Does it work on iOS

In principle yes, as there are several virtual GPS workarounds available for iOS, where you from your desktop (normally windows) can force your iOS device into a specific position. Tools like http://3u.com/ will allow you to do that, but as there is no way of downgrading apps on iOS, this approach will not work, so in short NO it does not work on iOS

What happens if the compass needs to be calibrated?

There is no way around connecting to the DJI FLY App to fix the issue and the FCC Hack will be reset and you have to do the procedure again.

I can't make FakeGPS set a new position

Your android device should have developer mode enabled for GPS spoofing works. You need to research that as it differs on what model android you use.

Does it work on a CE Drone?

You still get the benefit in the 5.8Ghz band as far as I can see, but not as much power as full FCC. In general, any improvement to the 5.8GHz is beneficial, as it's limited to 500m and where most CE owners are seeing a problem. But never the less the guy that reported this to me has been reaching 1600m out with no hiccups after doing this, with the drone on 2.4Ghz in a non-urban area with little to no disturbance, the same location without the hack signal issues started to occur at 775m, around half the distance. The only reason why the flight was aborted was because of strong wind and cold conditions. Documentation of signal strength and flight logs were provided, so the performance is real

Mavic Mini comes as 2 different models

There is a difference in the hardware between the CE version for Europe and FCC version in US. *DJI Mavic Mini comes in two different models, the last 3 digits are SS5 and SD25 in the drone specification for both aircraft and remote, making it easy to set them apart. The model SS5 has Mainland China SRRC standard certification and North American FCC and approved for Mainland China, Taiwan, North America, South America and parts of Southeast Asia. SD25 is a European CE certification and a Japanese MIC certification and hereby approved for Europe, Oceania, South Korea, parts of Southeast Asia, Hong Kong, Macao*

I Can't start the motors without phone

Yes, you can just push the stick center low.. this is called CSC and will allow you to start and stop the motors without the phone. Just be aware the drone needs to see at least 10 satellites to be able to start the motors.

It only works indoors, the drone shifts back when you take it outdoors.

Many have reported it's enough to put your hand on the top of the Mavic Mini to block the GPS. But you need to keep until you have made the initial steps otherwise the controller will reset and revert back.