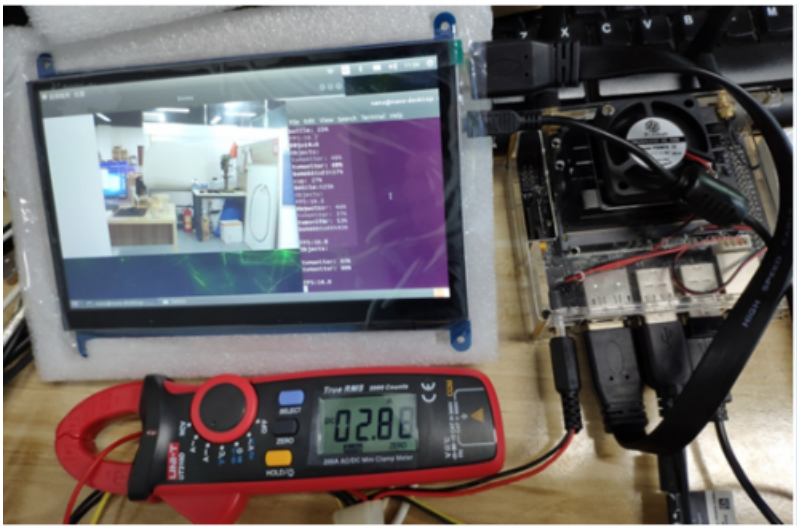
Jetson Nano startup

1. Jetson Nano power supply

The Jetson Nano development board has 5 power supply methods:

- 5V 2A(micro USB)
- 5V 3A(GPIO)
- 5V 4A(DC)
- 5V 6A (reverse power supply for all power IO)
- POE power supply

Among them, 5V 2A is limited by the USB itself, and it is strongly recommended to supply DC 4A power to meet most usage scenarios of the Jetson Nano. At the same time, it can drive loads such as cameras, displays, and USB devices.Here is the test we conducted with a 4A power supply,



The above figure shows the actual YOLOv3 detection and recognition of objects, with a fan and a 7-inch screen that require power supply. The CPU occupies about 70%, and the current is about 2.9A. If the USB power supply is used, it can only reach a maximum of 2A, which cannot meet the testing conditions; If the DC uses 3A, overheating protection will occur when the power supply is always at full load, so we choose a 5V4A power supply to meet the requirements of most of our application testing.

Finally, let's conduct a power consumption measurement under common testing conditions

- No USB device
- No additional accessories
- Ethernet wired connection (10Gbps)
- SSH login
- Using DC interface for power supply

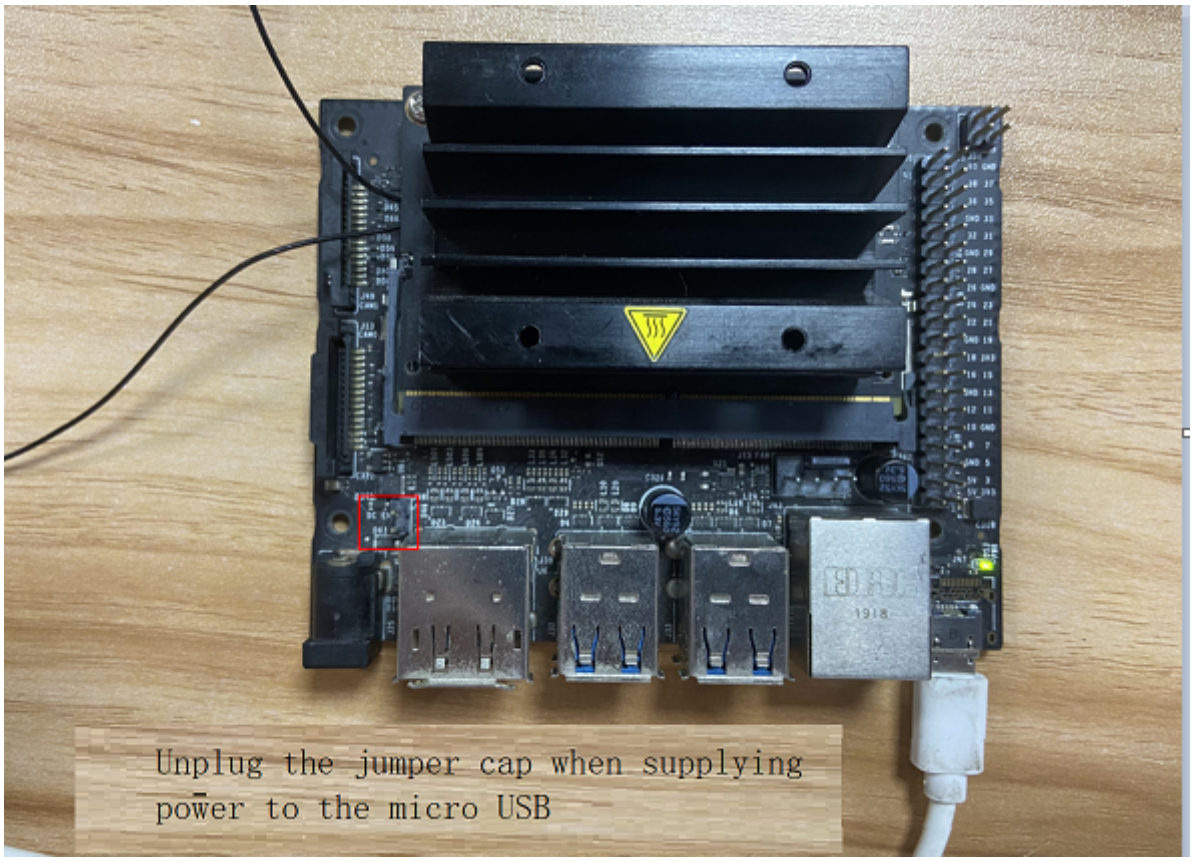
Test results, dead cycle recognition of images (GPU) at full load or exhaustion of performance (CPU) using stress:

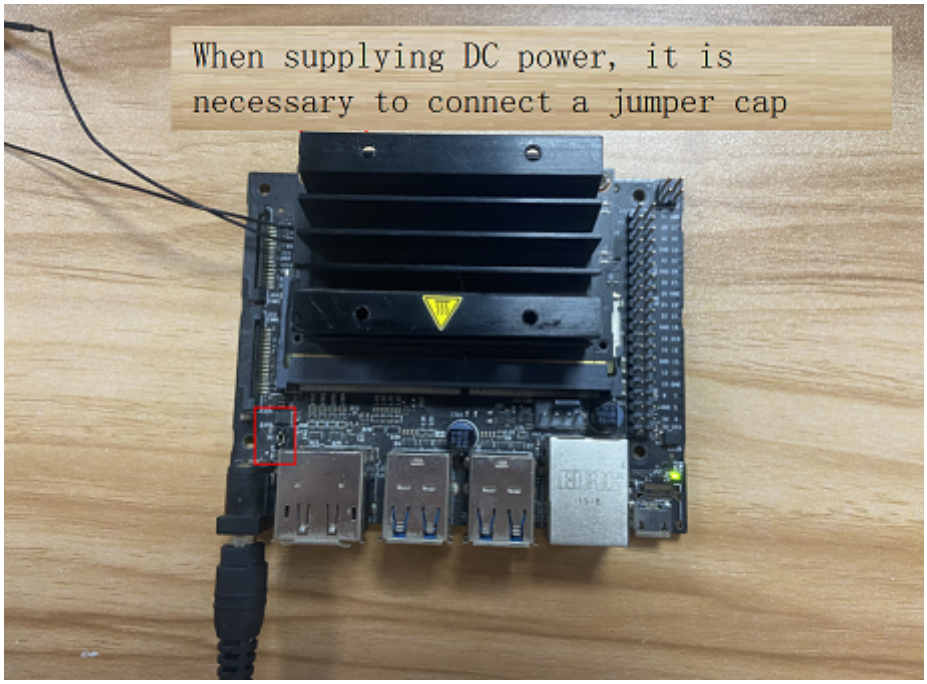
- No load: 0.533A @ 5.1V
- CPU fully loaded, GPU unloaded: 1.117A @ 5.1V
- GPU fully loaded, CPU unloaded: 2.133A @ 5.0V
- CPU、GPUthe full load:2.838A@5.0v

- CPU, GPU fully loaded, and connected to HDMI screen, independent power supply for HDMI screen: 3.017A @ 5.0V

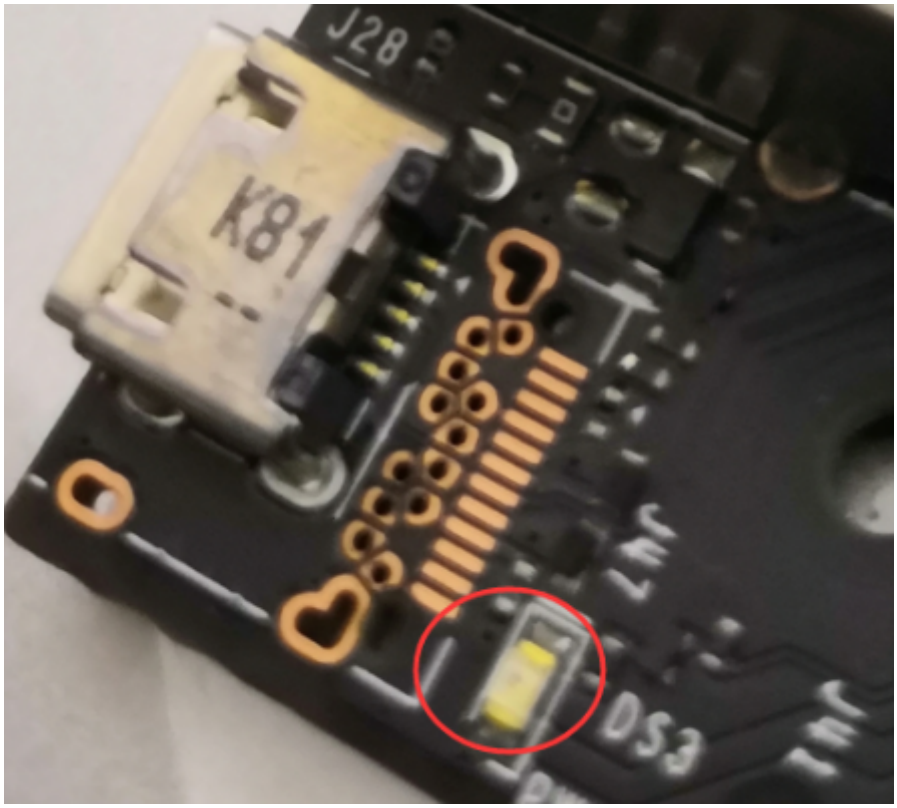
2.Start Jetson Nano

After burning, insert the SD card directly into the Jetson Nano. Additionally, we connect the Jetson Nano to the monitor, DC power supply (jumper cap short circuited to J48), mouse, and keyboard through HDMI to access the Jetson Nano system. **Note that JETSON NANO B01 official version needs to short-circuit the J48 jumper cap when using DC power supply, and unplug the J48 jumper cap when using microUSB**





Under normal circumstances, the DS3 green light will light up. If it goes off, it means the power supply is unstable or the system is not burning properly.


J28
K81
DS3