

How to burn ES32 Arduino NOA PD Firmware With ESP download tool(1.0.0.1)

- 1) Get Firmware download tools(flash_download_tool_3.9.0.zip) from espressif website

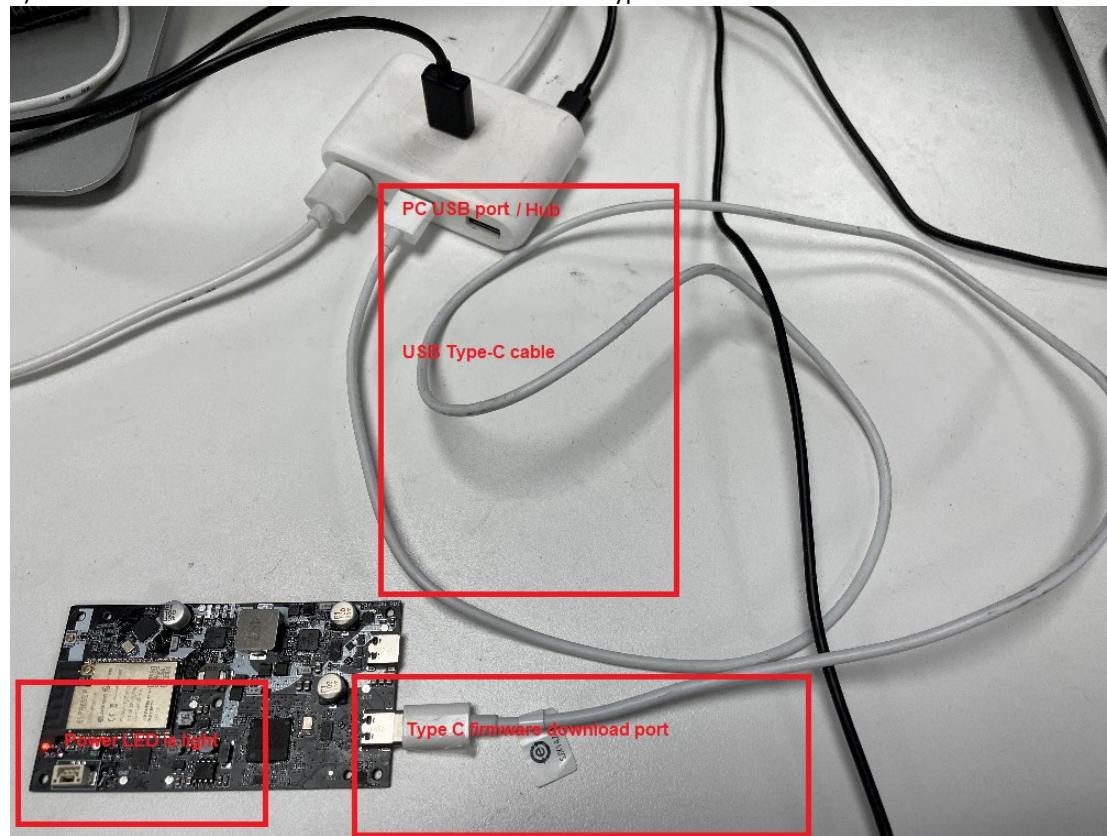
The screenshot shows the Espressif Support website with the 'Support' tab selected. Below it, the 'Download > Tools' section is visible. A search bar at the top right contains the text 'Search keywords'. On the left, there's a sidebar with a 'Filter' button and a 'Product' dropdown menu containing options for ESP32-S3, ESP32-S2, ESP32-C3, and ESP32. The main content area displays a table titled 'Flash Download Tools' with one result: 'Flash Download Tools' (Version V3.9.0, Release Date 2021.09.18, Platform Windows PC). There are 'Download' and 'Expand all' buttons at the top of the table.

- 2) Get ES32 Arduino NOA PD firmware, put them in a directory

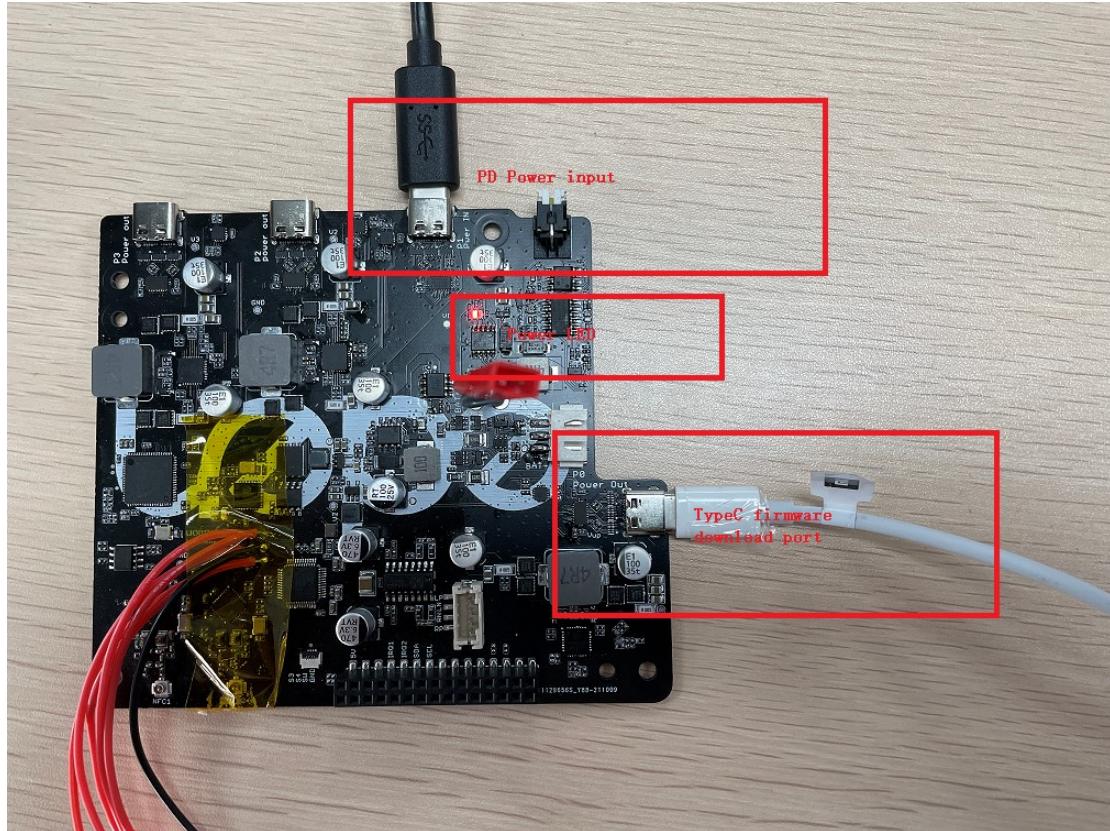
The screenshot shows a file explorer window with the path 'Worker > GitHub_Noalabs > NOA_ESP32_PD > ESP32_Arduino_Partitions'. It lists several files:

Name	Date modified	Type	Size	Description
boot_app0.bin	3/26/2021 7:26 PM	BIN File	8 KB	Arduino boot app0 file
bootloader_dio_80m.bin	3/26/2021 7:26 PM	BIN File	17 KB	Arduino ESP32 bootloader file
default.bin	3/26/2021 7:26 PM	BIN File	3 KB	ESP firmware partitions setting file
default.csv	3/26/2021 7:26 PM	XLS Worksheet	1 KB	ESP firmware partitions setting help file
ESP32_DOWNLOAD_TOOLS_Setting.txt	10/21/2021 7:41 PM	TXT File	2 KB	ESP firmware download tools setting help file
NOA_ESP32_PD.ino.esp32_0.0.0_1_2021021192428.bin	10/21/2021 7:26 PM	BIN File	321 KB	NOA ESP32 PD App firmware file

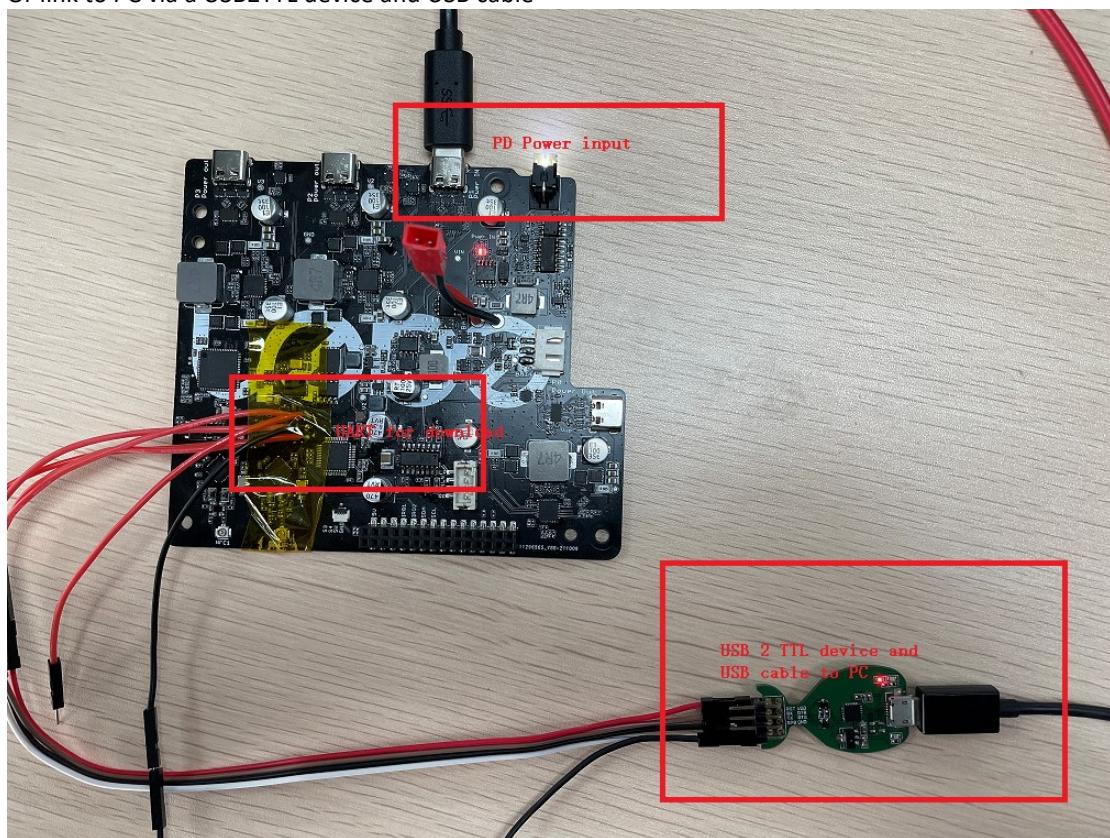
- 3) Link ESP32 NOA PD Snacker board to a PC via a USB Type-C cable



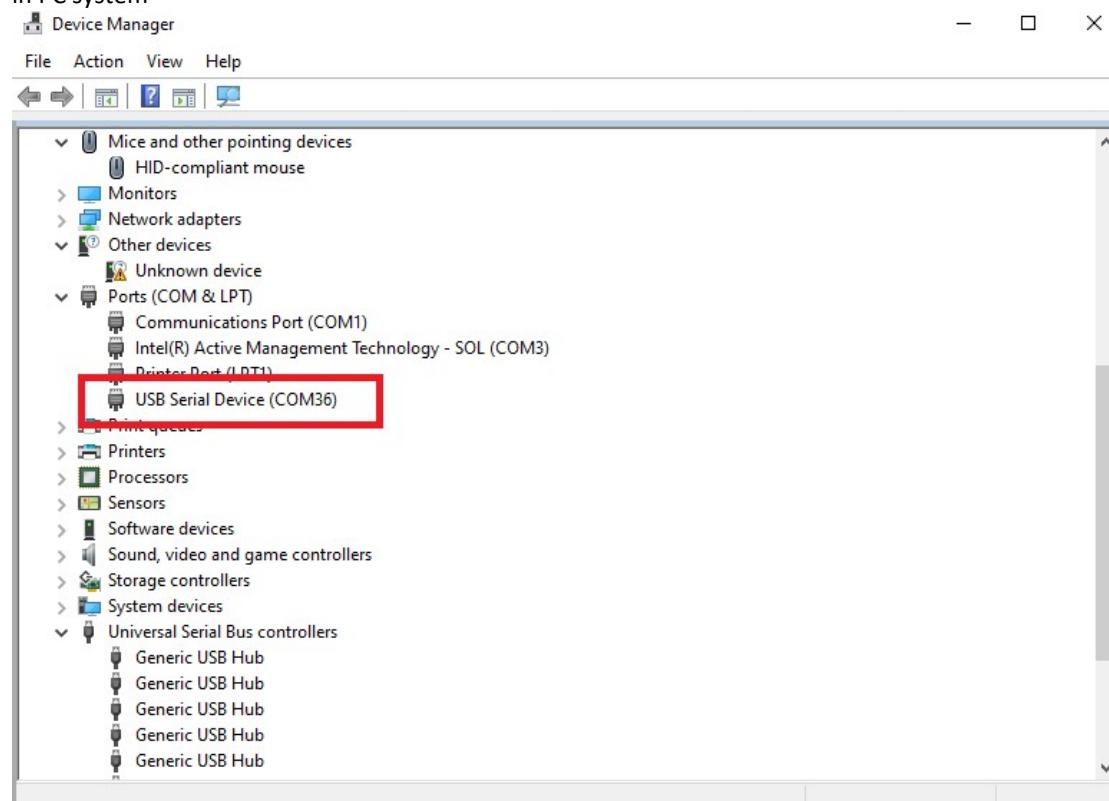
Link ESP32 NOA PD Station board to a PC via a USB Type-C cable



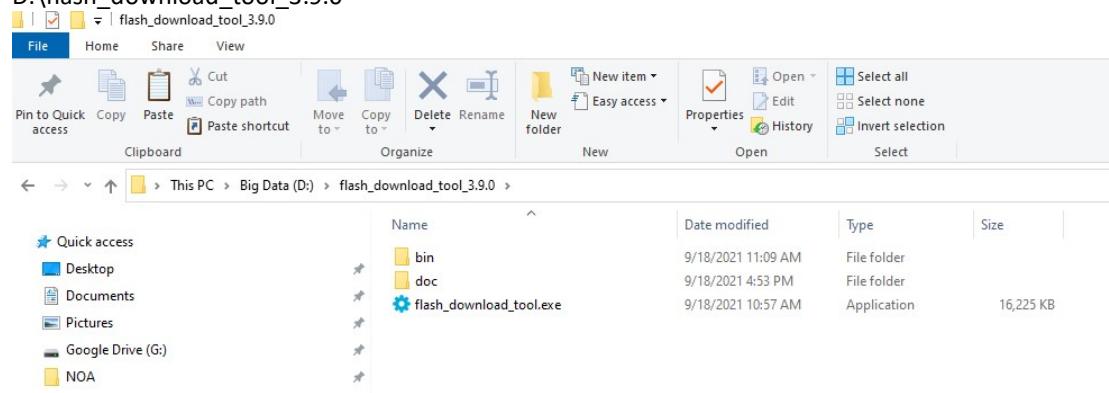
Or link to PC via a USB2TTL device and USB cable



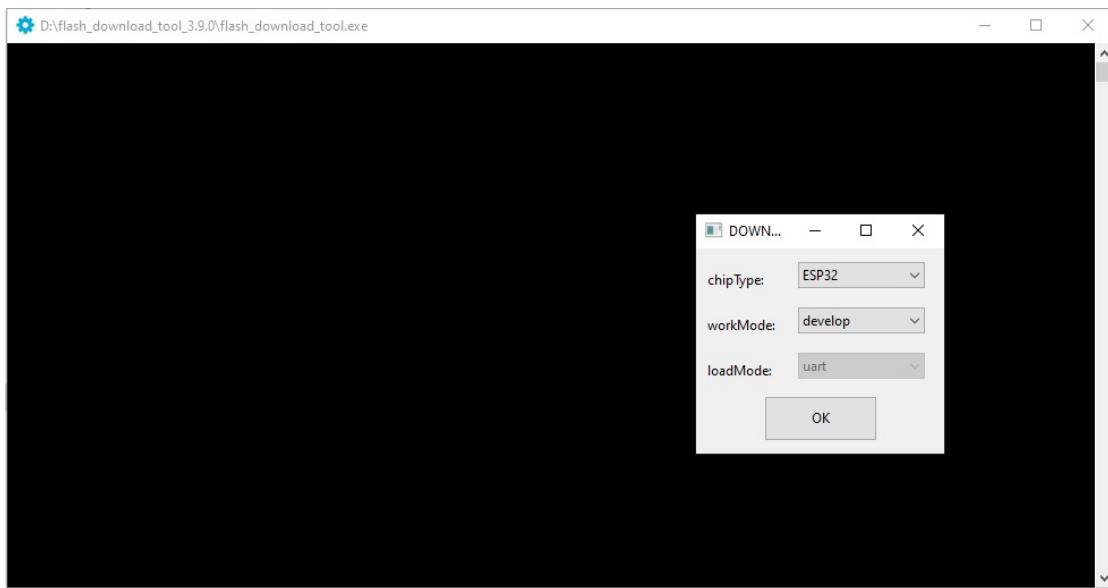
Make sure the Power LED on NOA PD board is light and Check A USB Serial Device(COM*) is enabled in PC system



4) Unzip flash_download_tool_3.9.0.zip file in PC to a directory that is named as
D:\flash_download_tool_3.9.0

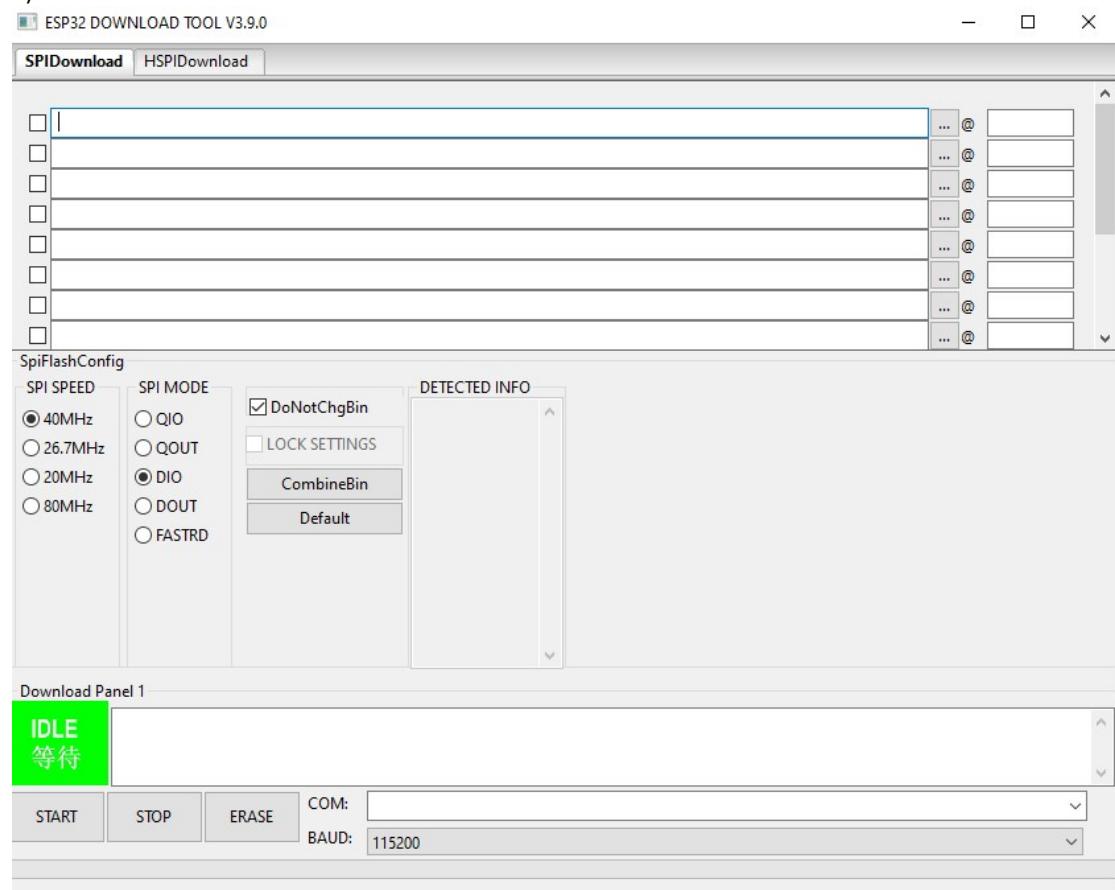


5) Run flash_download_tool.exe

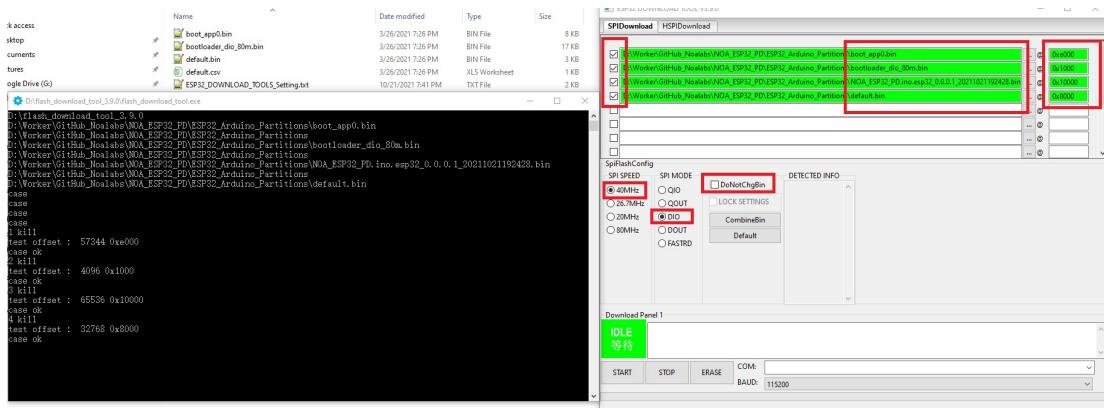


6) Select ESP32 for “chipType” and develop for “workMode”, click “OK” for continue

7) Choice “SPIDownload” tab-label



8) Load NOA ESP32 arduino firmware with follow setting



boot_app0.bin	0xe000
bootloader_*_.bin	0x1000
NOA_ESP32_PD.ino.esp32.bin	0x10000
default.bin	0x8000

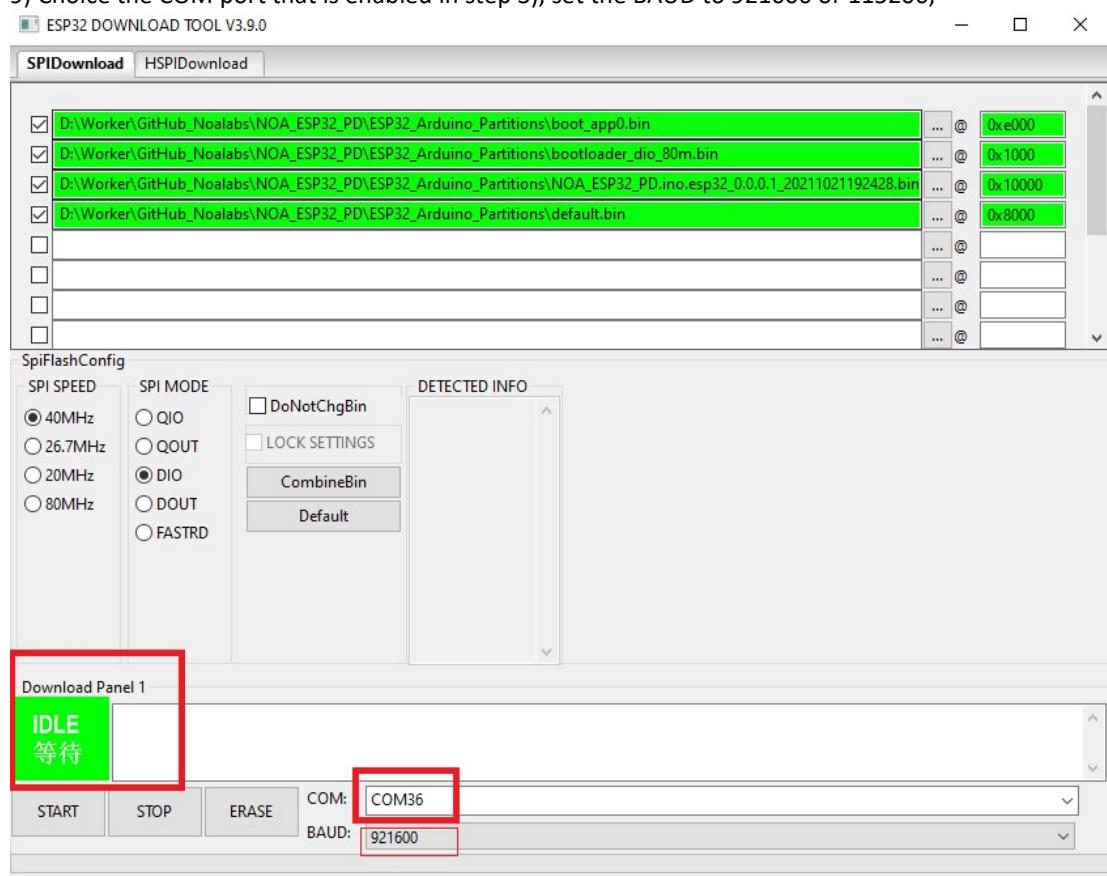
Set "SPI SPEED" to 40MHz

Set "SPI MODE" to DIO

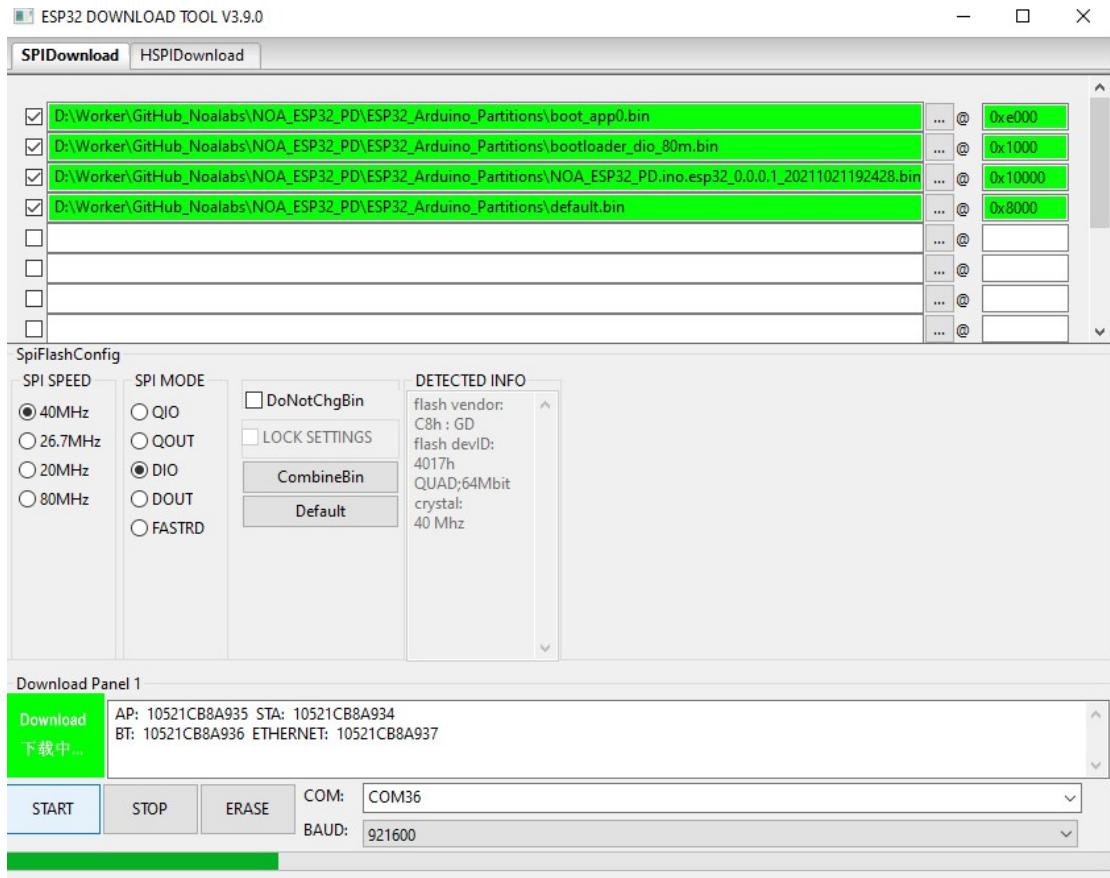
Unchecked "DoNotChgBin"

Make sure "Download Panel1" show a green "IDLE" logo

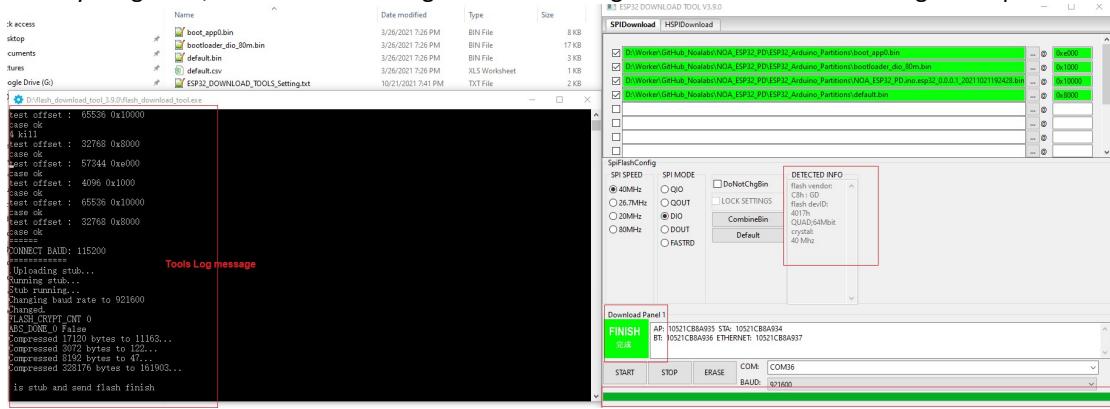
9) Choice the COM port that is enabled in step 3), set the BAUD to 921600 or 115200,



click "START" button to download firmware to NOA PD board

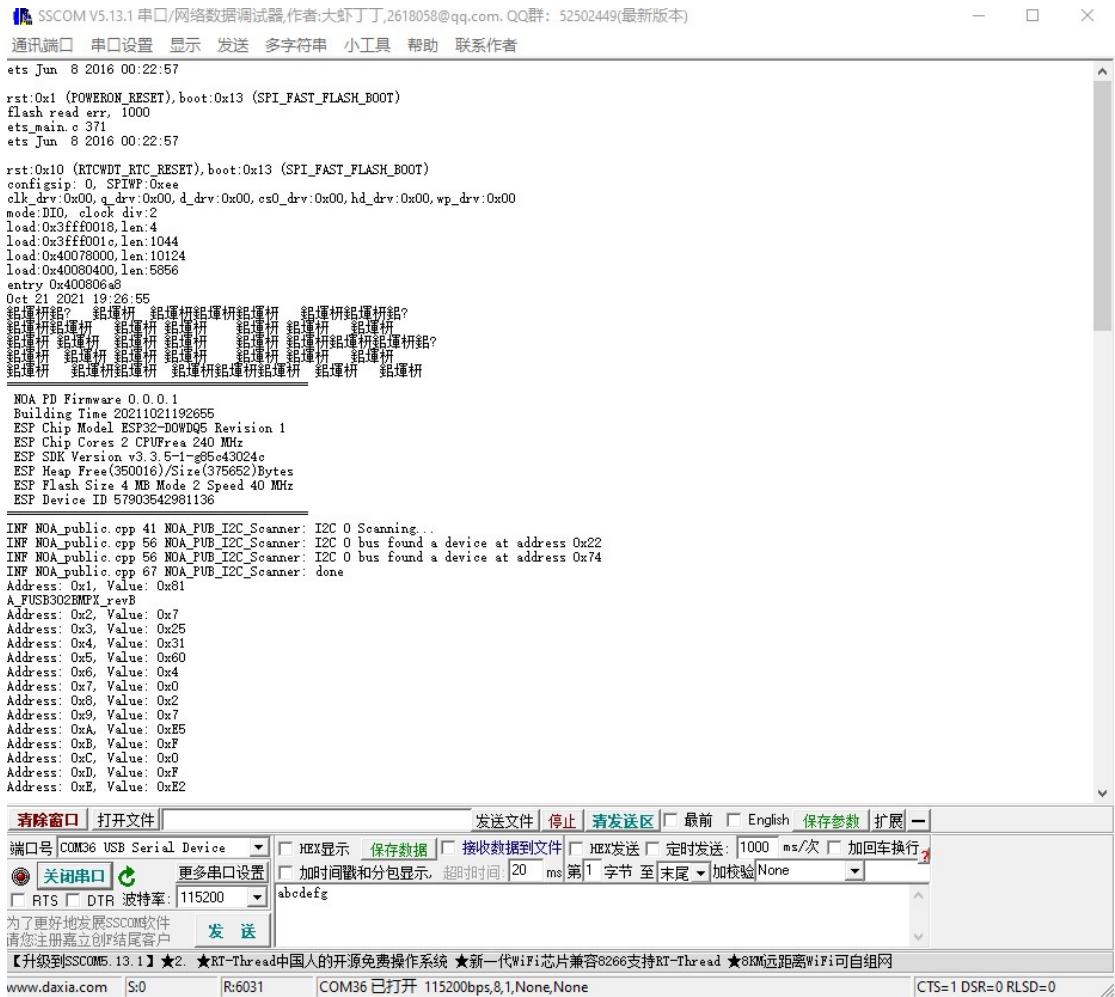


If everything is OK, the tools UI shows green “FINISH” logo for firmware downloading is complete.



click “EEASE” button, the tools can help us erase the SPI flash value and make the flash clean.

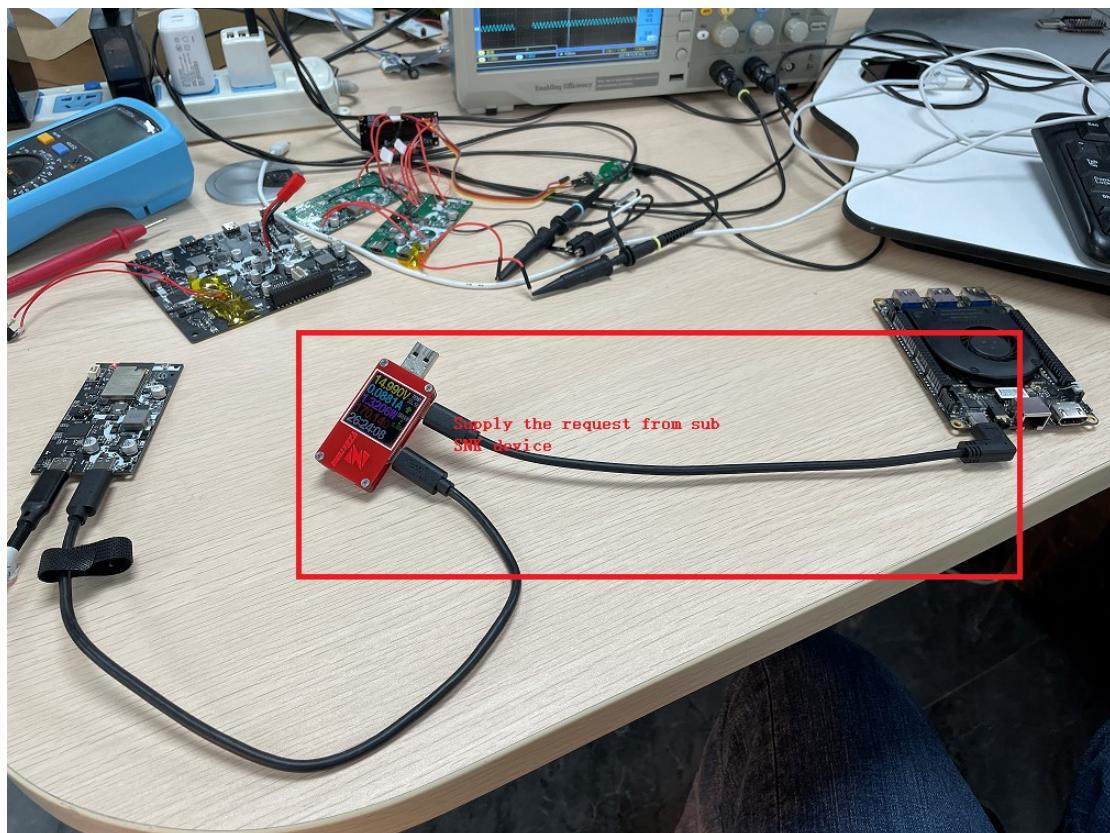
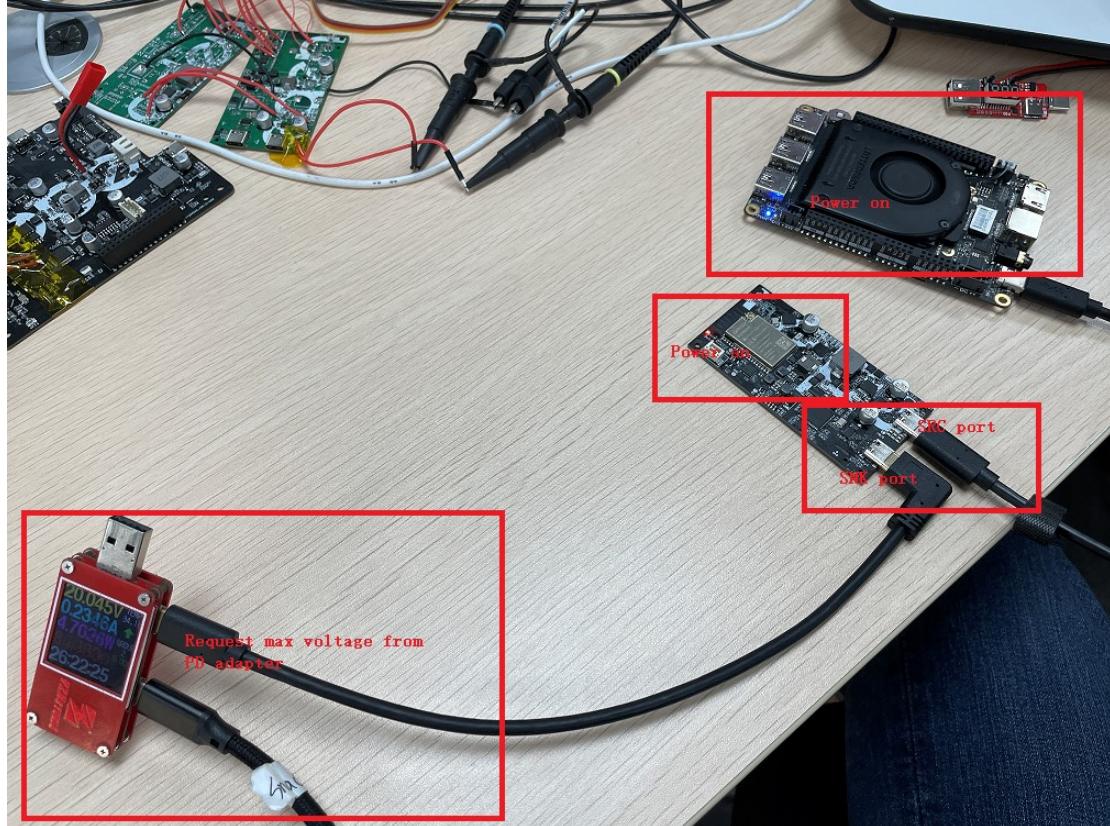
10) Close “ESP32 DOWNLOAD TOOL” app to finish the work. Unplug and plug the type-c cable to PC again, open the COM port that is enabled in step 3) with 115200 setting via “SSCOM” tools, it will show some booting log.



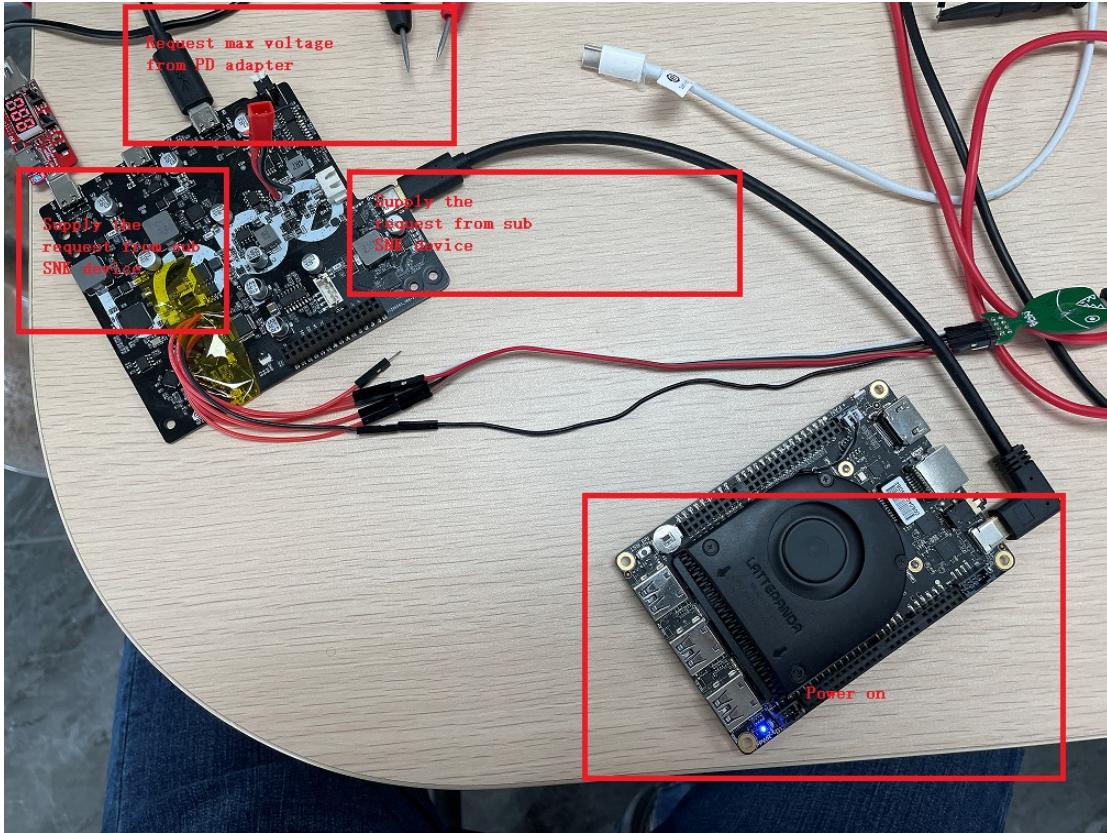
Check the Firmware version and Building Time, if it is same with the NOA ESP32 PD App firmware filename, that is mean the NOA PD board is working with the new firmware.

11) Simple Testing

- * For all NOA PD devices, the PD SNK port is always request the max voltage output of PD adapter
- * For all NOA PD devices, the PD SRC port is zero voltage output without connection in default
- * Power Up lattepanda device with PD snacker board

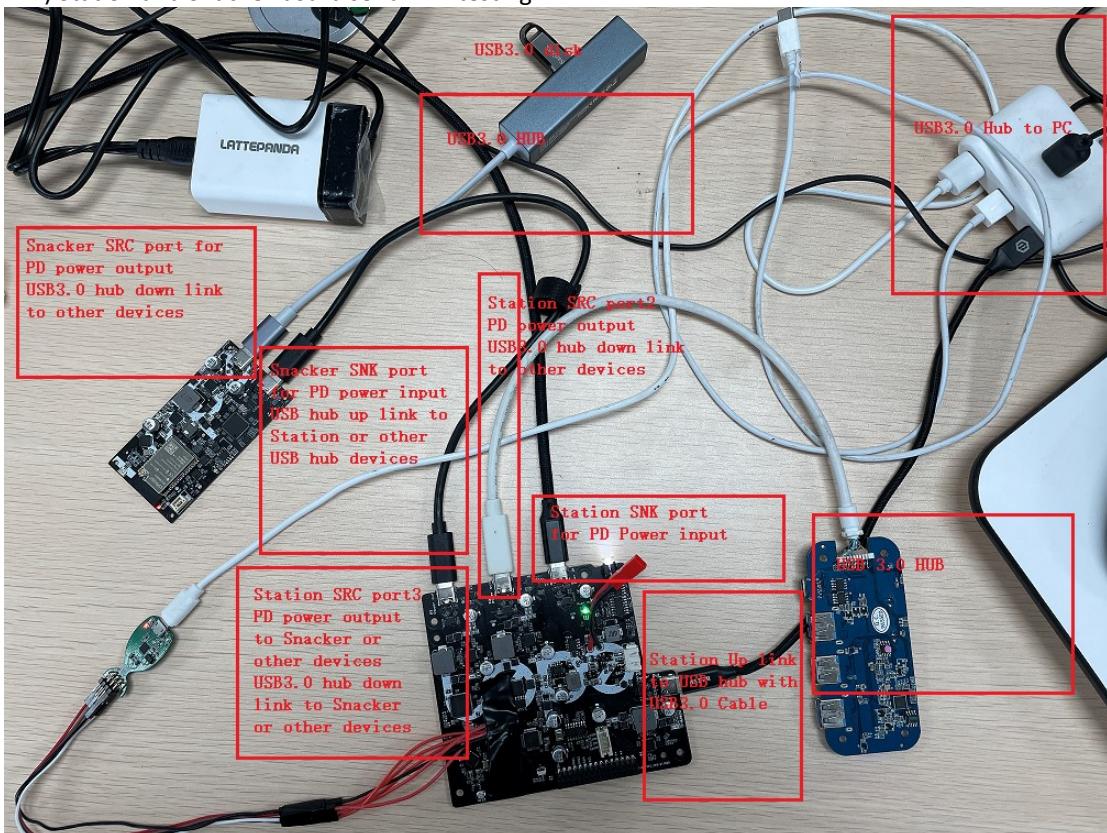


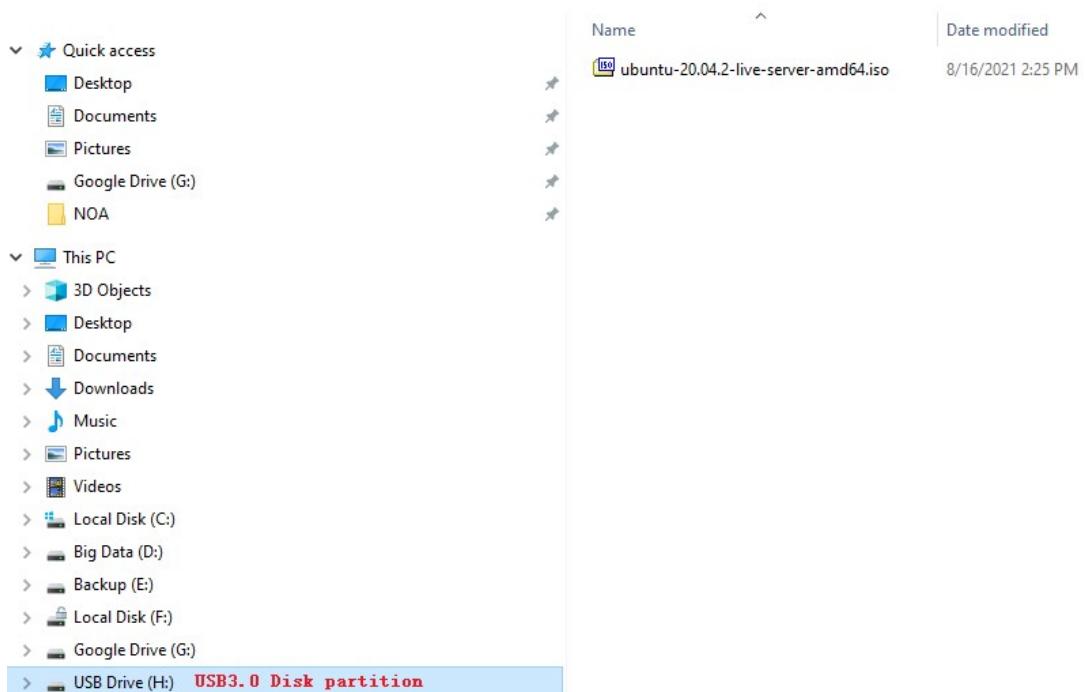
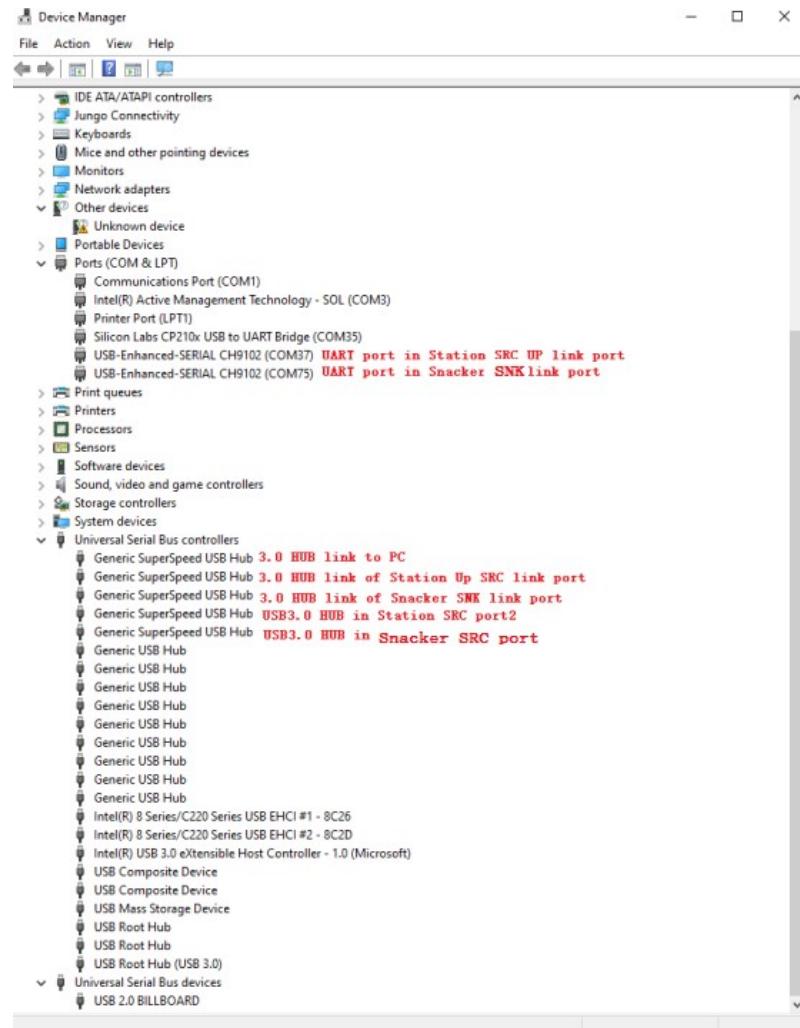
* Power Up lattepanda device with PD station board



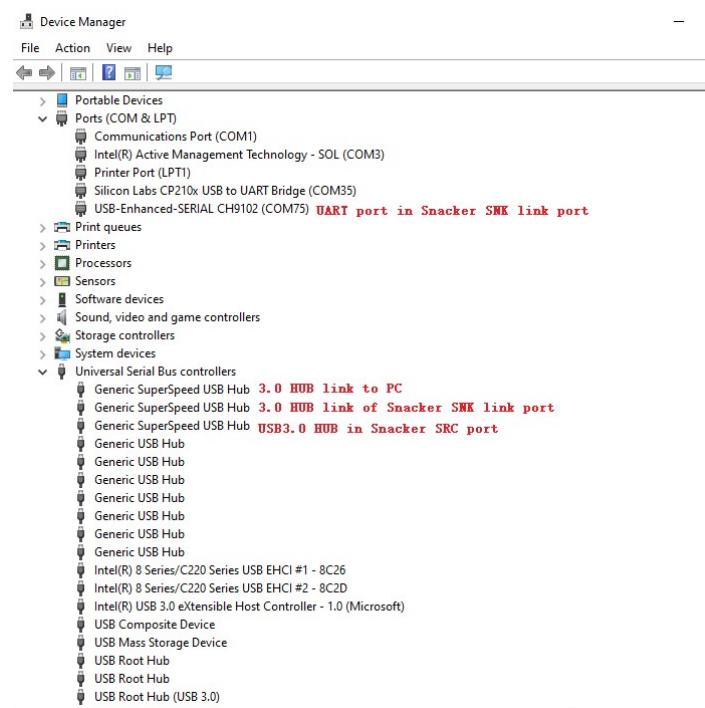
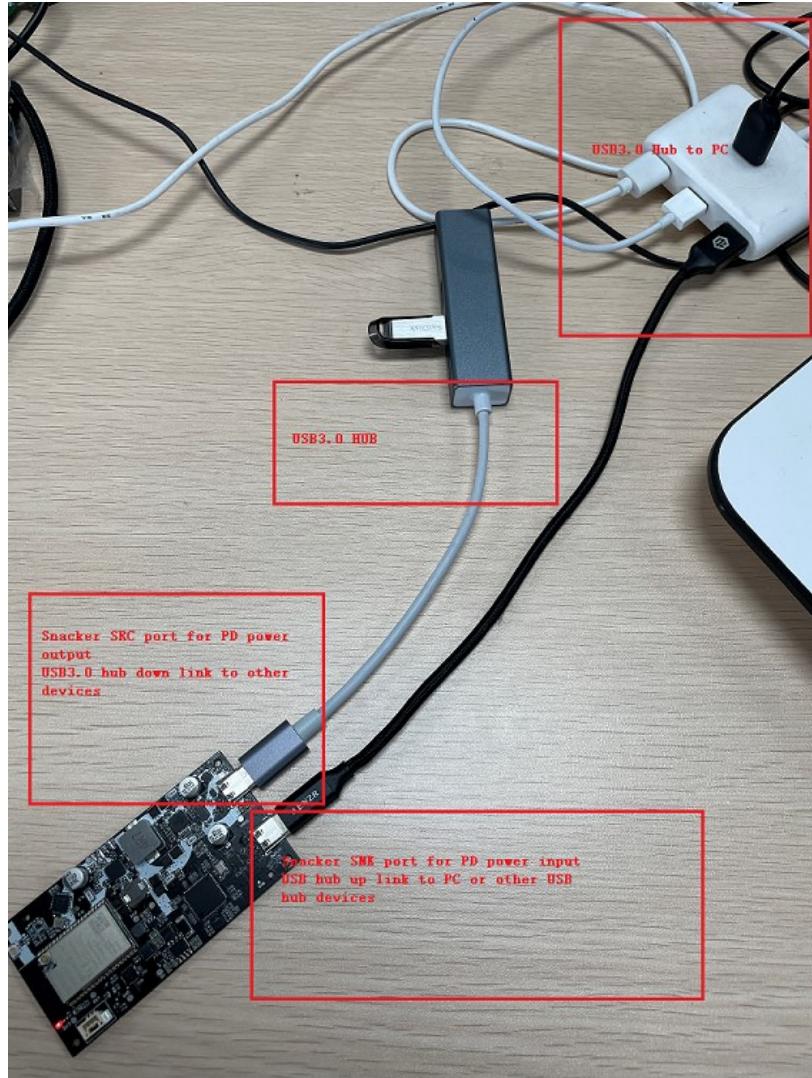
* USB HUB link testing

1) Station and Snacker board serial link testing

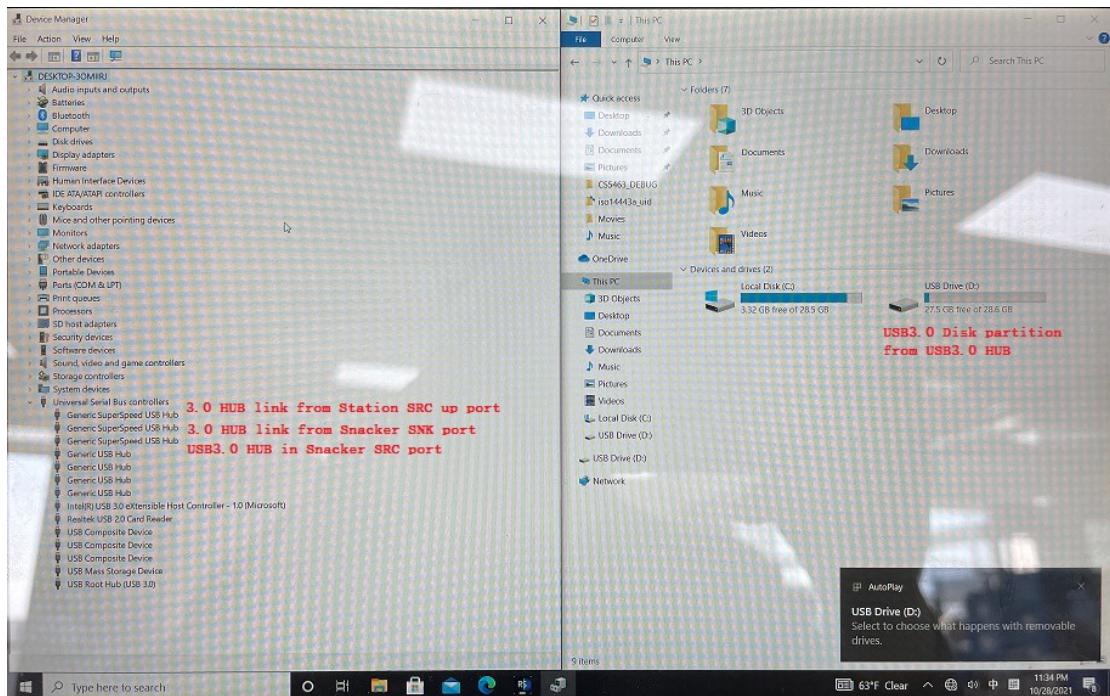
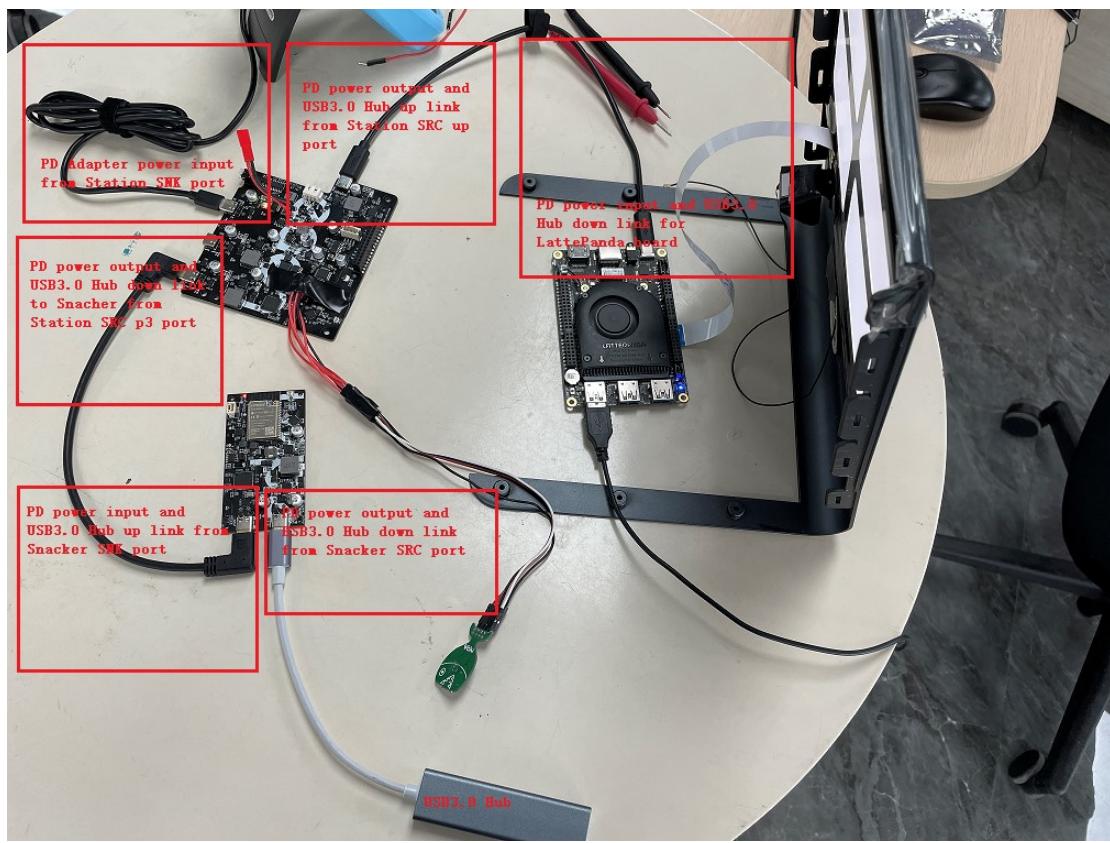




2) Snacker board link



3) Station , Lattepanda and Snacker board serial link testing



4) Voltage Value of port

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5)

12) Note:

1) Known issues:

* SRC ports of Snacker and Station board base on FUSB302B01MPX chip don't support Type-c flipped and un-flipped features.

2) Warning issues:

*** P0 port of Station board is a 15V voltage output, don't link it to any PC USB hub port, it will burn the device. The port is linked to LattePanda board only.**

3)