

# orin

Carrier board DSBOARD-ORNX

## jetpack

<https://www.forecr.io/blogs/installation/jetpack-5-1-installation-for-dsboard-ornx>

Install sdk manager and run it with:

- JetPack 5.1 for Target Operating System
- Jetson AGX Orin modules for Target Hardware
- no Host components
- no flash board

Download [BSP](#), extract, update BSP and build rootfs

```
cd
~/nvidia/nvidia_sdk/JetPack_5.1_Linux_JETSON_AGX_ORIN_TARGETS/Linux_for_Tegr
a
wget
https://github.com/mistelektronik/dsboard_ornx_orin_nx_bsp/raw/master/orin_n
x_JP5_1_bsp.tar.xz
tar xf orin_nx_JP5_1_bsp.tar.xz

cp -a orin_nx_JP5_1_bsp/jetson-orin-nx-devkit-16gb.conf
orin_nx_JP5_1_bsp/p3768-0000+p3767-0000.conf .
cp orin_nx_JP5_1_bsp/Image kernel/
cp orin_nx_JP5_1_bsp/tegra234-p3767-0000-p3768-0000-a0* kernel/dtb/
cp orin_nx_JP5_1_bsp/tegra234-mb1-bct-gpio-p3767-dp-a03.dtsi bootloader/
cp orin_nx_JP5_1_bsp/tegra234-bpmp-3767-0000-a02-3768-0000-a00.dtb
bootloader/t186ref/
cp orin_nx_JP5_1_bsp/tegra234-mb1-bct-p* bootloader/t186ref/BCT/

sudo ./tools/l4t_flash_prerequisites.sh
sudo ./apply_binaries.sh

sudo cp orin_nx_JP5_1_bsp/nvgpu.ko
rootfs/usr/lib/modules/5.*/kernel/drivers/gpu/nvgpu/

sed -i "s/cvb_eeprom_read_size = <0x100>;cvb_eeprom_read_size = <0x0>;/g"
bootloader/t186ref/BCT/tegra234-mb2-bct-misc-p3767-0000.dts
sed -i "s/ODMMDATA=\"gbe-uphy-config-8,hsstp-lane-map-3,hsio-uphy-
config-0\";/ODMMDATA=\"gbe-uphy-config-9,hsstp-lane-map-3,hsio-uphy-
config-0\";/g" p3767.conf.common
```

## backup (not working)

disable automount on host

```
sudo systemctl stop udisks2.service
```

put board in recovery mode

```
lsusb | grep 955  
Bus 001 Device 007: ID 0955:7323 NVIDIA Corp. APX
```

backup (output in ./tools/backup\_restore/images)

```
cd  
~/nvidia/nvidia_sdk/JetPack_5.1_Linux_JETSON_AGX_ORIN_TARGETS/Linux_for_Tegr  
a  
sudo ./tools/backup_restore/l4t_backup_restore.sh -b jetson-orin-nx-  
devkit-16gb
```

## flash

customize rootfs

```
sudo tools/l4t_create_default_user.sh -u ubuntu -p ubuntu -a -n orin --  
accept-license
```

build image (-no-flash)

```
sudo ./tools/kernel_flash/l4t_initrd_flash.sh --no-flash --external-device  
nvme0n1p1 -c tools/kernel_flash/flash_l4t_external.xml -p "-c  
bootloader/t186ref/cfg/flash_t234_qspi.xml" --showlogs --network usb0  
jetson-orin-nx-devkit-16gb internal
```

put board in recovery mode

flash

```
sudo ./tools/kernel_flash/l4t_initrd_flash.sh --flash-only --external-device  
nvme0n1p1 -c tools/kernel_flash/flash_l4t_external.xml -p "-c  
bootloader/t186ref/cfg/flash_t234_qspi.xml" --showlogs --network usb0  
jetson-orin-nx-devkit-16gb internal
```

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Permanent link:  
<https://wiki.csgalileo.org/orin?rev=1679325954>

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