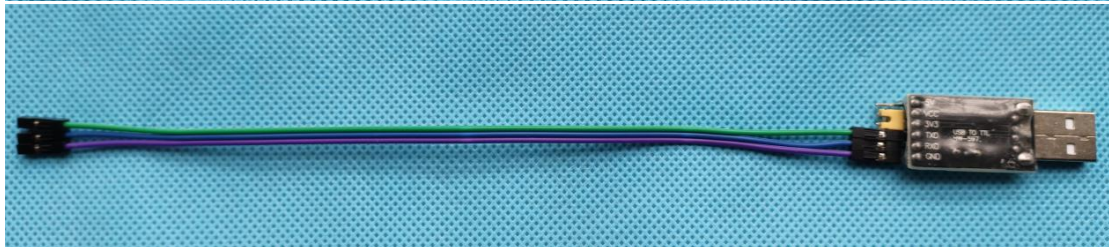
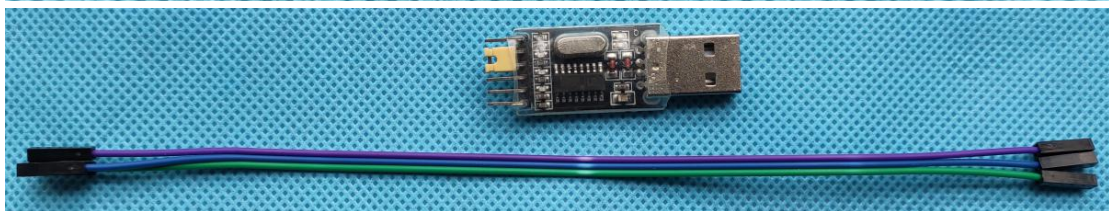


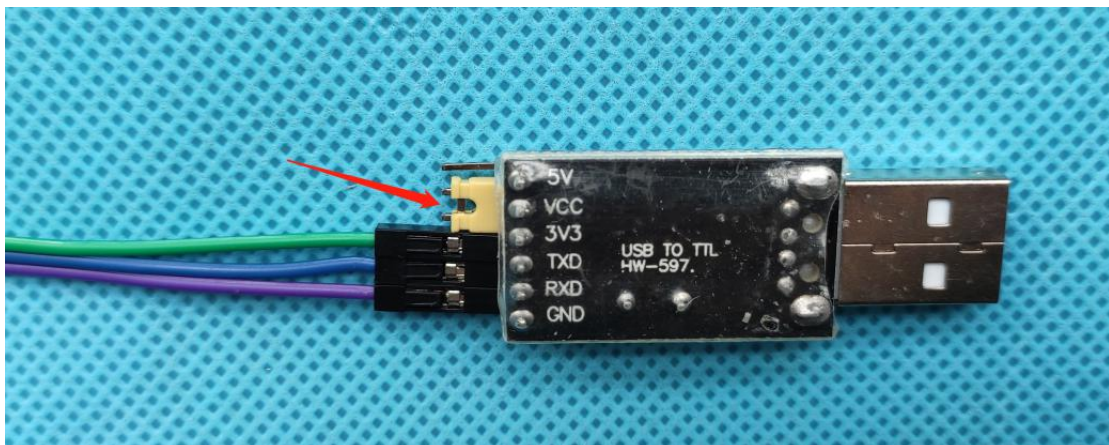
iCubeSmart 3D8S Led Cube Program Download Manual

Step 1: Install the driver for the downloader

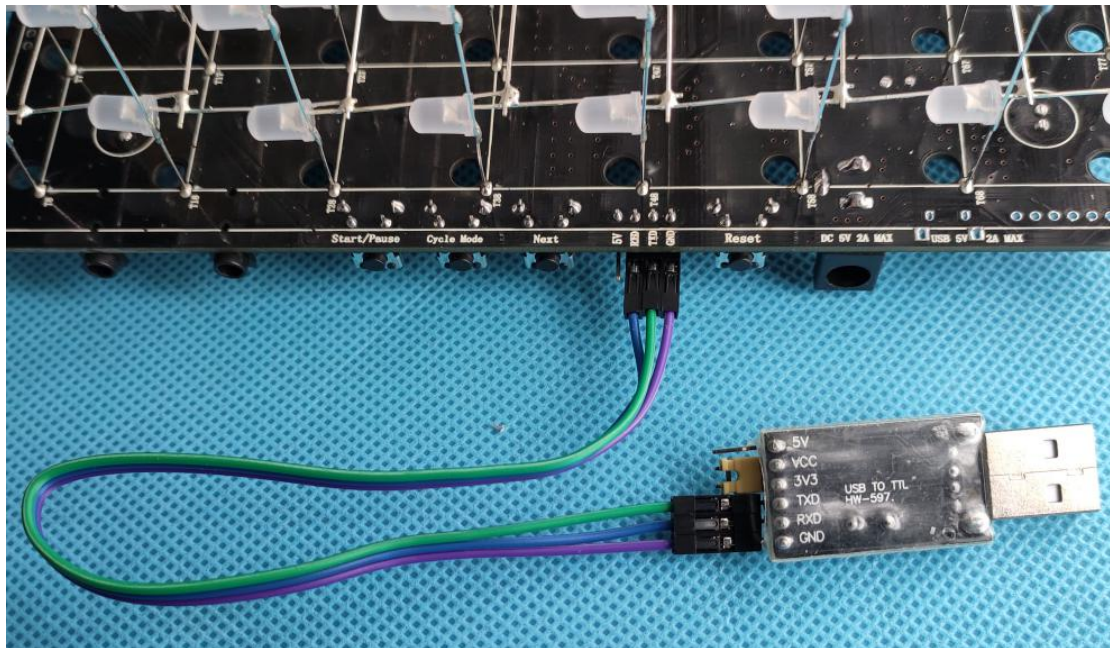
Find the downloader of the kit.



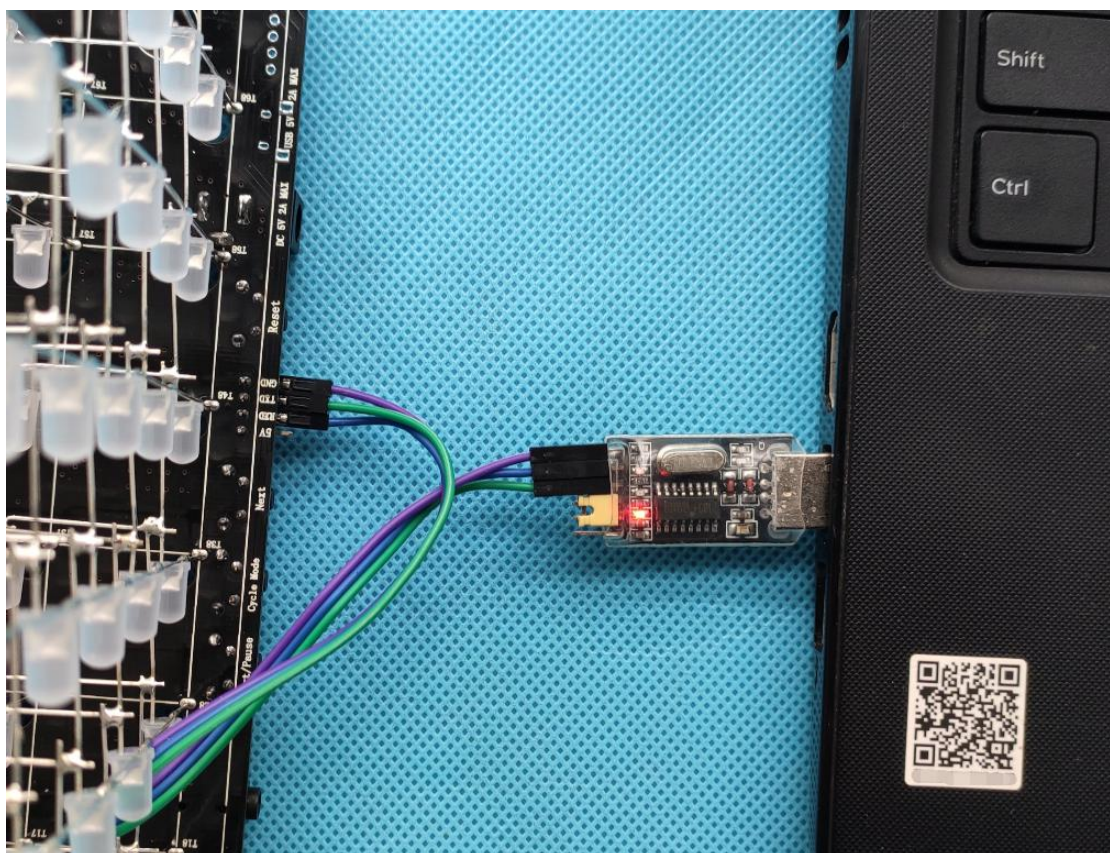
Connect the three Dupont cables to TXD RXD GND of the downloader. The yellow short-circuit cap pointed by the arrow is connected to VCC and 3V3.



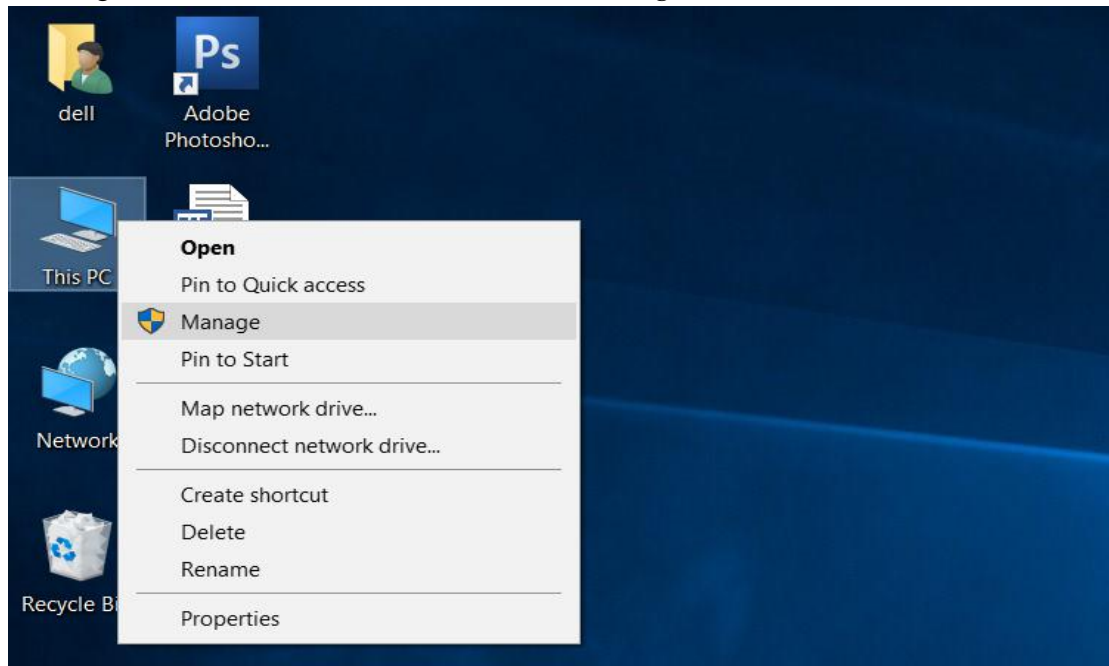
Connect the other side of the Dupont line to the download connector of the cube. The TXD of the downloader is connected to the TXD of the cube, the RXD of the downloader is connected to the RXD of the cube, and the GND of the downloader is connected to the GND of the cube.



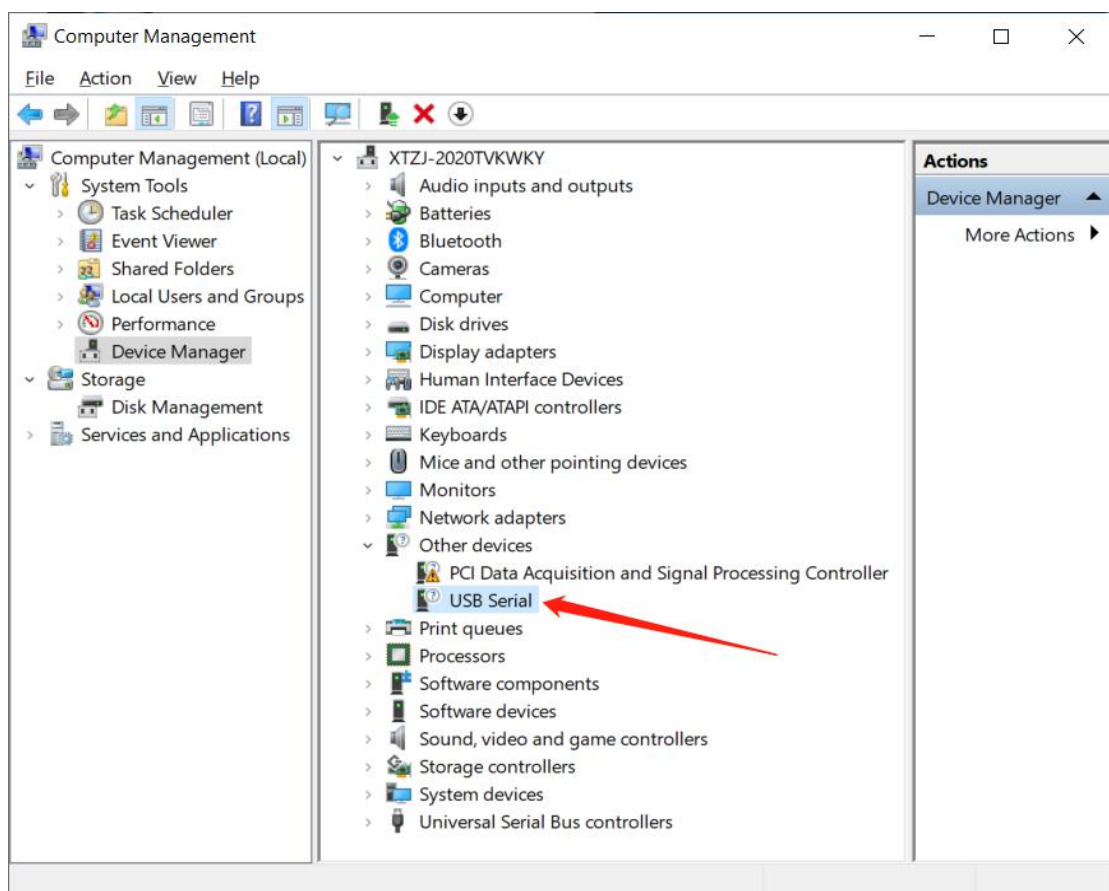
Then connect the downloader to the computer USB port.



Then, right click on the *THIS PC* icon and left click *manage*.

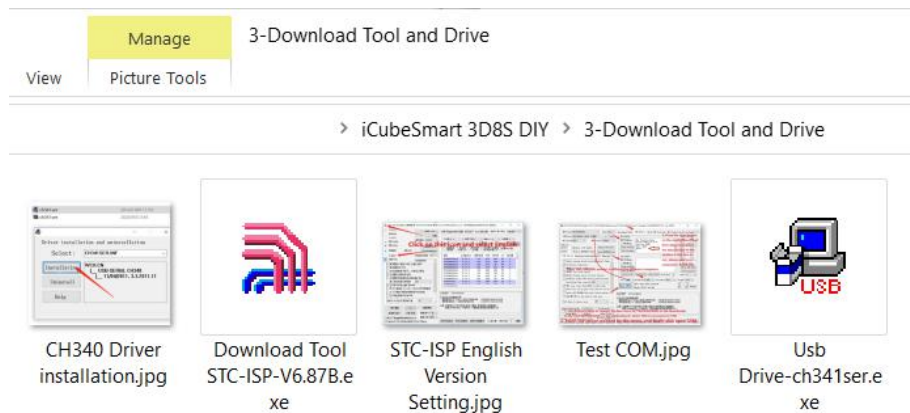


You can see that the system has detected the download cable device, but there is **no COM mark** is displayed on the device icon because there is no driver.

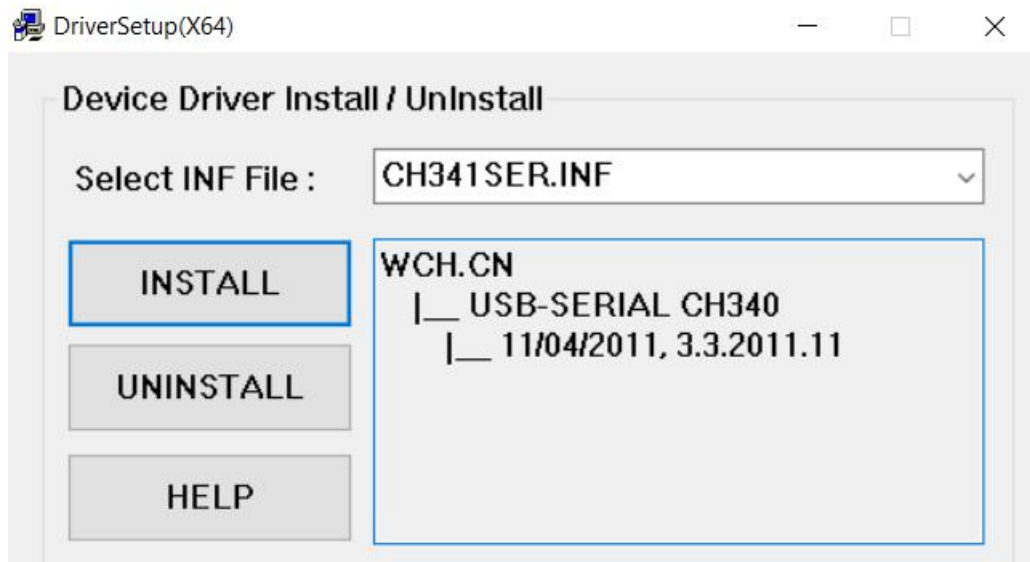


Double-click **Usb Drive-ch341ser.exe** in the folder 3-Download Tool and Drive.

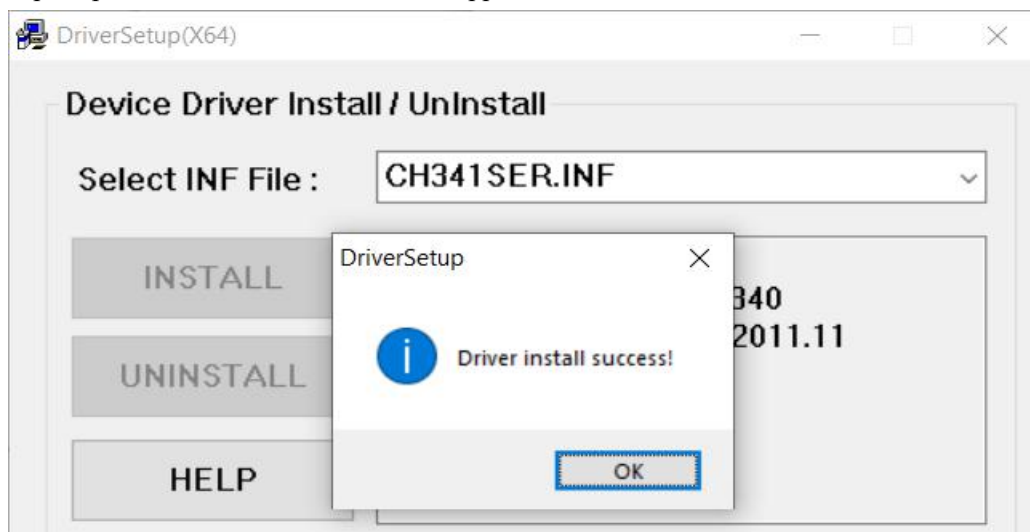
Before double-clicking, please make sure that the downloader is connected to the USB port of the computer and the yellow short cap is connected to VCC and 3V3. Otherwise, the driver will fail to install.



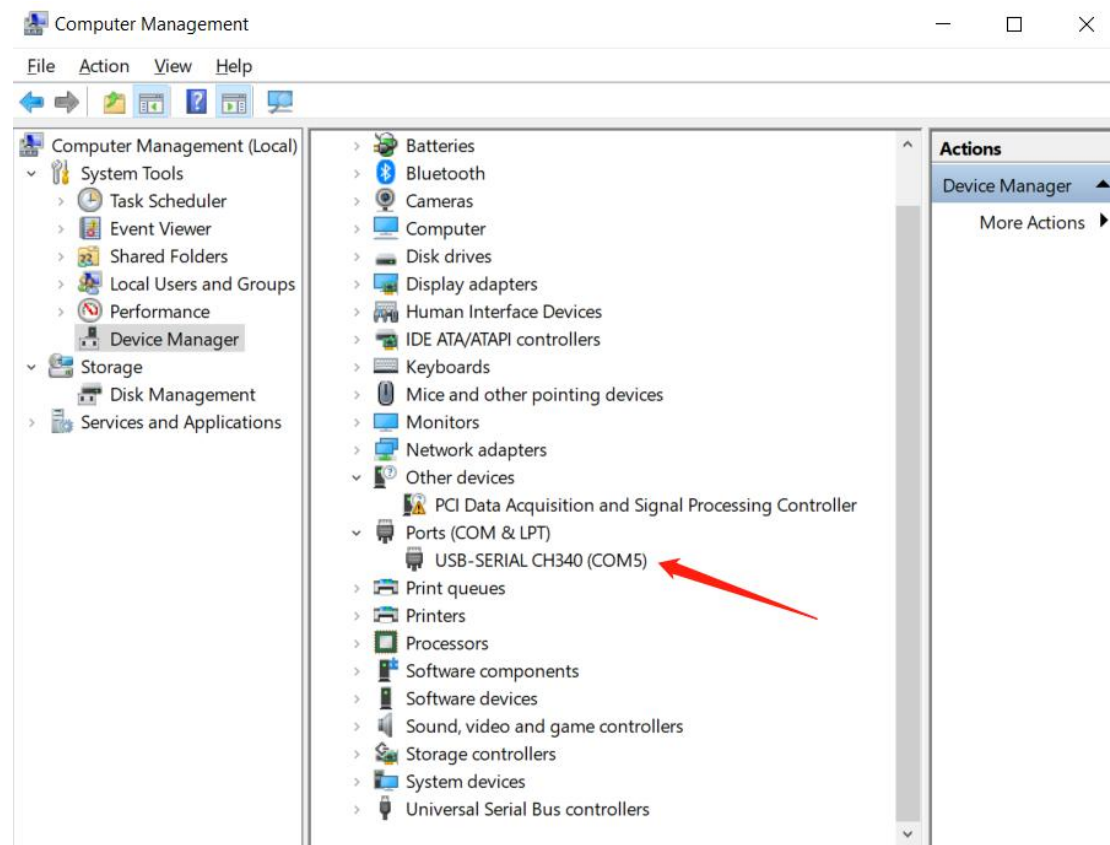
After double-clicking **Usb Drive-ch341ser.exe**, the following box will appear, choose to install.



A prompt of successful installation will appear afterwards.

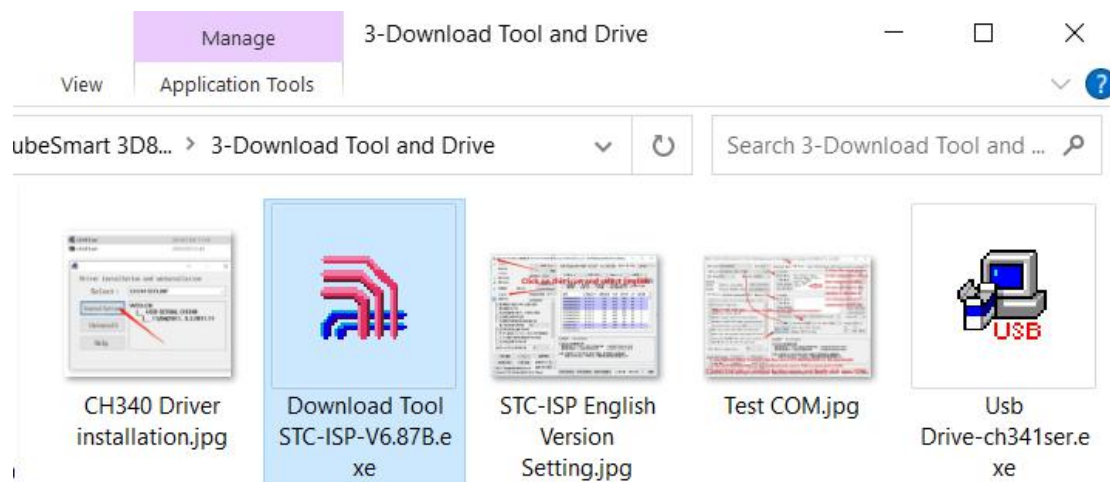


Then open the device manager, you can see the corresponding COM port number.

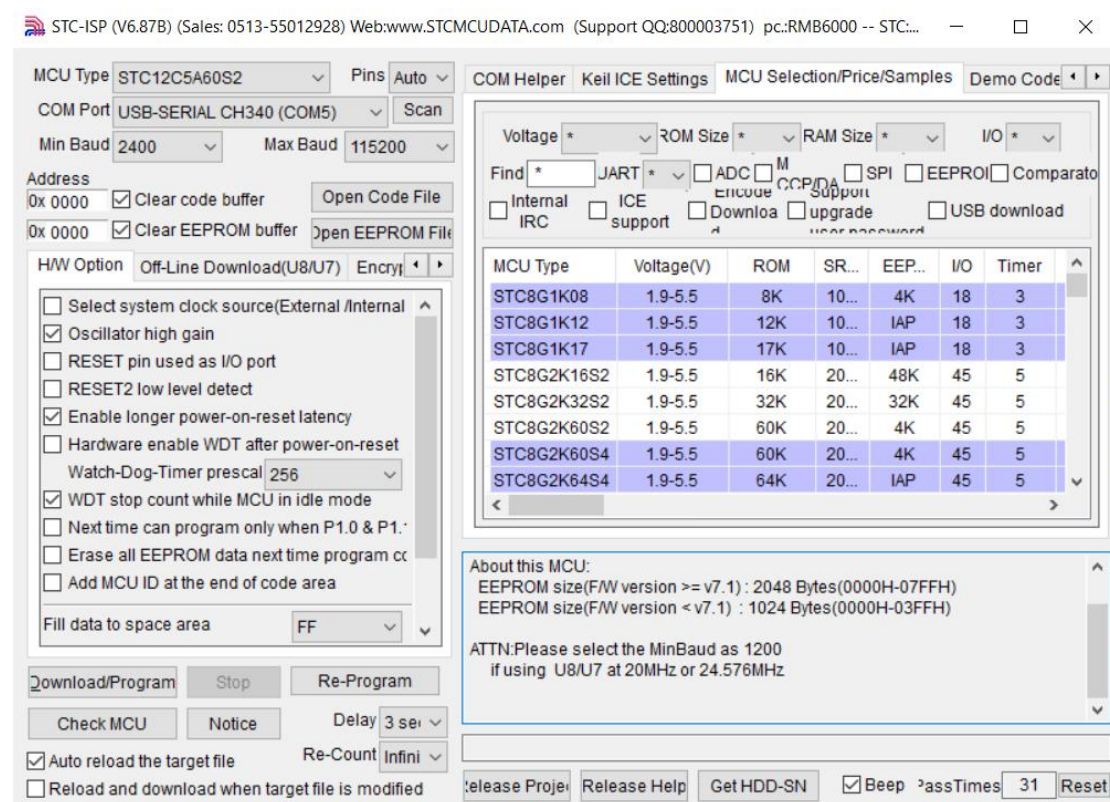


The USB downloader driver installation is complete.

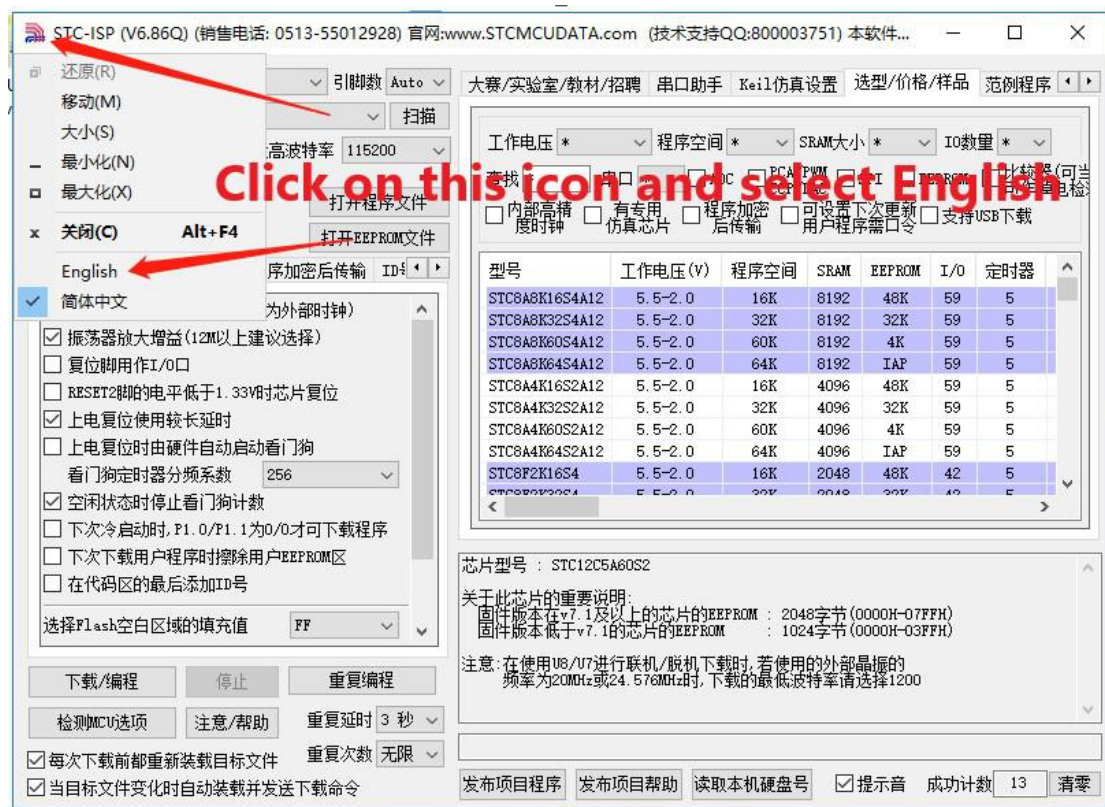
Step 2: Open the download tool, Download the animation program.



Double-click Download Tool STC-ISP-V6.87B.exe, will get the following interface.

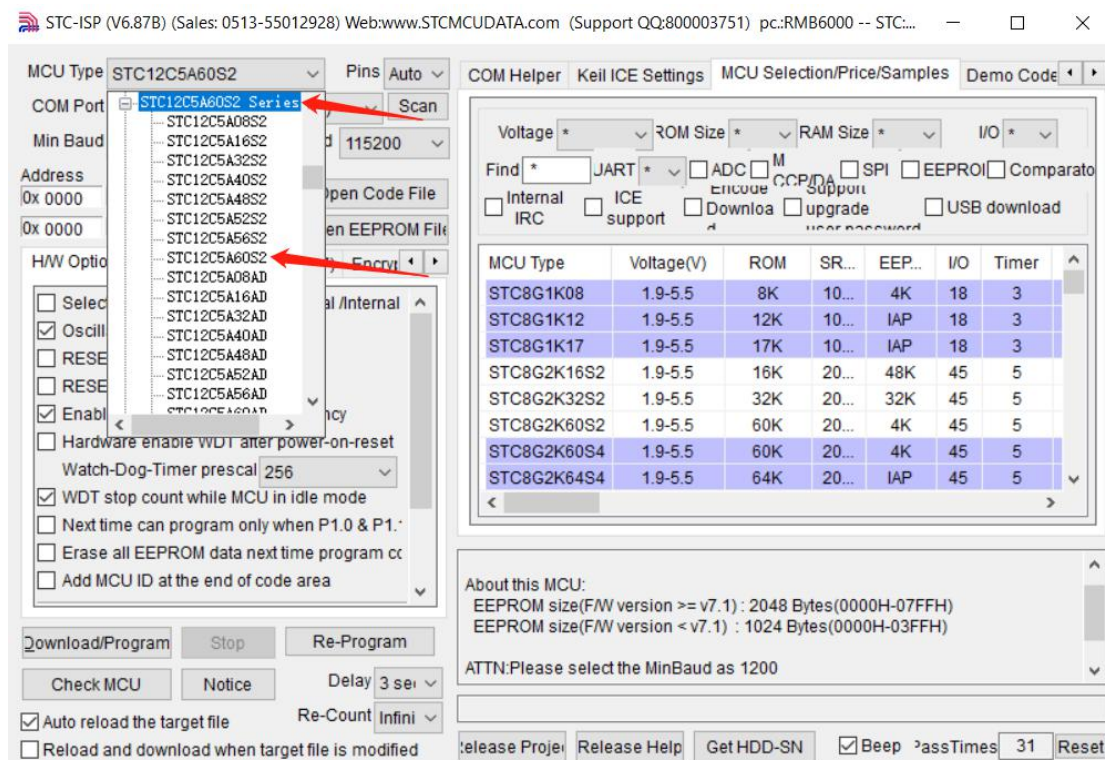


If you double-click to open the software with a Chinese interface, please switch to an English interface as shown in the figure below.



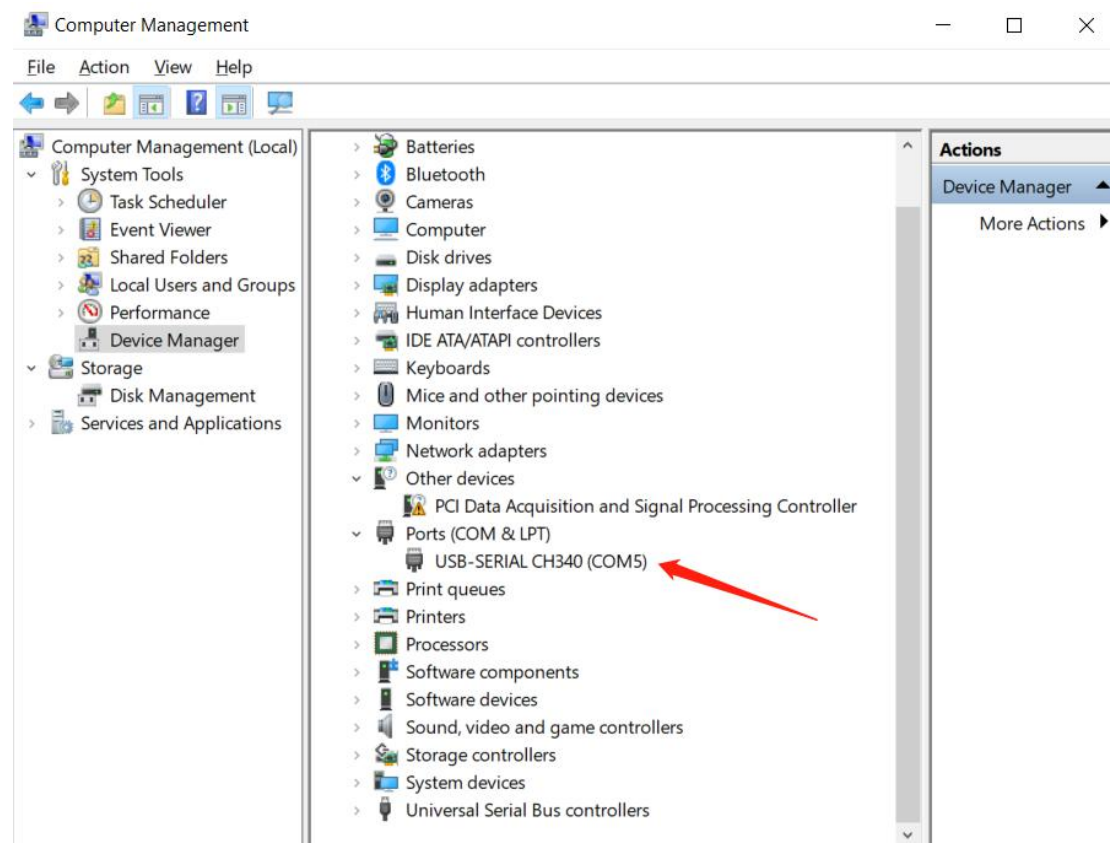
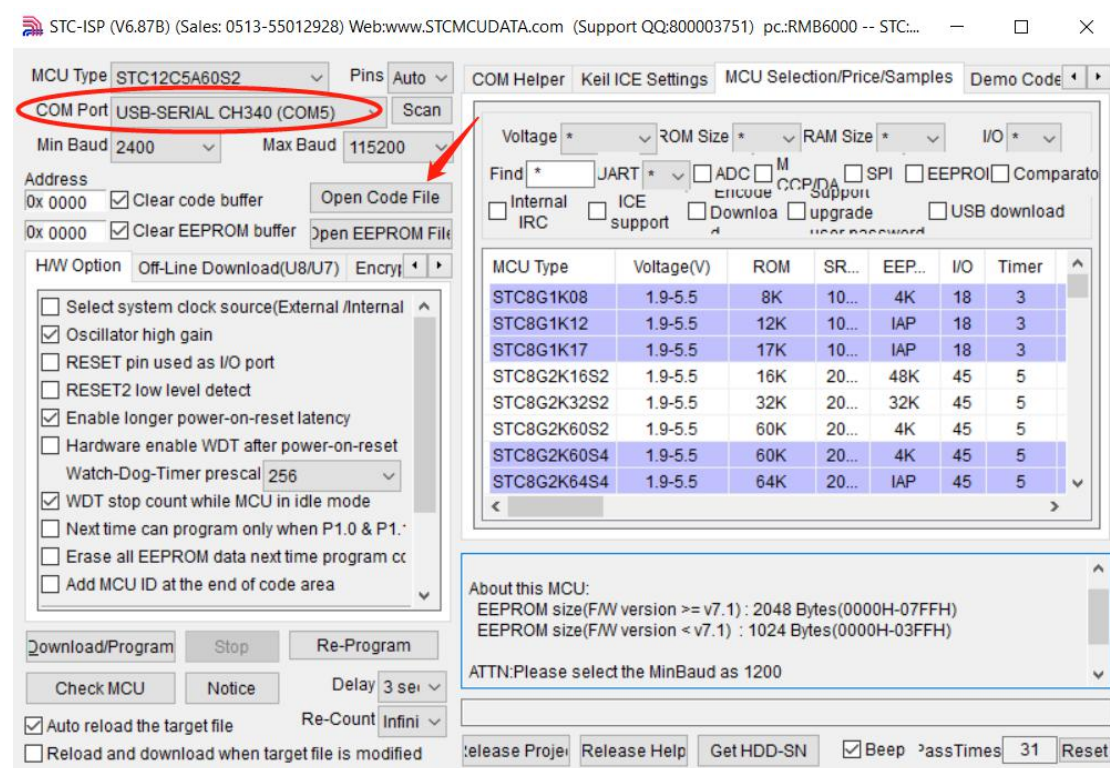
Download the animation program.

Choose the MCU model at first, the MCU model we use is *STC12C5A60S2*.



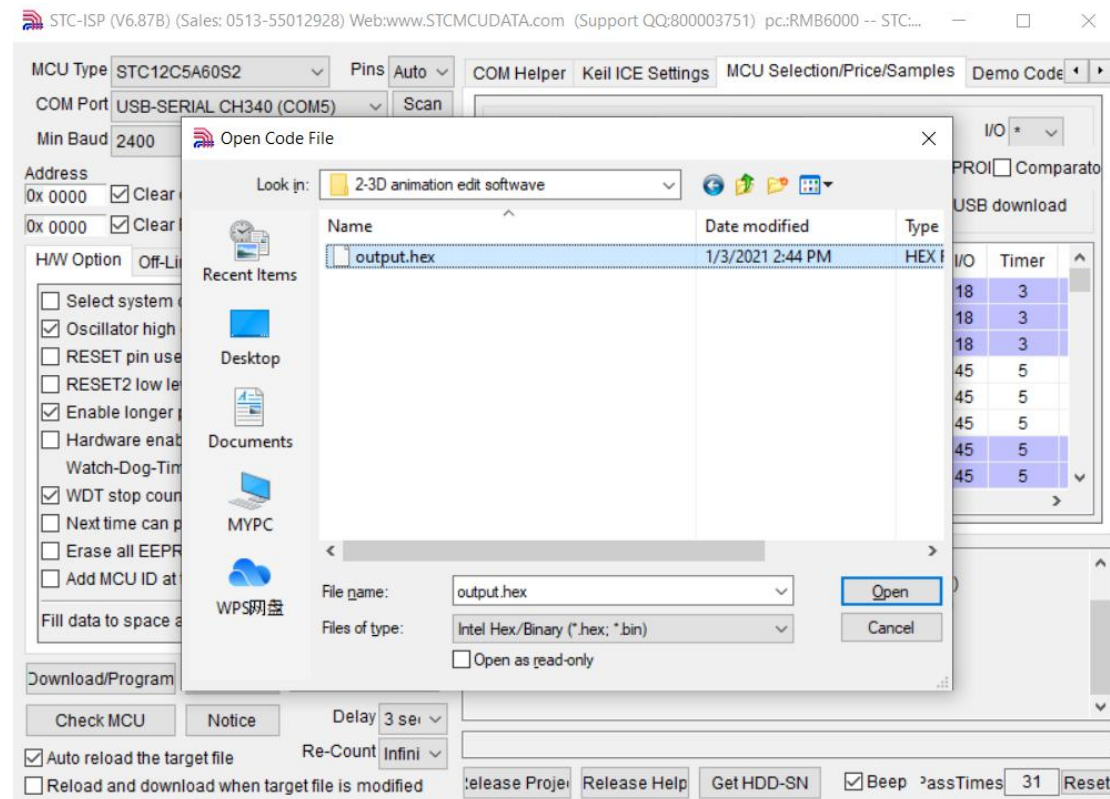
Then select the COM Port number as is in the red circle below. (The COM Port numbers of different computers are different, not necessarily COM5. Please select the COM Port number according to your computer.)

Then click on the *open-code-file* below the red arrow.

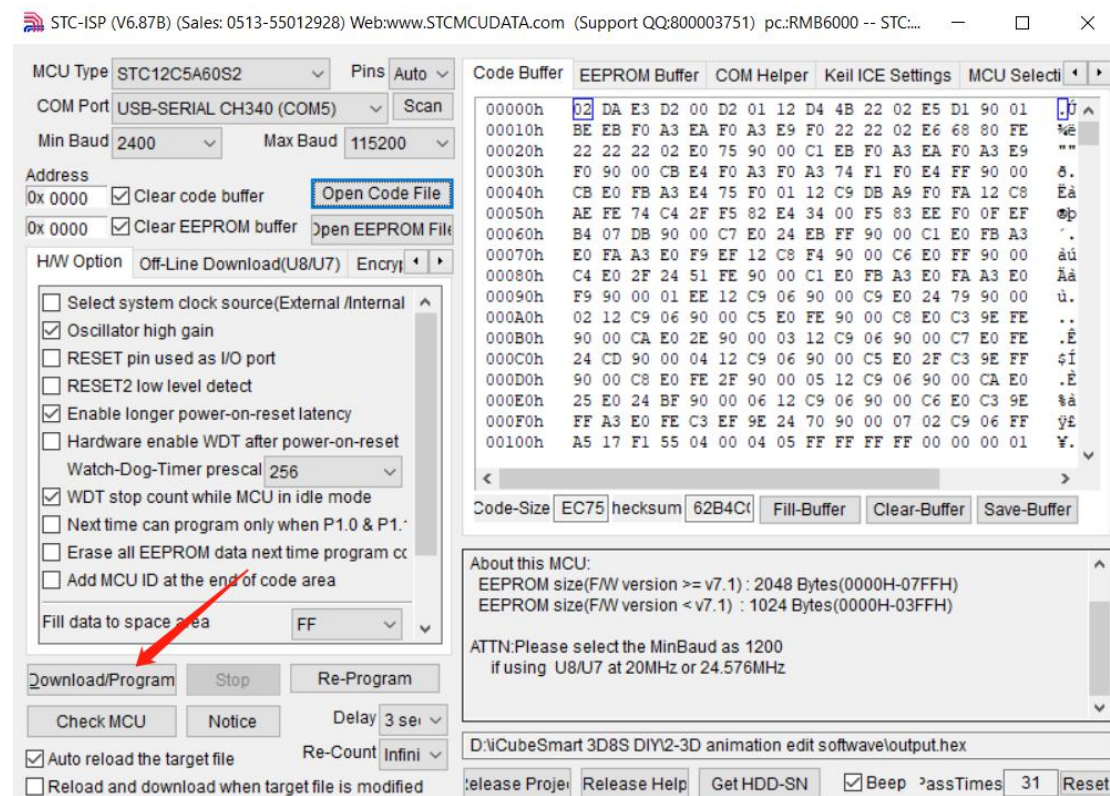


Click *output.hex* in the *2- iCubeSmart 3D animation edit tool* folder.

The hex file generated by your own modified animation is in this folder. its name is output.hex. You can judge whether it is your own generated hex file based on the time of building of this file.



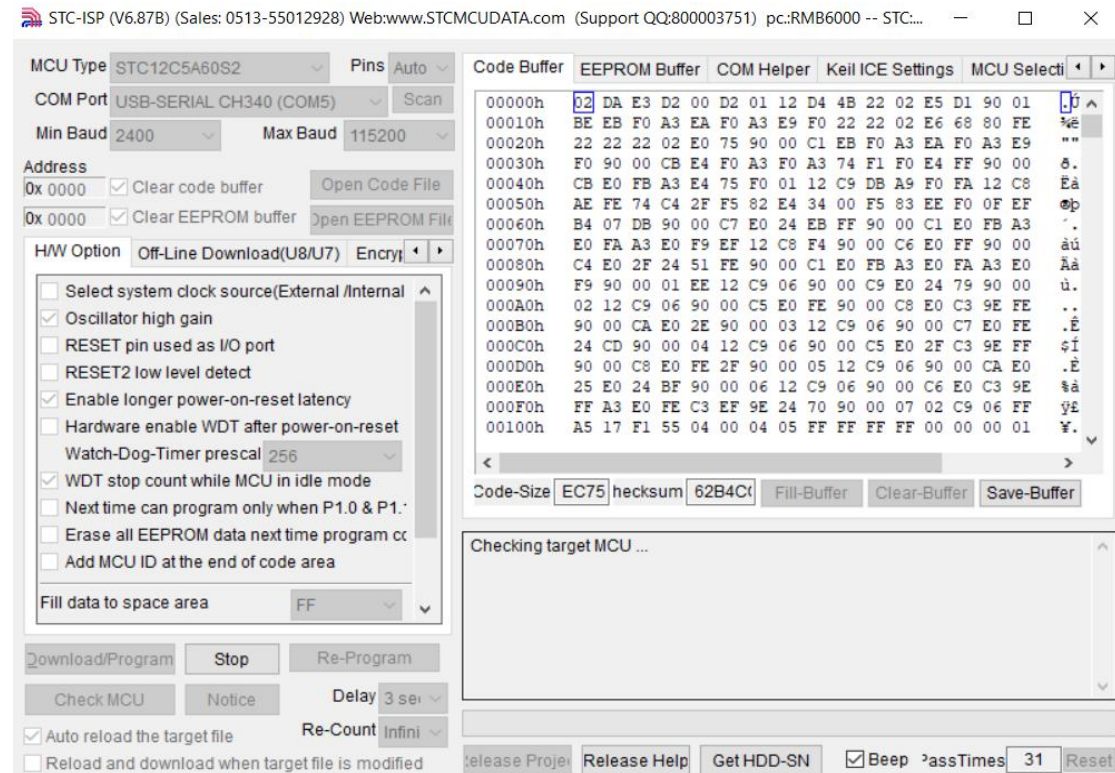
Click **Open** to get the following screen, and keep the default settings for other settings. Then click download/program.



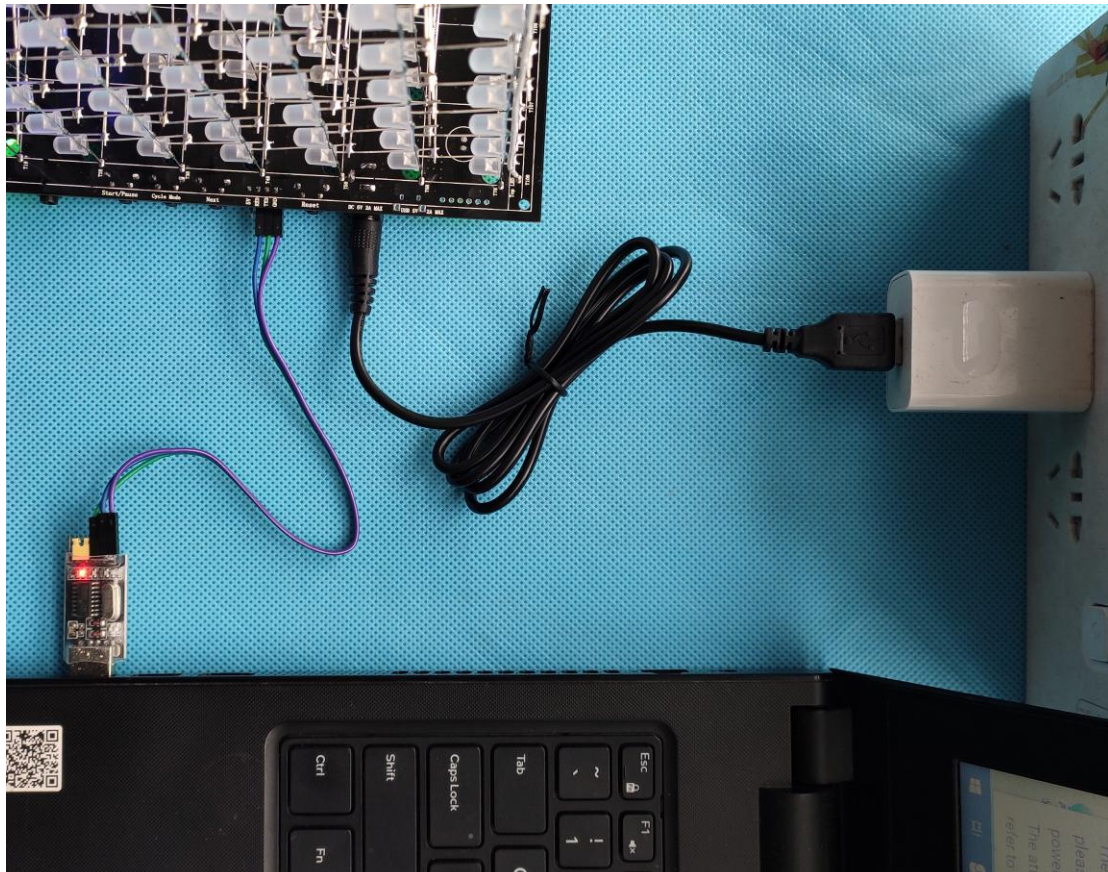
After clicking **Download/Program**, the software enters the following interface.

The motherboard is detected and downloaded at the moment of power on.

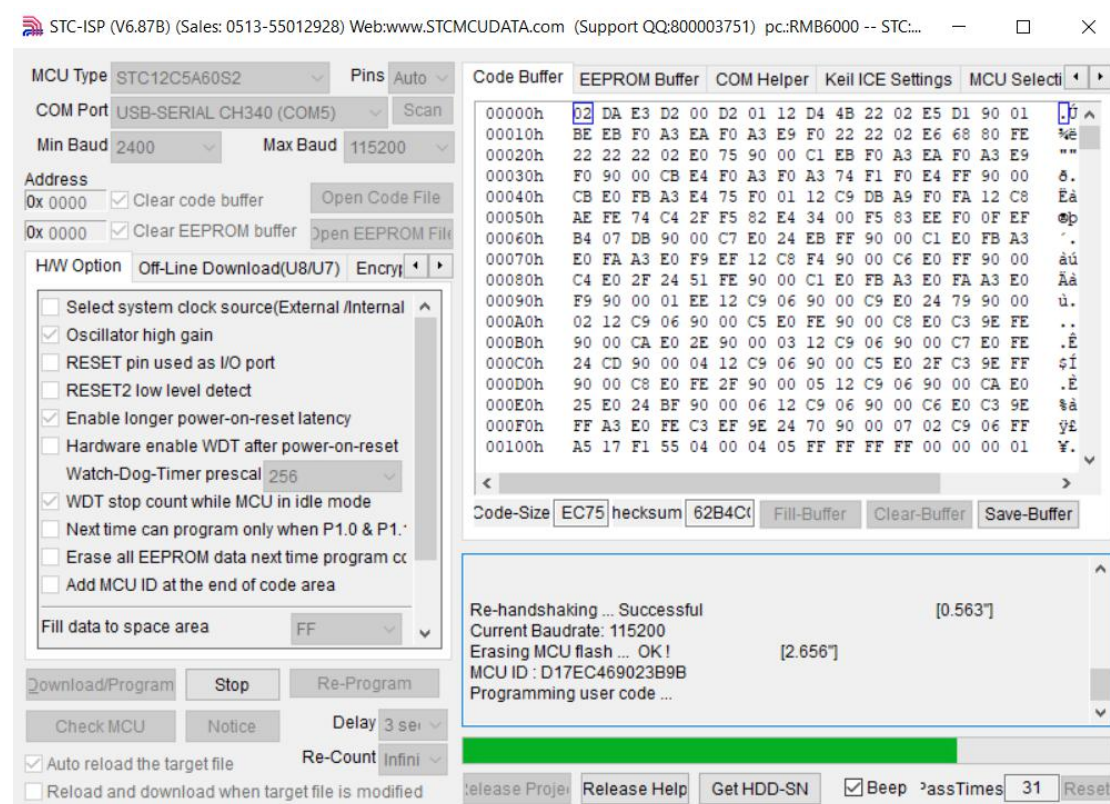
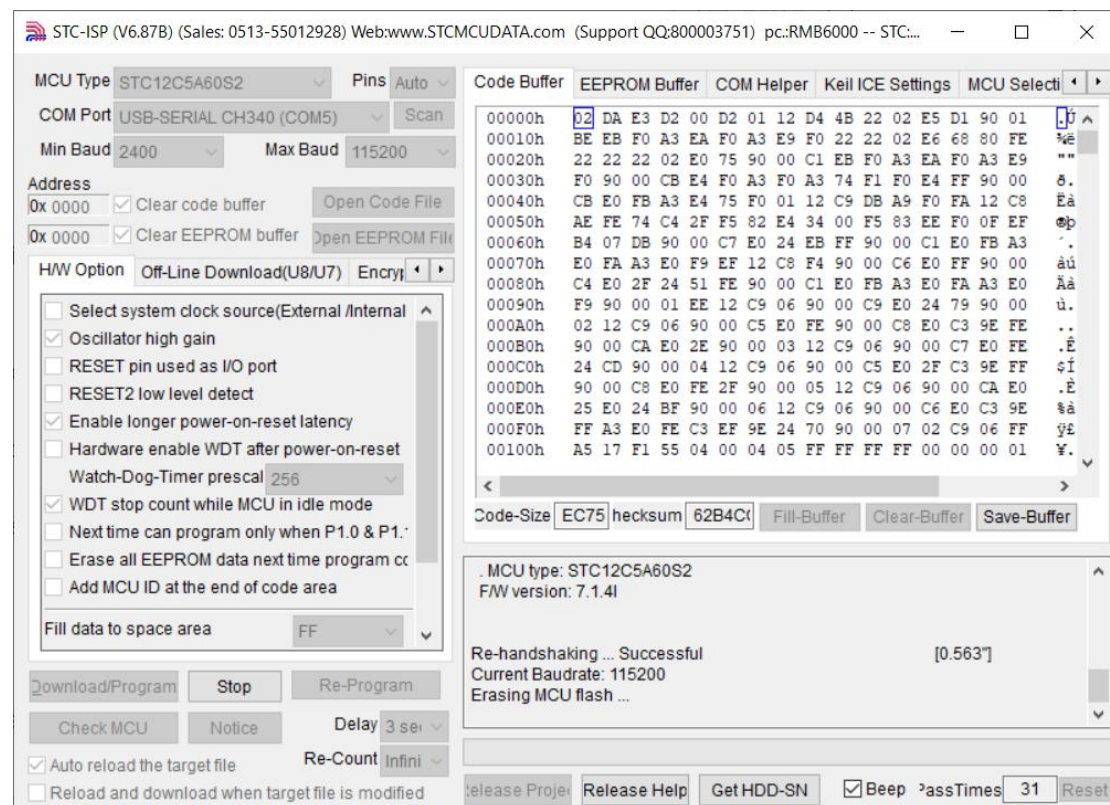
Therefore, the software will stay on this interface until the 5V power supply is inserted.



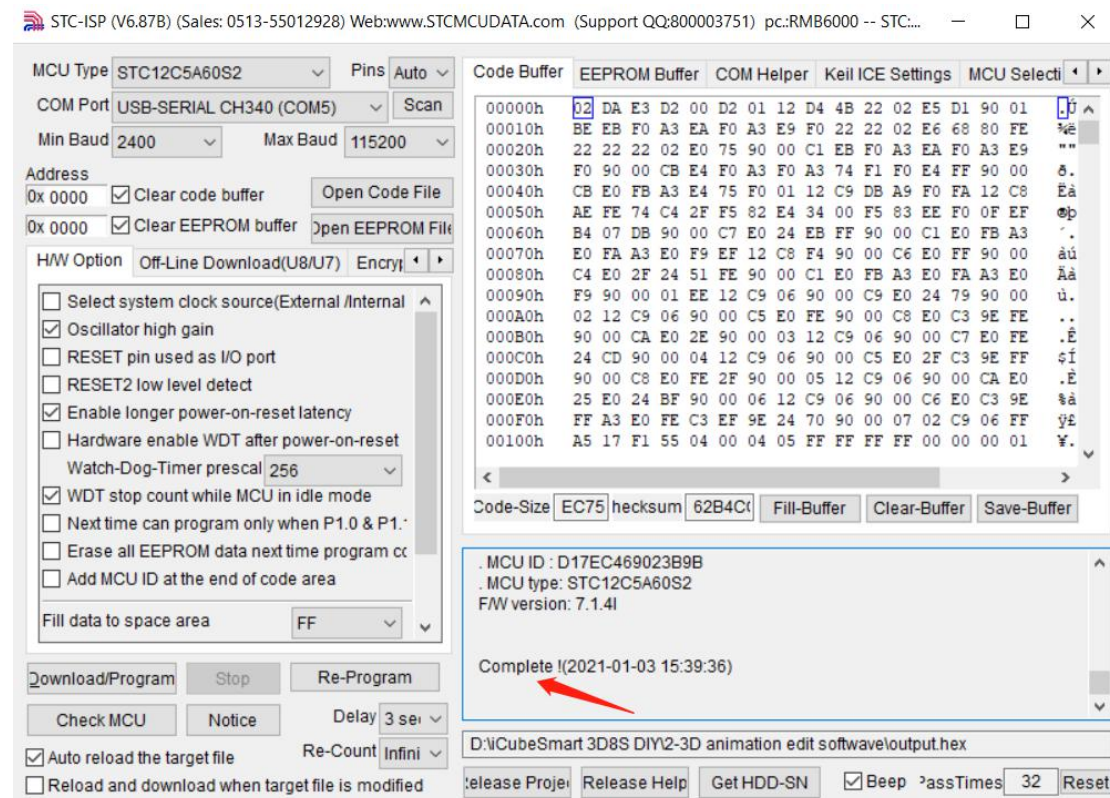
Use the black USB to DC cable to connect to the 5V2A power adapter.



The software starts to download and a progress bar will appear.

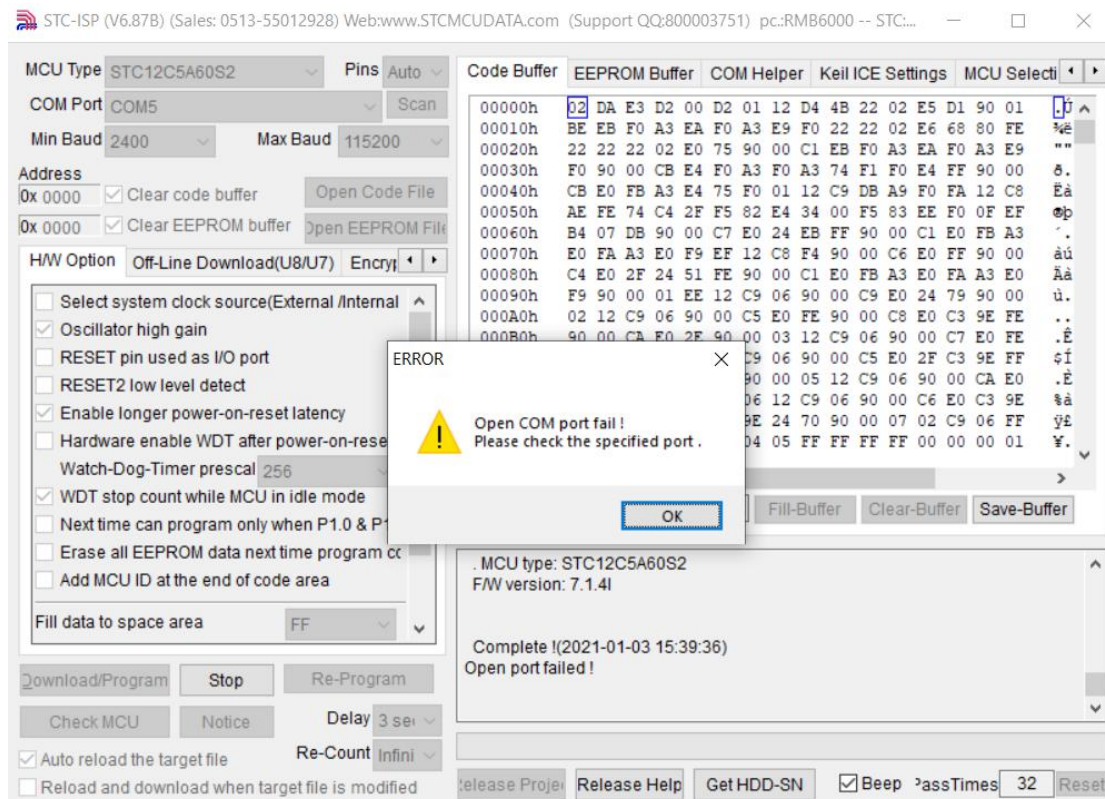


After the progress bar is completed, the software will display **Complete** and the download is complete.

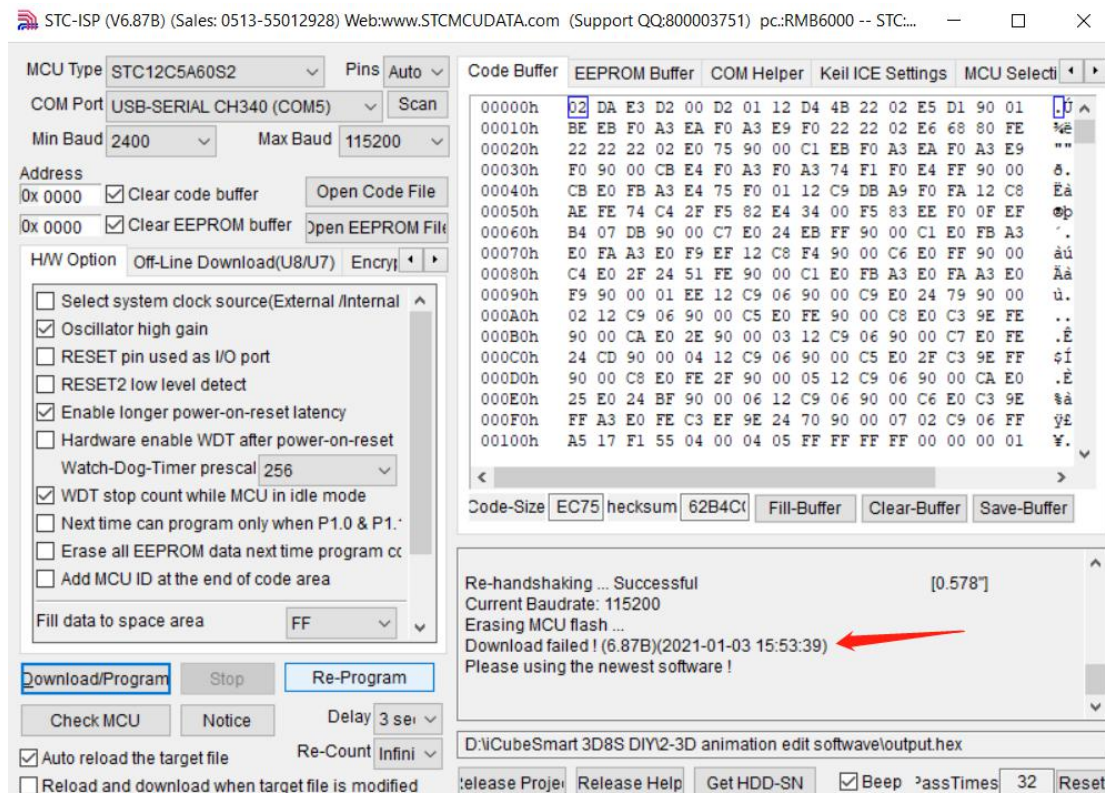


Several reasons and solutions for download failure.

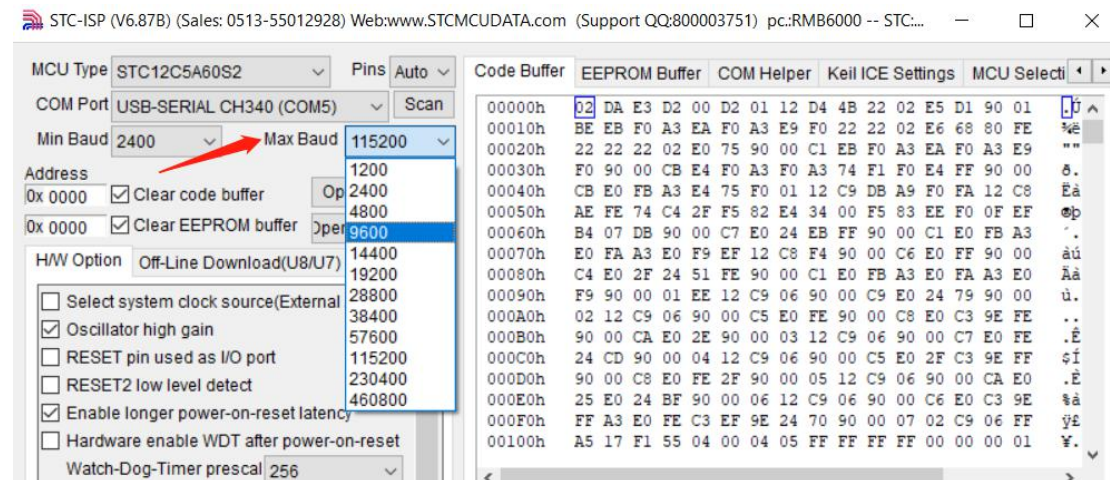
1, “Open COM port fail”, that is because the driver has’t been installed well.
Please follow step 1 to reinstall the driver.



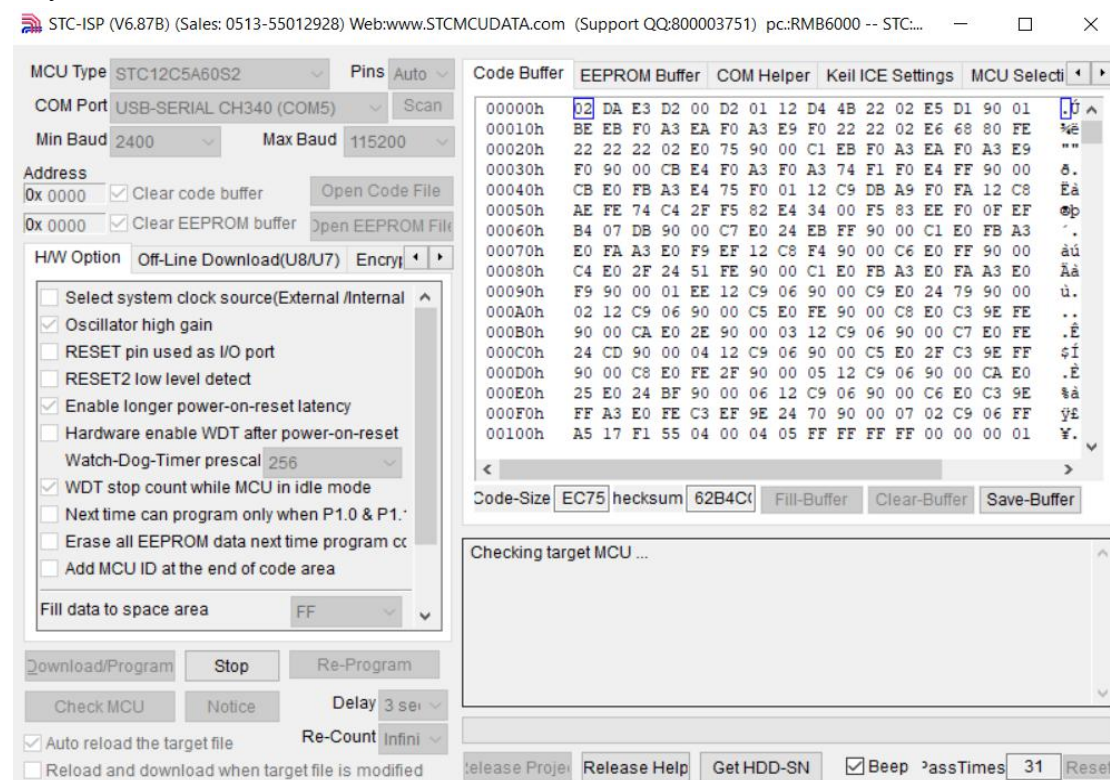
2, The download failed during the download process.



There are many reasons for the download failure. If the above download failure appears repeatedly, please change the value of *Max Baud* to 9600, then the probability of successful download will be much higher.



3. After clicking "download/program", plug in the 5V power adapter, the software still stays in this interface, and does not enter the download state.



There are two reasons for this problem: (Because the motherboard will enter the download state when it detects that it is powered on.)

A. The power supply of the power adapter is insufficient, and the power supply voltage becomes low at the moment of power-on, causing the motherboard to not detect power-on.

B. The software may not enter the standby state.

Solution:

A. Click "Stop" on the software interface, then click "Download/Program", and then connect the

5V2A power adapter. Test several times like this.

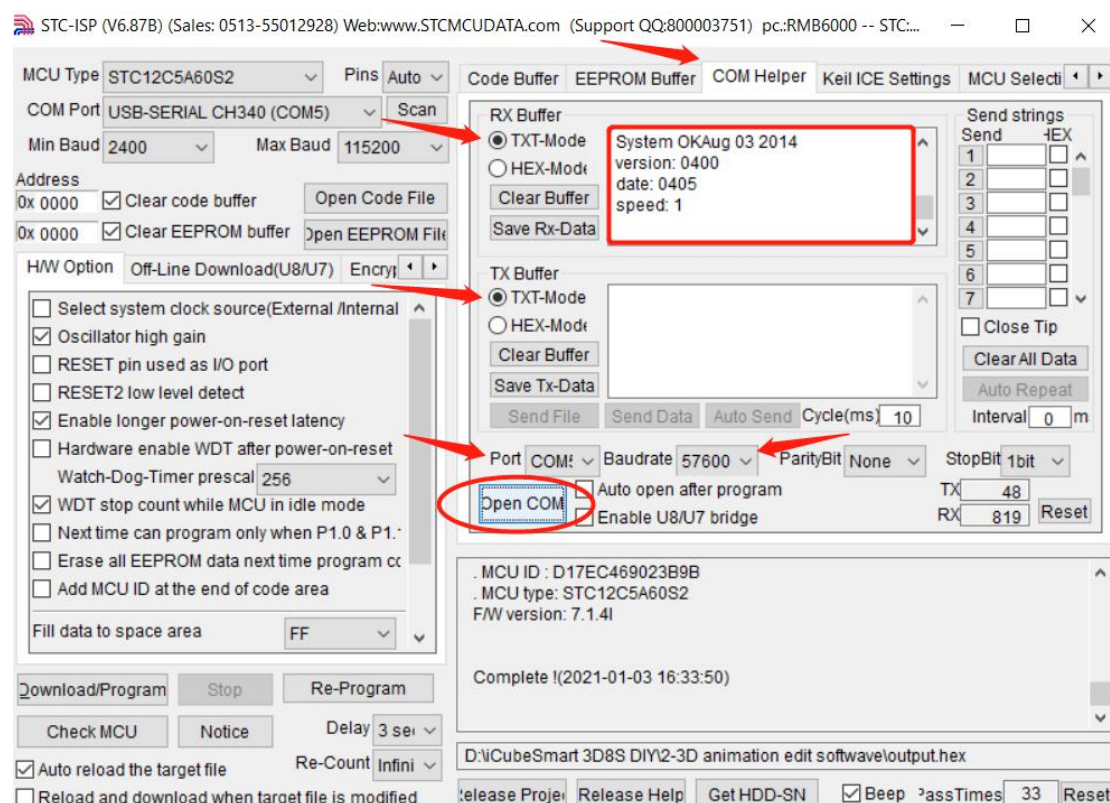
B. Close the software, unplug the downloader from the computer, then connect the downloader to the computer's USB port, reopen the software, and download again.

C. If these two steps do not work, please check the connection line between the downloader and the Cube motherboard. The downloader TXD is connected to the Cube motherboard TXD, the downloader RXD is connected to the Cube motherboard RXD, and the downloader GND is connected to the cube motherboard's GND, Please note that the 5V are not connected.

D. If you confirm that the download cable is connected correctly, please check whether the driver is installed correctly, please refer to step 1.

Of course, you can also test whether the downloader or driver is installed properly by the following methods.

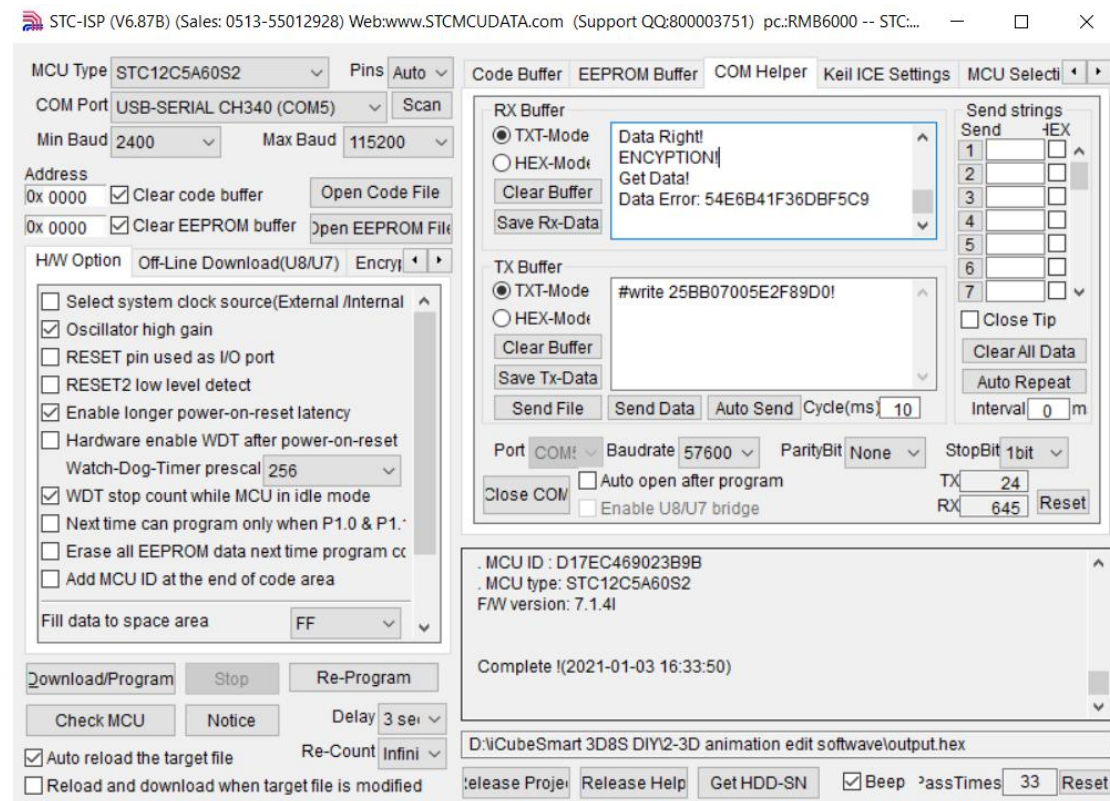
Select "COM Helper" in the STC-ISP software, then select the option pointed by the arrow in the figure below, and finally click "Open COM". Then press the Reset button on the motherboard. Text will appear in the red box in the figure below.



If the text in the above picture appears, it means that the downloader, driver, and cube motherboard are all good.

In this case, the program still cannot be downloaded. You can change a power supply, a USB port, or a computer and test again.

If you receive the following text, please email us the "Data Error: XXXXXXXXXX" in the received text. Our email address is icubessmart@gmail.com . We will help you solve any problems.



If you encounter other problems, please send us an email (icubessmart@gmail.com). We have professional engineers to help you solve those problems together. Thank you for purchasing icubessmart DIY products, we will continue to launch more and more fun DIY products. We are looking forward to getting your attention, thank you!

If you need online services, you can add our Skype account, we can provide you with online services at your convenience, thank you!

Skype: <https://join.skype.com/invite/CmERNASoXvtN>