Orin Nano/NX USB????

??Jetson Orin Nano????

1. JetPack 5.1.5????

1. 1??**JetPack 5.1.5**???

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1.2 ????????????

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```
git clone https://gitee.com/kongyuantech/document.git
cd document/AN002\ Orin\ Nano\ NX\ USB□□/5.1.4/
```

1.3 ???????????

□□□□□□□□□□ **DTB**□□□ □□□□□□□□

- **Jetson Orin Nano 4G** □□□□□□□

```
sudo cp /boot/dtb/kernel_tegra234-p3767-0004-p3768-0000-a0.dtb /boot/dtb/kernel_tegra234-
p3767-0004-p3768-0000-a0.dtb.backup # □□□□□□□□
sudo cp kernel_tegra234-p3767-0004-p3768-0000-a0.dtb /boot/dtb
sudo chown 0:0 /boot/dtb/kernel_tegra234-p3767-0004-p3768-0000-a0.dtb
sudo chmod 644 /boot/dtb/kernel_tegra234-p3767-0004-p3768-0000-a0.dtb
sudo reboot
```

- **Jetson Orin Nano 8G** □□□□□□□

```
sudo cp /boot/dtb/kernel_tegra234-p3767-0003-p3768-0000-a0.dtb /boot/dtb/kernel_tegra234-
p3767-0003-p3768-0000-a0.dtb.backup # □□□□□□□□
sudo cp kernel_tegra234-p3767-0003-p3768-0000-a0.dtb /boot/dtb
sudo chown 0:0 /boot/dtb/kernel_tegra234-p3767-0003-p3768-0000-a0.dtb
sudo chmod 644 /boot/dtb/kernel_tegra234-p3767-0003-p3768-0000-a0.dtb
sudo reboot
```

2. JetPack 6.2.1???

2.1 ??**JetPack 6.2.1**???

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2.2 ????????????

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```
git clone https://gitee.com/kongyuantech/document.git
cd document/AN002\ Orin\ Nano\ NX\ USB□□/6.2/
```

1.3 ???????????

□□□□□□□□ □□ **DTB**□□□ □□□□□□□□

- **Jetson Orin Nano 4G** □□□□□□□

```
sudo cp orin_nano_4g.dtb /boot/dtb
sudo sed -i 's#console=tty0#console=tty0\n      FDT /boot/dtb/orin_nano_4g.dtb#g'
/boot/extlinux/extlinux.conf
sudo reboot
```

- **Jetson Orin Nano 8G** □□□□□□□

```
sudo cp orin_nano_8g.dtb /boot/dtb
sudo sed -i 's#console=tty0#console=tty0\n      FDT /boot/dtb/orin_nano_8g.dtb#g'
/boot/extlinux/extlinux.conf
sudo reboot
```

??Jetson Orin NX????

1. JetPack 5.1.5???

1. 1??**JetPack 5.1.5**???

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1.2 ????????????

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```
git clone https://gitee.com/kongyuantech/document.git
cd document/AN002\ Orin\ Nano\ NX\ USB□□/5.1.4/
```

1.3 ???????????

□□□□□□□□□□ **DTB□□□** □□□□□□□□

- **Jetson Orin NX 8G □□□□□□□**

```
sudo cp /boot/dtb/kernel_tegra234-p3767-0001-p3768-0000-a0.dtb /boot/dtb/kernel_tegra234-
p3767-0001-p3768-0000-a0.dtb.backup # □□□□□□□□□
sudo cp kernel_tegra234-p3767-0001-p3768-0000-a0.dtb /boot/dtb
sudo chown 0:0 /boot/dtb/kernel_tegra234-p3767-0001-p3768-0000-a0.dtb
sudo chmod 644 /boot/dtb/kernel_tegra234-p3767-0001-p3768-0000-a0.dtb
sudo reboot
```

- **Jetson Orin NX 16G □□□□□□□**

```
sudo cp /boot/dtb/kernel_tegra234-p3767-0000-p3768-0000-a0.dtb /boot/dtb/kernel_tegra234-
p3767-0000-p3768-0000-a0.dtb.backup # □□□□□□□□□
sudo cp kernel_tegra234-p3767-0000-p3768-0000-a0.dtb /boot/dtb
sudo chown 0:0 /boot/dtb/kernel_tegra234-p3767-0000-p3768-0000-a0.dtb
sudo chmod 644 /boot/dtb/kernel_tegra234-p3767-0000-p3768-0000-a0.dtb
sudo reboot
```

2. JetPack 6.2.1???

2.1 ??**JetPack 6.2.1**???

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2.2 ???????????

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```
git clone https://gitee.com/kongyuantech/document.git
cd document/AN002\ Orin\ Nano\ NX\ USB□□/6.2/
```

2.3 ???????????

□□□□□□□ □□ **DTB□□□** □□□□□□□□

- **Jetson Orin NX 8G □□□□□□□**

```
sudo cp orin_nx_8g.dtb /boot/dtb
sudo sed -i 's#console=tty0#console=tty0\n      FDT /boot/dtb/orin_nx_8g.dtb#g'
/boot/extlinux/extlinux.conf
sudo reboot
```

- **Jetson Orin NX 16G** □□□□□□□

```
sudo cp orin_nx_16g.dtb /boot/dtb
sudo sed -i 's#console=tty0#console=tty0\n      FDT /boot/dtb/orin_nx_16g.dtb#g'
/boot/extlinux/extlinux.conf
sudo reboot
```

??????

□□□□□□□ 4□ USB3.0□□□ C1901□ 3□□□□□□□□ Type-C□□□□□□□□□□□□□
□□□□□□□□□ USB□□□□□□□□

```
lsusb -t
```

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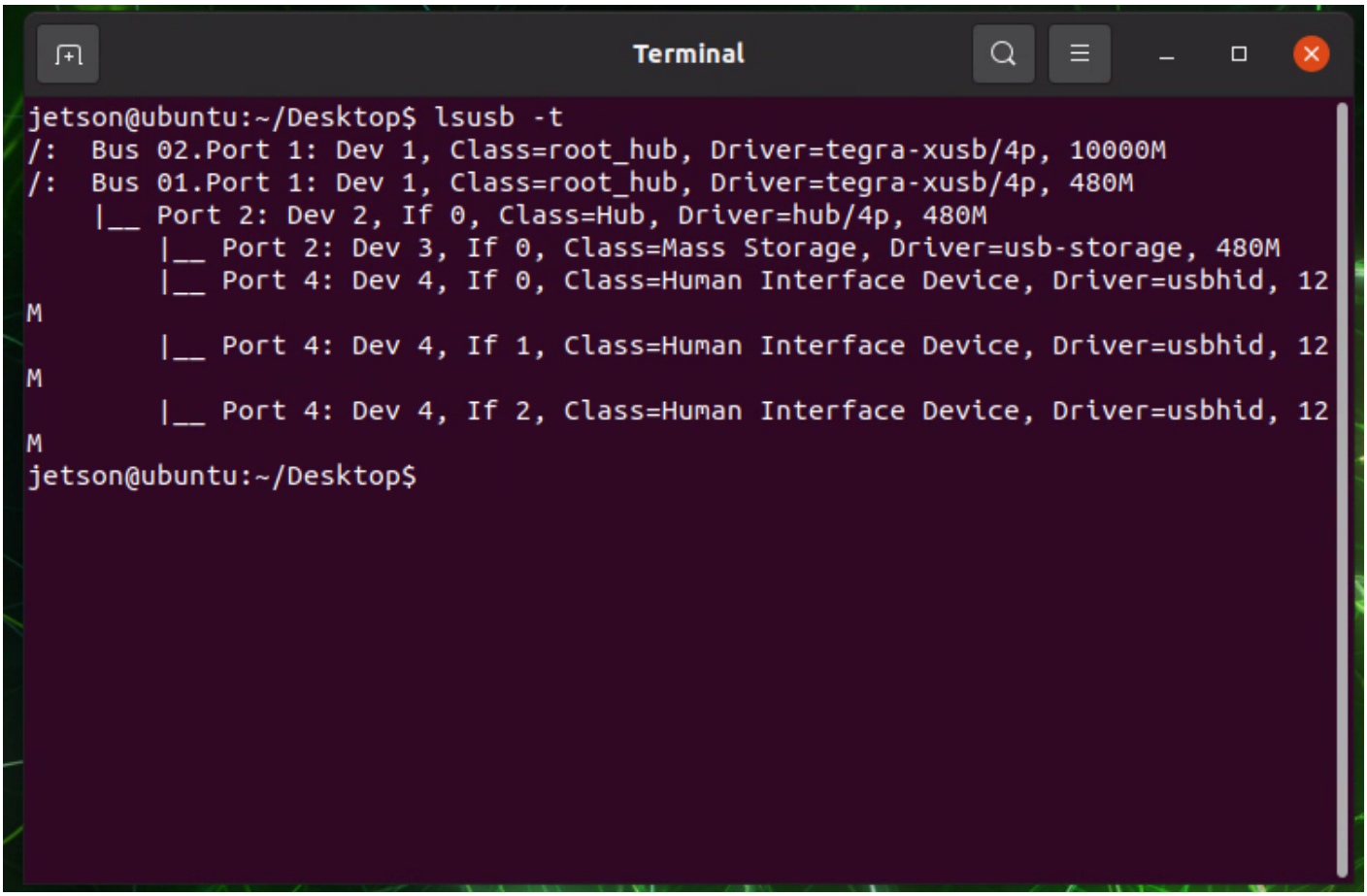
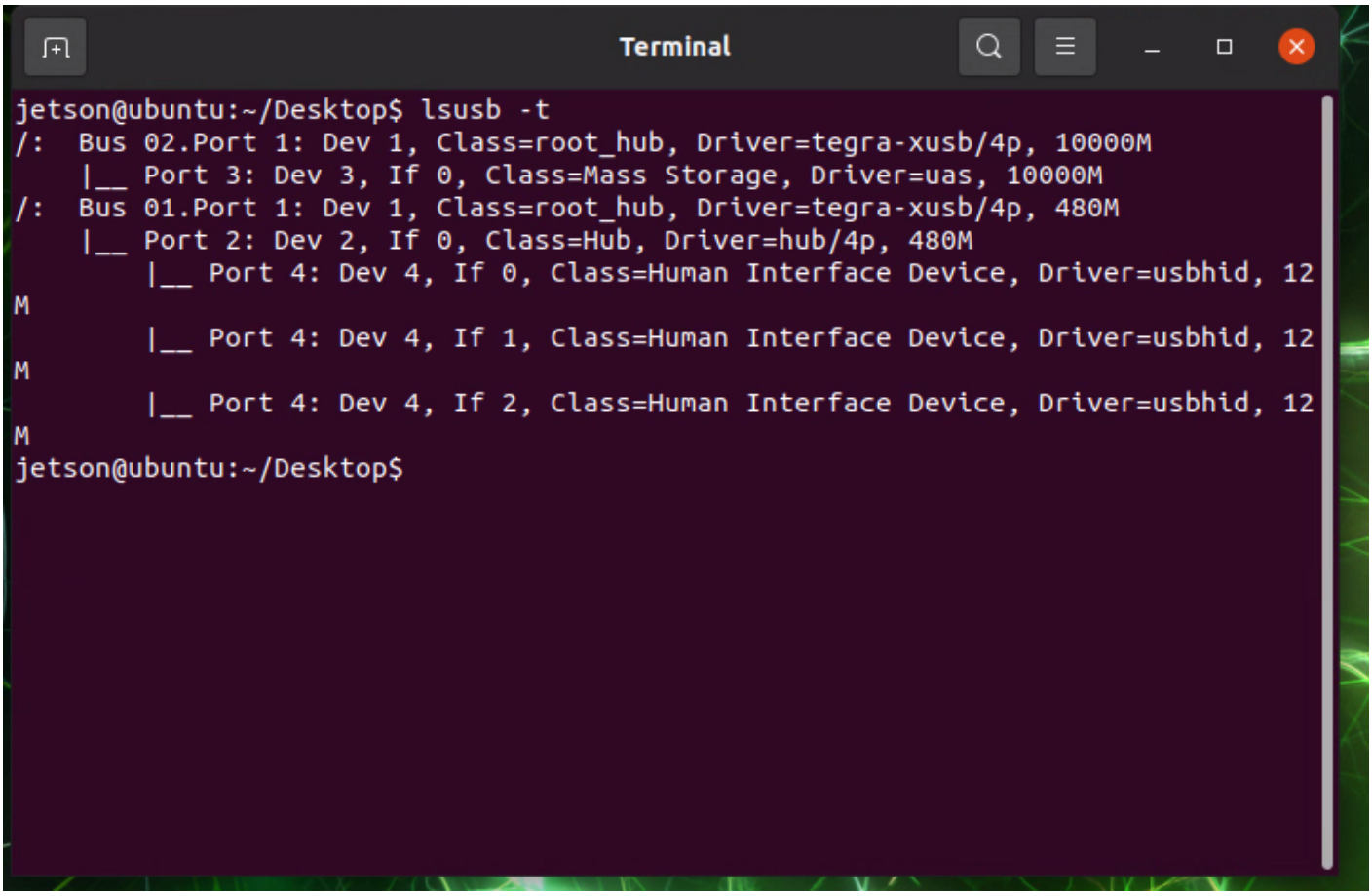

Terminal
jetson@ubuntu:~/Desktop$ lsusb -t
/: Bus 02.Port 1: Dev 1, Class=root_hub, Driver=tegra-xusb/4p, 10000M
/: Bus 01.Port 1: Dev 1, Class=root_hub, Driver=tegra-xusb/4p, 480M
    |__ Port 2: Dev 2, If 0, Class=Hub, Driver=hub/4p, 480M
        |__ Port 2: Dev 3, If 0, Class=Mass Storage, Driver=usb-storage, 480M
        |__ Port 4: Dev 4, If 0, Class=Human Interface Device, Driver=usbhid, 12
M
        |__ Port 4: Dev 4, If 1, Class=Human Interface Device, Driver=usbhid, 12
M
        |__ Port 4: Dev 4, If 2, Class=Human Interface Device, Driver=usbhid, 12
M
jetson@ubuntu:~/Desktop$

- □□□□□□□□□


Terminal
jetson@ubuntu:~/Desktop$ lsusb -t
/: Bus 02.Port 1: Dev 1, Class=root_hub, Driver=tegra-xusb/4p, 10000M
    |__ Port 3: Dev 3, If 0, Class=Mass Storage, Driver=uas, 10000M
/: Bus 01.Port 1: Dev 1, Class=root_hub, Driver=tegra-xusb/4p, 480M
    |__ Port 2: Dev 2, If 0, Class=Hub, Driver=hub/4p, 480M
        |__ Port 4: Dev 4, If 0, Class=Human Interface Device, Driver=usbhid, 12
M
        |__ Port 4: Dev 4, If 1, Class=Human Interface Device, Driver=usbhid, 12
M
        |__ Port 4: Dev 4, If 2, Class=Human Interface Device, Driver=usbhid, 12
M
jetson@ubuntu:~/Desktop$

您也可以自行使用 DISK工具或 dd指令测试读写速率是否达到 USB3.0的标准。

????Tpye-C????

- 配置 **Type-C端口 为 Device模式**

> 注意：此命令为临时启用，重启会失效。

```
sudo bash -c 'echo device > /sys/class/usb_role/usb2-0-role-switch/role'
```

设置后，使用 Type-C端口连接到 PC主机时，具有以下功能

1. COM口，设备的终端命令行
2. 虚拟网卡，设备 ip地址默认为: 192.168.55.1
3. NCM (Network Control Model)，设备可通过 PC主机联网，仅支持 Linux、Mac

- 开机默认配置 **Type-C端口 为 Device模式**（永久有效）

```
sudo sed -i 's#exit 0#echo device > /sys/class/usb_role/usb2-0-role-switch/role\nexit 0#g'
/opt/nvidia/l4t-usb-device-mode/nv-l4t-usb-device-mode-start.sh
```

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